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The Handbook of Salutogenesis

Second Edition

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A publication of the Global Working Group on Salutogenesis
of the International Union for Health Promotion and Education,
the Society for Theory and Research on Salutogenesis, and
the Center of Salutogenesis, University of Zürich

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Foreword by Margaret M. Barry

Springer Open

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Foreword

The Handbook of Salutogenesis is the second edition of a publication produced by the *Global Working Group on Salutogenesis* of the International Union for Health Promotion and Education (IUHPE) in collaboration with the *Society for Theory and Research on Salutogenesis* and the *Center of Salutogenesis* at the University of Zürich.

This comprehensive handbook provides a definitive guide to salutogenesis from its origins to the present day, addressing its core concepts, theory and methods and outlining its application to health promotion and related areas of study and practice.

Health promotion is rooted in a salutogenic view of health as it is concerned with enabling individuals and populations to increase control over and improve their health and wellbeing. Health promotion moves the focus from individuals at risk of developing illness to systems and environments that shape the development of good health at a population level.

In public discourse, however, health is primarily understood as relating to illness and health services are predominantly illness services concerned with treating and caring for ill-health. Health promotion as a concept and multidisciplinary area of practice is, therefore, often poorly understood, which can lead to a narrow interpretation of its core purpose and of its implementation in policy and practice. An understanding of the nature of positive health, how it is created and can be sustained at a population level, is critically important to provide a sound theoretical base for health promotion and its implementation in practice.

The concept of salutogenesis, as articulated by Aaron Antonovsky, brings a scholarly focus to studying the origins of health, instead of the origins of disease. Salutogenesis provides a guiding theory for the field of health promotion as it is concerned with positive health, creating coherent living environments, strengthening socio-ecological health resources, and strengthening the sense of coherence of individuals and groups. Antonovsky's work on salutogenesis has had a significant and lasting impact on health promotion globally, providing a model for research on population health and well-being. As a theoretical framework for understanding positive health, the salutogenic model focuses on positive well-being rather than illness and the 'salutary' factors that determine health rather than the pathogenic factors. The model's core construct of sense of coherence is vital to understanding positive mental health and well-being as it involves the capacity to comprehend and make sense of one's own experiences and the ability to manage and respond flexibly to the inevitability of life stressors.

Developing the salutogenic orientation as a paradigm for health promotion research and practise has been an important focus for IUHPE. IUHPE is an independent professional association of individuals and organisations whose mission is to promote global health and well-being and to contribute to the achievement of equity in health between and within countries of the world. This mission is translated into practise by developing key scientific and professional activities through a global network of members who are specialised in and committed to health promotion. Within IUHPE, global working groups are established to provide a platform for advancing the scientific and professional development of health promotion. The IUHPE Global Working Group on Salutogenesis was established in 2007 with the specific aim of advancing and promoting the science of salutogenesis within health promotion. This Global Working Group has successfully brought together interdisciplinary members from different world regions to advance and further develop the study of different aspects of salutogenesis. The col-

lective efforts of the group, through conferences and publications such as this handbook, contribute to the scientific base of health promotion and to the core mission of the IUHPE, further details of which can be found at https://www.iuhpe.org/

As President of IUHPE, I welcome this second edition and applaud the efforts of the Global Working Group on Salutogenesis in producing such a comprehensive compendium of scholarly work. This second edition follows on from a very successful first edition, which is listed as the fourth most accessed book in the Springer catalogue of open access books.

I congratulate the editors and authors on this landmark publication. It makes a significant contribution to the field of salutogenic studies and to explaining the contribution of the salutogenic approach to health promotion and related areas. This handbook will be a valuable resource for all academic scholars and practitioners interested in understanding the origins of health and advancing the field of health promotion.

Margaret M. Barry
President, International Union for Health Promotion and Education
Galway, Ireland

Preface

On behalf of the editor team, greetings! We are salutogenesis friends working in health promotion, who banded together to accomplish what none of us alone could manage. Writing this handbook has brought the editors and the chapter authors closer together, discussing and debating every detail related to this complex project, with its 57 chapters and 88 authors. Together, we have mustered the resources to manage the task. We have helped one another to understand salutogenesis better, and the work has been personally, socially, and professionally meaningful. We have become more adept academicians, and we have had *fun*.

With the recent establishment of the Society for Theory and Research in Salutogenesis (STARS), we wish to expand our collaboration to other fields that are incorporating salutogenesis in their work, such as education, art therapy, peace studies, sustainability sciences, organizational development and leadership, medicine, and architecture. The Center of Salutogenesis at the University of Zürich in Switzerland, headed by coeditor Georg Bauer, plays the coordinating and administrative role for STARS. The Center also managed to raise the open-access fee for this handbook. For that, we are truly grateful!

Readers might wonder why a new edition of the Handbook has come so quickly following the 2017 book. In fact, the planning and writing of this second edition commenced immediately after the publication of the first edition in 2017. Even as the first edition was hot off the press, we were aware that theory and research in the field of salutogenesis were rapidly expanding and needed renewed attention in this second edition. In the period up to and including 2016, a search revealed 7650 titles in the literature dealing with salutogenesis. In the few years since, 3420 new titles have been published, almost a fifty percent increase in the literature on salutogenesis.

This book was written in 2019 and 2020, with the bulk of the work being done under the trying circumstances of the Coronavirus. Coping with the pandemic has distracted some attention away from tasks like book writing. Nevertheless, the book's authors steadfastly held to our plan to finish the writing in 2020, and for that, we editors are very grateful. As well, several chapters address salutogenesis in the context of Coronavirus. Also, many of the book's authors have turned attention to salutogenesis research connected to the pandemic. Some of that research has already come to publication (see Mana and Sagy, 2020).

As this book attests, salutogenesis scholarship is thriving in several disciplinary and transdisciplinary fields. This development would induce a broad smile and a high degree of satisfaction to the field's founding theoretician, Aaron Antonovsky (1923–1994).

In closing, I am honored to name and thank one other salutogenesis "founder": Professor Bengt Lindström. Bengt stepped immediately into the breach after Antonovsky's untimely passing. He has created and used every avenue and every opportunity – journals, books, conferences, seminars, masters, and PhD training programs – to promote scholarship on salutogenesis. There is no doubt: without Bengt's intellectual leadership and tireless enthusiasm, salutogenesis would have advanced at a much more moderate pace. There are *two* "Professors of Salutogenesis": Aaron Antonovsky and Bengt Lindström.

Aaron Antonovsky (1923–1994) (Published with permission of © Avishai Antonovsky. All Rights Reserved).

Bengt Lindström.

Reference

Mana, A., & Sagy, S. (2020). Brief report: Can political orientation explain mental health in the time of a global pandemic? Voting patterns, personal and national coping resources, and mental health during the Coronavirus crisis, *Journal of Social and Clinical Psychology*, 39(3), 187–193. https://doi.org/10.1521/jscp.2020.39.3.165

Bergen, Norway Maurice B. Mittelmark

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On behalf of readers worldwide, the editors acknowledge with gratitude the open-access financial support provided by the *Center of Salutogenesis* at the University of Zürich. In many parts of the world, scholars do not have the financial resources to buy books, and academic libraries everywhere are experiencing cutbacks in budgets for the purchase of books. Experience with the 2017 edition of the handbook shows open access has a dramatic and positive impact on global dissemination. In a world with mounting challenges to the dissemination of knowledge, the advance of the open-access model is inspiring.

The 2017 *Handbook of Salutogenesis* and this 2nd Edition spring forth from the International Union for Health Promotion and Education's (IUHPE) Global Working Group on Salutogenesis (established in 2007), of which all the editors are members. We are grateful to the leadership of the IUHPE for providing a welcoming home for the worldwide community of salutogenesis scholars working in health promotion and education.

We are deeply grateful for the contributions of the team at Springer, who helped us complete the book during difficult times. In New York, Janet Kim has been a patient and vital collaborator at every step of producing the manuscript. In Tokyo, Misao Taguchi has been of great editorial assistance during the final stages of writing. Our Production Editor in Chennai has been Anila Vijayan, who skillfully managed the magical metamorphosis from the typewritten to the printed page.

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Part I

Salutogenesis from Its Origins to the Present

Salutogenesis From Its Origins to the Present

1

Maurice B. Mittelmark

Part I provides an overview of the development of the field of salutogenesis, as background for the remaining chapters in *The Handbook of Salutogenesis*.

Chapter 2 by Bengt Lindström reviews mileposts in the development of the field from the late 1990s until today. This is a chronology of the meetings, seminars and other events that have provided space and time for the development of salutogenesis as an academic field. This chapter is of historical value and helps describe the global collaborative work that has supported the network of colleagues whose work is in the book.

Chapter 3 by Maurice Mittelmark and Georg Bauer is a revision and expansion of a chapter in the 2017 Edition, meant to convey some of the main ways the term 'salutogenesis' is used today. Antonovsky introduced the term salutogenesis in his 1979 and 1987 books on the Salutogenic Model of Health, but salutogenesis subsequently has come to refer to a core concept in the Model in particular; the sense of coherence. This usage has advanced to the point that some writers have coined the term 'sense of coherence theory'. The term salutogenesis is also frequently used to refer, more generally, to an approach to health theory, research and practice emphasising resources that people may call on to improve health.

Chapter 4 is of particular importance in this Handbook. Written by Aaron Antonovsky's son Avishai Antonovsky, and by one of his closest colleagues and former PhD student, Shifra Sagy, this revised chapter from the 2017 Edition provides the first biography of the founding father of salutogenesis. The authors share their insight regarding the development of the salutogenic idea. They were very close to Aaron Antonovsky for several decades, and their familiarity with his background contributes to understanding the development of salutogenesis.

Chapter 5 by Hege Forbech Vinje, Eva Langeland and Torill Bull is reproduced from the 2017 Edition. The editors are convinced that this summary of Antonovsky's development of the Salutogenic Model of Health is among the best synopses available. While no summary can replace the value of Antonovsky's voluminous productivity on salutogenesis, the reader of this chapter will receive a quite in-depth introduction to Salutogenesis's main lines of development under the guiding hands of its founding theoretician.

Chapter 6 by Georg Bauer provides the reader with a useful description of Salutogenesis meeting places. These are the Society for Theory and Research on Salutogenesis (STARS) and the Global Working Group on Salutogenesis (GWG-Sal) of the International Union for Health Promotion and Education (IUHPE). Bauer also provides information about the Center on Salutogenesis at the University of Zürich in Switzerland. The center is the host organisation of both meeting places. The reader wanting to connect more directly to a global salutogenesis network will find this chapter to be of great practical value.

Finally, Chapter 7 by Lenneke Vaandrager of The Netherlands and colleagues from Spain, Germany, Italy, Norway, the United Kingdom and Poland trace the development of higher education in salutogenesis in Europe, spanning 30 years. At this time, the annual summer schools of the European Training Consortium in Public Health and Health Promotion have trained more than 700 participants from 60 countries. Perhaps the most distinguished member of the summer school's faculty – at least from the perspective of advancing salutogenesis as a theory for health promotion – is Aaron Antonovsky, who participated in the 1992 edition of the course in Gothenburg, Sweden.

The chapters of Part I provide the reader with an overview of the entire scope of development of salutogenesis from its start in 1979 to this day. Just over a mere 40 years, a very rapid eye blink in social science history! Therefore, this book is an introduction to a transdisciplinary field in its infancy. The reader is heartily invited to join in on the 'ground-floor' of the research, theory building and prac-

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tice that we anticipate will advance salutogenesis to a mature scholastic undertaking. What is the fundamental problem that makes this audacious undertaking worth the effort?

> How may we better understand the origins of human health? How may we advance health in a manner considerate of the connectedness of health to life generally?

Not just human life, but global life.

Mileposts in the Development of Salutogenesis

2

Bengt Lindström

First Encounter

It was a sunny and windy afternoon in the Spring of 1987. I was waiting for a group of guests of Public Health Officials on the pier of the Nordic School of Public Health. They were arriving quite spectacularly on a 19th-century steamship, "Bohuslän," used at special occasions by the City of Göteborg. The sea was quite rough, and it took a while to dock and land the old, tall, and narrow ship. I had time to scan the many familiar faces of colleagues and friends on board but among them was a new face.

I greeted my friends and walked up to the new person who looked a bit pale and shaky and relieved getting on firm land; he said: "Hi, I am not used to the sea because I come from the middle of the Negeb desert and the Beersheva University in Israel, I am Aaron Antonovsky."

This was my first encounter with Aaron Antonovsky (Fig. 2.1), the father of salutogenesis. As a welcome, he handed me a signed copy of his latest book, fresh from the printers, titled "Unravelling the Mystery of Health." It was the beginning of a friendship that would last until his sudden death seven years later.

Fig. 2.1 Aaron Antonovsky, teaching at the Nordic School of Public Health in 1992

My Understanding of "Salutogenesis" Before Antonovsky

As for so many others, the salutogenic thought was not completely new to me as such, but we did not have the concepts and words to specify what it was about until Aaron Antonovsky conceptualized his model. My salutogenic journey started before I met with him. I trained as a physician in Finland and specialized in pediatrics; I wished and hoped pediatrics could have been called child health and move beyond the traditional health-disease axis, but this was the late 1960s and early 1970s; in Finland, the prime time for "hardcore biomedical science."

Our teachers were decidedly ignorant of other entry points to medicine and what went on in the community outside of the hospitals. I never understood why you learnt anatomy like reading a telephone book or why you were trained in understanding only the somatic growth of a child, integrating neither the mental and social nor spiritual dimensions into a wholeness. During my specialization, I moved to Sweden, where pediatrics was more open to the community; meaning in your training, you met healthy children and their families in Child Wellbeing Clinics. Also, in Sweden, child mental health services were provided through child and adolescent psychiatry.

Although I loved to work with children and families and was good at it, there was always that longing for a more direct approach to health. Much later, already 10 years into medicine, came the event that finally changed my professional orientation. I was in charge of a group of children with cystic fibrosis, a genetic disease that at that time lead to infections, malnutrition, and usually a premature death due to severe lung infections.

One morning I met a family well-known to me; they had already lost one child to the disease, and this day the younger

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sister – 17-year-old Maria[1] – also suffering from cystic fibrosis, was at my surgery. But that day, the front page of her records had a new handwritten note: marked in red were the letters PSEUDOMONAS!!! This meant she had the infection everybody in the care of cystic fibrosis patients feared, an infection we could not master, which would eventually lead to her death. I was young at the time and not yet experienced with death. I was thinking of what to say about her future when she walked into the room. Coughing, wasted and frail she came toward me. I was about to start when I realized her eyes were shining, her cheeks blushing, and she was smiling. I stopped myself and asked "Maria – what is it?" She looked at me, gave me a broad smile and said: "Bengt, I am in love. I want to get married, and I want to have children!"

Because of her sister, she knew very well where everything was going but still, in the face of death, she was talking about life, love and having a family. Eventually, she did not make it, but it left me forever thinking of how this was possible, that what she talked about contradicted all I had learnt in medical school; this is where my journey toward salutogenesis began. Antonovsky would have said, "You idiot (as he said to himself), you were looking in the wrong direction!"

A few years later, because of Maria, I broke out of the Clinics, and in 1984, I went into public health research and training at the Nordic School of Public Health (Nordic School of Public Health), serving five countries in interdisciplinary postgraduate training and research. These were the years when the World Health Organization (WHO) Health for All Strategy was launched; WHO stepped beyond health care into community health and launched the Ottawa Charter for Health Promotion in 1986, which advocated a structural approach to implement health promotion.

My years at Nordic School of Public Health were intensive and rewarding. Of great significance to me, Aaron Antonovsky was a regularly returning visiting scholar at the school from 1987 to 1994, active and engaging in teaching and guiding seminars. It would not take long before he was appointed Honorary Professor at the Nordic School at the same time as Ilona Kickbusch, the then Health Promotion Director of WHO.

I took special care to accompany him during his visits to the School, and I eagerly attended his lectures and seminars, taking detailed notes. As a result, I have a collection of his lectures spanning 7 years and several hours of his presentations on video recordings. I admired the way he presented salutogenesis concepts in the classroom; and ever since, I have tended to emulate his pedagogic approach and his use of drawings to illustrate key ideas.

He was teaching at the European Training Consortium Course at the school when he agreed to read the manuscript of my first publication on salutogenesis, dealing with the amelioration of children experiencing family breakdown. The emphasis was on seeing divorce through the perspective of the child and as a *process,* not as one point-in-time event. Three questions are important from a salutogenic perspective: How do adverse life events affect one over time? How do adverse events (here related to divorce) unfold from the perspective of the target group (here the child)? What is needed to steer a constructive process? My conclusion was that it is not the life event of "divorce" as such that is important. The important thing is what conditions prevail before and after, how the whole process is managed, how does the child perceive it, and how does it make sense to the child?

Discussing my paper, Antonovsky approved of my line of thought. This was 1993; he mentioned he was going to participate in an important meeting at WHO in Copenhagen, where he was to hold a seminar attended by leading health promotion experts, on how salutogenesis could be used as a framework for health promotion. It was a shock when, shortly after the Copenhagen meeting, I received a fax from Aaron reading, *"Dear Bengt, I have a malignant cancer, going into care tomorrow, pray for me*." He died days later. The loss of Antonovsky paralyzed his closest research networks for a long time. It was also the end of his Salutogenesis Newsletters, which at the time were the primary source of news about salutogenesis developments globally.

His WHO presentation was published in *Health Promotion International* after his death (Antonovsky, 1996). This landmark work concluded:

> With great respect for the concept of health promotion (and for those committed to it), I have none the less been highly critical, in emphasizing that the basic flaw of the field is that it has no theory. The salutogenic orientation has been proposed as providing a direction and focus, allowing the field to be committed to concern with the entire spectrum of health ease/dis-ease, to focus on salutary rather than risk factors, and always to see the entire person…

Within a few years, Antonovsky's posthumously published call to action was well heeded. It is not an exaggeration to proclaim this single publication as the catalyst – the milepost – for the burgeoning of salutogenesis scholarship.

A Chronology of Key Developments After 1996

This chronology has a decidedly personal cast since I am aware of salutogenesis developments mainly through my involvement. My first organizational responsibility outside the Nordic School of Public Health was as the Secretary General of the European Society of Social Pediatrics (ESSOP). At the same time, I took a similar position in NOBAB (Nordic Network for Children's rights and needs in

[1]The name has been changed to protect privacy and confidentiality.

health care) concerned with implementing the Convention on the Rights of the Child within Health Care.

One key member of ESSOP whom I worked with for a long time on many health promotion projects was Concha Colomer (1958–2011) from Valencia, Spain. Concha holds a special place in the development of salutogenesis scholarship as a cofounder of a postgraduate training summer course in health promotion that has salutogenesis as a shaping principle. The course is run by the European Training Consortium in Public Health and Health Promotion – ETC-PHHP (the founding partners were the Nordic School of Public Health, the Valencian School of Public Health, the Andrija Stampar School of Public Health in Croatia, and the Liverpool Department of Public Health). Since 1991, 782 students have been trained, coming from over 60 different countries. In a separate chapter in this Handbook, Vaandrager and colleagues describe details of the history and activities of the course.

The autumn following Antonovsky's death, I visited the school of Public Health in Granada, Spain, to participate in a health promotion seminar lead by Erio Ziglio, the WHO European Director of Health Promotion. We discussed the need for greater emphasis on salutogenesis in health promotion research and training, and in 1995, I set up courses on health promotion and salutogenesis at the Nordic School. I was in charge of the course on salutogenesis for over 15 years. In 2007, the salutogenesis course evolved to become the International Seminar on Salutogenesis of the Global Working Group on Salutogenesis – GWG-Sal – which I chaired for a decade (more about GWG-Sal later).

I had the opportunity to introduce salutogenesis at the first Nordic Health Promotion Research Conference at the University of Bergen in 1996, where Maurice Mittelmark was the host. Salutogenesis has featured on the program at all subsequent Nordic conferences, the most recent being the Ninth, held in 2019 at Roskilde University.

About the same time, I was invited to a Swedish Research Council seminar on the status of research on salutogenesis. Attending were Marianne Cederblad and Kjell Hansson, who were among the first to research salutogenesis in Sweden (they also hosted Antonovsky's sabbatical in Lund in 1987). Also participating in the seminar was Olle Lundberg, who together with Maria Nyström Peck had developed the three-question SOC scale. The consensus emerging from the seminar was that research on measuring the SOC was too meager. I wished to contribute to the needed research and recruited Monica Eriksson to work with me on the task. Monica had written her master's thesis on salutogenesis in Finland, where Guy Bäckman had introduced salutogenesis to Finnish academia. With me as her advisor, Monica undertook her PhD at Åbo Akademi University Vasa on the sense of coherence, which resulted in a series of publications that have become classic papers in the field (Eriksson, 2007).

There were many other salutogenesis developments at about the same time. Maurice Mittelmark was the President of the International Union for Health Promotion and Education – IUHPE. He was determined to pave the way for salutogenesis in health promotion, and in 2007, the IUHPE established GWG-Sal, with me as its founding Chair.

A bit earlier, I worked to infuse salutogenesis into a 6-year European Union project to establish a framework for a European Masters in Health promotion (EUMAHP, 1998–2004). The project included many prominent health promotion scholars from the continent, among them was Georg Bauer, who was to succeed me as head of GWG-Sal when I retired in 2017.

In a related EU project aiming to develop health promotion indicators (the EUPHID project), Bauer led the team that constructed an influential framework for research indicators, which had an explicit salutogenesis orientation (Bauer et al., 2006).

In 2005, I became Research Director for Health Promotion at Folkhälsan, an old established Finish NGO that was involved in population health and community development practice and research. Monica Eriksson joined me on the research team. The Folkhälsan position allowed me, for the first time in my career, to pull my thoughts together and focus entirely on my work on salutogenesis.

Monica and I conducted systematic reviews, with rigorous inclusion and exclusion criteria, of research that had used Antonovsky's salutogenesis framework up to that time (Eriksson, 2007). We also built an open-access database on salutogenesis to serve researchers all over the globe. During our 5 years at Folkhälsan, we helped to consolidate international collaboration. For example, we worked closely with two Norwegian collaborators to establish significant salutogenesis infrastructure in Norway. Geir Espnes was the founding director of the Center for Health Promotion Research at the Norwegian University for Science and Technology in Trondheim, and Nina Mjosund reconfigured the Buskerud Regional Psychiatric Services in Norway, resulting in a unique entry point for salutogenesis in mental health care.

From 2007 on, the IUHPE became a principal arena for salutogenesis, which has had a significant place in IUHPE global and regional conferences ever since. This helped to expose health promotion practitioners and researchers to salutogenesis, but a dedicated meeting place was also needed for people immersed in salutogenesis.

Responding to the need, we organized the First International Seminar on Salutogenesis in Helsinki in the Spring of 2008, with about 150 researchers and practitioners participating from Asia, Europe, and North America. Among them was Shifra Sagy (whose PhD advisor in Israel had been

Antonovsky), who gave a brilliant presentation on the early days of salutogenesis.

At the end of 2008, we organized the first meeting of GWG-Sal at Nordic School of Public Health, with founding members Sagy, Mittelmark, Bauer, Lindström, Eriksson, Corey Keyes (United States), Lenneke Vaandrager (the Netherlands), and Jürgen Pelikan (Austria).

The Second International Seminar on Salutogenesis was held in 2009, at Folkhalsan in Helsinki. The same year, the GWG-Sal members participated in a seminar on resilience in London, and as a group, presented salutogenesis and its relationship to resilience to the audience. We also held our second GWG-Sal meeting in London, and at that meeting, we agreed to produce a handbook on salutogenesis, which was published by Springer (Mittelmark et al., 2017).

The Third International Seminar on Salutogenesis was arranged at the IUHPE World Conference in Geneva in 2010, where we launched salutogenesis on a broad scale to the global health promotion community. The same year we introduced our work at the WHO Global Conference on Health Promotion in Nairobi. All IUHPE World Conference scientific programs have since had input from GWG-sal, leading to many salutogenesis subplenary, paper, poster sessions, and workshops, during the 2013, 2016, and 2019 conferences.

In 2010, we published *The Hitchhiker's Guide to Salutogenesis: Salutogenic Pathways to Health Promotion* (Lindström & Eriksson, 2010). This was first published in English, and at the time of writing, the book is available in eight languages: English, Spanish, Catalan, French, Norwegian, Italian, German, and Polish.

In 2011, the International Seminar on Salutogenesis was arranged at University West in Trollhättan, Sweden, where Monica Eriksson was later appointed Professor. The same year, I was appointed Professor of Salutogenesis (the first professorship with this title) at the Norwegian University of Science and Technology in Trondheim, Norway (where I continued until my retirement in 2017). The GWG-Sal operation moved with me to Trondheim, where Geir Espnes had established a new Center for Health Promotion Research. Geir launched a series of International Health Forum biannual conferences (2012–2018), wherein a dedicated part of the scientific program was the International Seminar on Salutogenesis. On my retirement in 2017, Georg Bauer took over the leadership of the GWG-Sal at the newly founded Center on Salutogenesis at the University of Zürich in Switzerland.

Coincident with the inauguration of the Zürich center (by the President of the University), GWG-Sal launched the Society for Theory and Research on Salutogenesis – STARS (www.stars-society.org). The *society* was established as a home for academics interested in salutogenesis, reaching beyond the health promotion discipline to welcome other disciplines in the social science and biomedical sciences communities. The year 2017 was a boom year for salutogenesis; besides the activities just mentioned, the first edition of *The Handbook of Salutogenesis* was published as an open-access publication of Springer Nature, edited by GWG-Sal members. In the short period since its publication, the handbook has risen to the top three Springer open-access publications globally, measured by the number of downloads. It was the popularity of the first edition that gave GWG-Sal members the motivation to start work on this second edition.

Conclusion

The first salutogenesis study was undertaken in the late 1960s and published in Antonovsky's books in 1979 and 1987. With his background in medical sociology, he related his salutogenic framework to the field of health, and he wished to foment a paradigm adjustment, from pathogenesis standing alone to pathogenesis *and* salutogenesis. He reasoned that the field of health promotion was fertile ground for such a shift. Where are we at this point? In a practical sense, the contents of this handbook answer the question. There seems to be no doubt that salutogenesis is thriving in its research, teaching and theory building.

Yet, salutogenesis is still in its infancy, a maturing construct, but with many unanswered questions that are posed in the concluding sections of many of this book's chapters. The final chapter of this handbook, coauthored by its GWG-Sal editors, addresses some of the critical issues that salutogenesis as an academic field must address to advance as transdisciplinary science, and hasten the paradigm adjustment that Antonovsky envisioned (Bauer et al. 2020).

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Salutogenesis as a Theory, as an Orientation and as the Sense of Coherence

3

Maurice B. Mittelmark and Georg F. Bauer

Introduction

In the health promotion field, the term salutogenesis is associated with various meanings that Aaron Antonovsky introduced in his 1979 book *Health, Stress and Coping*, and that he expounded in many subsequent works. In its most thoroughly explicated meaning, salutogenesis refers to *the salutogenic model of health*, which posits that life experiences help shape one's sense of coherence—an orientation towards life as more or less comprehensible, manageable and meaningful. A strong sense of coherence helps one mobilise resources to cope with stressors and manage tension successfully. Through this mechanism, the sense of coherence helps determine one's movement on the health ease/dis-ease continuum.

In its narrower meaning, salutogenesis is often equated with one part of the *model*, the *sense of coherence*, specifically defined as:

> a global orientation that expresses the extent to which one has a pervasive, enduring though dynamic feeling of confidence that one's internal and external environments are predictable and that there is a high probability that things will work out as well as can reasonably be expected. (Antonovsky, 1979, p. 123).

In its most general meaning, salutogenesis refers to a *salutogenic orientation,* particularly in health promotion research and practice, focusing attention on the origins of health and assets for (positive) health, contra to the origins of disease and risk factors.

These meanings are distinct yet inextricably intertwined. The heart of the salutogenic model is the sense of coherence, a 'global orientation'easily conflated with the 'salutogenic orientation' since the concept of orientation is central to both. A helpful distinction is that 'orientation' in relation to the sense of coherence has relevance for all humans' ability to engage resources to cope with stressors. In contrast, 'orientation' in relation to salutogenesis refers to professionals' interest in the study and promotion of the origins of health and assets for health rather than tackling the origins of disease and risk factors.

This book is about salutogenesis in all these meanings—the salutogenic model, the sense of coherence and the salutogenic orientation. These meanings and their reception in research and practice are taken up in this chapter to set the stage for the chapters that follow. We also briefly discuss salutogenesis in relation to other concepts within and beyond the health arena, with which salutogenesis has important kinship.

The Salutogenic Model

By his own account, the turn in Antonovsky's life from pathogenesis to salutogenesis began to crystallise in the late 1960s. Having worked up to that point as a stress and coping survey researcher with foci on multiple sclerosis, cancer and cardiovascular diseases, he realised that his real interest did not have its starting point in any particular disease. Instead, the starting point was *'the illness consequences of psychosocial factors howsoever these consequences might be expressed'* (Antonovsky, 1990, p. 75). This insight led to research and publications on the ideas of 'ease/dis-ease' (breakdown) and generalised resistance resources. Still, it did not mark the full emergence of salutogenesis in his thinking. At this stage of his career, Antonovsky's focus was still pathogenic (ibid, p. 76). Another decade would pass before

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Antonovsky came to the question *'what makes people healthy?'* and the need to coin the term salutogenesis to convey the thinking mode implied by the question. The time and space to develop these ideas came while he was on sabbatical at Berkeley in 1977 and 1978.

The fruition was Antonovsky's full exposition of salutogenesis in *Health, Stress and Coping* (Antonovsky, 1979), the publication of which completed his turn from pathogenesis to salutogenesis. Antonovsky's illustration of the salutogenic model is reproduced in Fig. 3.1. Up until the 1979 book, no research based on the salutogenic model had been undertaken. The model's core construct, the sense of coherence, had yet to be fully developed, operationalised and measured, and it was to this task that Antonovsky turned his effort. As a result, his book *Unraveling the Mystery of Health* (Antonovsky, 1987) focused a great deal of his attention on the sense of coherence and its role as an independent variable in health research (Eriksson & Lindström, 2006, 2007). Other aspects of the salutogenic model received less attention. Antonovsky's ambitions for further development of the salutogenic model were cut short by his death at age 71, just 7 years following the publication of *Unraveling the Mystery of Health*.

Health professions and disciplines have yet to be powerfully touched by salutogenesis, even if Antonovsky was professionally situated in a medical school during all the years he developed salutogenesis. The venerated *Dorland's Illustrated Medical Dictionary*, in print since 1900 and now in its 33rd Edition, does not even have an entry for salutogenesis, much less the salutogenic model (Dorland, 2020).

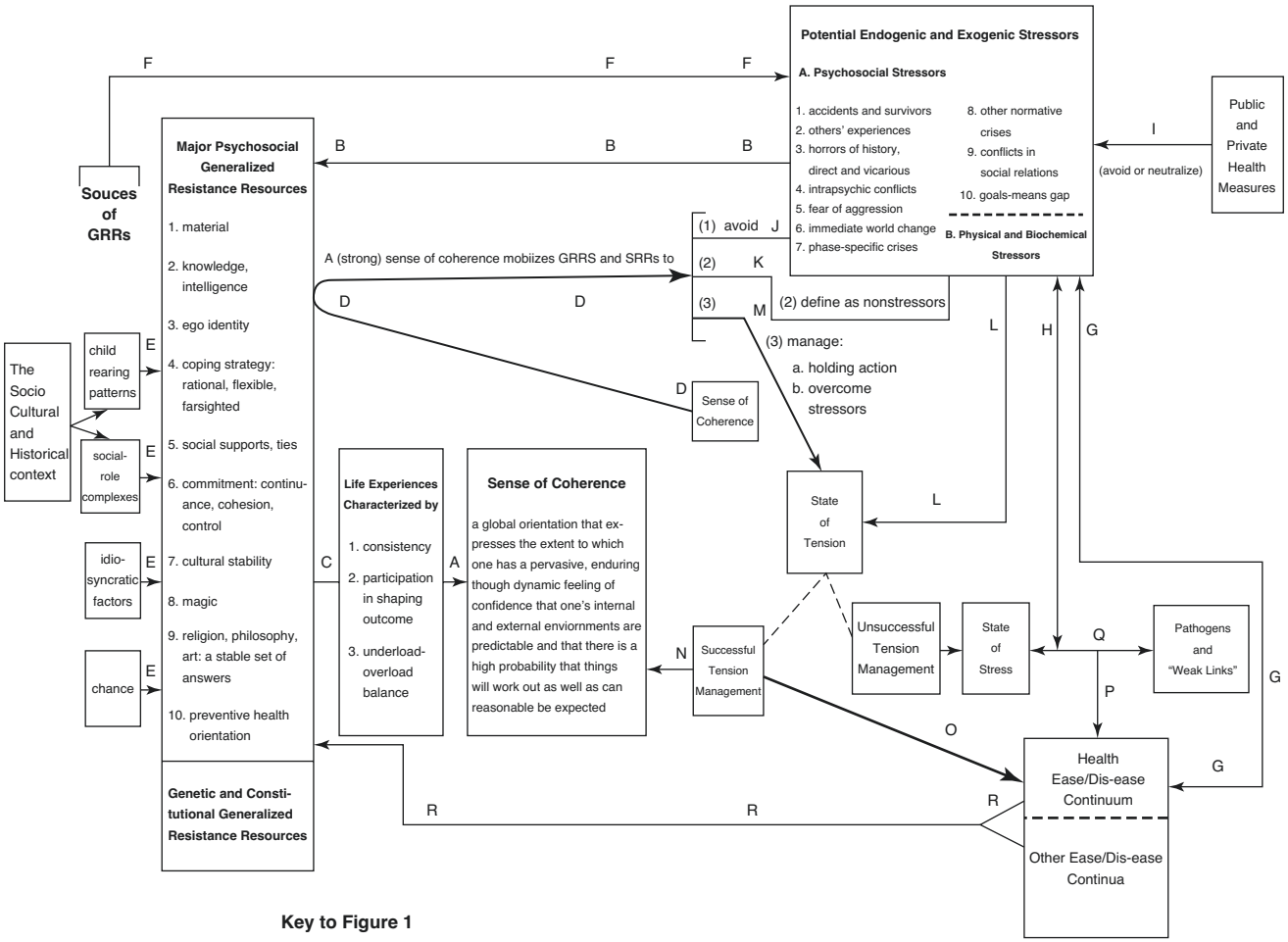
The salutogenic model has not yet deeply penetrated social science or medicine; this does not mean that there is no penetration, and the chapters of this book are evidence that certain health-related arenas are captivated. Many scholars who *do* refer to the salutogenic model stray far from its main ideas. Interest in the model's details is watered down by the sweeping generality of the salutogenic orientation, and by the intense interest the sense of coherence awakens. Four aspects of the salutogenic model that require attention are mostly neglected: (a) the origins of the sense of coherence, (b) other answers to the salutogenic question than the sense of coherence, (c) health defined as something other than the absence of disease and (d) processes linking the sense of coherence and health.

The sense of coherence develops from infancy. Antonovsky wrote extensively about the roles of culture in salutogenesis and the development of the sense of coherence (Benz et al., 2014). His writings included attention to the role of culture in shaping life situations, in giving rise to stressors and resources, in contributing to life experiences of predictability, in load balance and meaningful roles, in facilitating the development of the sense of coherence and in shaping perceptions of health and well-being (ibid). With almost the sole exception of work by Israelis, culture is not a theme in salutogenesis research (see, e.g. Braun-Lewensohn & Sagy, 2011; Sagy, 2015). One might protest and point to the plethora of studies that have translated sense of coherence questionnaires. Still, such research is not the study of the cultural forces to which Antonovsky called attention.

Stepping up the salutogenic model's ladder, cultural and historical context is understood as a cauldron generating psychosocial stressors and resistance resources. The processes involved are little studied. Which psychosocial resources are predictably generated by which child-rearing patterns, which social role complexes and their interaction? Is it the case that generalised resistance resources are of prime importance to developing the sense of coherence as Antonovsky maintained, and which are of most importance during which life stages? Do specific resistance resources (SRRs) also play a vital role? How does the experience of stress affect the shaping of resistance resources? Unaddressed questions about the origins of the sense of coherence abound.

Moving on to the issue of *other answers to the salutogenic question than the sense of coherence*, Antonovsky invited others to search for them, even if his interest remained firmly with the sense of coherence. The question is this: What factors (presumably besides the sense of coherence) intervene between the stress/resources complex on the one hand and the experience of health on the other hand? A convenient way to partition the question is with the intra-person/extra-person differentiation. The sense of coherence is an intra-person factor; which other intra-person factors may be important? There are many candidates (hardiness, mastery and so forth), but little effort to compare and contrast their mediating and moderating roles with the sense of coherence *in the same research designs*.

As to extra-person salutary factors, there is at least movement in promising directions. In the work and health literature specifically, and in the settings literature more generally, interest is growing in how physical and social environments can enhance well-being and performance. Such research is attentive to the sociocultural environment, not as a force in shaping the sense of coherence, but as a mediating factor, which may facilitate coping. In the health promotion area, this is referred to as 'supportive environments'. A fundamental precept is that health-enhancing social policy should create supportive environments. An example of a salutary extra-person factor is work and family corporate support policy, which is an SRR related positively to job satisfaction, job commitment and intentions to stay on the job (Butts et al., 2013). Most interestingly, it may be that the perceived availability of support under such policy, rather than the *use* of supports, is the critical factor in good job-related outcomes (ibid). Concerning GRRs at work, Brauchli et al. (2015) identified key job resources relevant for health outcomes across a broad range of diverse economic sectors,



Key to Figure 1

Arrow A: **Life experiences shape the sense of coherence.**

Arrow B: Stressors affect the generalized resistance resources at one's disposal.

Line C: **By definition, a GRR provides one with sets of meaningful, coherent life experiences.**

Arrow D: **A strong sense of coherence mobllizes the GRRs and SRRs at one's disposal.**

Arrows E: **Childrearing patterns,social role complexes,** idiosyncratic factors, and chance **build up GRRs.**

Arrow F: The sources of GRRs also create stressors.

Arrow G: Traumatic physical and biochemical stressors affect health status directly; health status affects extent of exposure to psychosocial stressors.

Arrow H: Physical and biochemical stressors interact with endogenic pathogens and "weak links" and with stress to affect health status.

Arrow I: Public and private health measures avoid or neutralize stressors.

Line J: A strong sense of coherence,mobilizing GRRS and SRRs, avoids stressors.

Line K: A strong sense of coherence,mobilizing GRRS and SRRs,defines stimuli as nonstressors.

Arrow L: **Ubiquitous stressors create a state of tension.**

Arrow M: **The mobilized GRRs (and SRRs) interact with the state of tension and manage a holding action and the overcoming of stressors.**

Arrow N: **Successful tension management strengthens the sense of coherence.**

Arrow O: **Successful tension management maintains one's place on the health ease/dis-ease continuum.**

Arrow P: Interaction between the state of stress and pathogens and "weak links" negatively affects health status.

Arrow Q: Stress is a general precursor that interacts with lhe existing potential endogenic and exogenic pathogens and "weak links."

Arrow R: Good health status facilitates the acquisition of other GRRs.

Note: The statements in bold type represent the core of the salutogenic model.

Fig. 3.1 The salutogenic model of health. (Reprinted from Antonovsky, 1979. Published with permission of © Avishai Antonovsky. All Rights Reserved)

companies and professions. Furthermore, they showed that independent from one's hierarchical position, gender or age, job-related GRRs both protect from negative consequences of work-related stressors (job demands) and directly promote positive health outcomes such as work engagement. The last finding points to the fact that positive health development works not only through the originally postulated salutogenic path of coping but also through GRRs promoting positive health outcomes.

Moving to *health defined as something other than the absence of disease*, the definitions of health evident in the salutogenesis literature are not as specified initially in the salutogenic model of health (Mittelmark & Bull, 2013). Research articles reporting on the relationship of the sense of

coherence to a wide range of single disease endpoints fail to note that this is a departure from the salutogenic model's specifications. In contrast, Antonovsky had described the degree of pain, functional limitation, professional prognosis and need for treatment as four broader criteria to assess the movement towards the ease end of the health ease/dis-ease continuum. However, these criteria still define health in negative terms—health is the absence of those four negative qualities. In contrast, health promotion researchers and practitioners applying the salutogenic orientation focus on positive health outcomes—the presence of perceived well-being or fulfilment.

Finally, moving to the issue of *processes linking the sense of coherence and health*, the salutogenic model posits that the sense of coherence helps a person mobilise GRRs and SRRs in the face of psychosocial and physical stressors. This may end with stressors: (1) avoided, (2) defined as non-stressors, (3) managed/overcome, (4) leading to a tension that is managed with success (and enhancing the sense of coherence) or (5) leading to unsuccessfully managed tension. These outcomes impact one's movement on the ease/dis-ease continuum, but what mechanisms link the sense of coherence and movement on the continuum? The sense of coherence is postulated as an orientation towards the appraisal of stimuli, not as a cognitive or emotional mechanism that converts information about stressors and resources into coping responses. What *else* happens in the brain that lies between the sense of coherence and coping responses? This is a little-studied question, surprising since the appraisal of stimuli plays a considerable role in the salutogenic model.

The discussion above suggests some areas of neglected development of the salutogenic model. Why is the model relatively neglected? One obvious answer is its newness and complexity; another is that Antonovsky himself did not pursue the whole complex model's empirical testing. Instead, he focused on the sense of coherence that he considered as the key concept, and even as the ultimate dependent variable in salutogenic thinking. Thus, it is not surprising that many other scholars have followed his inspiring leadership and focused on studying the sense of coherence part of the model. Another explanation might be that the salutogenic model is still incomplete (Bauer et al., 2019). As mentioned above, beyond the coping path, one would need to add a direct path of positive health development leading from generalised promoting (not resistance) resources to positive health outcomes. In his last paper, Antonovsky (1996) introduced the idea of 'salutary factors that actively promote health'. Simultaneously, such an expanded salutogenic model would better capture the salutogenic orientation with its focus on resources/assets and (positive) health outcomes going beyond the absence of disease.

Salutogenesis as the Sense of Coherence

Antonovsky situated salutogenesis as a question: what are the origins of health? His answer was the sense of coherence. The question and this answer comprised the heart of his salutogenic model as just discussed. Antonovsky invited other answers to the salutogenic question while remaining convinced that his answer was fundamental. The way Antonovsky posed and answered the question of salutogenesis was challenging. 'Origins'—he used the plural form—signal the possibility of multiple health-generating determinants and processes. His singular answer—the sense of coherence—suggested a channelling of all salutogenic processes through a particular mental orientation. This answer provides an appealing reduction of complexity compared to the concept of pathogenesis, with its legion of risk factors:

> A salutogenic orientation , I wrote, provides the basis, the springboard, for the development of a theory which can be exploited by the field of health promotion […] which brings us to the sense of coherence (Antonovsky, 1996).

He considered the sense of coherence as the fundamental concept of the salutogenic model. We say no more about the content of the sense of coherence idea here, referring the reader instead to Part III of this book, which is devoted to the topic. Instead, we focus on why the sense of coherence has been overriding as the answer to the salutogenic question. Why is the sense of coherence equivalent in meaning to salutogenesis for so many scholars?

Firstly, Antonovsky strongly signalled that of all the salutogenic model's aspects, the sense of coherence deserved special attention. In his influential 1996 paper in Health Promotion International, Antonovsky proposed a research agenda consisting *solely* of sense of coherence questions:

- 'Does the sense of coherence act primarily as a buffer, being particularly important for those at higher stressor levels, or is it of importance straight down the line?
- Is there a linear relationship between sense of coherence and health, or is having a particularly weak (or a particularly strong) sense of coherence what matters?
- Does the significance of the sense of coherence vary with age, for example, by the time the ranks have been thinned, and those who survive generally have a relatively strong sense of coherence, does it still matter?
- Is there a stronger and more direct relationship between the sense of coherence and emotional well-being than with physical well-being?
- What is the relationship between the person's movement toward well-being and the strength of his/her collective sense of coherence?
- Does the sense of coherence work through attitude and behaviour change, the emotional level, or perhaps, as sug-

gested by the fascinating new field of PNI (psychoneuroimmunology), from central nervous system to natural killer cells?' (Antonovsky, 1996, pp. 16, 17).

Notably, some of these questions focus on neglected issues discussed in the paragraphs above on the salutogenic model. Antonovsky's focus on the sense of coherence was clear, which undoubtedly influences subsequent generations of salutogenesis researchers' choices.

Besides the importance of Antonovsky's lead, the sense of coherence has the charm of relative simplicity: it suggests that all salutogenic processes are channelled through a measurable global life orientation. Thus, this single, focused concept reduces complexity. Further, the sense of coherence concept has high face validity for both researchers and populations to which it is applied. It makes immediate sense that perceiving life as comprehensible, manageable and meaningful is conducive to health. It is also supposedly more complete and generalisable, and not culture bound, in contrast to concepts such as internal locus of control and mastery. The combination of cognitive, behavioural and motivational components positions the sense of coherence uniquely, and they are all measurable.

This last point that the sense of coherence is appealingly measurable may be the most significant reason for its centre-stage position in the salutogenesis literature. In the prestigious journal *Social Science and Medicine*, Antonovsky (1993) published a paper titled *The Structure and Properties of the Sense of Coherence Scale*, cited as of this writing by over 2500 publications, a momentous achievement. Within just a few years, Antonovsky's sense of coherence scale had been used in 'at least 33 languages in 32 countries with at least 15 different versions of the questionnaire' (Eriksson & Lindström, 2005). The stream of sense of coherence measurement papers has continued unabated (Rajesh et al., 2015).

Thus, it is understandable that, for many, salutogenesis is synonymous with the sense of coherence: it is Antonovsky's answer to the salutogenic question, it was his sole priority for further research and sense of coherence measurement has scientific importance. Still, several lines for future advancement of the SOC concept have been identified (Bauer et al., 2019).

The Salutogenic Orientation

In his last paper, published posthumously, Antonovsky (1996) wrote:

> I was led to propose the conceptual neologism of salutogenesis—the origins of health—(Antonovsky, 1979). I urged that this orientation would prove to be more powerful a guide for research and practice than the pathogenic orientation.

Was Antonovsky predicting a paradigm shift? It is important to note that the 1996 paper cited above was directed at the field of health promotion, which Antonovsky felt had too whole heartedly accepted pathogenesis thinking and disease prevention via risk factor reduction. Expressing his hopes for 'proponents of health promotion,' Antonovsky wrote that the salutogenic orientation might help them 'carve out an autonomous existence—though one undoubtedly in partnership with curative and preventive medicine' (Antonovsky, 1996). Not so much a complete paradigm shift from pathogenesis *to* salutogenesis, Antonovsky wished to foment a shift to salutogenesis as a viable theory basis and an essential supplement to pathogenesis in the health and social sciences (Mittelmark & Bull, 2013). In introducing the salutogenic orientation, Antonovsky referred explicitly to Thomas Kuhn's (1962 and 2012) idea of paradigmatic axioms, which need to change for a paradigm shift to emerge. His thoughts were on:

> …the axiom … which is at the basis of the pathogenic orientation which suffuses all western medical thinking: the human organism is a splendid system, a marvel of mechanical organisation, which is now and then attacked by a pathogen and damaged, acutely or chronically or fatally (Antonovsky, 1996).

Challenging this axiom, Antonovsky summarises the essence of the salutogenic orientation in contrast to the pathogenic orientation (Antonovsky, 1996):

- In contrast to the dichotomous classification of pathogenesis into healthy or not, salutogenesis conceptualises a healthy/dis-ease continuum.
- In contrast to pathogenesis' risk factors, salutogenesis illuminates salutary factors that actively promote health.
- In contrast to focusing on a particular pathology, disability or characteristic of a person, salutogenesis might work with a community of persons and relate to all aspects of the person.

We return to our earlier question, slightly rephrased: was Antonovsky calling for a paradigm shift *from* pathogenesis *to* salutogenesis? Certainly not in the sense of salutogenesis as the usurper of pathogenesis. He repeatedly remarked that pathogenesis would remain dominant in the 'health' arena. However, he did hope that salutogenesis would achieve an ascendant position as *the* theory of health promotion. This is not yet achieved but salutogenesis is on the rise. The Health Development Model (Bauer et al., 2006) is a prominent framework for developing health promotion indicators, and it explicitly incorporates aspects of both pathogenesis and salutogenesis. If the paradigm shift concept is not too grand to apply, we could say that the shift is to a paradigm that incorporates pathogenesis and salutogenesis. Even if modest so far, this shift is perhaps the most promising contribution of the salutogenic orientation to the health and social sci-

ences. Compared to other concepts relevant to a search for the origins of health, such as assets, resources, coping and resilience, salutogenesis is in a sense a complete concept, offering a new outlook on health outcomes, health determinants and health development processes. For many health promotion researchers, using the term 'salutogenesis' communicates at a minimum that one pursues an alternative, complementary approach to pathogenesis.

Many health resources and assets concepts (e.g. social support, the sense of coherence, self-efficacy, hardiness and action competency) have kinship under the salutogenesis umbrella (Eriksson & Lindström, 2010). The umbrella also covers diverse positive health conceptions such as quality of life, flourishing and well-being. In this light, salutogenesis might be defined simply as processes wherein individuals' and communities' resources are engaged to further individual and collective health and well-being. Of course, this umbrella concept is a particular view of the salutogenesis aficionado; a self-efficacy researcher might be inclined to place salutogenesis under the umbrella in the company of all the other positive health concepts.

Salutogenesis in Companionship: Comparable Concepts and Developments

The salutogenic model originated as a stress and coping model (Antonovsky, 1979). Antonovsky referred to Selye's (1956) and Lazarus and Cohen's (1977) work as inspirational. As does the salutogenic model, Lazarus and Cohen's transactional model of stress assumes an interaction between external stressors and a person who evaluates stressors based on the resources available to cope. In the domain of working life, the well-established job demand-control model (Karasek, 1979; Bakker et al., 2015), the effort-reward imbalance model (Siegrist et al., 1986; Van Vegchel et al., 2005) and the more generic job demands-resources model (Bakker & Demerouti, 2007) share with the salutogenic model the basic idea of a balance between stressors and resources, and that they have been empirically tested in relation to disease outcomes. In a recent development, an organisational health model has emerged from the explicit linking of the job demand-resource model (Bakker & Demerouti, 2007) with salutogenesis (Bauer & Jenny, 2012; Brauchli et al., 2015).

Salutogenesis as an orientation is an idea in close concert with a broad academic movement towards a positive perspective on human life. There are traces of salutogenesis in philosophy, at least since Aristotle reflected on the hedonic and eudaimonic qualities of (positive) health (Ryan & Deci, 2001). Three decades before *Health, Stress and Coping*, the World Health Organization's constitution pronounced that health is more than the absence of disease. Illich (1976) commented on the medicalisation of life. Social epidemiology has a long tradition of considering broad social determinants of health beyond the proximal disease risk factors (Berkman et al., 2014). More recent developments include research on positive psychology and positive organisational behaviour in organisational psychology (Nelson & Cooper, 2007), on happiness in management research (Judge & Kammeyer-Mueller, 2011), on place as a resource in social ecology (Von Lindern, Lymeus & Hartig, this volume), on promoting strengths in educational sciences (Jensen, Dür & Buijs, this volume) and on pre-conditions for substantially rewarding, satisfying and fulfilling lives in the field of positive sociology (Stebbins, 2009; Thin, 2014). In health promotion, the positive paradigm is evident in the recent literature of two kinds: that which describes protective factors against untoward outcomes (e.g. Boehm & Kubzansky, 2012) and that which describes factors promoting well-being (Eriksson & Lindström, 2014).

Conclusions

This chapter—and this handbook—introduces a broad swath of developments that excite the present generation of salutogenesis scholars. Some of these developments are relevant to the salutogenic model, others are firmly focused on the sense of coherence and yet others are more identifiable with salutogenesis as an orientation. The book also takes up parallel developments in positive psychology, occupational and organisational health sciences, social ecology and educational sciences that may make little explicit reference to salutogenesis and are in evident close kinship with salutogenesis. It is one of the main aims of this book to invite an inclusive, bridging dialogue meant to nourish salutogenesis in all its meanings. The book also aims to introduce salutogenesis researchers to scientific kinfolk who contemplate matters highly relevant to salutogenesis, even if they do so in works of literature not searchable with the keyword 'salutogenesis'.

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4

Aaron Antonovsky (1923–1994): The Personal, Ideological, and Intellectual Genesis of Salutogenesis

Avishai Antonovsky and Shifra Sagy

"Your candle burned out long before your legend ever did" (Bernie Taupin, Candle in the wind).

Introduction

In January 1945, while serving in the American army and stationed in New Guinea, Aaron Antonovsky (hereafter Aaron) wrote a long letter to his younger brother, Carl, who was then 13, ongoing adolescence. Aaron, at the age of 21, expressed two things that would later on become a significant part of his academic character. He wrote: "You don't know the meaning of 'iconoclast'—but you know the idea, because Avraham Aveenu [Abraham, one of the fathers in the Bible] was one. What did he do? He looked all about him, questioned everything, rebelled against everything … and he mercilessly destroyed everything that was false. He broke not only the idols themselves, but the belief he himself had once had in them. He had not yet discovered the great principle of his life, but he had cleared the way for it." Years later, perhaps less dramatically, pathogenesis was "removed" from the agenda to make way for salutogenesis. Toward the end of the letter, Aaron wrote: "… throughout our lives, we must never stop asking questions; but it is most important now." A half a century later, in a tribute to Aaron, Ilona Kickbusch wrote "… there is nothing more practical and efficient than asking the right question …. Aaron Antonovsky consistently had the courage to ask the right question: how is health created?" (1996, p. 5).

Rebelling against the mainstream and searching for the right questions seem to be the two most salient characteristics that bridge between Aaron the scholar and Aaron the man.

In this chapter, we wish to share some insights we have regarding the development of the salutogenic idea, by drawing lines connecting it to the *person* Aaron was. Having been very close to Aaron for several decades, we feel that a certain degree of familiarity with his personal background would contribute to the understanding of the development of the salutogenic theory. Therefore, we wish to shed some light on Aaron's personal experiences, ideological beliefs, and professional development throughout his life, until the crystallization of the salutogenic idea. Being close to him, and knowing what he would prefer, we shall refer to him by first name throughout this chapter (unless quoting others).

But how does one write about Aaron the scholar, without diving too deeply into the world of salutogenesis, which will be discussed thoroughly throughout this book? How does one write about Aaron the man, without becoming too biographically boring? We shall try to accomplish this task by avoiding strict academic writing; instead, following a brief history of his life, we will highlight a few qualities which, we believe, are characteristic of Aaron's scholarly work and his personal life. In doing so, we will quote friends and colleagues of Aaron's who have agreed to contribute their illustrative memories to this chapter.[1] These will be embellished with some unknown, perhaps humorous, anecdotes.

Rebellion and the Importance of Questions

Aaron was born in the United States in 1923, 5 years after the end of World War I and 6 years before the outburst of the Great Depression. His parents and older sister had fled from Russia a few years earlier, arrived in Canada, traveled

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[1]The names of these people are marked in **bold** typeface.

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to England, and back to Canada before they finally settled down in Brooklyn, New York. As a child, Aaron's social environment consisted of immigrant families, mostly lower-class Jews and Italians. His father owned a small laundry shop where his wife and two older children spent many hours helping out. Somehow, they managed to survive the difficulties of adapting to a new culture in times of a severe economic depression. Later, in the 1930s, Aaron's parents—for whom education was extremely important (having little or no formal education themselves)—sent him to a prestigious high school, and then to college, until he was drafted into the American army during World War II and sent to the Pacific.

As an adolescent, Aaron was deeply involved in the HaShomer HaTza'ir Jewish youth movement, where he first absorbed a socialistic ideology. As his younger brother **Carl** told us, "Belonging to a Jewish organization was obvious." **Selma Rieff,** a close friend, who met Aaron as a child in the youth movement, remembers those days, of endless ideological discussions, as most important in shaping Aaron's orientation to life.

This was perhaps the first instance of Aaron the rebel because unlike most movement members, he was against Communism. At the age of 26, after the establishment of the State of Israel in 1948, Aaron came to Israel and was a founding member of a kibbutz,[2] where his socialist ideology came into practice.

Upon returning to the United States in the early 1950s, Aaron completed his doctorate in sociology at Yale University. By that time, he had been involved in research and writing about social class, discrimination, inequality, immigration, and ethnic minorities. During this period, we believe, the seeds were planted for what would a quarter of a century later evolve into being the salutogenic model. For Aaron, the two decades between 1955 and 1975 were years of transition: personally, he had married, spent a year in Iran and then came back to Israel (this time to the city of Jerusalem), had a child born, and ended up in the city of Beer Sheva, helping to set up a new medical school. Professionally, Aaron moved back and forth between the sociological studies on immigration, culture, and social class, and the focus on sociology of health. During this period, he was coauthor or coeditor of four books, which are possibly not familiar today to health promotion scholars, but we see them as tied to the salutogenic revolution: *Poverty and health* (1969), *Hopes and fears of Israelis* (1972), *From the golden to the promised land* (1979), and *A time to reap* (1981).

People suffering discrimination, or poverty, or the struggle to adjust to a new country as immigrants (or founding a kibbutz on bare land in the summer heat or the winter cold), are quite obviously prone to physical or mental sickness. Still, many such people maintain good health and well-being. The question that began to arise in Aaron's mind was not why some of these people feel miserable, but rather how some of them manage quite well. This question became more salient following a study of women Holocaust survivors, many of whom were found to be well adapted, despite the excruciating experience in concentration camps and poor life conditions after immigration to Israel.

The answer, which Aaron has termed the sense of coherence, was to follow. But it was the salutogenic *question*—not why does one become sick but how does one move toward the health pole on the ease–dis-ease continuum—that constituted the major philosophical change in thought, from the traditional pathogenic orientation to the salutogenic view of the mystery of health.

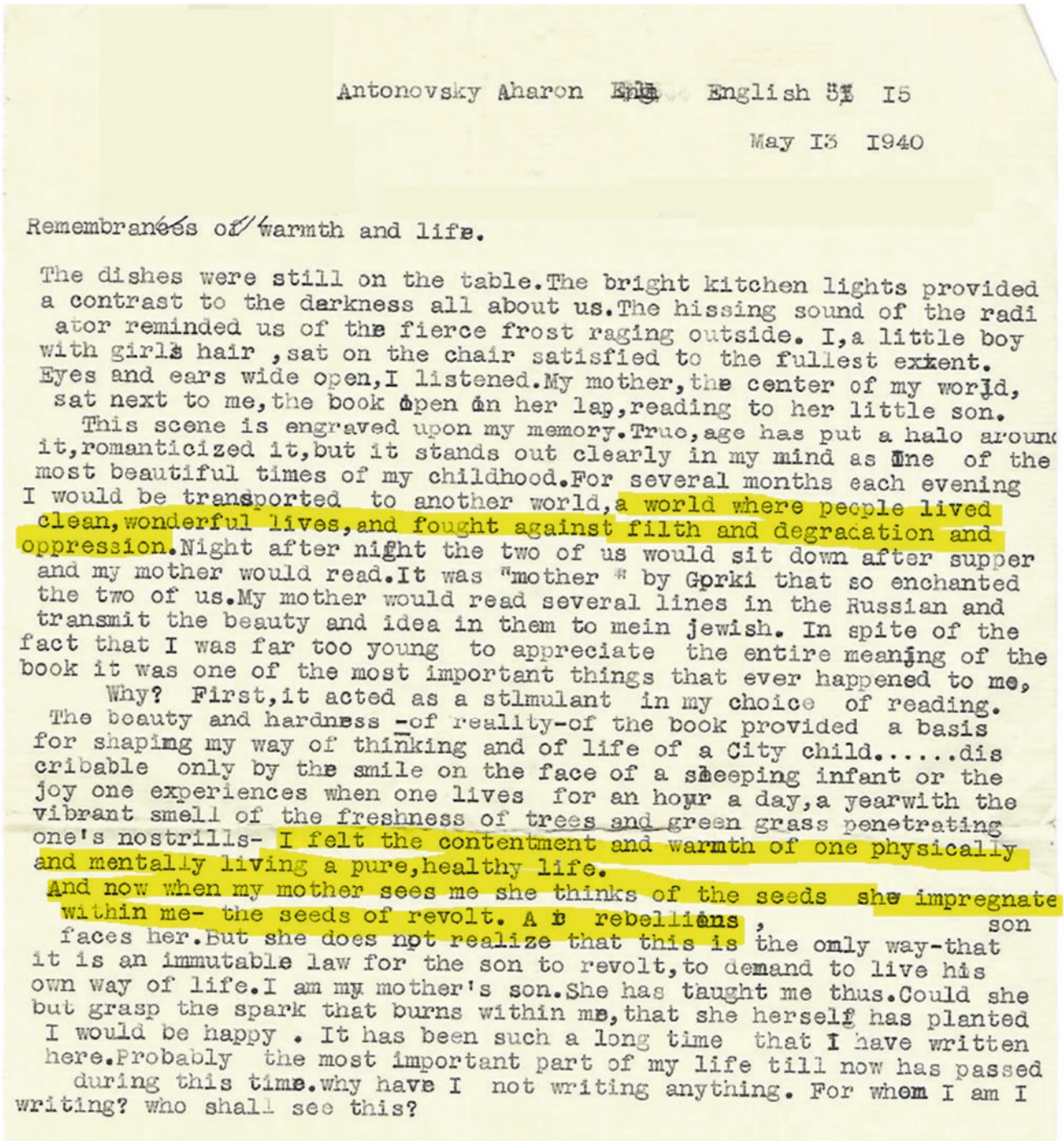
The emphasis on asking the right *question*, as a key to relevant answers, is, we believe, crucial to the advancement not only of the study of health and well-being but also of all scientific endeavors. Aaron's mantra "*Ask the right question!*" has been following one of us (AA), first as a teenager, later as a young student, and to these days as a researcher in the social sciences; it is useful in the academia, but no less in solving "simple" daily problems, be it why the TV remote control does not work or where to go on the next vacation.

Asking questions, in itself, is a kind of rebellion. It signifies resistance to blind acceptance. But Aaron wanted more. Aaron put into deeds the words attributed to Mark Twain: "Whenever you find yourself on the side of the majority, it's time to pause and reflect."

From a personal-developmental perspective, we see the roots of Aaron's salutogenic theory in his concrete childhood and adolescence experiences, from which he derived the tendency to question the world and rebel against what he believed was wrong. In a recent conversation, his younger brother **Carl** described him as "very idealistic, striving for a better world, intellectually curious, full of compassion, and having a strong feeling of how things should be done."

Aaron's parents, optimistically tackling the daily hurdles in the time of the Great Depression, served for him as living examples of viewing life as comprehensible, manageable, and meaningful. It is, therefore, clear why he dedicated his book *Unraveling the mystery of health* (1987b) "To my parents … from whom I learned about the sense of coherence." A good illustration of the strong bond between Aaron and his

[2]A kibbutz (in Hebrew: collection; plural: kibbutzim) is an Israeli unique kind of collective settlement. A person living in a kibbutz is a kibbutznik. There are a few hundred kibbutzim; the first established in 1909. Traditionally based on agriculture, they began as utopian socialist communities, carrying the slogan "From each according to his ability, to each according to his need." Today, many kibbutzim have been privatized, and industry has replaced much of the agriculture.



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Remembrances of warmth and life.

The dishes were still on the table.The bright kitchen lights provided a contrast to the darkness all about us.The hissing sound of the radiator reminded us of the fierce frost raging outside. I,a little boy with girls hair ,sat on the chair satisfied to the fullest extent. Eyes and ears wide open,I listened.My mother,the center of my world, sat next to me,the book open on her lap,reading to her little son.

This scene is engraved upon my memory.True,age has put a halo around it,romanticized it,but it stands out clearly in my mind as one of the most beautiful times of my childhood.For several months each evening I would be transported to another world,a world where people lived clean,wonderful lives,and fought against filth and degradation and oppression.Night after night the two of us would sit down after supper and my mother would read.It was "mother" by Gorki that so enchanted the two of us.My mother would read several lines in the Russian and transmit the beauty and idea in them to mein jewish. In spite of the fact that I was far too young to appreciate the entire meaning of the book it was one of the most important things that ever happened to me,

Why? First,it acted as a stimulant in my choice of reading. The beauty and hardness -of reality-of the book provided a basis for shaping my way of thinking and of life of a City child.....discribable only by the smile on the face of a sleeping infant or the joy one experiences when one lives for an hour a day,a yearwith the vibrant smell of the freshness of trees and green grass penetrating one's nostrills- I felt the contentment and warmth of one physically and mentally living a pure,healthy life.

And now when my mother sees me she thinks of the seeds she impregnate within me- the seeds of revolt. A rebellions , son faces her.But she does not realize that this is the only way-that it is an immutable law for the son to revolt,to demand to live his own way of life.I am my mother's son.She has taught me thus.Could she but grasp the spark that burns within me,that she herself has planted I would be happy . It has been such a long time that I have written here.Probably the most important part of my life till now has passed during this time.why have I not writing anything. For whom I am I writing? who shall see this?

Fig. 4.1 High school essay by Aaron Antonovsky (yellow markings added by the authors)

mother, his early idealistic thoughts of social justice and health, and his tendency toward rebellion is found in an excerpt from an English essay he wrote in high school at age 16. The original, in Aaron's handwriting, was typewritten by him several years later (see Fig. 4.1). His essay, by the way, earned him a B+ mark.

Warmth and Informality Versus Strictness and Academic Demands

Several colleagues and friends have pointed out two characteristics of Aaron that we know very well, and—we believe—have enabled him not only to make his way to the hearts of other people but also to be a good researcher and health edu-

cator: informality, on the one hand, and uncompromising academic demands, on the other.

In a Western professional world where it is a custom to go to work with shoes, a jacket, and a tie, Aaron was known for his appearance with sandals, a short-sleeved shirt, and of course no tie. This habit may have its origin in the kibbutz life, and it was probably very convenient to wear such an outfit in Beer Sheva (where Aaron lived for 18 years while at Ben Gurion University of the Negev).[3] We assume that on very formal occasions abroad (i.e., outside Israel) he would wear a tie, but in our memories (at least for AA), the only time Aaron wore a suit and a bow-tie was for the ceremony in 1993, in which he received an honorary doctorate at the Nordic School of Public Health in Göteborg, Sweden.

An illustration of Aaron's openness, talkativeness, and informality is found in an article by Suzanne C. Ouellette (Kobasa). In 1998, a special issue of *Megamot* ("Trends"—the leading Israeli behavioral sciences journal) was devoted to "Salutogenesis and wellness: Origins of health and well-being." Ouellette, who developed the concept of *hardiness* at about the same time that the idea of the *sense of coherence* was born (e.g., Kobasa, 1979), wrote an article for the special issue, titled "Remembering Aaron Antonovsky: A conversation cherished and one missed." Here are a few excerpts of that article (Ouellette, 1998), back-translated from Hebrew (unfortunately, we were unable to find the original English manuscript, which was translated into Hebrew for the special issue):

> I had only one opportunity to meet Aaron Antonovsky and enjoy a lively, open, and informal conversation about research questions that had interested us. It took place at his parents' apartment in Brooklyn, New York. It was in summer 1982, only a few years after each one of us published, without being introduced to each other, what we had thought were new and unique calls for research about the things that keep people healthy under stress.
>
> In the phone conversation we had before that meeting, Aaron explained that he was visiting his parents and told me a bit about them and his relationship with them. His parents lived during the time of the Holocaust and were now in their old age. His visit was to make sure they are alright. It was also an opportunity for him to gain strength from two people who had been, and still were, key figures for him; an example of how people live, in Aaron's words, a *salutogenic* life.
>
> At the meeting itself I got the impression that Aaron's parents were full of vitality despite their age (his father was over 90 and his mother was approaching 90). They did what was needed to make sure their son's stay in New York would be comfortable and that our meeting would be pleasant for me as well. Aaron was dressed informally: an army-like khaki shirt. I have seen this kind of shirt, but usually in films in a desert area, not in the streets of Brooklyn or Chicago. I wore a suit, but his outfit was more appropriate for the summer heat that day. I looked more or less like I thought that a young lecturer should look like at a meeting with a senior scholar. The clothes remained the only representations of our difference in status. The conversation itself was a free exchange of ideas between two people who had committed themselves to certain questions regarding human behavior, to the search for better-developed theories and for better means to examine such theories.
>
> Much of Aaron's work consisted of simultaneously presenting his own work and the work of others. He developed his ideas by putting them side by side with others' similar ideas. He has given us a lesson on how to work; his intention was not to show that his approach was better; instead, he demonstrated how confrontations between the theoretical and practical ideas of different researchers give rise to new questions, which may bring us closer to a better understanding of human behavior. He showed us that a sense of coherence can be found through the loneliness of writing.

In the same spirit, **Rudolf Moos** of Stanford University has recently written to us about Aaron:

> He loved to engage in discourse with me and several of my colleagues and was always ready and eager to review his ideas and to learn about our comments and criticisms. We had quite a few long conversations about his ideas, which were incisive, original, and rather revolutionary for the time.
>
> Our own work focused heavily on the positive (and negative) influences of the social context on health and behavior and on the specific ways in which individuals could confront and manage stressful life events and life crises.

Regarding the way Aaron related to others' criticisms, **Shifra Sagy** (second author) remembers his openness to critical opinions of other researchers, let them be senior or junior. "He may have not been perceived as such in the academia," says Shifra, "but I knew this characteristic of his very well." She elaborates:

> He always encouraged me to express my opinion and even to argue with him. He liked to tell the story of how I became research coordinator for his big study on sense of coherence and retirees' adjustment. During my first job interview with him, I said he is very wrong, including only retirees in the study, and that to understand their adjustment to retirement he should also have a sample of the retirees' spouses.
>
> I went home and told my husband there is no chance that I got the job. Apparently, I was wrong; and the rest is history.

Deo Strümpfer, a friend and colleague from South Africa, added:

> He was the most supportive colleague and "teacher" a person can ever hope to have. His comments on pre-publication papers were incisive, yet always kind and warm; an amazing aspect was how quickly he responded. He connected persons with similar interests with one another.

Aaron's informality has apparently struck the memories of several other colleagues and students. **Moshe Prywes**, the first Dean of the Beer Sheva medical school (died in 1998), said: "I first met Aaron when he was a fellow at the Guttmann Institute of Applied Social Research at the Hebrew University of Jerusalem. I couldn't help but notice the man who was wearing shorts and sandals." (Prywes, 1996, p. ii). **Asher Shiber**, a medical student and later a colleague, lately recalled that once every week or two, Aaron (and his wife,

[3]Beer Sheva is called the "capital of the Negev." The Negev is a dry, desert-like region in the southern part of Israel. The temperatures range from about 10° (centigrade) in the winter to 35–40° in the summer.

Helen) would invite two or three students to their house for dinner. **Ayala Yeheskel**, a social worker in Beer Sheva in the mid-1980s, told us:

> A while before a meeting with Antonovsky in January 1985, I lost my son, Eldad. At the time I was employed as a social worker in the Department of Psychiatry and in the Department of Family Medicine at the Soroka Medical Center in Beer Sheva, and spent much time teaching about the biopsychosocial approach. Besides that, I was exploring possible topics for my doctoral dissertation at the Hebrew University of Jerusalem, in the context of life stories of Holocaust survivors. About a month after my personal tragedy, emotionally uneasy, I turned to Antonovsky for counseling. With utmost patience and tenderness, he listened, and at the end of the meeting he asked me a question I will never forget: "Ayala, you are now in the midst of your own private holocaust; how will you engage in a subject you are so personally close to? In any case, I will help you and wish you good luck." I felt I had received approval, from an admired and beloved person, of my ability—in spite of my personal circumstances—to carry on with the tasks I had planned for myself.

Aaron's informality and warmth were expressed not only toward his colleagues and students. Several times, while on visits abroad, Aaron was interviewed by local newspapers. One would expect that a serious professor, a well-known scholar in his field, would present himself in formal dress. However, some photos show this was not the case: he was photographed riding a bicycle or wearing short pants because that is what made him comfortable (unfortunately, the authors' attempts to contact the newspapers and obtain permission to use the 30- to 40-year-old photos were unsuccessful).

The Establishment of the Medical School and the "Beer Sheva Spirit"

Although not directly related to salutogenesis or to Aaron's personal characteristics, it seems that a short background on the establishment of the medical school in Beer Sheva is needed in order to put several of the quotes and stories hereafter in context. **Shimon Glick**, professor of internal medicine and former Dean of the Faculty of Health Sciences at Ben Gurion University of the Negev, who worked with Aaron from the first days of the medical school in the early 1970s, described the formation of the "Beer Sheva spirit" and Aaron's contribution to it:

> When Professor Moshe Prywes of Hebrew University and Dr. Haim Doron of Kupat Holim[4] launched the new medical school at Ben Gurion University of the Negev it was not to produce another medical school, but to create an educational institution of another type entirely. This was to be a school which would train humanistic physicians with an orientation to the needs not only of their specific patients but to the needs of the community in which the school is located. These physicians would be sensitive to the psychosocial and cultural aspects of medicine. Wonderful sounding words, but really neither of the two founders of the school, nor hardly any of the existing staff or of the staff recruited to begin to teach at the school had any real concept of how to accomplish this great and important mission. Prywes recruited Aaron to be the spirit and guiding light of the project. Aaron was a scholar in sociology of health, most of it theoretical, as sociology usually is; now here was an amazing challenge and opportunity to apply sociology to the creation of an institution which would train a new kind of physician to serve his/her community in the ideal manner, sensitive to the cultural and psychological needs of the patients and their community. Aaron was not just one of several department heads recruited to join the new medical school, but was perhaps the key individual who contributed to expressing and articulating clearly the school's goals and direction. He was among the handful of individuals who laid the framework for the school. Among the revolutionary concepts were exposure of students in their first school year to patients not just in the hospital, but in their community settings, teaching them how to speak to the patients, how to understand the influence of their surroundings, economic and social conditions on their illness and the like. But first you had to pick the right kind of students who would be open to this kind of educational orientation. So, one had to change the selection process which heretofore depended only on academic achievements.
>
> All of these steps Aaron designed and taught us, step by step. Speaking for me personally, who arrived as professor of internal medicine in 1974 when the school opened, these ideas were new. I had never heretofore read an article in medical sociology, had never even heard of Antonovsky, but quickly became in some way a devoted follower of his. His ideas and concepts resonated with me and we shared fully the goals. He taught us how to interview patients, how to teach students to do so. He also created the admission process to the medical school, helped select the members of the admission committee, trained them and set into motion a unique process that has continued successfully for several decades. His leadership, absolute integrity and idealism permeated the process and made the admission committee a most prestigious and respected unit in the school, trusted by all.
>
> In reality, most physicians and basic scientists at the institution did not really fully comprehend and buy into his philosophy, because their focus and training had been in the traditional biomedical model. But Aaron influenced enough of the key people and had the full support and backing of the medical school leadership. I believe that the so called "Beer Sheva spirit," which characterizes the school and its graduates to this day, is the spirit instilled by Aaron. And in the spirit of salutogenesis that is what keeps the institution on the "right" track often in the face of adversity and administrative and bureaucratic problems.

On a more personal level, **Shimon Glick** mentioned that during almost 20 years of working together with Aaron at the medical school, himself being religious and Aaron growing up in HaShomer Hatza'ir (encompassing great ideological differences and conflicting outlooks), they have always respected one another and had much in common.

Milka Sampson is secretary of the Department of Sociology of Health at Ben-Gurion University, of which Aaron was chairperson. She worked with Aaron from the time she was appointed, in 1984, until he formally retired in

[4] Kupat Holim, literally meaning "sicks' fund," is the Israeli health plan and medical insurance institution.

1993. She described Aaron as "an honest and fair man, from whom I learned so much." She was a beginner secretary in her early 20s and remembers that "Professor Antonovsky" insisted she call him "Aaron." Before Milka, there was a secretary who would always address him as "professor." **Ofra Anson**, who worked with Aaron in the Department of Sociology of Health for almost 20 years, told us in a recent interview that Aaron once said to her in despair, relating to the secretary: "For Heaven's sake, we work together! Why doesn't she stop calling me 'the professor'?!"

Shifra Sagy (second author), who was Aaron's doctoral student and later a colleague in the department, mentioned the "Friday cakes": every Friday, it was someone else's turn to bring a cake to the staff meeting. Aaron had insisted that each one must prepare a cake by him/herself (one time, on his turn, he wanted to bake a fruit cake, but the only fruit he had at home was a grapefruit; so he baked a grapefruit cake …). In these matters, everyone belonged to the same social status. For example, they would all take turns washing dishes.

The Friday gatherings were devoted not only to professional matters. Actually, this was also an opportunity to discuss a good book someone had read, or to celebrate someone's birthday, or to argue about politics. However, even though Aaron's belief system has probably influenced several of his career choices, he meticulously separated ideology from scientific objectivity. **Zeev Ben-Sira**, a medical sociologist from the Hebrew University of Jerusalem who passed away about a year after Aaron, addressed this issue in an obituary written a short while after Aaron's death (1995, unpublished):

> Aaron was an idealist, believing in the future of a better and just world. He vehemently contended against social injustice, discrimination, and intolerance. However he unpromisingly separated between his beliefs and his scholarly work. He strongly resisted any intrusion of ideologies into scientific objectivity.
>
> Doubtlessly, his beliefs in a better world influenced the choice of the field of his scholarly work, yet did not contaminate the objective, scrupulous and unbiased approach to his research.
>
> Understandably, then, his initial steps in his scientific career and research were devoted to the study of social discrimination, inequality, intergroup and ethnic relations, and of the absorption of immigrants.

Aaron's personal affection was combined with the great importance he ascribed to community medicine. **Aya Biderman**, a family doctor, recollects her meeting with Aaron:

> In 1980 I arrived for internship at the Soroka Medical Center in Beer Sheva, after studying medicine in Jerusalem. During that year I came to know Dr. Aaron Antonovsky, or "Aaron" as he insisted that we call him.
>
> In 1981 I began to specialize in family medicine. The Department of Family Medicine was next door to the Department of the Sociology of Health, of which Aaron was chairperson. Aaron had special feelings toward our profession. He said family medicine was one of the "islands" in which the biopsychosocial model should be applied.
>
> As a young doctor, I conducted a study on the reasons why some patients do not attend their family doctor. I hoped to have it published and thought the data may interest Aaron. I met with him to ask for his help, and he agreed. Thanks to him I had my first publication in the medical literature. Aaron's willingness to help a young doctor, who had no experience in research or writing, was very significant and gave me the push and the enthusiasm toward research and academic practice.
>
> Aaron also agreed to teach a biopsychosocial seminar in our department. It was a great learning experience which we (the young doctors) carried with us for years.

The duality of Aaron the man and Aaron the scholar was also expressed in daily work. Alongside with the warm atmosphere and informal relationships in the department, Aaron was strict about work. The department was quite small (6–7 people), and it was important for Aaron that each one would know what others were working on, as a means of mutual fertilization. He demanded from himself what he asked of others, even when it came to things normally done by junior research assistants, such as counting questionnaires. Shifra recalls that when she was beginning her doctorate, Aaron insisted that she write in English. She then gave him her handwritten draft of part of her work. The next day, Aaron gave it back to her, typewritten and corrected.

Indeed, Aaron gave his students lots of hard work. For Israeli students, most of whom have part-time jobs beside their academic studies, spending hours and hours in the library was not a trivial matter. **Asher Shiber** remembers his basic studies in medical school with Aaron: "The first thing he did was to send me to the library to read and read and read …. As an enthusiastic medical student, I wanted to do medicine, not read about medical research." As the time passed, though, students realized that hard work is productive, and they learned to appreciate Aaron's strictness. Asher sums this point: "With all my appreciation toward Aaron as a professional, the first thing that comes to my mind when I think of him is how much I loved him as a person."

Reading and reading and reading was not only a home work task which Aaron had given his students. Being a bookworm himself, Aaron believed in broadening one's education. **Joel Bernstein**, a neighbor, a friend, and a colleague from the life sciences, wrote to us:

> Our professional backgrounds might not have led to any academic interaction was it not for the connection with Judy.[5] However, from the beginning there were social gatherings and I found myself in the company of a true intellectual. I do not think a visit to the Antonovsky home passed without me reviewing the books lying on the table or in the shelves. The collection was

[5] Judy Bernstein was Aaron's research and teaching assistant and later became a faculty member in the Beer Sheva medical school, where she worked until her premature death in 2001.

> truly eclectic, with a scattering of Yiddish literature (in the original), philosophy, political science (much from the liberal academics of the 1950s and 1960s), and of course sociology and psychology. The Antonovsky abode was no more than 150 meters from ours. They moved in about a year after we did, and like everyone had to install an irrigation system—for which, with only the experience of having done my house, I became the consultant, and occasionally technical assistant.[6]

With Joel's help, Aaron spent several hours working in the garden. The first author of this chapter, having spent much time with Aaron in the garden, thinks it is possible that the seeds Aaron planted in the desert soil around the new house in 1973 were, to some extent, seeds of the salutogenic idea; more than once he would look at a few plants, some dying and some still alive, take a closer look at the green ones, and mumble "I wonder how they survive."

We believe that the importance Aaron saw in informal relationships and in expanding one's knowledge is tied to two unique qualities of the new medical school he had helped to establish, which we touched upon above, quoting Shimon Glick. First, the selection process: unlike at other universities, the main criterion for accepting candidates to medical school was not matriculation grades or psychometric scores, but rather results of two stages of semi-structured interviews. Taking into account criticism on an interview as a selection instrument, it seems that in Beer Sheva they have managed to overcome its disadvantages. As Aaron wrote, "In our case, there has come into being a widespread belief among faculty and students: more humane and responsible, less individualistic and competitive, more compassionate and concerned" (Antonovsky, 1987a).

This quote brings back a story one of us (AA) has heard once from **Dina Ben-Yehuda**, who was one of Beer Sheva's first graduates. Today she is chair of the Department of Hematology at Hadassah Medical Center in Jerusalem and Dean of the Faculty of Medicine at the Hebrew University. The anecdote occurred when Dina was already a senior doctor at Hadassah (forgive us if there are minor inaccuracies). One evening, a senior citizen in his 80s was brought by an ambulance to the emergency room (ER), after having experienced dizziness and weakness. The doctor in charge of the ER that evening, a senior resident, had the patient go through blood tests, a neurological test, and an ECG. After reviewing the results, with no significant findings, the resident doctor ordered the nurse to discharge the guy and send him home. A young intern, who was with the resident, then said: "if I may, I suggest we keep him here for the night." The resident's response was "he's fine, nothing's wrong with him, and we need the bed." The intern replied: "Indeed, he seems to be okay; but he's a widower, no one is waiting for him at home. He would probably be happy to be around people, to have someone make him a cup of tea. I'm sure we can find a bed for him. Why don't we let him spend the night here and send him home tomorrow morning?"

Dina, who was off duty, happened to be in the ER at that time and overheard the conversation. She later approached the intern and said "You studied in Beer Sheva, right?" No doubt, she knew what she was saying…

The second unique quality of the Beer Sheva medical school was the very early stage at which students faced the real world of treating patients. During their first year, students visited community clinics in development towns in the Beer Sheva region, where they met with the poor, the unemployed, and the immigrants who had lost faith in the government's promises for good life. In addition, each student was hospitalized for a few days, without revealing to the medical staff the fact that they were not real patients. They learned that beside anatomy, physiology, and chemistry, it is of utmost importance to learn about doctor-patient relationships.

Ascher Segall, another neighbor, friend, and colleague, and one of the founders of the Beer Sheva medical school, related to the link between Aaron the medical sociologist and Aaron the person:

> One of his most striking characteristics was the ability to maintain complete objectivity as a scholar in parallel with a consistent commitment to the values in which he deeply believed. His development of the theory and practice of salutogenesis attests to his rigor and creativity in research while his focus on the humanistic dimensions of medical education reflected his world view as a human being …. His impact as a teacher at the Ben Gurion School of Medicine went far beyond his formal teaching.

The impact Ascher Segall referred to is also reflected in the words of Aaron's students. For example, in a tribute by Moshe Prywes in a special issue of the *Israel Journal of Medical Sciences* in memory of Aaron, he cited Professor Dina Ben-Yehuda (whom we mentioned earlier), who was a former student of Aaron. Dina was a member of the first class of the Ben Gurion medical school, and 20 years later was Aaron's personal doctor at the Sharet Institute of Oncology in Jerusalem, where he was admitted after being diagnosed with leukemia. Prywes had asked her about Aaron, and she replied: "For Ben Gurion graduates, Professor Antonovsky was not just a name. He was a concept. A concept that contains within it much discussion and debate, all pertaining to the doctor-patient relationship … I took care of Aaron when he was sick and was with him until he died. During that time, he was in full control of all decisions concerning himself. When his condition deteriorated, he called me into his room and asked me to discontinue all treatment, and he took leave of his family and friends. I feel that I have lost the best of my teachers." (Prywes, 1996, p. ii).

The influence Aaron had on students was reciprocal, and so was the respect students and Aaron felt toward each other.

[6]We mourn the sudden death of Joel Bernstein which occurred in 2019.

Aaron's socialist ideology, and his strong belief in all people being equal, may have played a role in the way he prepared the draft for his first book, *Health, stress, and coping* (Antonovsky, 1979), as told by **Leonard Syme**, a colleague from the University of California at Berkeley:

> Aaron wrote me in the spring of 1977 to ask if he could spend a sabbatical year at Berkeley.[7] I said "yes!" immediately of course. When he arrived on campus in the fall of that year, I was able to find him a remarkable office. The office was in the basement of Stephens Hall at the end of a hallway that overlooked Strawberry Creek. It was basically isolated from the rest of the building and looked out over beautiful trees and a babbling little brook.
>
> Then we talked. Aaron said he had this idea about writing a book on something called "salutogenesis." He explained what this word meant and I was captivated. To have one of the world's great scholars come to Berkeley to explore a truly exciting and original idea was one of the great moments in my life. I asked how I could help. He said he would love to give a seminar that fall in which he could explore his ideas. It took two days to recruit an excited class of Social Epidemiology graduate students for the seminar.
>
> What happened next was one of the most amazing things I had ever seen. Aaron welcomed them to the seminar, explained how it would work, and assigned them to critically review a draft chapter that he had written after arriving at Berkeley. The next week, students discussed their assignment and, as they were leaving the room, they were asked to review another new chapter that Aaron had just written during the previous 7 days. This went on for 15 weeks. After the semester ended, Aaron had finished a complete draft of his book and was ready to send it off to a publisher. And the book, was, of course a classic.
>
> What a mind he had! I have thought about this remarkable Antonovsky phenomenon many years since it happened.

In 1983, Aaron returned to Berkeley for another sabbatical, again in an office overlooking the creek. **Guy Bäckman**, from the Åbo Akademi University in Finland, who met Aaron in Berkeley, wrote to us about their acquaintance:

> Unraveling the enigma or mystery of health was at that time a big question and theme among the researchers in Berkeley. Questions of frequent occurrence were "Why are only some of us sick although all of us are, at least in some way, exposed to risks?" and "How do we manage to stay healthy?" I had many fruitful discussions on those themes with Aaron in his office on the Berkeley campus, where, from the window, we could see lots of greenery and running water, which certainly stimulated talk about what it might be that keeps people in good condition and health in changing and sometimes risky and chaotic circumstances.

A Closure and New Horizons

Haim Gunner, an old friend from the days of the youth movement and today a professor of environmental sciences, beautifully summarized the inseparable arenas that made up Aaron's life—the quest for a just world of social equality, and the academic journey toward unraveling the mystery of health:

> The engaged and enthusiastic academic of his later years slips into the image of the devoted kibbutznik and the fields where we shared tractor and plough. And in the evenings, on a crowded balcony with the hills of Galilee facing us, dissected the future with the complete confidence of youth.
>
> Consciously or otherwise, Aaron's life was the model for the salutogenic principle. Two projects dominated his life: initially, the kibbutz and the model society to be derived from it, and always the ongoing fulfillment of the Zionist ideal. And then the building of the medical faculty at Ben Gurion University around the new concept of the family as the arbiter of the individual's health. For the kibbutz, comprehensibility was derived from the perhaps naive, but nonetheless coherent view that Marxism provided. And not only was the project which promised equality and security to be a local event but one which would eventually pervade the entire social structure. Marxism with its dicta and comprehensive weltanschauung made it eminently predictable. Our belief in our skills and the support of the community made it eminently manageable, and our passionate belief, buttressed by juvenile psychoanalytic insights, that it gave meaning to our lives make the kibbutz and its realization the perfect model for the principles of salutogenesis: comprehensibility; manageability and meaningfulness.

We wish we could devote a few paragraphs to the words Aaron's beloved wife, Helen, would have to say for this book. Unfortunately, Helen passed away in 2007. Along the 36 years of marriage to Aaron, she was his greatest supporter, admirer, and critic. There was probably not even one article, lecture, or book of Aaron's that went to press before Helen had read and approved the manuscript. A research psychologist and scholar in her own right, Helen was an inseparable part of the scholar and the man Aaron was.

Shifra Sagy (second author) has been engaged in salutogenic research throughout her academic career, specializing in social-psychological and collective aspects of sense of coherence. She introduced the salutogenic paradigm into the Department of Education, where she headed the educational psychology program for several years. After her retirement, she is still heading the research center of conflict studies at Ben Gurion University of the Negev, under the philosophical agenda of salutogenesis. Avishai (first author) is a social psychologist and grew up in a "salutogenic" household, but until a few years ago salutogenesis has not been a central part of his academic work. However, currently Avishai is leading the implementation of salutogenic thought, as well as the conduction of research, in the Department of Health and Well-being of the Israeli Medical Corps. This promising line of work is described in more detail elsewhere in this book. Aaron would probably be surprised, and hopefully happy, to learn about this new path salutogenesis is marching on. As it appears, salutogenesis has gone way beyond the scope of medical sciences and health, and has become an interdisciplinary area of research and practice.

Aaron passed away in 1994, but his salutogenic vision continues to stimulate theory, research, and policy-making

[7] In 1977, Leonard Syme was chairman of the Department of Biomedical and Environmental Health Sciences in the School of Public Health at the University of California, Berkeley.

worldwide. We hope students and professionals around the world will profit from this comprehensive handbook on salutogenesis, and perhaps some of them will continue to develop salutogenic research and carry it on to new horizons. After all, salutogenesis is not limited to physical or mental health; it is a philosophy of human existence.

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Aaron Antonovsky's Development of Salutogenesis, 1979–1994

5

Hege Forbech Vinje, Eva Langeland, and Torill Bull

Introduction

> I hope it will become clear in due course that my concern is no mere semantic quibble and that here, as in all of science, how one poses the question is crucial to the direction one takes in looking for the answers (Antonovsky, 1979, p. 12).

When a person thinks seriously about a topic over a period of about three decades, it is a sign of good thinking and personal development if, at the end of that period, he/she is no longer in total agreement with former ideas. Adventures along the road become the germ (to use Antonovsky's own expression) of new ideas and layers of understanding. So was also the case with the development of the salutogenic model of health (SMH), a development described by Antonovsky himself in retrospect as a "personal odyssey" over decades (Antonovsky, 1990). While Chap. 3 portrays Antonovsky, the man and the researcher, this chapter portrays the SMH and its development along with life events of its creator until the untimely death of Antonovsky in 1994. The chapter is based on the authorship of Antonovsky himself. Papers written in his last years, in which he looks back and comments on how his thinking developed, have been of particular value. These papers come in addition to the publications in which he originally introduced his ideas. In the SMH, there are important concepts, the development of which we trace in this chapter: stress, breakdown, resources, sense of coherence (SOC), and health.

Antonovsky departs, in his two major books (Antonovsky, 1979, 1987) from the traditional medical view of homeostasis being the basic human condition, and introduces the fundamental philosophical view of "*the human organism as prototypically being in the state of heterostatic disequilibrium as the heart of the salutogenic orientation"* (Antonovsky, 1987, p. 130). The release of *Health, Stress and Coping* in 1979 was a culmination of 15 years of work, during which he came to understand that disease, illness, and entropy (decline into disorder) are the norm rather than the exception to a rule of otherwise self-regulated homeostatic processes occasionally being disturbed with resulting pathology. He found it to be a futile task to try to understand and control every single factor that might lead to this or that particular disease. A more fruitful approach would be to focus on what he found to be the overall problem of active adaptation to an environment in which stressors are omnipresent and inevitable. He presented the term *negative entropy* (Antonovsky, 1987, p. 9) in which the goal was to search for useful inputs to the sociocultural context, the physical environment, and into the organism down to the cellular level to counter the normal tendency of entropy. So, negative entropy, or *negentropy* as he also termed it, is actually something positive.

In his efforts to study health instead of disease, Antonovsky coined his famous new word: "*salutogenesis*—of the origins *(genesis)* of health *(saluto)"* (Antonovsky, 1979, preface vii), the intriguing question being: what are the origins of health? In the course of his research, Antonovsky correspondingly offered an answer to the question*: "The origins of health are to be found in a sense of coherence"* (Antonovsky, 1979, preface vii). This question and the answer constitute the SMH, the development of which is the focus of this chapter. In his descriptions of the model, most importantly of the process developing it, he points to the struggles it entailed for him, and for other researchers and

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practitioners, to move from one paradigm to another: *"I have no illusions. A salutogenic orientation is not likely to take over. Pathogenesis is too deeply entrenched in our thinking.…"* (Antonovsky, 1996b, p. 171). Antonovsky urged, nevertheless, researchers of different professions, and with use of different methodologies, to work together to bring the knowledge of the origins of health increasingly further.

Antonovsky worked on the SMH for more or less 30 years. The first 15 years resulted in his book *Health, Stress and Coping* in 1979, and the presentation of SMH in its entirety. The next 15 years he was improving, refining, and cultivating the understanding of the model and the elements in it. The release of his 1987 book *Unravelling the Mystery of Health* represented a peak in his career. This release was originally intended to be a revised version of *Health, Stress and Coping*, but ended up being a whole new book, primarily presenting and explaining the concept of sense of coherence, his answer to the salutogenic question. His second book became a huge success and is translated into several languages.

In the preface of his first book, Antonovsky (1979) points out that he offers no easy solutions to the salutogenic question, and that he does not shy away from technical discussions when needed. His writings are directed not only to his colleagues in medical sociology but also to sociologists, psychologists, psychiatric nurses, physicians, healthcare organizers, epidemiologists, architects, community organizers, and even more, who professionally or personally want to understand and enhance the adaptive capacities of human beings (Antonovsky, 1979, preface viii). His rather wide scope of intended audience is also reflected in the cross section of where he finds theoretical and intellectual inspiration. He expresses indebtedness to students, research assistants, and colleagues, without whom he would not have reached as far as he did. Repeatedly he points out the necessity and value of students' and peers' criticism not only for the ideas he took from them but also for the intellectual challenge in the need to explain why. Not only throughout *Health, Stress and Coping* especially but also in *Unravelling the Mystery of Health,* Antonovsky specifies to whom he owes his intellectual debts. He names and credits scholars such as Hans Selye, René Dubos, George Engel, Thomas Holmes, Richard Rahe, John Cassel, and Melvin Kohn. As he believes to have broken new ground, he also claims to see echoes of his ideas everywhere (Antonovsky, 1987, p. 34). Although he says he finds evidence of the influence of great thinkers in his work, he describes a feeling of relative isolation when introducing the concept of salutogenesis and developing the SMH. As he narrates every other researcher of the time focused on the need to explain pathology, his feeling of isolation intensified with the introduction of the sense of coherence, the answer to the salutogenic question (Antonovsky, 1987, p. 33). In developing the SMH, not only did he detach himself from his earlier work but also from the work of just about everyone else at the time. Around the time of the release of *Health, Stress and Coping,* he finds, however, that the salutogenic question is increasingly asked, and he is intrigued to notice that serious research studies at least partly congruent with the SOC concept are being performed. He no longer feels alone as elements, variants, and alternative understandings of health and illness in the social sciences are surfacing (Antonovsky, 1987, p. 34). Antonovsky humbly credits this development primarily to the serious research of colleagues, and not so much to his own work. He dedicates a chapter in his 1987 book to convergences, discrepancies, and disagreements of the research of Suzanne Kobasa, Thomas Boyce, Rudolf Moos, Emmy Werner, and David Reiss and demonstrates once more how his ideas and theories develop in interaction with the theories of other scholars.

In all his writings about the SMH, Antonovsky gives a somewhat personalized account of how he came to work on the subject at hand, he presents challenges he encounters on his way, and he clarifies and explains how he moves ahead and reaches the point at which he stands when writing this particular book or paper. Apparently he learnt this approach from Oriental scholars (Antonovsky, 1979, prologue 1). Being so detailed about his research process makes a very interesting read, and gives the impression of a humble scholar, on his way, inviting other researchers in on his reflections. Antonovsky declares that the SMH is merely one part of the conceptualization of what he finds to be one of the greatest mysteries of the study of human beings: *"How do we manage to stay healthy?"* (Antonovsky, 1979, preface vii). On a hopeful note, in *Health, Stress and Coping* he expresses a wish that the salutogenic question is convincing enough for researchers to take up the gauntlet and develop the model further; of which this book is a clear demonstration.

Stress Research: The Principal Note

At the outset, Antonovsky was not particularly interested in stress (Antonovsky, 1990). In retrospect, however, he singles out research (Hollingshead & Redlich, 1958; Kardiner & Ovesey, 1951; Selye, 1956) causing him to stop a little and reflect upon questions relevant to stress during his training years in the Yale Sumner-Keller anthropological tradition in the 1950s. Nonetheless, at the time, he found them peripheral to his main interests, and he did not believe he would spend most of his career studying the stress process. His major interests during these formative years were in *"culture and personality, stratification and ethnic relations"* (Antonovsky, 1990, p. 71). Growing up as he did in New York, being the son of Jewish parents, one can assume this interest was awakened by his exposure to both Jewish

and North-American culture, cultures which he contrasted in several publications (see, e.g., Antonovsky, 1971). In 1955/1956, Antonovsky finished his doctoral dissertation in which he investigated cognitive coping responses to socially structured psychosocial stressors (Antonovsky, 1979). Minority groups and marginal social situations were the focus of his doctoral research. He continued down this path for 6 more years, though his focus shifted to the organizational response on a group level to immigration and the stressors of low income and discrimination (Antonovsky, 1979). This shift was brought on by his work on the history of the Jewish labor movement in the United States (Antonovsky, 1961), and as a director of the New York State Commission Against Discrimination. The organizational response on a group level to the stressors of poverty and immigration became a major concern and he initiated several studies on the consequences of these stressors (Antonovsky & Lorwin, 1959). So although he also worked in a series of projects in the 1950s not connected to his main interests (an experience well known to many a young researcher), stressors and coping responses on both individual and group levels were of particular interest to him. He describes himself as an anthropologically oriented sociologist being interested in understanding the specifics of a society's competence—socioculturally—at coping with stressors it faces (Antonovsky, 1979). In retrospect, in his *Odyssey* article (Antonovsky, 1990), he presents himself as a sociologist of health involved in studying the stress process, and he returns some 25 years describing the starting point as being his work on life stressors.

After migrating to Israel in 1960, Antonovsky's research engagements brought more stimulation for the work he was to pursue for the rest of his life, and put him on the path of becoming a medical sociologist (Antonovsky, 1990, p. 72). He accepted a post at the Israel Institute for Applied Social Research in Jerusalem and begun teaching in the Department of Social Medicine. Together with Judith Shuval he started a research project on the latent functions of healthcare institutions (Shuval et al., 1970), and projects on coronary artery disease, multiple sclerosis, menopause, and series of studies on social class and aspects of health and disease followed (Antonovsky, 1979, the author, xiv). In 1963, he was invited by colleagues in neurology to take part in the design of an epidemiological study on multiple sclerosis, mainly because he had experience in survey research. Antonovsky joined because the study questionnaire included items on this particular area of interest for him—sociocultural factors (Antonovsky et al., 1965; Antonovsky & Kats, 1967). Included among the items was a list of stressors in objective form, such as social class and poor living conditions. This was part of Antonovsky's turn toward a focus on social class, morbidity, and mortality. Studies from this period show his commitment to hypothesizing a direct link between stressors and disease, and especially social class and disease. He defined stressors objectively as those experiences that anyone anywhere would agree were stressors, pointing to going hungry for a long period of time as his illuminating example. His primary concern at this stage was to bring the data of stressors and disease together rather than going deeper and behind the data and ask why? (Antonovsky, 1967a, 1967b, 1968).

In this period, he also coedited the book *Poverty and Health* with his colleagues in the field of sociology (Kosa et al., 1969). Together they pose the question*: "What are the stressors in the lives of poor people that underlie the brute fact that, with regard to everything related to health, illness and patienthood, the poor are screwed?"* (Antonovsky, 1979, p. 3). The why question started forcing itself to the front of his interest. Reflecting about this period of his work, Antonovsky recounts this is the time he starts to depart from what he calls the pathogenic orientation (Antonovsky, 1990). Fueling his pondering was Marc Fried's writings on social differences in mental health in the *Poverty and Health* book. Not only were the stressors important, Fried argued, the poor also had fewer resources to battle these stressors (Antonovsky, 1979, p. 3). The book clearly stated the link between poverty and poorer health, bringing the sociological insight that poorer health was not only due to lower quality of health services to the poor but also due to the conditions to which the poor were exposed. As Antonovsky later wrote, the poorest life class *"had it rough down the line, whatever the dependent variable might be. This was the class which clearly had the highest stress load"* (Antonovsky, 1990, p. 73). In addition, there was another characteristic of the stress of the poor, and the minority groups, that gave insight to the why question, namely the constancy of the stressors.

> The constancy of imposed stressors in such life situations, the continuous emergencies life presents, make it immensely difficult to resolve tension. Life for even the fortunate among us is full of conflict and stressors, but there are many breathing spells (Antonovsky, 1990, p. 74).

To understand the link between stressors and disease, Antonovsky recounts struggling with the methodological problem of getting the right list of life events or stressors to ask about in a survey. Eventually, he came to terms with this not being a methodological but rather a philosophical issue; a result of what he called the pathogenic orientation, or the Parsonian view of social existence, referring to Parsons' sociological theory of the time (Parsons, 1951). At the time, research focusing on stressors tended to assume life as inherently stable and smooth with major stressors only occasionally occurring. Antonovsky (1990) claimed, however, this view not helpful and rather inadequate in understanding the stress process. A more fruitful vision is to see life as turbulent and inherently full of conflicts and stressful. Once again, he drew inspiration from Fried and what he called chronic

life strain, referring to long-lasting structural and cultural situations such as poverty, unemployment, marginality, etc., a sad fact of the lives of many persons (Antonovsky, 1990, p. 73). It is important, Antonovsky argued, to understand the ongoing strain of such situations as these are also the sources of many of the major life events, as well as of the daily hassles, which people face.

Continuing undisturbed along this line of reasoning in recapturing Antonovsky's research would, however, make us overlook another important development that came as a result of a parallel development: a study of psychosocial risk factors in coronary artery disease in the form of stressors in immigrants to Israel from North America (Antonovsky, 1967b). Being in fact a respondent in his own study, Antonovsky made the observation that yes, he was exposed to stressors—but they did not result in illness, he was coping successfully. This led him to focus on how specific serious stressors were dealt with (Antonovsky, 1990, p. 74).

> This step marked the germ of the distinction I now make between tension and stress. I had not, and do not now, deny the potential illness consequences of many stressors. Well into the 1970s, I still tended to regard all stressors as unfortunate and pathogenic. But I had begun to ask: What really happens when one encounters a stressor?

The observation was made that exposure to stressors did not invariably lead to stress and illness. Stressors of various kinds created immediate tension in an organism, but if it was resolved it did not result in *stress*, which was the health-damaging condition one needed to avoid. Coping and tension management emerged as important concepts and intervening variables between tension and stress/illness. At this point in his research, there was a decisive change in his thinking, and in his scholarly pondering he turned to both Lazarus (Lazarus & Cohen, 1977) and Selye (1956) for inspiration. In brooding the "why" question, he realized that it is not just the stressors that are vital in this picture, also the poor have fewer resources in order to cope. There will be a difference if two people are exposed to the same stressor and one of them has lots of resources, while the other has practically none. Both the experience and its consequences will be different for the two. Antonovsky's study on cardiovascular disease and stress showed a link between the two. He presented these findings to an audience and was asked a thought-provoking question by Professor J. N. Morris: "*Why just cardiovascular disease, why not cancer or any other disease for that matter?"* (Antonovsky, 1972, p. 537). This set Antonovsky thinking, and the result was his realization that he was not really interested in *any* specific diseases, be it cancer or heart disease. He was interested in the illness consequences of psychosocial stressors, *the breaking down process* taking place no matter how the consequence was expressed (Antonovsky, 1979, prologue 4):

> And then it struck me. By God, Morris is right. I am not interested in heart disease or multiple sclerosis or cancer; I am interested in breakdown. This, then, is the origin of my first major departure from the mainstream.

Antonovsky realized he was interested in a general state, which he wished to call *dis-ease*. However, he found this term impractical because it would be hard, he believed, to achieve a clear enough distinction from *disease*. There are unfortunate examples in publications since Antonovsky, in which "dis-ease" turned into "disease," the hyphen being ignored. Antonovsky's point has then not been communicated. In an effort to help this important distinction come across, we suggest using a slash (dis-ease) instead of a hyphen where needed. Though in this chapter we will stay true to Antonovsky's own choice and use a hyphen. Hence, he landed on the term *breakdown* which Professor Morris had used, and whom he credited in a later paper known as his breakdown paper (Antonovsky, 1972). It was, for technical reasons, not published until 1972, but the main message in this paper was that stressors, unsuccessfully confronted, lead on to breakdown. *"It contained the first answer to the problem posed by the distinction between tension and stress, an answer expressed in the concept generalized resistance resources"* (Antonovsky, 1990, p. 76).

As this outline shows, the late 1960s seem important years to the development of his model. Antonovsky claims 1967 and 1968 as especially vital years in this respect (Antonovsky, 1979, 1990). In the years to come, he was committed to conceptualizing his insights, starting with an explicit focus on resources.

General Resistance Resources (GRRs): A Shift to Another Key

Because people meet such a variety of demands, Antonovsky found it useful to focus on understanding the *generalized resistance resources* (GRRs) because they could be applied to a wide range of demands or stressors. He proposed to distinguish between two kinds of problems: (1) the classical medical problem of why an individual or a group have the disposition for a particular disease, and (2) the problem of experiencing *dis-ease* or *breakdown*, unrelated to diagnosis and disease. The latter of these two became his focus. Further, he theorized that all diseases have something in common and that there are GRRs to counteract all of these (Antonovsky, 1979). Once again he turned to the work of Selye and found particular inspiration in Selye's term *general adaptation syndrome* (Selye, 1956, 1975). Antonovsky (1979, prologue 5) argues: *"it seems imperative to focus on developing a fuller understanding of those generalized resistance resources which can be applied to meet all demands."*

In 1967, Antonovsky made the comment that *"the impact of a given external situation upon a person is mediated by the psychological, social and cultural resources at his disposal"* (Antonovsky & Kats, 1967, p. 16). However, Antonovsky later calls this mentioning of resources essentially a remark made in passing (Antonovsky, 1974, p. 246). In the breakdown paper, he returns to the issue of resources with a clear intent and introduces his most general definition of GRRs: *"any characteristic of the person, the group, or the environment that can facilitate effective tension management"* (Antonovsky, 1972, p. 99). In the same paper, he classifies three large groups of resources: (1) adaptability on the physiological, biochemical, psychological, cultural, and social levels; (2) profound ties to concrete and immediate others; and (3) commitment of and institutionalized ties between the individual and the total community (Antonovsky, 1972, p. 100). Nevertheless, his formal definition of GRRs was not published until 1979 (see Fig. 5.2). In *Health, Stress and Coping,* he also emphasized the importance of *specific resistance resources (SRRs)*, as he found them both numerous and frequently beneficial in specific circumstances of tension (Antonovsky, 1979, p. 99):

> They (SRRs) are many and are often useful in particular situations of tension. A certain drug, telephone lifelines of suicide-prevention agencies or an understanding look in the eyes of an audience to whom one is lecturing can be of great help in coping with particular stressors. But these are all too often matters of chance or luck, as well as being helpful only in particular situations.

Summing up, one important observation from this period was that stressors do not have to lead to disease because tension management and coping might function as intervening variables (effect modifiers). The degree to which people were exposed to stress, and the degree to which one had resources to cope, varied. Sure, stressors created tension, but this tension could be successfully resolved. Influenced by René Dubos and his warnings against *the mirage of health* and the escalating wars against every possible disease (Dubos, 1960), Antonovsky moved on to explore the term *adaptability* in psychological, social, and cultural contexts. Antonovsky called it *active adaptation*, and presented is as a complementary term to *the magic bullet* in the pathogenic paradigm; "*Salutogenesis, (…) leads us to focus on the overall problem of active adaptation to an inevitably stressor-rich environment*" (Antonovsky, 1987, p. 9).

In his accounts from 1990, Antonovsky finds himself at this time in his work nonetheless still firmly grounded in pathogenic thinking. He saw stressors as a threat and coping as a mean to prevent illness and disease. However, in 1967–1968 there was yet another important development. Antonovsky was, parallel to the heart disease paper, working on a study of menopausal women (Antonovsky et al., 1971). One finding was that women who had been exposed to severe stressors did poorer in later stages of life. One of the severe stressors given attention in this study was having experienced Holocaust (Antonovsky preferred to call this *a horror*, finding stressor to be a too mundane expression). Most of the women having experienced Holocaust did significantly poorer than other women did. However, a third of them did no poorer at all! This caused Antonovsky to ask, *"What was the miracle?"* (Antonovsky, 1990, p. 76). Here, we see an example of Antonovsky focusing on the deviant case (see section "Harmonizing: SMH's relevance for health promotion" for further comments on this principle). Included in the questionnaire for the menopause study were items on social integration. Antonovsky commented that this study, being prior to the main development of the later so popular concept *social support*, rather asked *how much do you feel you are needed by your spouse, children,* etc. The focus was being turned on its head toward being on the giving end rather than the receiving end of support, and this he commented in recollection was the germ of the *meaningfulness* element of sense of coherence (Antonovsky, 1990, p. 75).

The early 1970s, therefore, sees Antonovsky as having concluded that he was not interested in specific diseases but in a general state of breakdown which comes because of unsuccessful confronting of stressors.

> …breakdown is a result of unresolved disturbance of homeostasis….It is not, then, the imbalance which is pathogenic. It is, rather, the prolonged failure to restore equilibrium which leads to breakdown. When resistance resources are inadequate to meet the demand, to resolve the problem which has been posed, the organism breaks down (Antonovsky, 1972, p. 541).

The dependent variable that interested him was breakdown, and the independent variables of his concern were the GRRs. The level of stressors, whether objectively or subjectively defined, was not at this point of any interest to him (Antonovsky, 1979, prologue 5). A person could cope successfully with stressors through application of resources, called GRRs, thereby preventing the tension caused by stressors being transformed into stress.

To Antonovsky, it was obvious that having resources, being conscious about them, and having ability to use them to counter stressors was an important factor in avoiding disease or breakdown. He had already coined the concept generalized resistance resources (Antonovsky, 1972, p. 99). He also had observed the miracle of people doing well despite horrible experiences. How was that possible (Antonovsky et al., 1971)? Furthermore, he had conducted a community health study in Beersheba, finding a link between GRRs and health, later to be published as a chapter in a book edited by the acknowledged stress researchers, Barbara and Bruce Dohrenwend (Antonovsky, 1974). In 1973, the Beersheba community health study was presented at a large stress

research meeting in New York, arranged by the very same Dohrenwend. At this point, GRRs have not yet been carefully defined theoretically. Antonovsky states:

> … there was some general sense that it referred to some resource which, intuitively, we thought was good to have, an intuition sometimes supported by empirical data. (…) we were all dealing with the lack of GRRs, and hypothesizing that people with high stressor loads who lacked GRRs would become ill (Antonovsky, 1990, p. 76).

Though elements of the SMH were taking shape, Antonovsky was still not ready to formulate the full model. He describes a development over 10 years from 1968 (Antonovsky, 1990, p. 76):

> By 1968, as I have indicated, I had realised that I was interested in dis-ease, not in diseases. But it took almost another decade, involved in the growing awareness of the ubiquitousness of stressors and a greater focus on resistance resources, before I was able to take the next step.

One of the important happenings during this decade was that he moved from Jerusalem to Beersheba in 1973. Helping to set up a community- and primary care-oriented medical school there had the consequence that he thoroughly thought about the kind of doctors he and they wanted to educate (Antonovsky, 1990, p. 76). Starting by turning to the GRRs concept, still not properly defined, he was inspired to formulate his research findings and theoretical ideas into a fuller picture as he developed the curriculum. He chose to call the new department within the school *The Sociology of Health* (not medical sociology, which was commonly used in the field elsewhere). As an indication of the zeitgeist, he recounts that the Research Committee of the International Sociological Association needed 13 years to change its name from Medical Sociology to the Sociology of Health (ibid, p. 76). Bringing forth the illustration of *the river of life* and the bias of the downstream focus that was debated at the time, Antonovsky wanted to educate doctors who devoted their energies to prevent people from being pushed into the river, rather than pulling them out at the downstream end. Over time, however, Antonovsky's perspective on stress and health developed, and he came to acknowledge that there are no people on the river banks—all are in the river, as all are exposed to stressors and illness. *"Of course we differ on how close we are to drowning. But as my friend and colleague Rose Coser has taught me, 'we are all terminal cases'"* (Antonovsky, 1990, p. 76).

This differentiated his view on health and illness from that of colleagues—we are not all well and occasionally fall ill, we are all on a continuum with different degrees of health (Antonovsky, 1990, p. 76):

> It was at this point that I began to see the work of my colleagues in stress research as being characterized by a pathogenic orientation. They were asking: 'What makes people have a heart attack? Develop cancer? And so on?' I had earlier moved to the question 'What makes people sick?' But now I took a decisive further step. It was not only a matter of standing the question on its head and asking 'What makes people healthy?' I proposed asking, rather, 'What moves people toward the health end of the health ease/dis-ease continuum?

Because he was not a clinician himself, he argued, he was not in the habit of categorizing people as healthy or sick. Moreover, he understood that his formation of stressors and GRRs moved him much further than the preventive medicine perspective (Antonovsky, 1990). He discussed the need to exceed the traditional medical dichotomy of sick/healthy in the pathogenic paradigm. From the perspective of heterostasis and entropy, it was obvious to him that every one of us, as long as we live, is in part healthy and in part sick (Antonovsky, 1979, prologue 5). He called this *the health ease/dis-ease continuum*, or *breakdown continuum*, and he defined the construct operationally in a mapping sentence (Fig. 5.1).

He became, however, increasingly more reluctant in using the word breakdown:

> I used the term breakdown (in 1972). I then indicated that I would have preferred to use dis-ease…..The term breakdown seems to have caught on, and I shall continue to use it, asking the reader to bear with me and to keep in mind that the fully appropriate term is the ease/dis-ease continuum. (Antonovsky, 1979, p. 57)

In 1979, Antonovsky recollects, however, that the very use of the term breakdown points to the fact that he in the early 1970s had a pathogenic orientation, *"Like everyone else,"* he adds (Antonovsky, 1979, prologue 5). The realization of the "health ease/dis-ease continuum" extended his interest from Holocaust survivors to all humans. As some were doing better than others were, he finally in the mid-1970s formulated the question: *"What moves people toward the health end of the health ease/dis-ease continuum?"* He needed a term for this—for the movement toward the health end of the continuum—and landed on salutogenesis, which he had himself used in another context 10 years earlier. In recollection, he remarks (Antonovsky, 1996b, p. 171): "*I did not really depart from the mainstream until I coined the term salutogenesis in 1978.*" Later in this chapter, we focus more on Antonovsky's development of the health concept, but for now we follow Antonovsky to Berkeley, where important developments took place. In the *Odyssey* (Antonovsky, 1990), he narrates that he leaves for his sabbatical with a nagging sense of discontent. While being satisfied with posing the radically new salutogenic question in the mid-1970s, he was not completely happy with his tentative answer, GRRs.

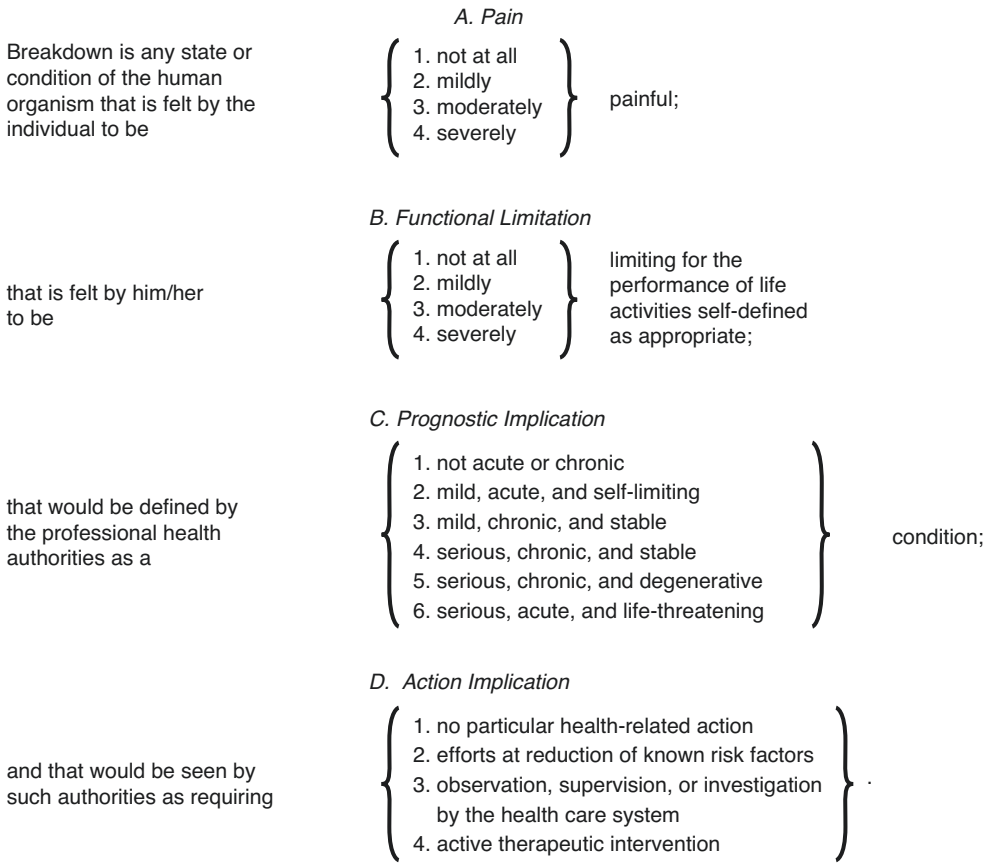


Fig. 5.1 Mapping sentence definition of health ease/dis-ease continuum. (Reprinted from Antonovsky, 1979, p. 65. Published with permission of © Avishai Antonovsky. All Rights Reserved)

Sense of Coherence (SOC): Successive Notes of the Scale

With many ideas in his luggage, he left for a sabbatical at Berkeley in 1977. During this year, he wrote *Health, Stress and Coping* published in 1979 and which: *"contained the first full statement of what I call the salutogenic model and its core concept, the sense of coherence"* (Antonovsky, 1990, p. 77). He approached the salutogenic question, and knew he already had part of the answer: GRRs. Working on his data using a technique called *smallest space analysis*, which renders a graphic map of variables, he constantly saw *a factor X* turning up, being closer to health than any of the other GRRs were. Was it a common element of all GRRs? What did GRRs have in common that led to health? Antonovsky knew social support was a GRR, and that Cassel (1976) theorized that social support worked through providing various kinds of feedback. Antonovsky theorized that all GRRs provide feedback of some kind, *"… sending messages like: Here is the right track; you can handle things; you are of worth"* (Antonovsky, 1990, p. 78). He was now in the position where he could formally define GRRs (Fig. 5.2).

Furthermore, he could also now describe factor X that operated at a different level than the other GRRs, revealing a phenomenon about a specific orientation to life. Repeated and consistent messages of the kind described just above led one to become high on X, while confusing and negative messages led one to become low on X. He called X *sense of coherence* (*SOC*) and defined it the following way (1979, p. 123):

> A global orientation that expresses the extent to which one has a pervasive, enduring though dynamic, feeling of confidence that one's internal and external environments are predictable and that there is a high probability that things will work out as well as can reasonably be expected.

In the preface of *Unraveling the Mystery of Health*, Antonovsky credits his wife Helen as the one who proposed the term *the sense of coherence.* Being a developmental psychologist with anthropological training, she was able to grasp exactly what he wished to say, and he considered her a most competent professional critic (Antonovsky, 1987, preface xviii). Antonovsky could now depict the model in full, and Fig. 5.3 shows how it was rendered in the 1979 book. In 1990, Antonovsky comments that stressors were in the periphery in his 1979 model because he at that time had had his focus on resources. This shows how Antonovsky himself did not see the model as fixed once it had been described, but opened up for further developments along with new insights.

Antonovsky was now eager to test the new concept SOC empirically, and after his return to Beersheba, he developed

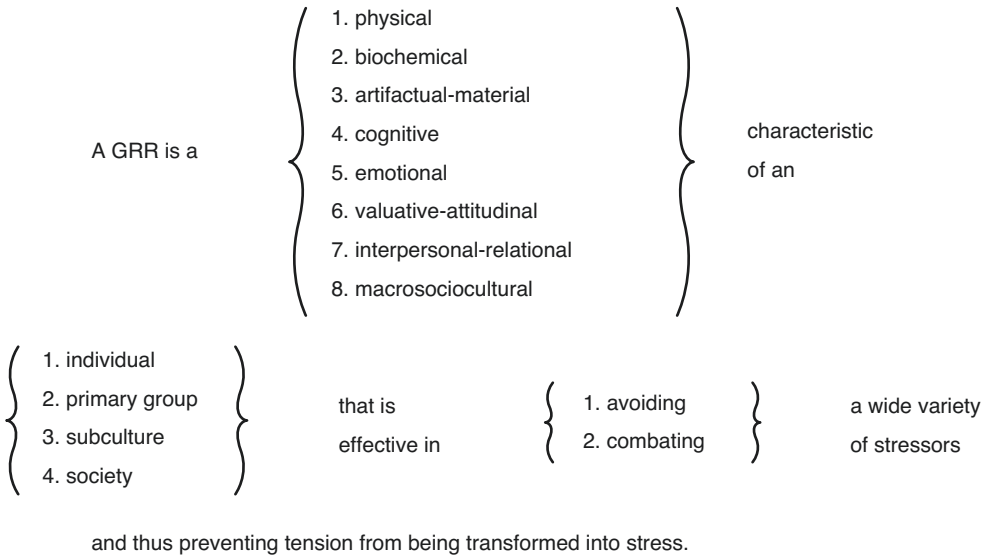


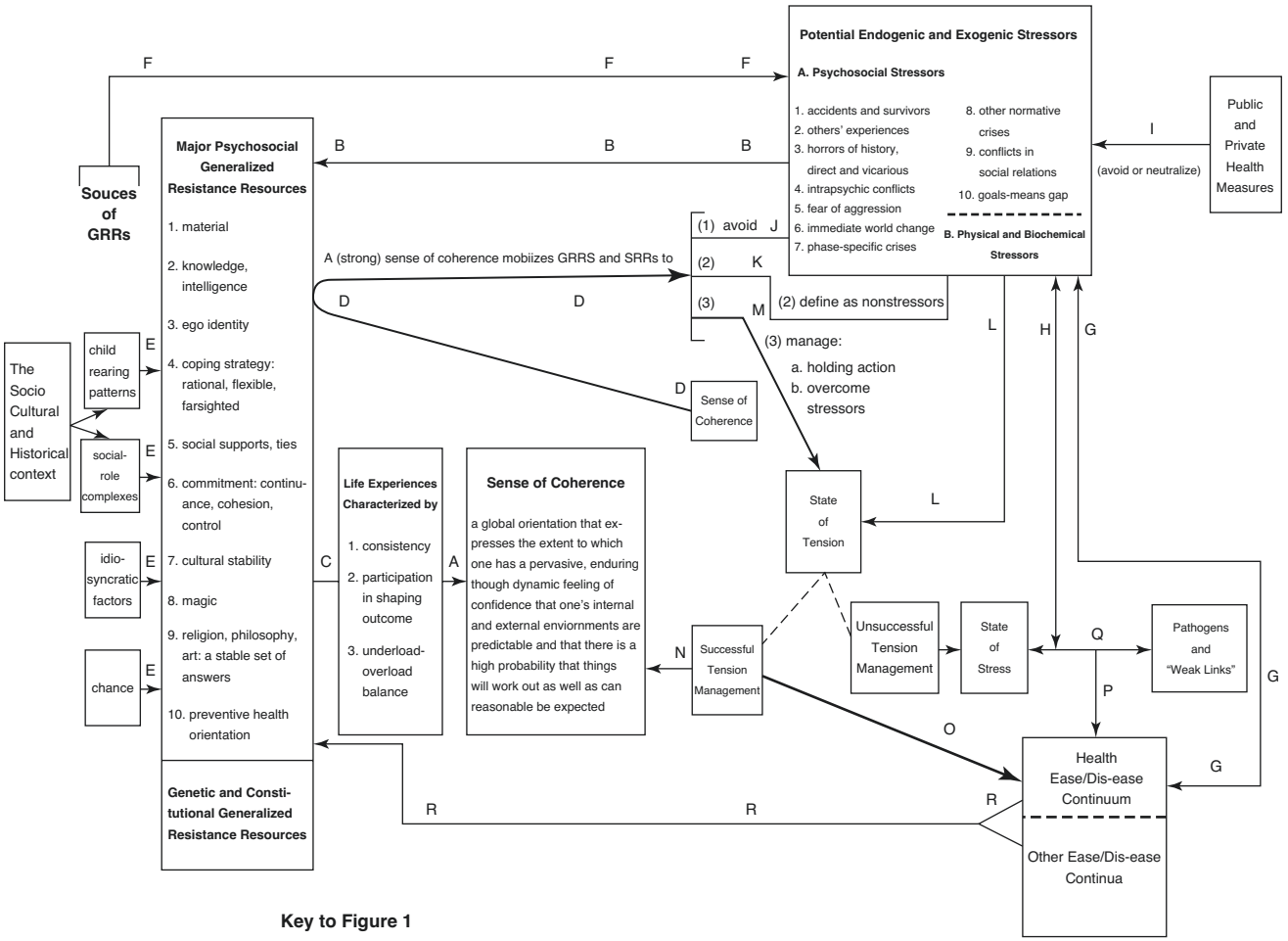
Fig. 5.2 Mapping sentence definition of GRRs. (Reprinted from Antonovsky, 1979, p. 103. Published with permission of © Avishai Antonovsky. All Rights Reserved)

a 29-item instrument that he felt was good. With this, he returned to Berkeley in 1983 for a second sabbatical aiming to test the questionnaire. In the meantime, he had gotten a request to write a second edition of *Health, Stress and Coping*, which had been well received. He proposed rather to add an epilogue chapter—which turned into a completely new book: *Unravelling the mystery of health* (Antonovsky, 1987). This book has a deeper treatment of the sense of coherence, and we can see the definition being expanded (Antonovsky, 1987, p. 19):

> The sense of coherence is a global orientation that expresses the extent to which one has a pervasive, enduring though dynamic feeling of confidence that (1) the stimuli deriving from one's internal and external environments in the course of living are structured, predictable, and explicable; (2) the resources are available to one to meet the demands posed by these stimuli; and (3) these demands are challenges, worthy of investment and engagement.

In 1990, Antonovsky still remains with this definition and comments that elements (1) *comprehensibility* and (2) *manageability* were present in the 1979 definition, but that element (3) *meaningfulness* is new, and that this element grew steadily more important in his thinking (Antonovsky, 1990, p. 78). He also commented that the second definition, therefore, has less of a cognitive emphasis than the initial one. The process of operationalizing the concept to be able to test the model leads Antonovsky to become aware of its inadequacies. He narrates that he also at the time had become aware of the works of Moos (Moos, 1984, 1985), Kobasa (1979, 1982), and Victor Frankl (Frankl, 1975), which he believed, in his terms, were working on the salutogenic problem (Antonovsky, 1990). In the 1979 version of the SOC definition, he was clearly influenced by systems theory and ideas of order and disorder, and he gave much room to outlining the first component *comprehensibility*. A person could not deal with a stressor unless one felt one had a clear understanding of the character of the problem at hand. In delineating the second component *manageability,* he was inspired by the work on mastery and coping, particularly locus of control (Rotter, 1966). As he continued to deepen his understanding of coping, it became, in *Unraveling the mystery of health*, important to him to underline that the crucial thing about *manageability* is the sense that adequate resources to cope with stressors are to be found either: *"…in one's own hands or in the hands of legitimate others"* (Antonovsky, 1990, p. 79). The third component *meaningfulness* is new and delineated fully in the 1987 book. It had been mentioned only briefly in 1979, and phrases such as *the world makes sense* were primarily used to describe a cognitive perception of order. Inspired by the work of, for instance, Victor Frankl, Antonovsky now understands meaningfulness in the emotional sense as a way of looking at life as worth living, providing the motivational force: *"…which leads one to seek to order the world and to transform resources from potential to actuality"* (Antonovsky, 1990, p. 79).

Antonovsky used the terms *entropy* and *negative entropy* (*negentropy*) to explore and describe the connection between chaos and order, and he argued that systems theory certainly is a valuable theoretical framework for understanding sense of coherence as an answer to the quest creating order out of chaos. Throughout *Health, Stress, and Coping,* Antonovsky's concern was the SOC of individuals, he only loosely suggested that the concept could be employed at the social level. In *Unravelling the Mystery of Health*, he questioned this assumption and discussed the SOC as a group property more in depth. Rhetorically he asks (Antonovsky, 1987, p. 170): *"Is it too grandiose an ambition to set as a goal moving closer to an integrated theory that proposes how any system copes with its reality?"* Antonovsky discussed relevant preconditions, or dimensions for it to be meaningful to



Key to Figure 1

Arrow A: **Life experiences shape the sense of coherence.**

Arrow B: Stressors affect the generalized resistance resources at one's disposal.

Line C: **By definition, a GRR provides one with sets of meaningful, coherent life experiences.**

Arrow D: **A strong sense of coherence mobllizes the GRRs and SRRs at one's disposal.**

Arrows E: **Childrearing patterns,social role complexes,** idiosyncratic factors, and chance **build up GRRs.**

Arrow F: The sources of GRRs also create stressors.

Arrow G: Traumatic physical and biochemical stressors affect health status directly; health status affects extent of exposure to psychosocial stressors.

Arrow H: Physical and biochemical stressors interact with endogenic pathogens and "weak links" and with stress to affect health status.

Arrow I: Public and private health measures avoid or neutralize stressors.

Line J: A strong sense of coherence,mobilizing GRRS and SRRs, avoids stressors.

Line K: A strong sense of coherence,mobilizing GRRS and SRRs,defines stimuli as nonstressors.

Arrow L: **Ubiquitous stressors create a state of tension.**

Arrow M: **The mobilized GRRs (and SRRs) interact with the state of tension and manage a holding action and the overcoming of stressors.**

Arrow N: **Successful tension management strengthens the sense of coherence.**

Arrow O: **Successful tension management maintains one's place on the health ease/dis-ease continuum.**

Arrow P: Interaction between the state of stress and pathogens and "weak links" negatively affects health status.

Arrow Q: Stress is a general precursor that interacts with lhe existing potential endogenic and exogenic pathogens and "weak links."

Arrow R: Good health status facilitates the acquisition of other GRRs.

Note: The statements in bold type represent the core of the salutogenic model.

Fig. 5.3 The salutogenic model of health. (Reprinted from Antonovsky, 1979, pp. 184–185. Published with permission of © Avishai Antonovsky. All Rights Reserved)

talk of a group SOC. He considered size as the most crucial parameter, and he was quite assured that SOC would be an emergent group property in primary groups such as the family, a small local community, a work or a friendship group, or the like. However, he felt increasingly less confident about whether SOC *"…is applicable to a large-scale, complex, diversified collectivity"* (1987, p. 175). He made a distinction, however, between collectivities that are social categories, and collectivities that are associational in character, arguing that there must be a sense of group consciousness, a subjectively identifiable collectivity, before it makes sense, or is even possible to talk of a group SOC. Still,

Antonovsky emphasized that the size of the group and a sense of group consciousness will not indicate whether the group has a weak or a strong SOC. He suggested that a group with a strong SOC would be characterized by (Antonovsky, 1987, p. 174): *"A group whose individual members tend to perceive the collectivity as one that views the world as comprehensible, manageable, and meaningful, and among whom there is a high degree of consensus in these perceptions."* Describing it like this, one has to move beyond the mere aggregation of data on the SOC of individuals in a group, and take into account the perceptions by individual members of the group of how the group sees the world. In addition, he claimed one also has to consider the extent of the consensus of the perceptions by looking at the variance of individual scores.

Antonovsky (1987, p. 176) brought forth yet two relevant dimensions for group SOC: (1) the duration of the existence of an identifiable collectivity, and (2) that membership in the collectivity is of overriding centrality in the life of each member, and to such an extent that the self and the social identity are deeply interwoven. His argument about the duration of the existence of the group is closely tied to his hypothesis that SOC is a rather stable property for an individual, and that one's location on the continuum will not change much after one has reached the age of 30. He, thus, argued that it would be difficult to imagine a group SOC, strong or weak, if the social context and conditions were not relatively stable and consistent over several years. The prerequisite of a year-long group duration implies that there most likely will be turnover among the individual members of the group. However, the turnover must not unsettle the stability and consistency of the collectivity. The subjectively identifiable group must remain (Antonovsky, 1987, p. 176). A final important possibility of the group SOC raised by Antonovsky is whether it makes a difference to an individual's health to belong to a group or groups with a weak or strong SOC. He asks (Antonovsky, 1996a, p. 17): *"What is the relationship between the movement of the person toward wellbeing and the strength of his/her collective SOC?"* His hypothesis is that, yes, it makes a difference in terms of health prediction, beyond merely knowing the SOC level of the person. First, because of the importance of the social environment in giving experiences that are decisive to the development of a strong or weak SOC. He emphasized that groups with a strong SOC tend to structure situations and, thus, provide experiences that over time will enhance the SOC of the group's individual members. Second, and even more importantly, he believes that in order to cope with some stressors, interventions are required by collectivities rather than by individuals, pointing to working life as an illustrative example (Antonovsky, 1987, p. 178). Some stressors stem from conditions deeply rooted in organizations, and/or in the structure of society, and confront the entire collectivity, and therefore call for group resources to be properly dealt with. It is about the group's ability to mobilize and activate its collective resources to confront the problem and relieve tension, more than the person needing the group to confront a stressor that he/she cannot deal with alone. In such cases, the individual SOC is relevant and important in regulation of emotion. In coping with the collective stressor directly, Antonovsky claims (1987, pp. 178–179):

> …it is what the group does that matter…Only individuals are more or less healthy, depending, among other things, on how well they manage tension, but in the face of collective stressors, the strength of the group, rather than of the individual, SOC is often decisive in tension management.

Through his arguing, Antonovsky tried to make sense of SOC as a group property by use of quantitative measures, which of course reflects his training and the dominant way of doing science at the time. Yet, he claimed that the ontological beliefs of entropy and negentropy and the search for order out of chaos require multiple approaches across disciplines. His idea of taking into account the perceptions by individual members of the group points in the direction of qualitative research. His suggestion to move beyond aggregated individual SOC data and to deal with the cultural production of the group as a source of data for understanding group SOC does the same. He advocated observing collective behavior such as myths, rituals, humor, language, ceremonies, and so on of the group (Antonovsky, 1987, p. 176), and by that, as we understand it, he is calling for a variety of methodological approaches. This is a call, which possibly has better circumstances to be answered in our time than in his.

Tuning the Model: General Resistance Resources—General Resistance Deficits

Another of the elements in the SMH which he did change his conceptualization of in the 1987 book was *stressors*. In 1979, he was quoting Lazarus and Cohen (1977, p. 109) and defined stressors as: *"A stimulus which poses a demand to which one has no ready-made, immediately available and adequate response"* (Antonovsky, 1979, p. 72). The strength of this definition, according to Antonovsky, was that one could classify stimuli without knowing the consequences—whether tension is transformed into stress or not. However, in 1987, he linked the definition of stressors to resources. He claimed that the absence of a GRR could become a stressor (Antonovsky, 1987, p. 28). One illustrative example here could be the absence of money (authors' comment). Such an absence of resources he called *Generalized Resistance Deficit (GRD)*. He suggested that the total stressor-resource

situation (GRR-GRD) could be captured by a continuum, with many potential subcontinua (Antonovsky, 1987, p. 28):

> I propose then, that we can speak of 'major psychosocial generalized resistance resources—resistance deficits' (GRR-RDs) as one unified concept. In each case—wealth, ego strength, cultural stability, and so on—a person has can be ranked on a continuum. The higher one is on the continuum, the more likely is it that one will have the kind of life experiences that are conducive to a strong SOC; the lower one is, the more likely is it that the life experiences one undergoes will be conducive to a weak SOC. A stressor, in sum, can be defined as a characteristic that introduces entropy into the system—that is, a life experience characterized by inconsistency, under—or overload, and exclusion from participation in decision-making.

Thus, any phenomenon can be characterized by the degree to which it creates these three important life experiences: *consistency, load balance, and participation in decision-making*. These are the life experiences conducive to SOC, and every individual can be placed on a continuum for each of these life experiences. If an experience is toward the fortunate end of these continua it indicates the existence and use of GRRs, if it is toward the unfortunate end it indicates the lack of GRRs and, thus, a GRD. Antonovsky was optimistic for the utility of this new reconceptualization of stressors (Antonovsky, 1987, pp. 30–31):

> Subsuming the stressors , and particularly chronic, endemic stressors , under the overarching concept of GRR-RDs provides a theoretical basis for constructing a measurement tool that links the resources and stressors —would that I could coin a single word!—through the SOC to health outcome.

This highlights Antonovsky's understanding of not focusing on stressors alone, not focusing on resources alone, but focusing on their combined effect to create life experiences that are characterized by consistency, load balance, and participation in decision-making. Such experiences are conducive to a high SOC and, therefore, move a person toward health.

The SMH demonstrates that sense of coherence and different resistance resources work together in a mutual interplay. The more resistance resources people are conscious of and are able to mobilize and make use of, the higher SOC. A higher SOC will in turn help people mobilize more of their resources, leading to better health and well-being. Thus, SOC is flexible rather than being constructed around a fixed set of dominant strategies such as the classic coping strategies (Antonovsky, 1987, 1992, 1993). Antonovsky lists a spectrum of ways in which SOC affects health (Antonovsky, 1990, p. 78):

- SOC leads one to engage in health-promoting behavior, for instance, through attitudes.
- SOC influences one's process of defining a stimulus as a stressor-nonstressor. Some stimuli might rather be seen as neutral, or even salutary.
- SOC leads one to interpret a stressor as ordered.
- SOC leads one to search one's repertoire for GRRs that are appropriate for the specific situation, including the resources available through one's network, thereby giving a flexible rather than rigid pattern of response.
- SOC-induced response patterns cause the brain to send messages to activate appropriate bodily resources.
- SOC opens one up to analysis of the results of one's behavior and makes one ready to redesign response as needed.
- SOC makes one aware of the need to cope both instrumentally as well as emotionally.

In Chap. 5, *Unraveling the Mystery of Health,* Antonovsky writes he believes that it is in early adulthood that one's location on the SOC continuum becomes more or less fixed. He claims that SOC developed in this period of life stabilizes and remains at this level and that only rarely might experiences in life improve the level of SOC afterward (Antonovsky, 1996b, p. 175):

> I have often committed myself, orally and in writing, to the hypothesis that the strength of a person's SOC is more or less stabilized by roughly the age of 30, that is, when one has been in the normal work and family situation of one's culture and subculture for a number of years.

His hypothesis is based on him arguing there are no major changes in the quality of the experiences that affect the SOC after the age of 30 (Antonovsky, 1987, p. 123):

> For the middle-aged adult, the new marriage, new job, new country, new social climate, or new therapist can only at best (or at worst) begin to initiate change, insofar as this stimulus provides a different long-range set of life experiences characterized by different levels of consistency, load balance, and participation in socially valued decision making.

However, he emphasized that his position is a hypothesis based on theoretical considerations and is not based on empirical evidence (Antonovsky, 1996b). Further, he maintained that it is important to clarify what is meant by a major strengthening of the SOC and claims that if a substantial number of people experience a given mode of therapy and improve their SOC score by 5 points on the average, *"this is not to be sneezed at"* (Antonovsky, 1996b, p. 176). Moreover, he also suggests that practitioners can arrange for SOC-enhancing experiences and he writes, *"this would be true for any therapeutic mode that facilitates a long-lasting, consistent change in real life experiences that people undergo"* (Antonovsky, 1987, p. 126).

Health and Well-Being: In or Off Key?

One of Antonovsky's deviations from pathogenesis was to reject the dichotomization into categories of sick or well. Through extensive use of statistics, he argued that it is very rare indeed to be completely healthy (Antonovsky, 1979).

We are rather all more or less ill or well at any given point in time—located on a health ease/dis-ease continuum from maximally ill (dis-ease pole of continuum) to maximally well (ease pole of continuum). The important point is to focus on what moves an individual toward the ease pole of the continuum, regardless of where he/she was initially located. This is the process of salutogenesis (Antonovsky, 1979, preface xiv–xv):

> …I am persuaded that the salutogenic orientation, that thinking in terms of the mystery of movement toward the ease pole of the ease/dis-ease continuum, is a significant and radically different approach to the study of health and illness than the pathogenic orientation.

What lies at the ease pole of the continuum is a question we will return to later. However, before moving on we will linger a bit on Antonovsky's writings on illness and disease, and on whether or not it is ok to study illness within the salutogenic paradigm. While Antonovsky stated that his thinking is greatly indebted to Dubos' work on adaptive capacity and adaptive coping, he nevertheless criticized Dubos for not going explicitly beyond the concept of multiple causation of specific diseases, though Dubos claimed this to be his main agenda. Antonovsky stated, however (Antonovsky, 1972, p. 538): *"…his (Dubos') focus on adaptive capacity is certainly congenial to the concept of breakdown."* It seems as though Antonovsky introduced the term breakdown to have a phrasing for the process of departing (Antonovsky, 1972, p. 537): *"from the social norm we call health."* Whether Antonovsky meant by this that breakdown will result in various kinds of diseases and thus be, in fact, nearly synonymous with disease, or that breakdown is merely a description of the subjective experience of not feeling well (being ill)—and thus a movement toward dis-ease— is unclear. In outlining the salutogenic philosophy of life, Antonovsky claimed that entropy is the norm and that experiences of disease and illness are to be considered requisite to the human condition. Illness, being the subjective experience of not feeling well is thus a larger and a more holistic experience than a specific disease, is it not? Inferring, one can indeed experience disease and or illness without being diagnosed with a disease. Breakdown may or may not include having a particular disease, but will it not always include experiences of dis-ease and illness?

Despite Antonovsky's intention of going beyond the dichotomy of healthy/sick in the pathogenic paradigm, it is as though he remained within the paradigm when using the terms illness and disease interchangeably. Did he mean that the movement toward the ease pole is a salutogenic movement, whereas the movement toward the dis-ease pole is a pathogenic one (Antonovsky, 1979, p. 69):

> Inevitably, both because I have been conditioned as well as everyone else by the question of pathogenesis and because the overwhelming part of the data available asks this question, I too shall slip into asking, Why are people located on—or why do they move down toward the dis-ease end of the continuum? I shall seek to avoid doing so and ask the reader to join me in this effort.

Alternatively, did he find it worthwhile and relevant to study movements toward the dis-ease pole of the ease/dis-ease continuum *within* the salutogenic orientation (Antonovsky, 1979, p. 37): *"Salutogenesis asks, what are the factors pushing this person towards this end or towards that end of the continuum."* Engaging in this effort has perhaps nothing to do with pathogenesis as such. Maybe it is of importance for understanding health-promoting processes. As apparent from the two quotations above, Antonovsky seemed unclear and to contradict himself on this. Taking Antonovsky's own critique of Dubos into account, it is tempting to root for breakdown being the salutogenic paradigm's counterpart to disease in the pathogenic paradigm; namely the subjective experience of being ill, including periods of having diseases in a pathogenic sense. However, this remains unclear in Antonovsky's own texts, and there are examples in the literature of different interpretations of his writings on this topic.

A second deviation from the pathogenic orientation was the rejection of the medical expert as the judge of who is sick or well, through the focus on disease and diagnosis. Such an approach, Antonovsky stated (1979, p. 36): *"blinds us to the subjective interpretation of the state of affairs of the person who is ill."* In the health ease/dis-ease continuum, we find this expressed in the hyphen in dis-ease: dis-ease infers the subjective experience of illness, possibly including periods of being sick and diagnosed in the pathogenic sense. This is also evident from the operationalization of health that is found in Fig. 5.1, which clearly demonstrates that Antonovsky advocated for a health concept that included subjective judgment. Thus, to understand health in the salutogenic paradigm, we seem to need to define illness explicitly and differently than being sick because of diagnosis. Given the focus on subjective interpretation of health and a movement in a positive direction, it could easily (and mistakenly) be assumed that Antonovsky was a proponent for the concept of *positive health*. Quite opposite to this, he stated that (1979, p. 52): *"the resemblance between the focus on positive health and the problem of salutogenesis is quite superficial."* He strongly opposed the WHO definition of health that states, *"Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity"* (WHO, 1948). Antonovsky gave several reasons for his opposition to this definition of health: it cannot be operationalized and, therefore, cannot be measured; it is too optimistic without dynamic reference to the struggles of life; and most importantly, it opens up for *"medical imperialism"* (Antonovsky, 1979, p. 53). This is a point Antonovsky felt strongly about (1979, pp. 53–54):

> Whatever the powers that be do not like enters the proper sphere of medicine: political dissent, whatever the social system, has led to locking people up "for their own good"; and sex education, family planning and abortion, divorce and homosexuality, along with underachievers and overachievers, dropouts and jocks and grinds—all these and many more fall within the province of health with the blessings of WHO.

The skepticism to WHO's broad health concept that necessitates value judgment (including social and mental well-being in the wider sense) made Antonovsky advocate for a more precise definition of health. A more limited definition of health would be measurable and, therefore, useful in empirical research, and not less importantly limit the scope of the "proper sphere of medicine" and the possibilities of the power abuse which history warns us about. His operationalization of the health ease/dis-ease continuum (Fig. 5.1) demonstrates this wish for a rather precise definition of health, avoiding the imprecision of a positive dimension. A closer look at this figure reveals that a maximum state of health according to Antonovsky is a score of 1 on each of the components (1-1-1-1): no pain (by subjective judgment), no functional limitation (by subjective judgment), no medically defined condition (by health authority judgment), and no treatment needed (by health authority judgment). This is a negative definition of health, in that it is based on absence of certain characteristics—it is not more than "the absence of disease or infirmity."

However, still in 1979, he made one interesting comment on what can potentially be found at the maximum ease pole of the health ease/dis-ease continuum. He acknowledges that this continuum seems to formulate the most desirable health category in negative terms. And he opens for a possibility of going beyond the negative even if he does not take great interest in this himself because *"the salutogenic orientation is not concerned primarily with explaining how people reach perfect health - at best, a heuristic notion"* (Antonovsky, 1979, p. 67) and continues:

> Yet it may be valuable, if we are to study really healthy people, few as they are, to have some way of identifying them beyond the 1-1-1-1 category. To this end, I would propose an additional question, to be asked after the first four questions have been answered with the first alternative in each case: "You have said that your state of health is not painful and imposes no limitations. The doctor's report gives you a clean bill of health. But these are negative things. Would you say that your state of health goes beyond this, that you feel an abundance of energy, that you are what people call a picture of perfect health?

Did Antonovsky stick to this understanding of health throughout his authorship, or did his view develop after these early statements in 1979? As late as in 1995 (in a paper published a few months after his death), he repeated the arguments from 1979, warning against a value-based definition of health. In this paper, he used Nazi doctors as an example of how alleged deviants were tortured not only for the sake of other peoples' health but sometimes even for their own good. He wrote about his wish for research that would define health relatively narrowly and *"far from coextensively with all of well-being or happiness"* (Antonovsky, 1995, p. 10). He believed this was vital to avoid blurring the line between SOC and health, to distinguish health from other aspects of well-being, and to protect against using salutogenesis to pressure people to live moral lives. He warned against the danger of assuming that *"the morally good is salutary"* (ibid, p. 11). The morally good might be quite the opposite of salutary, as in the sacrifice of one's own health for the good of others. Moreover, the salutary might be morally repugnant, as in the case of persons who harm others, with the help of their strong SOC. He pointed out, however, that he often found himself in a bind as a teacher of medical students. In spite of his above-mentioned arguments, he thought (Antonovsky, 1979, p. 67): *"it is crucial that they learn to see health in a broad context going far beyond the physiological level."* He emphasized that seeing health in a broad context entailed moving beyond a post-Cartesian dualism and taking into account fantasy, love, playing, meaning, will, and the social structures that promote these (Antonovsky, 1987).

Antonovsky did write about well-being. However, he warned about confusing well-being with the definition of health (Antonovsky, 1979, p. 197):

> I have insisted that the health ease/dis-ease continuum is not to be regarded as coextensive with the entire realm of well-being. Other ease/dis-ease continua exist (…) a nod has (then) been made in their direction; they are highly relevant to and intertwined with health, but they are distinct (…) If our interest are in understanding health, then location on the family-relations or social-relations or material-resources ease/dis-easee continua can usefully be viewed as a GRR.

One possible interpretation of this is that Antonovsky was of the opinion that only physiological health was captured under the health ease/dis-ease continuum and part of his operationalization thereof. He warned against dangers related to classifying mental and social well-being as elements of health, as that would open up for medical imperialism. However, he was positive to the concept of well-being as something wider (*"the entire realm of well-being"*), of which health as he defined it was only one dimension. That could be why he so often specified it as the *health* ease/dis-ease continuum—other continua exist. Regarding social well-being, Antonovsky seems quite willing to classify a variety of social ease/dis-ease continua as GRRs, for instance, for family relations and social relations (see quotation above, 1979, p. 197).

When it came to mental health, however, Antonovsky contradicted himself, and admitted to it. He wrote (Antonovsky, 1985, p. 274):

> Mental health, as I conceive it, refers to the location, at any point in the life cycle, of a person on a continuum which ranges from excruciating emotional pain and total psychological malfunctioning at one extreme to a full, vibrant sense of psychological wellbeing at the other.

Antonovsky describes the movement on the continuum toward better mental health as shifting and continues:

> …from the use of unconscious psychological defense mechanisms toward the use of conscious coping mechanisms…from the rigidity of defensive structures to the capacity for constant and creative inner readjustment and growth…from a waste of emotional energy toward its productive use…from emotional suffering toward joy…from narcissism toward giving of oneself…from exploitation of others toward reciprocal interaction.

Later he commented on himself that this was a value-based definition (Antonovsky, 1995, p. 9):

> I have made an attempt in print to formally define mental health (…). Was I not, by definition, requiring that to be mentally healthy, a person be someone whom I (or even most others) liked, respected, admired?

While Antonovsky's treatment of the concept of health is extensive and at times bewildering, it seems safe to conclude that his main messages remained the same throughout his authorship. Health is part of a larger realm of well-being. Health is best understood as a continuum, not as a dichotomy. Health must be narrowly defined to facilitate for empirical research and to avoid value-based definitions that might open up for the abuse of power. Further, although unclear, he seemed to believe that salutogenesis is about focusing on the movement toward the ease pole of the health ease/dis-ease continuum—regardless of how far into the positive that continuum might stretch. While advocating a narrow physiological definition of health when debating health and moral, in other texts he broadens the scope and writes (Antonovsky, 1996a, p. 13): *"It (the SMH) is, however, not a theory which focuses on keeping people "well". Rather, (…) it is a theory of the health of that complex system, the human being,"* indicating an ecological understanding of health. This understanding is apparent also in citations as the following (Antonovsky, 1994, p. 10):

> The study of the macrosocial is essential to understanding movement toward health … (but) a sensitivity to the macrosocial is only a point of departure. What is required is a systematic framework within which structural sources of health can be understood.

These quotations make us leave the presentation of health and well-being on a somewhat uncertain and off-key note. Nevertheless, the very same statements demonstrate that the SMH and Antonovsky were in tune with the core values of health promotion.

Harmonizing: SMH's Relevance for Health Promotion

In *Unraveling the mystery of health,* Antonovsky starts with a detailed and explicit explanation of why he is persuaded that the salutogenic orientation is a radically different approach than the pathogenic orientation. Through six different aspects, he illustrates the distinction between salutogenesis and pathogenesis as he sees it (Fig. 5.4). He claims these aspects have implications for research, for understanding health and illness, and for clinical practice. Antonovsky's fundamental philosophical assumption is that all human beings are in the river of life. Nobody stays

SALUTOGENIC ORIENTATION	PATHOGENIC ORIENTATION
Heterostasis	Homeostasis
1. Health ease/dis-ease continuum	1. Healthy/sick dicotomy
2. The history of the person	2. The person's disease/diagnosis
3. Salutary factors	3. Risk factors
4. Stressors and tension might be pathogenic, neutral or salutary	4. Stress is pathogenic
5. Active adaptation	5. The magic bullet
6. The "deviant" case	6. Hypothesis confirmation

Fig. 5.4 A summary of six main aspects of the salutogenic and the pathogenic orientation as presented by Antonovsky in *Unravelling the Mystery of Health.* The authors' illustration. (Adapted from Antonovsky, 1987. Published with permission of © Avishai Antonovsky. All Rights Reserved)

on the shore. Much of the river is polluted, literally and figuratively. There are forks in the river that leads to gentle streams or to dangerous rapids and whirlpools and the crucial questions is *"What shapes one's ability to swim well?"* (Antonovsky, 1987, p. 90). This metaphor illustrates that heterostasis and not homeostasis is *the* prototypical characteristic of the living organism. The daily structures in which we are all embedded are unavoidably and unendingly stressful.

The first aspect Antonovsky asserts as important to health promotion is understanding health as a continuum, and not as a dichotomy between sick and healthy people. He emphasizes that in order to explain health one will have to study the movement toward the ease pole of the health ease/dis-ease continuum. His focus is on the dynamic interaction between health-promoting factors and stressors in human life, and on how people may move to the healthy end of the health ease/dis-ease continuum. A sense of coherence is proposed to be the significant variable in effecting this movement (Antonovsky, 1985).

The second aspect is to focus on people's own story and not only the diagnosis. He emphasizes that to listen to a person's own story (Antonovsky, 1987, p. 5):

> …it does not guarantee problem solution of the complex circularities of people's lives, but at the very least it leads to a more profound understanding and knowledge, a prerequisite for moving toward the healthy end of the continuum.

Further, in the third aspect, he underscores the importance of salutary factors when focusing on promoting movement toward better health, his claim being that salutary factors contribute directly to health (Antonovsky, 1996a, p. 14):.

> Posing the salutogenic question, namely, 'how can we understand movement of people in the direction of the health end of the continuum?'—note all people, wherever they are at any given time, from the terminal patient to the vigorous adolescent—we cannot be content with answer limited to 'by being low on risk factors'… To answer the question requires another neologism: **salutary** factors. I will not quarrel with 'health-promoting' factors or any other term, as long as the concept is clear: factors which are negentropic, actively promote health, rather than just being low on risk factors.

Health is, thus, according to Antonovsky, much more than being low on risk factors. In the fourth aspect, he explains the view on stress and claims that stress might be pathogenic, neutral, or salutogenic. Because stress is ubiquitous, salutogenesis opens up for the rehabilitation of stressors in human life. The fifth aspect is related to the view on therapy. In salutogenesis, the ideal in therapy is the person's (he does not use the word patient) ability to actively adapt and not the magic bullet meaning that based on the right diagnosis you search to find the right cure as in medication or surgery. To underline the significance of active adaptation as ideal in therapy, he writes (Antonovsky, 1987, p. 9):

> When one searches for effective adaptation of the organism, one can move beyond post-Cartesian dualism and look to imagination, love, play, meaning, will, and the social structures that foster them.

The last and sixth aspect is about the focus in research and Antonovsky asks whether we are looking for the *deviant case* or *hypothesis confirmation*. He uses an example to illustrate his point: a confirmed hypothesis is that depression is predictive of cancer mortality. However, the difference between the depressed and nondepressed who died of cancer is, respectively, 7.1% and 3.4%, inferring that the great majority did not die of cancer and this is the deviant case. Consequently, he claims, it is possible to generate hypotheses to explain salutogenesis (Antonovsky, 1987).

In a paper from 1996, he argued that the salutogenic orientation can be a basis for health promotion and, in being so, it (Antonovsky, 1996a, p. 14) *"directs both research and action efforts to encompass all persons, wherever they are on the continuum, and to focus on salutary factors."* A third weighty inference of embracing a salutogenic orientation in health promotion, he continued, is the orientations' focus on the history of the person and not on the persons' diagnosis and disease. He claims this to be a moral stance, and it to be (ibid.): *"impermissible to identify a rich, complex human being with a particular pathology, disability or characteristic."* Whereas those working within the pathogenic orientation are pressured to forget the complexity of the human being, the health promoter is, and should be, pressured to relate to all aspects of the person (or collective) to help him/her move toward the ease end of the continuum. Consequently, this issue is not only moral but it is also scientific (Antonovsky, 1996a). Antonovsky firmly asserted that a salutogenic orientation offers direction and focus for health promotion, and he stated that the salutogenic model could be a foundation for the development of a theory that will be productive in this specific field (Antonovsky, 1996a, p. 18): *"The salutogenic model, I believe, is useful for all fields of health care. In its very spirit, however, it is particularly appropriate to health promotion."*

Conclusions

Diving into Antonovsky's writings, trying to provide an overview of his salutogenic model of health has been not only challenging but also utterly worthwhile. Overall, it has been an interesting and, for most parts, salutary learning process. We feel safe and supported by Antonovsky when we urge you all to keep reflecting, researching, and further developing the SMH. Antonovsky claims that one of the advantages of the model is just that, that it allows us, indeed even stimulates us, to ask questions, whatever the answers turn out to be.

We want to wrap this chapter up the way we started, with Antonovsky's own words (1987, preface xvii):

> If I have been motivated by one purpose to write this volume, it is to reinforce those who are already at work—to spark ideas in the minds of those colleagues who share with me the enchantment with the mystery of health.

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Salutogenesis Meeting Places: The Global Working Group, the Center, and the Society on Salutogenesis

6

Georg F. Bauer

Introduction

Salutogenesis is a rapidly expanding academic field of research relevant to theory, practice, and policy (Bauer et al., 2020). This chapter presents the Society for Theory and Research on Salutogenesis (STARS). It also describes two other organizations that are closely involved with the society (Fig. 6.1):

- The Global Working Group on Salutogenesis (GWG-Sal) of the International Union for Health Promotion and Education (IUHPE).
- The Center of Salutogenesis of the University of Zürich in Switzerland (Center), which hosts and coordinates the two aforementioned groups, alongside its research activities.

We, the Editors of this handbook, extend an invitation to you to join STARS, which is transdisciplinary and open to all persons who are interested in salutogenesis. Indeed, the key message of this chapter is that **your** involvement in STARS will extend your professional network, open new avenues for research and publishing, and help achieve a vision of "salutogenesis for thriving societies" (see Chap. 61).

If you are working in the field of health promotion, membership in the IUHPE is also cordially invited – visit www.iuhpe.org. As an IUHPE member, you will have direct access to – and the possibility to be elected to – the GWG-Sal. Aside from its vital coordinating function as shown in Fig. 6.1, the Center is significant due to its work organizing international salutogenesis conferences and publishing material such as this handbook, available to all as a free, open-access publication due to financial support from the Center.

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Society for Theory and Research on Salutogenesis (STARS)

STARS aims to advance and promote the science of salutogenesis. These principles guide it:

- Transdisciplinary: STARS connects scholars from diverse disciplines, who share an interest in the science of salutogenesis.
- Open membership: STARS welcomes anyone with an interest in the science of salutogenesis! Having published salutogenesis articles is not a condition of membership. Students are especially welcome. Joining is easy, and it is free of charge.
- Sharing: STARS members are encouraged to announce their publications, news, and events on the STARS website, download free materials such as research questionnaires and books, join discussion groups, and participate in STARS-sponsored conferences.

At www.stars-society.org (Fig. 6.2), you can follow recent news and events on salutogenesis, get informed about recent publications on salutogenesis (including new language editions of The Hitchhiker's Guide to Salutogenesis) (Lindström & Eriksson, 2010), learn about upcoming conferences, and interact with colleagues in the discussion forum. Further, you get free access to the Sense of Coherence (SOC) Scales, and you can freely download the classic books by Aaron Antonovsky. In the membership database, you can search for colleagues working in your country or specific subfield of salutogenesis research and can get connected to regional networks on salutogenesis.

STARS organizes regular, international conferences on salutogenesis. Recently, we added an overview of current salutogenesis research of STARS members related to the COVID-19 crisis. To become engaged in STARS, visit the website, follow us on Twitter (@stars_society), sign up for our newsletter, and become a member now

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Fig. 6.1 Salutogenesis meeting places and their relationships

and share your perspectives and expertise. Together, we will advance our vision of "salutogenesis for thriving societies!"

Global Working Group on Salutogenesis (GWG-Sal)

GWG-Sal was established in 2007 by the IUHPE, and it has since been crucial for broadening the foundation of salutogenesis in the academic field of health promotion. Not least, the GWG-Sal initiated the first edition of The Handbook of Salutogenesis. This second edition of the Handbook is a joint effort of STARS, GWG-Sal, and the Zürich Center. These major writing projects bring together academics from across the Globe. We cordially invite readers to suggest content for, and contribute to, future editions of the handbook.

The Mission of the GWG-Sal is "to advance and promote the science of salutogenesis (philosophy, theory, methodology, evidence) and thus to contribute to the scientific base of health promotion and the IUHPE" (www.iuhpe.org/index.php/en/global-working-groups). It does this by:

- Salutogenesis agenda setting for, within and beyond, the IUHPE.
- Infusing salutogenesis in IUHPE activities.
- Engaging with key (regional) research fields and stakeholders for capacity-building regarding salutogenesis.

The GWG-Sal is an international group of more than 20 academics representing different world regions and research areas in salutogenesis. GWG-Sal elects new members from the IUHPE, seeking to include underrepresented geographical areas, emerging research themes, and experts willing to work for our mission proactively. We self-apply salutogenesis to our group through considering principles of the Ottawa Charter; assuring inclusiveness regarding regions, gender, and age; following a coherent work plan; and voluntary engagement through joyful experience. The GWG-Sal pursues the following strategies specified in regularly updated action plans:

- We meet regularly to review developments in the field of salutogenesis, health promotion and public health, and to agree on action needed to advance salutogenesis.
- We regularly contribute keynotes, symposia, and workshops to scientific conferences and seminars related to salutogenesis.
- We contribute to the written academic discourse through compilation and regular updates of The Handbook of Salutogenesis as well as through joint position papers on general advancements of salutogenesis (Bauer et al., 2020) and on the specific contribution of salutogenesis in times of COVID-19 and other crises (Maas et al., forthcoming).
- We promote networking and exchange of the academic community of salutogenesis through the initiation and support of the activities of STARS, including regular international conferences.

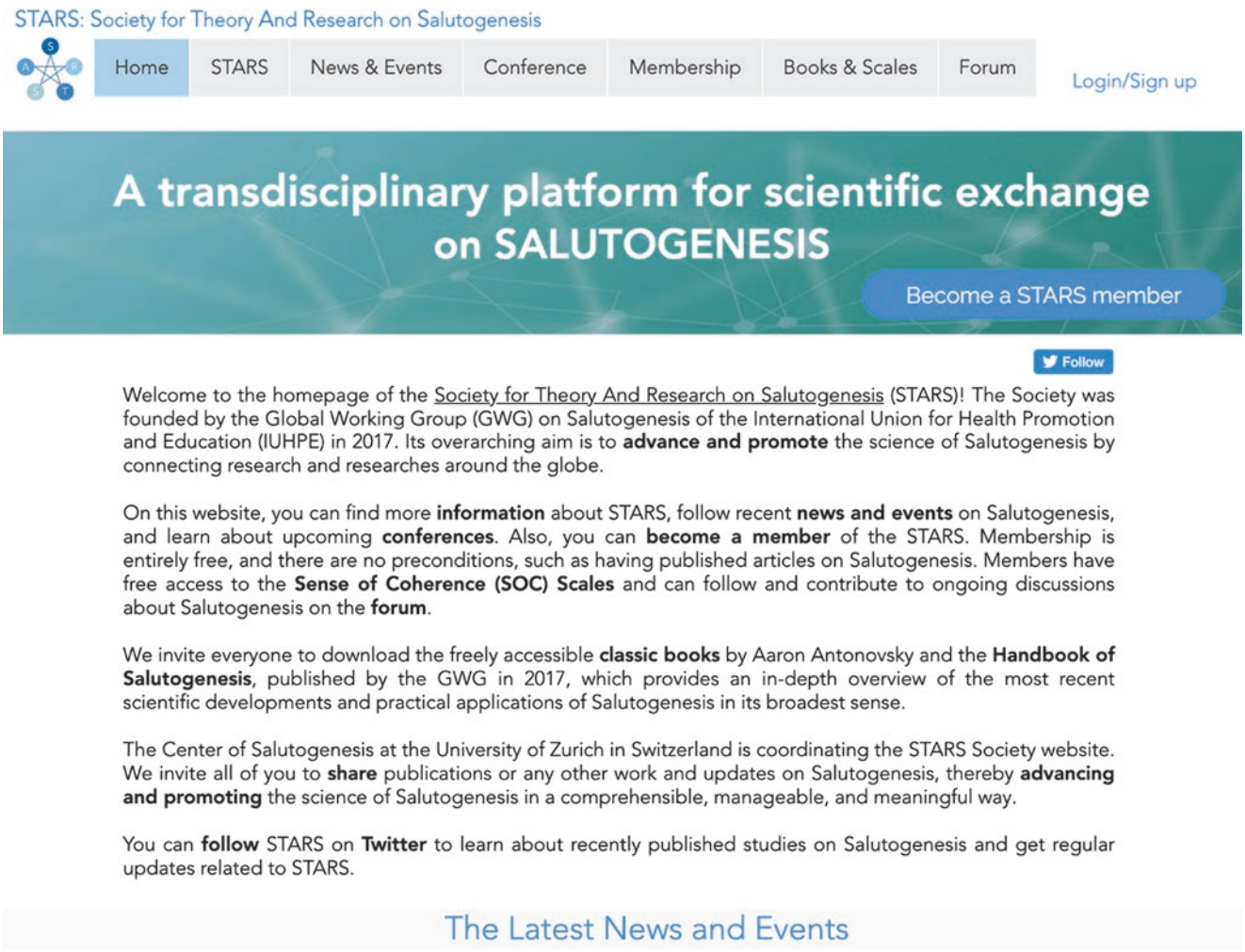

Fig. 6.2 The STARS website (www.stars-society.org)

- We are working to connect salutogenesis-related research initiatives across Europe and beyond to advance our vision of coherence-rich, thriving societies that master societal challenges in a humanistic way. Such challenges include pandemics, racism, rising inequalities, eroding democracies, and planetary health. Our goal is to investigate the role of coherence and value systems in the development of new equilibria of individuals, groups, organizations, and societies in the face of crisis.

Center of Salutogenesis, University of Zürich

The first coordinating center for salutogenesis was organized and run by Bengt Lindström in the period 2005–2012, at the Folkhalsan Health Promotion Research Center in Helsinki, Finland (another important center of activity on salutogenesis, established by Monica Eriksson and Bengt Lindström, serves Swedish researchers and is located at University West in Sweden).

In 2012, the international coordinating center moved from Helsinki to the Norwegian University of Science and Technology in Trondheim, Norway, where Lindström held the first-ever Professorship in Salutogenesis.

On Lindström's retirement in 2016, Georg Bauer initiated to take over the international coordinating center role. In 2017, the President of the University of Zürich formally launched the Center of Salutogenesis, financially supported by a philanthropic foundation. The Center aims to advance and disseminate the powerful, positive concept of salutogenesis in the fields of public health, health promotion, economics, and beyond. Our research systematically applies salutogenesis to the specific context of working life and organizations – facilitating the testing and advancement of the general theory of salutogenesis. Currently, the Center focuses on the following research and development themes:

- «Stress reduction + Meaning-making»: Employees' proactive, resource-oriented crafting of the dynamic working and private life to reduce stress and to create meaningfulness

- «Salutogenic organizational change»: Leader and team development to improve working conditions, collaboration, and meaningfulness
- «Purposeful organizations»: Mind map and participatory approaches to creating purposeful organizations that make a difference for society
- «Positive health»: Developing concepts and indicators of positive health at work and in organizations (happiness, well-being, meaningfulness, and purpose)

Conclusion

Because you are reading this chapter, I know you have a serious interest in salutogenesis! You are welcome and needed as an active participant in the salutogenesis meeting places described in this chapter. Join STARS for free, for access to a global salutogenesis network, research materials such as questionnaires, books by Aaron Antonovsky and other scholars, involvement in discussion groups, and news about salutogenesis.

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7 Salutogenesis Post-Graduate Education: Experience From the European Perspective on the ETC-PHHP Health Promotion Summer Schools (1991–2020)

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Introduction

In 2021, the European Training Consortium in Public Health and Health Promotion (ETC-PHHP) will celebrate the 30th anniversary of its summer school in Valencia, Spain. This is the founding place for the first summer school, which was organised by Concha Colomer, Spanish co-founder of ETC-PHHP. Since 1991, 782 participants from over 60 different countries across multidisciplinary disciplines have participated in these annual summer schools.

Today, the consortium consists of 13 higher education partners from across Europe: University of Zagreb (Croatia); University of Chester (UK); University of Bergen (Norway); Wageningen University (The Netherlands); University of Perugia (Italy); University of Girona (Spain); HAN University of Applied Sciences (the Netherlands); Norwegian University of Science & Technology NTNU (Norway); University of Cagliari (Italy); The University of Alicante (Spain); Nexus Institute (Germany); University of Lodz (Poland) and the Lebanese International University

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(Lebanon). Each year a different partner organises the summer school.

Today, the network consists of these 13 higher education partners and 725 alumni participants from over 50 different countries, representing a broad range of disciplines from across the fields of public health and health promotion.

ETC was first founded to advance health promotion capacity following the publication of the Ottawa Charter (WHO, 1986). It emerged as a leader in helping practitioners translate and implement the somewhat ethereal theoretical nature of the key concepts of health promotion into everyday practice.

The starting point for ETC is to view health as a resource for life and living. In the 1992 ETC course, Aaron Antonovsky presented his research on the salutogenic approach as a theoretical framework on how to promote health through resilience and flourishing as opposed to the avoidance or prevention of disease. Since then, the salutogenic approach has been a key element of the ETC summer schools not only as a theory but also as a way of thinking, which permeates the planning, facilitation and evaluation of the summer school.

Unique to the ETC programme is the fusion of professionals, who exchange ideas on the salutogenic model of health in a trusting, safe environment. The deeper learning occurs through the process of exploring, listening, reflecting and engaging in dialogue with other professionals (participants and tutors) from diverse social and cultural backgrounds. Moreover, the summer school offers participants insight and skills in being able to work across many different languages and cultures, to master the real demands of working collaboratively on salutogenic principles.

ETC aims to advance health promotion capacity at masters and doctoral level, and practitioners, with several years of experience in health promotion. This level of seniority provides for an experienced, high-level exchange of rich and culturally diverse experiences in health promotion. This chapter outlines how salutogenesis shapes our way of working in post-graduate education.

Competence Development

The first summer schools in the 1990s for academic and non-academic professionals were oriented to the introduction of the new public health and health promotion approach (Ashton & Seymour, 1988). At that time, the field of health promotion theory and research was in its infancy; the evidence base for health promotion practice was limited, so fundamental health promotion ideas for capacity building needed to be developed. The salutogenic perspective offered a useful and inspiring theory to stimulate discussions and created a vibrant atmosphere to which we often refer to as the ‘ETC spirit’.

In the 2000s, the field of health promotion had expanded rapidly, and much had been written about health promotion theory and practice. We realised that most participants had a rather solid understanding of health promotion and salutogenesis. However, they did not always apply this knowledge in their research, policy and practice. The content of the course was, therefore, adapted to reflect this. The process not only remained the same but also evolved: the emphasis shifted away from knowledge transfer to competence development; based on the principles that all learning elements should be (1) comprehensible, manageable and meaningful; (2) participatory and democratic so that students can influence the programme; (3) support learning and (4) co-creating knowledge.

The salutogenic environment created in the course facilitates learning by doing and experiencing for both participants and tutors. Participants of the summer schools get an opportunity to collaborate in an international context and together design international projects and programmes which are based on salutogenic principles.

Each summer school has an overall theme that is chosen by the host (see Table 7.1 with titles of all courses since 1991). Throughout the summer school, the focus is on creating a programme that fosters interaction and participation between participants and tutors. This lifelong learning experience is a key strength of ETC.

Based on the pedagogic principles of cooperative and interdisciplinary learning (Hernandez, 2002; Morse et al., 2007), we focus on student-centred participatory methods. Learning occurs through the process of (self-)exploring, listening, reflecting and engaging in dialogue with other professionals (participants and tutors) with broad and diverse social and cultural backgrounds. ETC-PHHP promotes an approach to facilitate learning that applies the salutogenic model of health to practice (ETC-PHHP Team 2016).

The Summer School Programme

The summer school is structured in two parts: a preparatory distance learning element and a 2-week residential summer school.

On average, 30 participants and 10 tutors are involved (a total group of 40 persons). The distance learning element was introduced in the 2000s. During this time, the distance learning element focused primarily on knowledge, knowledge application and critical appraisal. In the second decade with our shift towards competences, we started to integrate critical reflections of personal and professional experiences and perspectives linked to conceptual discussions and best practice analyses. The results of the distance-learning assignments are then discussed in small groups during the residential summer school to support the meaningfulness of

Table 7.1 Topics addressed in the summer schools (1991–2020)

1991	Valencia: Healthy lifestyle
1992	Gothenburg: Promoting the health of children and youth in Europe
1993	Valencia: Settings for health promotion
1994	Liverpool: Strategies for health in Europe
1995	Prague: Networks and collaboration for health promotion
1996	Prague: Innovation in education and training for the new public health
1997	Cagliari: Health promotion and research
1998	Wageningen: Participatory methods in health promotion
1999	Liverpool: Health and health care
2000	Zagreb: Back to the future: From principles to practice, from practice to visions
2002	Valencia: From public health to new public health and health promotion
2003	Cagliari: Community participation and intersectoral collaboration[a]
2004	Galway: European perspectives on promoting health and well-being[a]
2005	Perugia: Rethinking health promotion in a changing Europe[a]
2006	Zagreb: Sailing across new seas – Capacity building for health promotion action[a]
2007	Wageningen & Dusseldorf: Reducing health inequalities – Evidence for community action[a]
2008	Bergen: Health in all policies[a]
2009	Cagliari: Exploring salutogenic pathways to health promotion
2010	Magdeburg: Building civil society for health[a]
2011	Croatia: Strategies for health in Europe: Health in a lifecourse perspective
2012	Wrexham: Assets for health
2013	Girona: Building bridges – Creating synergy for health
2014	Rennes: Mobilising local health promotion systems for equity
2015	Cagliari: Creating salutogenic environments: Health promoting universities, schools, hospitals, cities & workplaces
2016	Wageningen: Health & place: Connecting people, environment and health
2017	Alicante: Public health assets: Mapping and mobilising health assets
2018	Perugia: Lifecourse health development: Empowering people and settings
2019	Girona: Implementing sustainable development goals for healthy local governance
2020	Lodz: People centred health promotion from local, national and European perspectives[b]

[a]in collaboration with Europan Master in Health Promotion project (EUMAHP)
[b]Cancelled due to COVID-19. As an alternative, an online Concha Colomer symposium was held on the 20th of July 2020

this learning activity. A total of 8 European Credit Transfer and Accumulation System (ECTS) credits can be earned: 4 for the distance learning and 4 for the residential summer school.

Since 2011, the residential part starts with the 'Concha Colomer Symposium', a local conference or seminar open to a broader audience of professionals and academics in the field of health promotion. Concher Colomer is one of the founders of ETC and was Director of the Valencian IVESP (Valencian Institute of Public Health Studies, currently known as the Valencian School of Public Health (EVES)). She passed away in April 2011. The annual symposium is a tribute to her contribution to ETC and the field of health promotion. It sets the scene for the 2-week residential summer school. The symposium provides international participants with the opportunity to connect with the local public health and health promotion experts, politicians and international guest speakers. The symposium consists of a few keynote lectures as well as open space sessions to discuss the summer school's theme with public health and health promotion experts from the hosting country also.

The residential summer school programme is divided into morning and afternoon sessions. The mornings consist of plenaries and the afternoons of group work. In the plenary sessions, we give short lectures followed by activities that stimulate discussions and interaction to enable the integration of knowledge and experience of both tutors and participants.

Knowledge is understood as the result of a constant co-production of everybody involved. The afternoon sessions are dedicated to group work. Here, participants work collaboratively on an international project in heterogeneous groups. Group members differ in gender, age, home country and experience. The combination of learning activities enhances comprehensive learning, understanding and the development of core skills in health promotion practice.

At the end of the first week, a local field visit is organised to experience and discuss local health promotion projects in practice. In 2019, we, for instance, visited the town Torroella de Montgrí, which shared how they work with an asset-based approach and how they were experts in asset mapping.

Following the Principles of Health Promotion

One of the five principles of health promotion is to actively involve the population (Ashton & Seymour, 1988). For this reason, during the summer course, the voice of the participants is included in all the sessions, especially in country profile presentations and the photovoice session.

In the country profile presentations, the participants, grouped by countries, present the state of the art of health promotion in their countries and illustrate this with examples of their research or practice. This inductive approach starting with personal experiences leads students to general concepts, content and knowledge (Hofmeister, 2011). The discussion about these experiences during the face-to-face summer school with fellow students integrates this personal approach in a wider international and social context.

Since the 2015 summer course experience in the United Kingdom, the consortium decided to integrate the everyday life of the communities of the town, which hosts the summer school through a photovoice session. Photovoice is defined as 'a process by which people can identify, represent and enhance their community through a specific photographic technique' (Wang et al., 2000). Participants are asked to take a picture in the host city representing an asset which, according to them, promotes health. They also are asked to describe their perspectives or feelings about the picture in one sentence. This activity helps participants to see and observe similarities and differences between their community and that of another country using the lens of a health promoter. Usually, the pictures are presented in an exhibition for the local municipality or community as a gratitude for their hospitality. For the municipality, the results of the photovoice activity bring them international feedback on their local health promotion policies.

Another important goal of health promotion is to make it easier for people to make healthy choices. Several barriers, both within individuals and within their physical and social environment, can hamper the possibilities to make such healthy choices. This goal is not only facilitated by the host of the summer school offering healthy food, sports facilities and sustainable transport but also by participants who organise social activities such as walks after lunch, physical exercises during sessions or salsa classes to show some examples to facilitate healthful choices that can be applied in their home institutions. Also, the field visits usually provide examples in this respect.

Salutogenesis

Salutogenesis introduces two fundamental concepts: the general resistance resources (GRRs) and the sense of coherence (SOC). GRRs are those resources that help a person or a system to avoid or to counteract a wide variety of stressors (Antonovsky, 1979; 1987). GRRs can be found not only within people as resources bound to their person and capacity but also within their immediate and distant environment, and can be both material and non-material (Lindström & Eriksson, 2010).

Health promotion professionals are expected to play an important role in helping people to learn how to recognise and use their GRRs and available SRRs to cope with stressors, and to strengthen their SOC (Super et al., 2015). This is central to the course, especially when some difficulties appear during the course, such as the feeling of time pressure to finish the group work or difficulties because of cultural differences in the way of working. The tutors and also the participants develop skills and abilities to talk about these difficulties and cope with challenges to mobilise the resources of the individuals or the group. These reflection processes strengthen the SOC of groups as well as of individuals.

If people can identify such resources in themselves or their immediate surroundings at their disposal, there is a better chance for them to deal successfully with the challenges of life. GRRs open up the possibility for people to construct coherent life experiences. More important than the resources themselves, however, is that the individual has developed the ability or capacity to recognise, use and re-use the resources for the intended purpose, which helps to improve health and well-being. A strong SOC facilitates this ability.

According to Lindström, the salutogenic model could become a lens for reading and co-constructing a learning/teaching process. Following this perspective, the course design is developed following the idea that students are active and participating subjects, who shape their lives and learning experiences through their SOC. As a consequence, a salutogenic learning model not only demands methods that support the acquisition of health promotion knowledge and competence but also other competencies in navigating lifelong learning, such as narrative skills, problem-solving, guidance and reorientation, self-assessment and the communication of emotions. In other words, learning experiences should balance previous experiences with what is learned and what could be shifted into future practice (Garista et al., 2019). This salutogenic course design privileges learning and teaching methods capable of giving voice to all aspects of human experience. Visual and expressive methods support the use of verbal techniques to balance cognition and embodied cognition in knowledge building, from team-building activities to participatory evaluation sessions. During the long story of ETC, several methods have been explored and then introduced into the course, showing all possible dimensions that could generate knowledge about health and quality of life: narratives, art performances, senso-biographic walking, drawings and cinema. All these methods become useful and make sense only within a meaningful relationship between tutors and students. A salutogenic approach for

learning requires not only the general competencies of the tutors but also the co-creation with the participants (Eriksson, 2019). During the summer school, the synergies between all participants permit to create a collective sense of coherence. Participants, for example, present tools they work within their own country and discuss what the use of these tools in another context can mean. Taking into account the dimensions of SOC, it is possible to establish some parallels with the creation of this salutogenic ambiance of learning. Comprehensibility is related to a person's capacity to transform stimuli into information about what is being experienced or perceived that is meaningful, orderly, consistent, structured and clear. The ETC summer school offers a participatory and transparent type of management, gives clear and detailed explanations of the programme and activities to the participants and looks for creative strategies to solve problems. Manageability refers to the individual's perception of the available resources and their adequacy to meet daily demands. During the summer school, mutual trust between participants and tutors is key. There is a relaxed atmosphere that everything will be fine, and knowledge and resources contributed by each person are considered to support the course. However, the most fundamental idea is the thought that difficulties are not considered an individual problem but a collective opportunity that requires collective solutions. Meaningfulness indicates the extent to which a person feels that life makes sense emotionally and, despite the problems and difficulties, is sufficiently motivated to put effort into confronting them. The ETC consortium has a vision based on human rights and equity, which gives the overall activity a high level of meaningfulness. Personal involvement, strong motivation and team building create group synergy. Apart from a team-building session, the morning sessions include activities to increase the feeling of belonging.

While developing the programme for each summer school, including the distance learning element, we aim for a high level of coherence. Each element is discussed in its relevance for the overall theme and how it is connected to other parts of the programme so that the result is a comprehensible, manageable and meaningful narrative for participants, tutors and the hosting community.

Assets

Salutogenesis focuses on health rather than on disease. Morgan and Ziglio (2007) defined assets as any factor or resource that enhances the capacity of individuals, communities and populations to maintain health and well-being. It highlights the positive abilities of each person and their capacities to identify problems and enable solutions to increase self-esteem and leadership in individuals or communities (Morgan et al., 2010). The summer school has an asset orientation; that is to say, the course draws on all those assets provided by the host, the city, the participants and the tutors. Therefore, the first competence that the summer course aims to train is to be attentive to discover the assets of oneself and of other people from different communities, spaces and places. After this, the aim is to develop the competence of creativity to discover where this asset can fit for the benefit of the collective. For this reason, it is a dynamic and flexible course that can adapt to the interest, needs and assets of the members of it.

The assets of the participants are mobilised through a tools session, in which they present useful tools, the country profiles and the group work. Group work can be considered as 'cooperative learning' or 'team learning'. It is about the creation of cooperative structures that are effective in promoting high-level thinking and learning in a group (Kennedy & Vaandrager, 2011). Effective group learning is based on the principles of using the power of the team to encourage students to accomplish the learning objectives (Hernandez, 2002). In all these activities, the participants use their assets, are empowered and discover other assets to mobilise them for the team effort. Simultaneously, these activities develop a sense of community and usually a collective asset mobilisation.

The assets of the hosts are also mobilised. The summer school is organised in a different place every year as each host has different assets to explore. These assets include the multiple and diverse connections to the locality, or regional structures and the stakeholders involved in the course but especially in the Concha Colomer Symposium and the field visit. The Concha Colomer Symposium includes a theoretical introduction of the summer school's theme and, at the same time, some good practices of the host community. The field visit allows participants to observe how to apply the theme in reality and discover new visions or different ways of working with and for the community.

The competences, knowledge and skills of tutors and especially their experience are essential assets for the course. Their assets are shared during formal sessions or taking a coffee break in the canteen, or walking to the accommodation. Participants and tutors are equal, the course is transversal and this fact permits co-creation. This way of working and how things are addressed is appreciated by participants and the host institution, and facilitates salutogenic practice, research and policy.

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Part II

Key Concepts in the Salutogenic Model of Health

Key Concepts in the Salutogenic Model of Health

8

Monica Eriksson

Part II starts with a description of the theoretical framework of the salutogenic model of health, with special focus on the key concepts and reflection on the ontological and epistemological background of the health model, which so far is little explored and described (Chap. 9). Essential in the salutogenic model of health is the understanding of health as a process in a continuum, the health ease/dis-ease continuum. This is described and explained in the chapter. Some evidence of the relationship between sense of coherence (SOC) and health is presented.

In Chap. 10, the focus is on how the SOC influences stressor appraisal, positively as well as negatively. The processes of stimulus appraisal have a central place in salutogenic theory, even if they have received relatively little theoretical and empirical attention since Aaron Antonovsky's extensive treatment of stimulus appraisal in *Unraveling the mystery of health: How people manage stress and stay well.* The chapter aims to elevate researchers' appreciation of stimulus appraisal as Antonovsky's little-tested answer to three key questions: How does the SOC concept link to coping behavior, what is the mechanism that makes the connection, and what is the black box in between?

In Chap. 11, measurement issues are addressed concerning Antonovsky's original SOC questionnaires of 29 items and of 13 items, as well as several modified translations applicable at the individual, the family, the organization, and the community levels. Validity (face, construct, consensual, criterion, and predictive) and reliability issues (test-retest and internal consistency) of the scales are discussed. Criticism of the original scales is deliberated.

Chapter 12 presents and discusses theoretical considerations and empirical findings regarding the concepts: generalized resistance resources (GRRs) and generalized resistance deficits (GRDs). Recent research findings are presented, showing how these resources or deficits impact the SOC. Suggestions for future research directions (e.g., individuals' differential susceptibility to environmental effects and eudaimonia/hedonia perspectives) and interventional implications are presented.

Chapter 13 discusses conceptual and concrete differences between generalized and specific resistance resources in the salutogenic model of health. It is important to distinguish between the two types of resistance resources to ensure that health promotion pays attention to both types. Specific resistance resources have as much or more relevance to health promotion practice as do generalized resistance resources. By drawing attention to the nature of specific resistance resources, one also draws attention to what should be a main aim of health promotion.

The part editor has devoted herself not only to producing overviews of salutogenic research but also to deepening knowledge of how the theory and the model of health developed subsequent to Antonovsky's seminal contributions. Salutogenesis has become the air I breathe! Certain trends in salutogenic research are evident:

- The translation and validation of the SOC questionnaires to languages other than English.
- The use of the SOC questionnaires in studies with an ever widening range of endpoints.
- An increasing appreciation that the salutogenic model has utility at the level of social theory (something more than a model).
- A growing interest in developing interventions aiming to strengthen the SOC among patients and professionals.
- The use of SOC questionnaires in evaluating the effectiveness of interventions.

Perhaps the most obvious trend is the burgeoning interest in salutogenic research as judged by the expanding literature. A search in PubMed (January 2020) using the terms salutogenesis and/or sense of coherence identified about 3000 pub-

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lished papers. Searching in the largest online library, WorldCat, more than 1200 doctoral dissertations on salutogenesis were identified. Most of the research effort has included a focus on the measurement of the SOC using the long and short versions of Antonovsky's Orientation to Life Questionnaire in a broad range of patient groups, community samples, and samples of age groups from young to old. As interest in using the SOC questionnaires has steadily increased, they have been translated into many different languages worldwide (see Chap. 11, Fig. 11.2), and this trend continues today.

The SOC questionnaires are used today in a much wider range of research areas compared to the early years. Examples of new areas are oral health, health behavior, and work and organizational life.

A particularly welcoming trend is the tendency to move from only measuring the SOC to applying salutogenic principles in health promotion practice, and in programs and interventions in various community settings.

Also notable is the trend in recent years to use SOC questionnaires to evaluate the effectiveness of interventions and health promotion programs. In many studies, an increase in SOC scores has been interpreted as due to successful intervention. Such conclusions are overly not really warranted as yet because we do not know the degree to which an increase in the magnitude of SOC scores may be due in part to normal fluctuations in the SOC, or other as-yet-unmeasured confounding factors.

There is much progress, but still, much work to do. There is an urgent need for new salutogenic instruments measuring human resources, which in turn could contribute to the development of the theory. Salutogenesis can be seen as an umbrella concept, and here a completely new world opens up to explore the relationship between related concepts and the SOC. Finally, educational sciences have the challenge to explore how an education approach can foster the strengthening of the SOC at the levels of the individual and in social groups.

The Sense of Coherence: The Concept and Its Relationship to Health

9

Monica Eriksson

Introduction

The aim of this chapter is to describe briefly the theoretical framework of salutogenesis with a focus on the key concepts, the sense of coherence, and the generalized and specific resistance resources. This chapter begins with reflection on the ontological and epistemological background of salutogenesis, which is not particularly described and explained to any significant extent in the publications by Antonovsky (1979, 1987). Next, health as a process is described by starting from Antonovsky's definition of salutogenesis as a movement toward the health end of a health continuum. The chapter ends with some evidence of how the sense of coherence impacts health and well-being.

The Ontological Background

Ontology is the study of reality (Heil, 2005). What do we know about the ontological background of salutogenesis? In his second book, *Unraveling the Mystery of Health* (1987), Antonovsky described how he perceived the world. Two important things stand: (1) he saw man in interaction with his environment and (2) chaos and change is a normal state of life. The former calls for system theory thinking where the focus is on the individual in a context (Antonovsky, 1985). By the latter, he perceived daily life as constantly changing; a heterostatic as opposed to a homeostatic state. For the individual, the challenge is to manage the chaos and find strategies and resources available for coping with the changes in everyday life. As a medical sociologist, this was a natural way for Antonovsky to perceive the world: seeing humans as part of a larger context.

At the beginning of the 1990s, Aaron Antonovsky published an article about the six C's: complexity, conflict, chaos, coherence, coercion, and civility (Fig. 9.1). Here, he expressed how he looked at society and the human being in that context (Antonovsky, 1993a). As a medical sociologist, he distinctly expressed systems theory thinking. He saw the individual in interaction with the environment and context. He stressed that the salutogenic theory and its key concept, sense of coherence, can be applied at a collective level, and not only with a focus on the individual level.

Complexity, according to Antonovsky, related to how a system is organized:

> Complexity refers to the level of organization of a system. This level both sets the problems and provides the potential, interacting with sub and suprasystem, for the system to maintain a dynamic steady state. Such a steady state is one way of defining health. (Antonovsky, 1993a, p. 969)

Complexity may lead to conflicts, the greater the complexity, the deeper the conflicts. He especially mentioned conflict between civilizations:

> Conflict refers to internal tensions of the human being, to tensions between persons, to tensions between the individual and the suprasystems of which she or he is a part, and to tensions between or among such suprasystems. (Antonovsky, 1993a, p. 970)

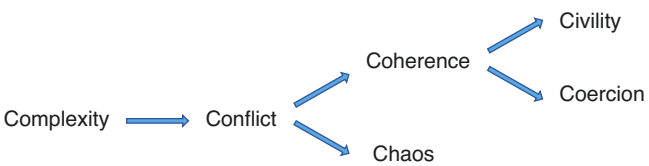

Fig. 9.1 The six C's—an ontological perspective on salutogenesis. (Reprinted from Antonovsky (1993a), with permission from Elsevier. https://www.sciencedirect.com/journal/social-science-and-medicine. All rights reserved)

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Complexity also offers opportunities for different and flexible choices, possibilities for adapting to change, and possibilities for systems (communities) to reorganize themselves. Conflict leads to tension; therefore, how a community deals with this tension and avoids stress is crucial. Chaos can be exemplified as violence and war, and the image of young men and women equipped with weapons trying to solve conflicts with even more violence, senseless and unpredictable violence (Antonovsky, 1993a, p. 972). The difficulties in resolving conflicts go from a societal level to the group level, to families torn apart, and where children, women, and the elderly are particularly vulnerable. As opposed to this chaos, Antonovsky raised another way to go, to coherence. Sense of coherence is the term he introduced as an opportunity to manage and adapt to a life of chaos. Two important dimensions in Fig. 11.1 remain to be explained: civility and coercion.

Civility is one of the values of salutogenesis, a value that informs how we relate to other people, how we look at them as either people with different strengths and abilities or people with flaws and shortcomings. Civility is about respect toward other people and about the humanity we communicate. Antonovsky discussed humanity and values in terms of respect toward other people, or to use his own words, "*The key lies in a society and in people who care about each other*" (Antonovsky, 1993c, p. 2). The opposite of civility and respect is coercion. A society based on respect for people also requires restrictions against domination, oppression, and poverty (Antonovsky, 1993a, p. 973). More recent research in the salutogenic field highlights a new concept of reasonableness (Boström et al., 2014; Kaplan & Kaplan, 2003, 2011), which brings together the supporting factors in the environment of perceived health and well-being in a particular model, the reasonable person model. Kaplan and Kaplan (2003) describe how people are more respectful, cooperative and more contented in situations where the environment supports their basic information needs. The model focuses on how people are interdependent. It emphasizes three dimensions that contribute to civility, namely a curiosity to explore and understand, meaningful activities, and recovery. The concept of reasonableness has similarities with the dimensions of the sense of coherence: comprehensibility, meaningfulness, and manageability.

The Epistemological Background

Epistemology is the study of knowledge (Audi, 2011). Going back to Antonovsky's two books, *Health, Stress and Coping* and *Unraveling the Mystery of Health*, one can find little insight into how he considered knowledge and learning. As far as this author knows, he did not manifest an epistemological basis for salutogenesis, neither describing his view of how knowledge in general arises nor how learning is meaningful in the salutogenic framework. It appears that he was preoccupied with examining and describing how a strong sense of coherence may have an impact on perceived health. A search in different databases provides little response. However, others have focused on knowledge and learning aspects of salutogenesis related, for example, to the education of children with special needs (Lindström, 1999) and children with learning difficulties (Lackaye & Margalit, 2006; Margalit & Efrati, 1996).

More generally, Nilsson and Lindström (1998) describe how learning can be considered a health promotion process, not only to learn about health but that the learning process also promotes health. By combining educational theories and salutogenesis, they describe "the salutogenic school" (Antonovsky, 1993c, p. 5), achieved by creating meaningful learning situations, clear structures for curricula and the school work, with dedicated teachers supporting each other and the students, and being role models.

Boström and Lassen (2006) point out the importance of giving space for individual ways of learning and different learning strategies. Individual learning styles create opportunities for students to find meaning in school. A new concept that describes learning as a health promotion process is "healthy learning" (Lindström & Eriksson, 2011). This can be applied in research supervision, exemplified through "The Collegial Model," as a mutual learning process (Eriksson, 2018). It means to move on from traditional health education through to increased health awareness (health literacy), and on to learning which promotes health (Lindström & Eriksson, 2011; Quennerstedt, 2006; Quennerstedt et al., 2010). As an example, the curriculum for health education in Australia has recently been revised and now adopts a strength-based (salutogenic) approach (Macdonald, 2013; McCuaig, Quennerstedt, & Macdonald, 2013). The curriculum focuses on promoting sound health habits instead of the earlier focus on avoiding health risks. Health is understood as a multidimensional concept including physical, social, mental, and spiritual health. Health is regarded as a lifelong dynamic process with people as active participants in a context. Finally, health is seen not as an end in itself but as a means to live a good life (McCuaig et al., 2013, p. 113). As another example, from Germany, an attempt to apply salutogenesis didactically in education is the "team ombuds model" (tOm) (Mayer & Boness, 2011), developed to promote the sense of coherence and cross-cultural competence among students and teachers.

More recent research has explored the moderating and mediating roles of learning within the relationship between sense of coherence and generalized resistance resources

among employees working in the healthcare sector in the Netherlands (Pijpker et al., 2018). They found that the relationship between SOC and the GRRs seems to be strengthened or explained by instrumental and social learning. Instrumental learning moderated the relationship between job control and SOC.

Epistemologically, salutogenesis can be conceived as a constant learning process (Fig. 9.2), supporting movement toward health (and other desired aspects of one's existence) via improving health literacy: knowledge supports health literacy, which supports development in the ways one relates to one's world. The process of relating to others produces learning, and the knowledge gained from practice expands one's area of knowledge. In the course of daily life, this integrated learning process is continuous. The concept of work integrated learning (WIL) is a new concept describing distinctive aspects of pedagogics and learning processes in healthcare settings (Pennbrant & Svensson, 2018).

Health as a Process

According to Antonovsky, health is movement on a continuum of ease and dis-ease (Antonovsky, 1993b). He referred to the ability to comprehend the whole situation, and the capacity to use the resources available, as the sense of coherence. This capacity was a combination of peoples' ability to assess and understand the situation they were in, to find a meaning to move in a health-promoting direction, also having the capacity to do so—that is, comprehensibility, meaningfulness, and the manageability, to use Antonovsky's own terms (Lindström & Eriksson, 2005). In such an approach, no one is categorized as healthy or diseased. Since we are all somewhere between the imaginary poles of total wellness and total illness, the whole population becomes the focus of concern. Even the fully robust, energetic, symptom-free, richly functioning individual has the mark of mortality: he or she wears glasses, has moments of depression, comes down

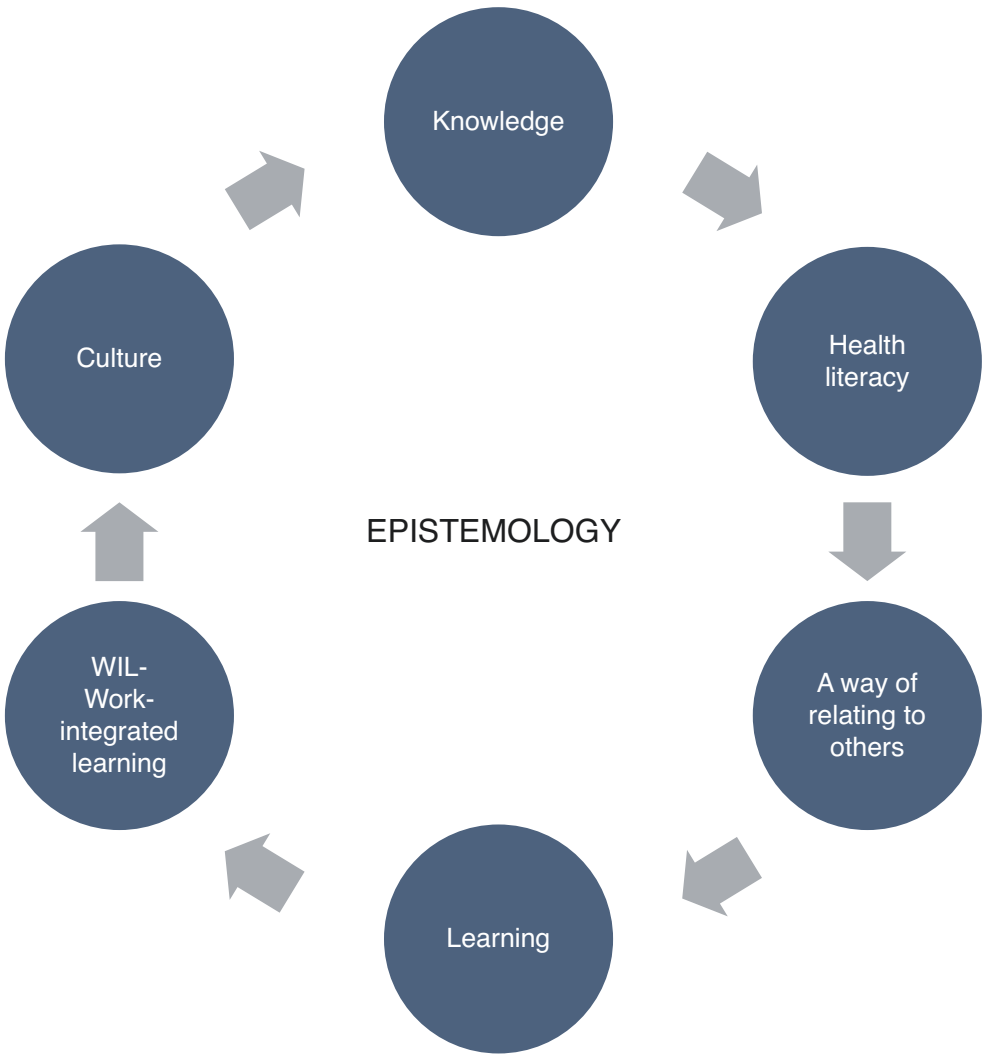

Fig. 9.2 Salutogenesis from an epistemological perspective

with flu, and may also have as-yet nondetectable malignant cells. Even the terminal patient's brain and emotions may be fully functional. The majority of us are somewhere between the two poles. Priority in health service is justly given to those at the sicker end of the continuum. However, in our thinking and our research, we should ask: "How does a person—wherever he or she is on the continuum—move toward the healthy pole?" (Sagy et al., 2015). The idea of movement along an ease/dis-ease continuum is illustrated in Fig. 9.3.

Antonovsky assumed that we continuously are exposed to changes and events that may be considered as stressors. This may involve major life events such as when someone in the family falls ill, changes in the family (e.g., a divorce), or changes in the workplace (organizational changes or unemployment). Previous research shows that such major life events affect health (Folkman, 1984). They can reduce health temporarily but can also in the longer-term strengthen us in a way that makes it possible for us to manage stress. The adverse life events have even given us experiences that can be used in other similar situations.

Antonovsky discussed the theories behind stress and coping extensively. He particularly rejected the thoughts behind Lazarus' cognitive theory on stress and coping as well as theories of life events (Lazarus & Folkman, 1984). According to Antonovsky, the assumption behind these theories was life in balance, that is, a homeostatic life. A disturbance was assumed to damage the balance and damage health and well-being, that is, a pathogenic view of life. Furthermore, traditional theories on stress and coping are mainly focused on the concept of control. In salutogenesis, the emphasis is on the person's ability to use generalized resistance resources, both internal and external, at disposal to manage ubiquitous stressful situations. The actual starting point, according to Antonovsky, is that life is a chaos in which we must constantly relate to change. It becomes vital how we can manage this chaos. This is the salutogenic view of stress and coping, according to Antonovsky:

> *… life is inherently full of stressors, with life-situation stressor complexes by far deserving most of our attention of we wish to understand either health or disease. Focusing on health, I expressly rejected the implicit assumption that stressors are inherently pathogenic. Their health consequences can only be understood if we understand the coping process.* (Antonovsky, 1992, p. 48)

Three potential reactions and outcomes of stress are as follows: (1) being neutral against the stressors, (2) being able to manage stress for the movement toward the health end, and (3) being unable to manage stress which leads to a breakdown expressed in terms of diseases and death (Antonovsky, 1987). In the case of events that do not concern us as much, that is, daily hassles to use the words by Antonovsky (1987), we can remain neutral to them, since they do not affect health in any significant way. However, if it is a question of events that we cannot manage, we become ill, or we mobilize internal and/or external resources around us, allowing us to deal with what happened and move in the direction of health.

Generalized and Specific Resistance Resources

Along with the sense of coherence, a key concept in the salutogenic model is resistance resources (Antonovsky, 1979, 1987), including generalized resources (potentially available for engagement in a wide range of circumstances) and specific resources (particular resources relevant to particular circumstances). Since the subject of resistance resources is dealt with in detail in several chapters in Part II of this book,

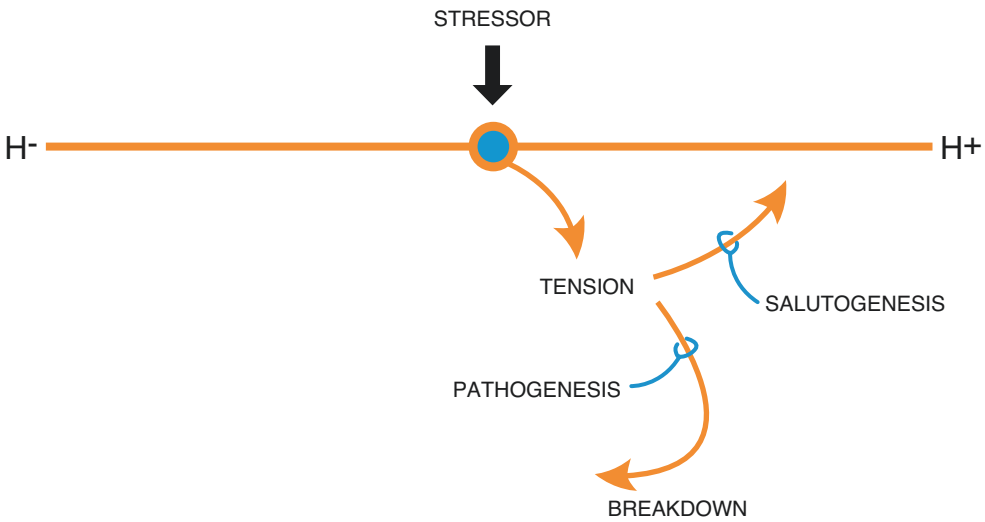

Fig. 9.3 The ease/dis-ease continuum (Antonovsky, 1979, 1987). Graphic: Bengt Lindström, Monica Eriksson, Peter Wikström (Lindström & Eriksson, 2010)

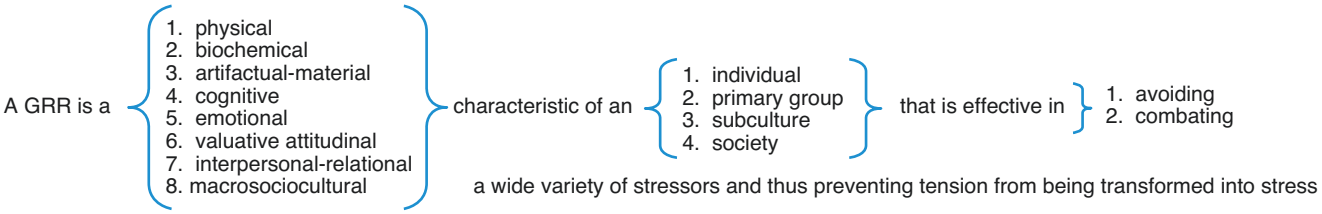

Fig. 9.4 The definition of generalized resistance resources. (Antonovsky, 1979, s. 103)

only a few comments are offered here, with particular attention to the relevance of resistance resources to the main subject of this section "Sense of Coherence".

Generalized resistance resources are the cornerstones in the development of a strong sense of coherence. They are diverse: genetic and constitutional, psychosocial, cultural, spiritual, material, and a preventive health orientation (Lindström & Eriksson, 2005). Resistance resources exist at the individual, the group (family), the subculture, and the whole society levels (Antonovsky, 1979, p. 103). Antonovsky's formal definition of generalized resistance resources is given in Fig. 9.4.

Research on the role of generalized resistance resources in building the sense of coherence is still scarce. Early research (Antonovsky, 1991, cited in Sagy & Antonovsky, 1999, p. 256) showed that three factors seemed to be particularly important for developing a strong sense of coherence: consistency, balance between under- and overload, and the opportunity to participate in decision-making affect one's situation. The question of which resistance resources are involved in building the sense of coherence has received some attention:

- A Finnish study examined the importance of generalized resistance resources such as cognitive ability, marital status, level of family income, the length of formal education, and physical activity for the development of a strong sense of coherence among Finns aged 65–69 years (Read et al., 2005). The results showed that cognitive ability and physical activity were related to the sense of coherence, which in turn was associated with good social and mental health.
- A qualitative Swedish study of caregivers to older adults aimed to illuminate generalized and specific resistance resources against caregiver stress; it identified the panoply of negative and positive experiences of caring for a relative as a particularly salient resource—"caregivinghood," as in the sense of "parenthood" (Wennerberg et al., 2012; Wennerberg et al., 2016; Wennerberg et al., 2018; Wennerberg et al., 2019).
- Through a thematic analysis of the work by Antonovsky and more recent research, Griffiths, Ryan, and Foster (2011, p. 170) identified 15 general resistant resource themes: (1) structure in life, (2) predictability in life, (3) social support, (4) coping strategies, (5) life meaning, (6) responsibility, (7) comprehension, (8) expression of confidence, (9) challenges worth investing time and effort, (10) health/illness, (11) future orientation, (12) past orientation, (13) positive, solution-focused outlook, (14) emotional connection, and (15) ensuring that you are justly treated. No resource-related theme emerged that did not fit the sense of coherence concept.

Sense of Coherence

Antonovsky initiated a study among different ethnic groups of women in Israel to investigate their menopausal symptoms, that is, a traditional epidemiological study from a risk perspective (Antonovsky, 1987). He interviewed them about perceived health, and also about various life events affecting them, such as losing their eyesight, loss of husband/wife, amputation of the leg/arm, or to have suffered a serious illness (Antonovsky, 1983). After analyzing the interviews, he found that 29% of the women reported good health, although they survived the Holocaust. Antonovsky raised the question of how it could be possible that women may experience good health despite experiencing the Holocaust. It led him to focus on this small number of respondents, and a search for their health resources. This was the start of Antonovsky's paradigm shift from pathogenesis to salutogenesis.

Based on the interviews with the Israeli women, an important factor emerged: the sense of coherence. The sense of coherence reflects a person's view of life and capacity to respond to stressful situations. It is a global orientation to view life as structured, manageable, and meaningful. It is a personal way of thinking, being, and acting, with an inner trust, which leads people to identify, benefit, use, and reuse the resources at their disposal (Eriksson & Lindström, 2006). Sense of coherence consists of three elements: comprehensibility, manageability, and meaningfulness. The original definition by Antonovsky (1987) is as follows:

> a global orientation that expresses the extent to which one has a pervasive, enduring though dynamic feeling of confidence that (1) the stimuli from one's internal and external environments in the course of living are structured, predictable, and explicable;

> (2) the resources are available to one to meet the demands posed by these stimuli; and (3) these demands are challenges, worthy of investment and engagement. (p. 19)

It is also about one's own ability to identify one's internal and external resources and use them in a way that promotes health and well-being (Eriksson & Lindström, 2006). Further, it is a way of thinking in terms of peoples' resources, and even a way to work, to meet and treat other people. It is also important to understand why and how resources work. This has been further examined in a Norwegian qualitative study using a grounded theory approach (Maass et al., 2017). They investigated how neighborhood resources may contribute to the development of a strong SOC. They found that a strong SOC can be described as a deeper understanding of how and why resources work, which allows for more flexible use of resources. According to Antonovsky, sense of coherence is a life orientation. Koltko-Rivera (2004) defines life orientation as follows:

> … a way of describing the universe and life within it, both in terms of what is and what ought to be. A given worldview is a set of beliefs that includes limiting statements and assumptions regarding what exists and what does not. … A worldview defines what can be known or done in the world, and how it can be known or done. … What goals can be sought in life … defines what goals should be pursued.

It is to the nature of the life orientation that is termed "the sense of coherence" that this part of the book is devoted. Inevitably, the sense of coherence is also a theme, major or minor, in virtually every chapter of this book. The sense of coherence was Antonovsky's main interest in his study of salutogenesis, even if he encouraged research on all aspects of the salutogenic model. Following Antonovsky's wholehearted lead, succeeding generations of scholars have focused so much on the study of the sense of coherence that the salutogenic model is sometimes referred to as the "sense of coherence theory." While Antonovsky did not himself define the sense of coherence as a theory, it was his answer to the salutogenic question: what are the origins of health? He encouraged a search for other answers, but as this book reveals, most salutogenesis researchers have chosen to follow the path to the sense of coherence, the path that Antonovsky himself so doggedly trod. A new concept is suggested, sense for coherence (SFC), useful in connection with the implementation of salutogenesis in practice (See chapter Part VII Sense for coherence: An emerging concept for salutogenesis practice?).

Sense of Coherence and the Relationship to Health

A search in the Medline database as of September 17, 2019, shows that more than 1700 studies using some version of the SOC scale have been performed. The results show that a strong SOC is associated with perceived good health, particularly mental health. A systematic review of studies using the SOC questionnaire during 1992–2003 showed that a strong SOC protected against anxiety, depression, burnout, and hopelessness; was strongly and positively related to health resources such as optimism, hardiness, control, and coping; and predicted good health and QoL from childhood to adulthood. In other words, the stronger the SOC, the fewer the symptoms of mental illnesses (Eriksson & Lindström, 2006, 2007). The correlation with health ranges in general from slight to good, using instruments such as the General Health Questionnaire, the Health Index, the Hopkin's Symptom Checklist, and the Mental Health Inventory, with such health measures explaining up to 66% of the variance in the SOC-29 (Eriksson & Lindström, 2005). Galletta et al. (2019) examined the relationship between SOC and physical health-related quality of life in patients (n = 209) with chronic illnesses, focusing on the mediating role of the mental component of quality of life. The results showed that SOC was mainly associated with the mental health component of the quality of life, and after that, the physical component. Mediating analysis confirmed that SOC was directly related to the mental health component, but not to the physical one. They conclude that the findings give evidence for SOC as a psychological process that impacts mental health status, which in turn affects physical health.

The SOC is not a coping strategy but a coping resource dealing with stress connected to work-related stress (Palm & Eriksson, 2018), adverse life events, such as family breakdown (Richardson & Ratner, 2005; Ristkari et al., 2008), being a victim of sexual abuse (Priebe et al., 2010; Nilsson et al., 2015), violence in the form of bullying (Birkeland Nielsen et al., 2008), political violence (Abu-Kaf et al., 2017; Abu-Kaf & Braun-Lewensohn, 2019), and war (Veronese & Pepe, 2017; Braun-Lewensohn & Al-Sayed, 2018).

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Stressor Appraisal on a Pathway to Health: The Role of the Sense of Coherence

10

Maurice B. Mittelmark

Introduction

An extensive literature shows that the sense of coherence (SOC) is related statistically to a host of behaviours with implications for illness and health (Eriksson & Lindström, 2006, 2007; Mittelmark et al., 2017). To make sense of the statistical associations, we require research on the *mechanisms* by which the SOC is involved in health development (Super et al., 2016). What makes the connection? What is in the black box?

This chapter is about Aaron Antonovsky's answer: the SOC influences how a person *appraises and reacts to stressors*. This process occupies a critical place along the pathway from the SOC to behaviour.

We begin with definitions of two key terms (Antonovsky, 1979, p 72):

- A routine *stimulus* is one to which the organism can respond more or less automatically, which poses no problem in adjustment.
- A *stressor* is a stimulus making a demand from an organism's internal or external environment that upsets its homeostasis, restoration of which depends on a nonautomatic and not readily available energy-expending action.

Research reveals that the SOC develops during the entire life course (Silverstein & Heap, 2015), influenced by the accumulating experience of encountering, appraising and reacting to stressors, and experiencing sequela. How one experiences stressors today is, therefore, affected by how one experienced stressors previously. Which stressors one encounters, how one appraises them and how one reacts is recursive. For example, one's first encounter with a dog as a child can help determine if and how dogs will tend to be encountered in the future (one might be inclined to seek the companionship of dogs with joy, to shun them with fear or to ignore them). One's appraisal of and reactions to dogs, and the reactions of dogs, adds to one's accumulating experience. Feedback from experience is a critical factor in shaping one's future appraisals.

The resources one was able to engage while experiencing one's first dog (perhaps a parent's encouraging words) impacts one's appraisal, adds to one's accumulating coping resources and ultimately influences the development of one's SOC. One's store of general and specific resistance resources (GRRs and SRRs, see Chaps. 12 and 13) and one's ability to engage them in coping also develop. One's growing experience using resources affects the development of the SOC.

The Central Role of the Brain

Appreciative of the role of the brain in coping with stressors, Antonovsky wrote:

> Whether the source of the stressors is the internal or external environment, whether they are daily hassles, acute or chronic and endemic, whether they are imposed upon one or freely chosen, our lives are replete with stimuli to which we have no automatic, adequate adaptive response and in the face of which we must respond. The message to the brain… is clear: You have a problem. The nature of the problem is dual, consisting of (a) the problem-solving or instrumental issue and (b) the issue of the regulation of emotion. Tension, then, reflects the recognition in the brain that some need one has is unfulfilled, that a demand on one has to be met, and that one must do something if one is to realise a goal. (Antonovsky, 1990a, p. 35)

By 'problems', Antonovsky meant exposure to both unpleasant *and* pleasant stimuli that are salient enough to evoke appraisal (Antonovsky, 1990a, p 136):

- The worker just informed that she is to be laid off.
- The woman enduring sexual harassment from her boss.
- The woman giving birth to her first child.
- The person just promoted to a much more responsible position at work.
- The couple planning their wedding.

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Unpleasant or pleasant, a salient problem induces one to appraise one's situation.

As Antonovsky understood it, the appraisal process may be conscious, barely conscious and even subconscious, with multiple considerations simultaneously unfolding in a jumble, often with great rapidity:

> Although it has taken me many words to discuss the processes… this does not necessarily reflect the time span involved in confronting a stressor from its appearance until the moment one acts (or does not act) directly to deal with it. Nor is the process anywhere near as rational or cognitive as it may sound. The process may be most rapid and very largely unconscious. (Antonovsky, 1990a, p. 43)

The appraisal process leads to an appraisal outcome; do nothing or do something. We are bombarded continuously by stimuli that are salient enough to warrant appraisal, which is the nature of living (Antonovsky, 1987). What is meant by 'bombarded'? Consider the woeful student worrying over the exam next hour while cycling anxiously along a busy and dangerous thoroughfare to the university, uneasy about the threatening and lightning-filled storm clouds approaching from the horizon and feeling desperate about covering the week's rent, overdue for several days already.

A description of the student's appraisal processes defies neat arrow and box diagrams. A description of the student's appraisal *outcomes* is more feasible, and this is the subject of extensive stress and coping literature spanning three decades (Lazarus & Cohen, 1977; Lazarus & Folkman, 1984; Lazarus, 1984; Scherer et al., 2001; Feldman et al., 2004; Aldwin & Park, 2004; Cheng & Cheung, 2005; Sideridis, 2006; Searle & Auton, 2015). This rich and fascinating literature was an important background for Antonovsky's work, and he brought to it his unique perspective on the role of the SOC in coping with stressors.

Stimulus and Stressor Appraisal on the Pathway to Health

Antonovsky proposed that on the pathway to health, relatively strong- compared to weak-SOC persons tend to appraise and react to stimuli and stressors differently. In his writings, Antonovsky offered arguments for a series of propositions about how the strength of the SOC affects appraisal (Antonovsky, 1987, 1990a, 1990b, 1990c, 1992). In the section below, I refer to his propositions as hypotheses.

Antonovsky's most extensive treatment of pathways leading to health appeared in Chap. 6, *Unraveling the Mystery of Health* (1987). In a later chapter, he revised and updated material from the 1987 book (Antonovsky, 1990a). Here, we rely most on the 1990 publication, as it was Antonovsky's most advanced exposition on the role of the SOC in stimulus and stressor appraisal.

The idea of *stimulus and stressor appraisal stages* is of core importance in the stress and coping literature. Antonovsky's central contribution to this literature was to discuss how the strength/weakness of the SOC affects appraisal, action and reaction to feedback, at primary, secondary and tertiary stages (see Table 10.1). The right-hand column in Table 10.1 presents snapshots of Antonovsky's expectations (hypotheses) about how the SOC affects stimulus and stressor appraisal, and this is discussed in detail below.

H1 'The person with a strong SOC is more likely to define stimuli as nonstressors, and to assume that he or she can adapt automatically to the demand than one with a weak SOC. In this way, the former will not experience tension, nor see it transformed into stress'. (Antonovsky, 1990a, p 37)

Table 10.1 The role of strong compared to weak SOC in stimulus and stressor appraisal, action and reaction to feedback

Appraisal stage	Appraisal and coping processes	The strong-SOC person is more likely to…
Primary appraisal I Stimulus encountered that calls for focused consideration	Non-stressor (does not pose demands that exceed resources) or. Stressor (state of tension created).	Experience the stimulus as non-stressor. Assume that stimulus demands can be met 'automatically'.
Primary appraisal II Stimulus perceived as a stressor	Endangering one's well-being. Being positive. Being benign/irrelevant.	Experience the stressor as benign/irrelevant/positive. Feel confident that the tension will soon dissipate.
Primary appraisal III Stressor perception and regulation of stressor-induced emotion	Happy, non-conflictual and not dangerous. Unhappy, conflictual or/and dangerous.	Understand the instrumental coping challenge. Experience the stressor as happier, less conflictual and less dangerous.
Secondary appraisal Coping	Moves from perception to action.	Mobilise the most appropriate GRRs / SRRs.
Tertiary appraisal Feedback and learning	Experiences coping attempts and outcomes. Exposed to direct and indirect feedback.	Elicit feedback and assess it. Attend to signals. Be willing to change course. Experience that GRRs are strengthened. Experience that the SOC is 'fortified'.

Primary Appraisal I

H1 has hardly received empirical scrutiny. It is hard to conceive how quantitative research on the SOC and appraisal behaviour could uncover findings that support or refute H1. It seems that only qualitative research could produce the needed data, using in-depth interviews to document strong- and weak-SOC persons' lifelong experience, including instances of encountering stimuli that might, but do not necessarily provoke appraisal of a stimulus as a stressor. It is easy to think up a long list of such stimuli, but it is not easy to imagine how the researcher could account for context effects. Consider, for example, two drivers encountering a very busy roundabout while driving in heavy city traffic. Regardless of SOC, the driver on a casual Sunday drive might blithely disregard the potential stress in the situation, while the driver delivering his labouring wife to the hospital might well break out in a cold sweat. Regardless of what differences the researcher might find regarding SOC levels, the probable conclusion would likely depend on the context. If this cautious analysis has merit, we might just as well dismiss H1 as untestable.

H2 'The strong-SOC person, having considerable experience in encountering stimuli that initially seem to be stressors but soon turn out not to be problematic, without any particular investment of energy on his or her part, is more likely, at the primary appraisal-II stage, to define a stressor as benign or irrelevant, to feel confident that the tension will quickly dissipate" (Antonovsky, 1990a, p 37).

Primary Appraisal II

Primary appraisal II is invoked when stimuli are perceived as stressors

> '…endangering one's well-being, positive, benign or irrelevant… to perceive a stressor as benign or irrelevant is to define it as of little consequence for one's life… it is assumed that the tension will soon be dissipated'. (Antonovsky, 1990a, p 37)

However, Antonovsky warned of a potential downside of a strong-SOC person's tendency to define a stressor as benign or irrelevant. He mentioned delay in seeking medical treatment (a problem of global proportion, see Wechkunanukul et al., 2017) writing, *'there is a danger that the strong-SOC person will at times deceive himself or herself'*. Antonovsky equivocates, suggesting that self-deception is in some instances *less* likely to be the case for the strong-SOC, compared to the weak-SOC person, with the former tending to be more realistic in not worrying about tension-arousing stimuli (like chest and other pains that can be a warning of a heart attack).

This equivocation is equivalent to saying 'it depends' and complicates any effort to examine empirically H2. To the degree that a person's previous experience is a factor at the appraisal II stage, the researcher would wish to know the person's history. As a methodological issue, this suggests the importance of qualitative approaches to the study of Antonovsky's appraisal hypotheses to uncover information about the respondent's encounters with stressors that did and did not induce coping (see Chap. 54).

Antonovsky concludes his discussion of appraisal I and II provocatively, writing *that 'if, then, the strong-SOC person is advantaged…, such advantage is relatively unimportant'* because life is filled with stressors that cannot be shrugged aside.

Regarding the availability of data suitable to test H2 and the feasibility and importance of testing H2, we might well come to the same conclusion as for H1. It seems stress researchers have little interest in instances where a person can shrug off a stressor lightly. We might as well agree with Antonovsky that the proposition behind this hypothesis is 'relatively unimportant'.

Or we may wish to follow Amirkhan and Greaves (2003) in exploring Antonovsky's writings for new theoretical ideas about primary appraisal mechanisms that might explain the link between the SOC and health. They discuss three possibilities: perceptual, cognitive and behavioural mechanisms. As to perception, they suggest that:

> '…while all people sort stimuli according to intensity, size, shape, and other properties, perhaps those with a strong SOC also classify according to the perceived meaningfulness of the stimulus. When confronted with problems, then, strong SOC individuals might view some or all of these as coherent, while other people might simply not attend to this property'. (ibid, p 33)

They do not speculate how the differential perception of a stimulus by strong- and weak-SOC people might lead to different primary appraisal outcomes. However, they do discuss the possibility of a reciprocal relationship with the SOC influencing stimulus perception that influences the SOC that influences perception, and so on. As a result, over the long term, strong-SOC persons may be more likely to perceive coherence and meaningfulness *and* experience SOC strengthening.

Regarding cognition, Amirkhan and Greaves (2003) point out the possible relevance of attribution theory (Weiner, 2010), suggesting that attributes of stimuli are important in differentiating strong- and weak-SOC persons' appraisals. They mention the possibility that one attribution dimension is the degree of coherence of a stimulus' causes. Compared to weak-SOC persons, strong-SOC persons encountering a stressor may have the knack of analysing the degree of coherence among causes behind the stressor. Stressors judged to

have coherent causes may produce less emotional distress or more motivated responses.

Regarding behaviour, Amirkhan and Greaves (2003) point to the possibility that the SOC's strength determines at least partly coping choices, independent of the effects of appraisal processes. In other words, perhaps strong-SOC persons have a more marked propensity to focus on and rectify problems compared to weak-SOC persons.

A series of laboratory and field studies undertaken to explore these mechanisms revealed

> '…a perceptual process, that was pervasive and yet subtle in nature. A strong SOC seems to work much like rose-colored glasses that one has grown accustomed to wearing: Although not conscious of their presence, one still benefits by the pleasant tint that they provide'. (Amirkhan & Greaves, 2003)

Amirkhan and Greaves' (2003) idea about rose-coloured glasses indicates a subconscious level of stimuli engagement and not the conscious and near-subconscious levels that held Antonovsky's attention. This suggests a line of inquiry that may prove illuminating, although not directly relevant to this chapter's theme.

Even if the work just discussed does not directly address Antonovsky's hypotheses about stimulus appraisal, it may illuminate ways to improve coping effectiveness. Amirkhan and Greaves' (2003) ideas about perceptual, cognitive and behavioural primary appraisal mechanisms, and subconscious processing, are certainly deserving of further exploration.

Regardless of the SOC's strength, health benefits might accrue if one learns to deploy coping responses in a manner consonant with that of strong-SOC persons.

H3 The strong-SOC person is 'more likely to appraise a stressor as happier, as less conflictful, or less dangerous than one with a weak SOC'. (Antonovsky, 1990a, p 39–40).

Primary Appraisal III

Primary appraisal III is focused on how the strong-SOC person perceives and regulates the emotion induced by a stressor and apprehends the instrumental challenge of coping with the stressor.

This is a compound statement (happier, less conflictual and less dangerous); are underlying dimensions thought to link these appraisal possibilities? The answer seems to be no. One can easily imagine a questionnaire in which the respondent is asked to consider a particular stressor and rate it on three separate dimensions: happy-unhappy, conflictual-not conflictual and dangerous-not dangerous.

Antonovsky describes how a 'happy' stressor may arouse different emotions: two widowers meet attractive women; the widower with a strong SOC feels hope and excitement, while the widower with a weak SOC feels hopelessness and apathy. The differences in emotion feed differences in reacting instrumentally. Meeting the attractive woman is, in SOC terms, more meaningful to the strong- than to the weak-SOC widower, or as Antonovsky writes:

> 'The strong-SOC person perceives the same problems, but with greater clarity, more specificity, and more precise differentiation. The problems…are seen as more comprehensible and manageable…[and] as challenges rather than as burdens… The strong-SOC person, encountering a stressor, is more likely to be capable of introducing order and meaning into the situation… The strong-SOC person… has a head start. Before taking action, he or she has mobilised resources to confront the stressor. By contrast, the weak-SOC person, confused and devoid of the desire to cope, tends to give up at the outset'. (Antonovsky, 1990a, p 40-41).

Brady (2017) undertook a meticulous examination of appraisal *à la* H3. She studied 591 American graduate students with paid employment alongside studies and adults who were full-time employees working at least 34 hours per week. Brady administered the SOC-29 Orientation to Life Questionnaire (Antonovsky, 1993) and the Work-Related Sense of Coherence (Work-SOC) of Bauer and Jenny (2007). She also assessed the prevalence of 17 stressors in a participant's workplace, and administered scales measuring primary appraisal propensities (Searle & Auton, 2015) and threat (Feldman et al., 2004):

- *Challenge appraisal* of a stressor that opens for personally meaningful gain having the potential to engage the person (Cavanaugh et al., 2000).
- *Hindrance appraisal* of a stressor perceived to restrict or obstruct opportunities for personally meaningful gains or to interfere with work achievement (Cavanaugh et al., 2000).
- *Threat appraisal* of a stressor perceived as holding risk for personal harm or loss (Tuckey et al., 2015).

Challenge appraisal is somewhat akin to Antonovsky's happiness dimension. Hindrance appraisal is akin to Antonovsky's conflict dimension. Threat appraisal is to a reasonable degree akin to Antonovsky's danger dimension. Therefore, the measures of challenge, hindrance and threat appraisal in Brady's research are of some utility in exploring H3.

Brady hypothesised that (a) there is a positive relationship between SOC and tendency to appraise work stressors as challenges; (b) there is a negative relationship between SOC and tendency to appraise work stressors as hindrances and (c) there is a negative relationship between SOC and tendency to appraise work stressors as threats.

Her analysis of correlation coefficients among the SOC and the appraisal variables confirmed the hypotheses, both for the SOC-29 and the work-SOC measures. She concluded:

> …stronger SoC are more likely to appraise stressors as challenges and that individuals with a weaker SoC are more likely to appraise stressors as hindrances and threats. Similarly, the initial results suggest that individuals with a stronger Work-SoC are more likely to appraise stressors as challenges and individuals with a weaker Work-SoC more likely to appraise stressors as hindrances and threats.

Brady's structural equation modelling with the same data revealed thought-provoking findings on the SOC components comprehensibility, manageability and meaningfulness:

- Individuals who viewed their world as more comprehensible were less likely to appraise stressors in their work environment as challenges and as threats.
- Individuals who viewed their world as more manageable were more likely to appraise stressors in their work environment as hindrances.
- Individuals who viewed their world as more meaningful were less likely to appraise stressors in their work environment as threats.

These results on the SOC components are provocative since they do not take cognisance of Antonovsky's assertion that, from a theoretical standpoint, the SOC components are linked inextricably. Still, the findings on comprehensibility and meaningfulness seem to offer support to H3, while the finding on manageability does not. The overall pattern of results from this study does seem to support H3.

This study is of particular value because it included targeted stimuli appraisal measures, rare in the stress and coping and the salutogenesis literatures.

Other findings relevant to H3 come from a series of studies in Israel and Greece:

- Braun-Lewensohn et al. (2011) measured cognitive appraisal – feelings of danger – in 138 teenagers living in Southern Israel cities and villages in January 2009, a period of violent hostilities and missile attacks on the teenagers' communities.
- Braun-Lewensohn and Al-Sayed (2018) measured appraisals of danger in 110 Syrian adolescents, boys and girls, living in a European refugee camp for between 6 months and 2 years. Besides the experience of severe social disruption in Syria that resulted in relocation, these youth suffered the trials and tribulations of living an extended period as refugees.
- Braun-Lewensohn et al. (2019) measured cognitive appraisal (feelings of danger) in 110 Syrian refugee women (ages 19–70) living in a camp in Greece. In this study, individual SOC and community SOC (Braun-Lewensohn et al., 2011) were assessed.

The three papers just cited reported extensive and noteworthy findings on coping strategies and adaptation. But for the present purposes, the as-yet unpublished findings of relevance are these: in all three samples of youth and adults living in distressful condition, strong-SOC participants reported significantly lower levels of feeling danger than weak-SOC participants (Braun-Lewensohn, personal communication).

These studies are of particular interest because they do not focus on the appraisal of specific instances of experiencing a stimulus but rather a backdrop of stress-inducing stimuli over an extensive period. The findings in all samples – that SOC level differentiated cognitive appraisal (feeling danger) – add a new dimension to the test of H3. Antonovsky's analysis and proposition about primary appraisal III referred to one's experience of 'a stressor', not a widespread pattern of social stress (a context of stress). These studies not only provide support for H3; they extend our consideration of primary appraisal III to contextual stress. Braun-Lewensohn et al. (2019) conclude:

> … it is very important to strengthen the SOC and ComSOC [community SOC] of refugee women, to enable them to better adapt when confronted with a variety of stressful situations. It is also important that women be integrated into societal processes, in order for them to feel in control of their lives and to strengthen their senses of manageability and comprehensibility.

H4 The person with a strong SOC 'chooses from the repertoire of generalised and specific resistance resources at his or her disposal what seems to be the most appropriate combination… it is in the actual mobilisation of what seems to be the most appropriate resource or combination of resources in the face of the given stressor that the true advantage of the strong-SOC person [over the weak-SOC person] comes to the fore." (Antonovsky, 1990a, p 42).

Secondary Appraisal

Antonovsky moves from stressor perception to *action* with this question: How does the strong-SOC person resolve the instrumental problem? With this, we come to the subject of coping, and as Antonovsky adamantly states, in the salutogenic model, coping does not refer to a specific coping *style* (italics his). Stressors are many and varied, and so is coping.

A test of H4 would require the researcher to gather information on respondents' GRRs and SRRs, and which of these resources were mobilised in the past in response to particular

stressors. The researcher would also need to make judgements about the most appropriate resource or combination of resources in each respondent's armamentarium that the respondent could have called on in the face of the given stressors. This would need to be followed by comparing strong- and weak-SOC respondents' actual engagement of resources.

As far as I am aware, no such study has been reported in the literature. This is not surprising since it is hard to conceive a practical research methodology to collect the needed data. At the very least, the researcher would need to gather copious amounts of interview data from each respondent, then conduct within-case analyses, followed by cross-case analyses. The research effort would be strenuous indeed, and conclusions would be decidedly tenuous. We might just as well conclude that such studies are infeasible, or at least too demanding, to be worth the effort to investigate H4.

H5 'The person with a strong SOC… will tend to focus on the instrumental parameters of the problem, and will see as the challenge the question of what resources can be mobilised to meet the problem… The person with the weak SOC, seeing the stressor only in its burdensome aspects, will tend to focus on the emotional parameters, on handling the anxiety and unhappiness brought into being by the stressor." (Antonovsky, 1990a, p 43).

H5 receives some support. In research by Gambetta-Tessini et al. (2016), 2049 oral health professional students in Australia, New Zealand and Chile completed the SOC-13 and Brief Coping Orientation for Problems (COPE) Questionnaires in English and Spanish (Chile). COPE gathers self-report data on coping strategies that the respondents have engaged in, categorised as adaptive coping (e.g. active coping, planning, positive reframing and seeking support) or maladaptive coping (e.g. denial, venting and substance abuse). Compared to weak-SOC respondents, strong-SOC respondents reported significantly more adaptive coping strategies (active coping $r = 0.14$, and positive reframing $r = 0.13$). Conversely, compared to weak-SOC respondents, strong-SOC respondents reported significantly fewer maladaptive coping strategies (self-distraction $r = -0.12$; denial $r = -024$; substance use $r = -0.22$; behavioural disengagement $r = -026$; venting $r = -0.24$ and self-blame $r = -0.0.38$). These results suggest that strong-SOC young people are perhaps more inclined to choose adaptive coping strategies than avoiding maladaptive strategies. While there is some evidence supporting H5, the most significant pattern in the data supports a moderating effect of the SOC on coping, but in a manifestation not precisely in synchrony with H5.

Several studies highly relevant to H5 have been undertaken in Poland.

Konaszewski and Kwadrans (2020) studied the relationship between SOC and coping styles in 210 juveniles in probation centres in Poland. SOC was measured using the Orientation to Life Questionnaire. Coping strategies were measured using a 48-item inventory measuring three coping styles: task oriented, emotion oriented and avoidance oriented. In the probation sample, a strong SOC was significantly positively associated with a task-oriented style ($r = 0.29$) and significantly negatively associated with an emotion-oriented style ($r = -0.27$). Analyses of SOC components (comprehensibility, manageability and meaningfulness) revealed the same pattern of results. Thus, there is support for H5 and consistency with Gambetta-Tessini et al. (2016) results. This adds weight to the earlier suggestion for a corollary to H5 – the hypothesis that strong-SOC persons are more inclined to avoid maladaptive strategies than weak-SOC persons.

Konaszewski et al. (2019), using the same instruments as above, observed that strong-SOC university students were significantly more likely than weak-SOC students to report using a stress coping style focused on tasks ($r = 0.38$) and significantly less likely to use a style focused on emotions ($r = -0.62$).

Kotowska and Weber-Nowakowska (2019) compared coping styles in 50 orthopaedic surgery patients and 50 healthy controls. In both groups, strong-SOC participants were significantly more likely than weak-SOC participants to report active coping, acceptance of the problem, positive reframing and planning, and significantly less likely to report self-distraction, denying problems, discharging frustration, ceasing activity and engaging in self-blame. The study also examined styles of coping for the SOC components and found the same pattern. The two study groups did differ (regardless of SOC strength) in some coping styles, but the overall pattern noted above was the dominant finding.

Also in Poland, Andruszkiewicz et al. (2017) studied 188 adults aged 60–89 years with diagnoses of chronic illness and accompanying pain. Participants with a strong SOC were significantly less likely than weak-SOC participants to report using a catastrophising coping style. In contrast, the strong- and weak-SOC participants did not differ in their reported use of distraction or turning to prayer/hope.

In yet another Polish study, Krok (2016) enrolled 212 adults aged 65–79 years and measured SOC and coping styles (task oriented, emotion oriented and avoidance oriented). Strong- compared to weak-SOC participants were significantly more likely to report task-oriented coping and significantly less likely to report emotion-oriented coping. There was no difference in the use of avoidance-oriented coping.

Moving to The Netherlands, Polhuis et al. (2020) collected SOC and interview data from 17 Dutch respondents with type 2 diabetes mellitus to explore how and why their

eating practices developed after encountering turning points (stressors) for developing unhealthy or healthy eating. Examples of turning points for unhealthy eating were child neglect, losing a job and losing a parent. Examples of turning points for healthy eating were confrontations with ill health, becoming a parent and getting married. In this study, most strong-SOC respondents who had experienced a confrontation with ill health intended to engage in active coping (adhering to dietary guidelines). The qualitative study design did not permit statistical analysis of strong- compared to weak-SOC respondents' active coping. These findings are not consistent with an alternative expectation; strong-SOC persons may deny symptoms and delay taking action on medical problems. Antonovsky was well aware of this possibility but maintained that such self-deception was more likely to be the case for the weak- than for the strong-SOC person (Antonovsky, 1987, p 134).

In Sweden, Kristofferzon et al. (2018) enrolled 348 seriously ill chronic disease patients with a mean age of 69 and measured the SOC and two coping styles, emotion focused and problem focused. Strong- compared to weak-SOC participants were significantly less likely to report using problem-focused coping ($r = -0.24$) and emotion-focused coping ($r = -0.45$). This is consistent with H5 because the negative relationship between SOC and emotion-focused coping was stronger than the negative relationship between SOC and problem-focused coping.

Finally, Ngai (2019) enrolled 201 women in Hong Kong, ages 40–60, who underwent the menopausal transition. Ngai measured the SOC and coping styles, including adaptive coping (acceptance and humour) and maladaptive coping (venting, behavioural disengagement, self-distraction, self-blame, substance use and denial). Strong- compared to weak-SOC respondents were more likely to report using an adaptive coping style ($r = 0.41$) and significantly less likely to report using a maladaptive coping style ($r = -0.51$).

H6 "The person with a strong SOC, long familiar with looking for feedback, will both elicit it and be capable of assessing it. With a weak SOC, once one's course is set, one tends to disregard signals that contradict the wisdom of the action chosen. There is no motivation to relinquish a course leading to a dead end and search for alternative courses of action. One goes on one's way blindly." (Antonovsky, 1990a, p 48)

Tertiary Appraisal

We come, then, to the final stage of the appraisal and coping process as the salutogenic model has it; that of applying resources to meet a stressor and the process of receiving and apprehending feedback and making course corrections. As for several of the other hypotheses discussed above, H6 seems to have attracted little attention from salutogenesis researchers. In the cases of H1, H2 and H4, this chapter has pondered reasons for researchers' neglect, such as methodological difficulties that seem to preclude the possibility of hypothesis testing. In the case of H6, the lack of data is disappointing. At a theoretical level, tertiary appraisal seems to be an essential aspect of learning to cope with stressors. Feedback should lead to strengthened SOC and the accumulation of GRRs and SRRs. The failure to engage in tertiary appraisal (not learning from experience) would, in theory, have opposite results: weak SOC and meagre access to resources. As Antonovsky put it,

> The person with a strong SOC, long familiar with looking for feedback, will both elicit it and be capable of assessing it. With a weak SOC, once one's course is set, one tends to disregard signals that contradict the wisdom of the action chosen. There is no motivation to relinquish a course leading to a dead end and search for alternative courses of action. One goes on one's way blindly. (Antonovsky, 1990a, p 48)

Literature searches using Google Scholar and PubMed in 1979–2020 uncovered just one study directly relevant to H6 (Pijpker et al., 2018). This seminal report from the Netherlands recruited 481 Dutch nurses and caregivers in four residential care settings and one healthcare-related Dutch Facebook group. SOC was measured using the Dutch 13-item Orientation to Life Questionnaire. Feedback was measured using the Workplace Learning Processes Questionnaire (WLPQ). The investigators used factor analysis of the WLPQ to identify a scale measuring feedback (social learning), with these four items: reflecting with my colleagues on my actions, asking colleagues for advice, observing my colleagues and developing new ideas with my colleagues. The study also gathered data on GRRs in three categories: social support, meaning attached to work and job control. Strong SOC participants had significantly higher feedback scores compared to weak-SOC participants ($r = 0.10$ $p < 0.05$). Based on the results of moderating and mediating analyses, the investigators concluded that a strong SOC fosters behaviour (learning) via feedback, a conclusion in line with H6.

Discussion

The salutogenesis literature abounds with the finding that the SOC's strength is related significantly to a plethora of proximal (behaviours) and distal (disease, health and well-being) endpoints. Researchers' conclusions are almost all in the form of 'persons with a strong-SOC are better off than persons with a weak-SOC'. One implication is that interventions to strengthen the SOC are needed. This handbook includes several chapters that describe ways to strengthen the SOC.

Regrettably, there is a lack of thinking and research about how to shape stressor appraisal to foster better health, regardless of SOC strength. Because stressor appraisal is theorised

as the most proximal factor connecting the SOC and behaviour, this chapter alerts salutogenesis researchers to the idea that stressor appraisal, and not just the SOC, should be in focus in our intervention research.

Antonovsky's main ideas about strong versus weak SOC and appraisal of stimuli are summarised in the six hypotheses discussed in this chapter. Though Antonovsky writes about strong and weak SOC, he presumes the reader understands this is shorthand for referring to the SOC continuum's poles. He also assumes that the reader understands the enormous importance of culture and context in accessing resources and the possibility of their activation. He cautions that few people have a very strong SOC (conversely, we should understand that few people have a very weak SOC). Finally, he has warned against any tendency to assume that a strong SOC is good in and of itself, noting that a Nazi may well have a strong SOC (Antonovsky, 1986).

With these caveats in the back of our minds, what may we conclude from the present literature analysis?

Regarding H1 – At the stage when stimuli are appraised as non-stressors or stressors, no evidence of the importance of the SOC was uncovered in my search. H1 remains speculative, and I think it must remain so. It seems infeasible to study one's daily bombardment of stimuli and connect one's SOC strength to judgements about which stimuli are stressors. How a researcher might trace and record all relevant stimuli during a respondent's daily life is a mystery. H1 is interesting but untestable.

Regarding H2 – at the stage when stimuli are appraised as stressors, no evidence was uncovered supporting H2 that strong-SOC persons will be more likely to define a stressor as benign or irrelevant, to feel confident that the tension will quickly dissipate. Indeed, after considering it extensively, Antonovsky concluded that primary appraisal is relatively unimportant to the subject of coping because even if a strong-SOC person is advantaged, life is filled with stressors that cannot be shrugged aside. We may conclude that H2 is perhaps testable, but not very interesting.

Regarding H3 – Antonovsky believed that the strong-SOC person is more likely to appraise a stressor as (a) happier, (b) less conflictful or (c) less dangerous than one with a weak SOC. I discovered no study intending to measure all three appraisal outcomes. But Brady's (2017) findings in the USA on challenge, hindrance and threat appraisal are consistent with the predictions of H3, and all three studies by Braun-Lewehsohn and her colleagues (2011, 2018, 2019) provide support for the danger dimension in H3.

So, there is some evidence supportive of H3, but only indirectly so. The measures used by Brady (2017) and Braun-Lewehsohn and colleagues (ibid) were not selected explicitly to test H3. But it may be that indirect tests are all that can be expected. Antonovsky's writings about pathways connecting the SOC and health-related behaviour have not aroused much interest in the research community, for reasons already discussed in the Introduction. This is as true for his writings underlying H4, H5 and H6 as for H3.

Regarding H4, I briefly summarise what was stated earlier in this chapter. No research relevant to a test of H4 was uncovered in a literature search conducted for this chapter. Besides needing data on available GRRs and SRRs and those used in the past to address stressors, a researcher would also need to make judgements about the most appropriate resource or combination of resources in each respondent's armamentarium that the respondent could have called on in the face of given stressors. It is hard to conceive a practical research methodology that would facilitate collecting the needed data. We must conclude that such studies are infeasible, or at last, too demanding to be worth the effort to investigate H4.

Regarding H5, there is more evidence relevant to this hypothesis alone than for all the other five hypotheses taken together. In studies from Australia, New Zealand, Chile, Poland, the Netherlands, Sweden and Hong Kong, the findings were consistent. Strong-SOC respondents faced with stressors were significantly more likely than weak-SOC respondents to engage in adaptive coping and were significantly less likely to engage in maladaptive coping. The issue of quite selective study samples deserves some discussion. The Australian, New Zealand and Chilean samples were oral health professionals (Gambetta-Tessini et al., 2016). The Polish samples were youth in probation centres (Konaszewski & Kwadrans, 2020) and the elderly and surgery patients (Krok, 2016; Kotowska & Weber-Nowakowska, 2019; Andruszkiewicz et al., 2017). The Dutch sample was composed of type 2 diabetes mellitus patients (Polhuis et al., 2020), the Swedish sample was elderly chronically ill patients (Kristofferzon et al., 2018) and the Hong Kong sample were composed of older women undergoing menopausal transition (Ngai, 2019).

What is needed, therefore, is research with *population-based samples* that crosscut society. Antonovsky was adamant that salutogenic processes were equally relevant in all persons regardless of age, sex, culture, societal position or the severity and acuteness of their stressor experiences. It is the 'universality' of salutogenesis that distinguishes the salutogenic model from the resilience model of coping:

> The special interest of resilience scholarship is to assist people living in particularly adverse conditions to do well. Adverse conditions in this sense are exemplified by the experience of poverty, unemployment, violence, crime, family breakdown, and substance abuse. In salutogenesis scholarship, extreme conditions like this cause deep consternation, but the main thrust of the theory is the notion that all people live in the rough and tough river of life from birth to death. (Mittelmark, 2021)

Finally, H6 has attracted little attention from salutogenesis researchers. It posits that through the experience of feed-

back, learning occurs, facilitating the acquisition of GRRs and SRRs, strengthening the SOC, which encourages adaptive coping, which in turn supports health-promoting behaviour. In other words, feedback processes are held by Antonovsky to be essential for salutogenic development. The research discussed earlier by Pijpker et al. (2018) shows that the study of feedback processes in salutogenesis is feasible. Two health promotion priorities seem evident for H6: research is needed on how people can be encouraged to *elicit* useful feedback, and research is called for on how they can be helped to *learn* from feedback.

Intervention research is needed with a focus on the tertiary stressor appraisal stage, to enhance feedback and learning processes that strengthen GRRS and fortify the SOC:

- *boost skill at eliciting and assessing feedback*
- *learn to be more attentive to signals about how one is coping*
- *improve judgement and skill on how and when to alter course*

A Role for Health Promotion

What is the role for health promotion, in the presence of an uncountable number of stress management programmes, advice columns in magazines and newspapers and best-selling books? Health promotion's role is *not* to add yet more to the plethora of advice on offer. Instead, can we not conduct and apply research on integrating adaptive stimulus and stressor appraisal skills into the home, neighbourhood, educational, work, worship and recreation settings? As many chapters in this handbook testify, it is feasible to integrate health promotion practice into community settings wherein health is not the primary concern, such as schools and workplaces. Therefore, the call here is for health promotion research and practice that fosters a strong-SOC pattern of stressor appraisal in communities *generally*. This is suggested as an adjunct to, and not a replacement for, SOC strengthening as discussed in other parts of this handbook.

Moving Forward

As mentioned in the Introduction, Antonovsky did not use the term 'hypothesis' in stating his predictions about how the SOC affects stimulus appraisal. Why are his predictions cast – by this author – as hypotheses? The aim is to elevate researchers' appreciation of *stimulus and stressor appraisal* as Antonovsky's little-tested answer to the questions posed at the beginning:

- How does the SOC concept link to coping behaviour?
- What are the mechanisms that make the connection?
- What is the black box between?

Antonovsky's absorbing proposals have been discussed in this chapter, and some empirical findings support his contentions. Yet, inevitably, I conclude as the reader might expect – more research is needed. Even more pointedly, salutogenesis researchers should increase their attention to stressor appraisal, action and reaction processes, both conscious and subconscious. We should develop, test and disseminate interventions to help people improve their capacity to engage in adaptive stressor appraisal, as we are all compelled to swim in the river of life – in its constant stream of challenges.

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The Sense of Coherence: Measurement Issues

11

Monica Eriksson and Paolo Contu

Introduction

Antonovsky (1987) developed a questionnaire to measure the sense of coherence. The original form, the Orientation to Life Questionnaire, consists of 29 items, 11 items measuring comprehensibility, 10 items measuring manageability, and 8 items measuring meaningfulness. The response alternatives are a semantic scale of 1 point to 7 points, where 1 and 7 indicate extreme feelings about questions (and statements) about how one's life is experienced (e.g., the question "when you talk to people, do you have the feeling that they do not understand you?" is scored from 1 = never have this feeling to 7 = always have this feeling). The questionnaire is a summed index with a total score ranging from 29 to 203 points for the original scale of 29 questions (SOC-29). A shorter version of 13 questions (SOC-13) of the original form was developed by Antonovsky (1987), where the score ranges between 13 and 91 points. Antonovsky intended that the sense of coherence scales be scored with a single total score and not component scores (Fig. 11.1) since he theorized that it was the sense of coherence in its totality that influenced movement along the ease/dis-ease continuum. This issue is taken up again later in this chapter.

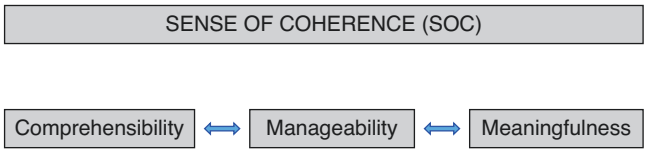

Fig. 11.1 The original view of the sense of coherence and its three dimensions

Examples of items measuring the comprehensibility dimension are as follows (Antonovsky, 1987, p. 190ff.):

- When you talk to people, do you have a feeling that they don't understand you? (from 'never have this feeling' to 'always have this feeling')
- Do you have a feeling that you are in an unfamiliar situation and don't know what to do? (from 'very often' to 'very seldom or never')

The following items are examples that measure manageability:

- When something unpleasant happened in the past your tendency was: (from 'to eat yourself up about it' to 'to say "ok that's that, I have to live with it" and go on')
- When you do something that gives you a good feeling: (from 'it's certain that you'll go on feeling good' to 'it's certain that something will happen to spoil the feeling')

Meaningfulness is measured with items like these:

- Doing the things you do every day is: (from 'a source of deep pleasure and satisfaction' to 'a source of pain and boredom')
- When you think about your life, you very often: (from 'feel how good it is to be alive' to 'ask yourself why you exist at all')

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Comprehensibility, the cognitive dimension, refers to the extent to which one perceives internal and external stimuli as rationally understandable, and as information that is orderly, coherent, clear, structured rather than noise—that is, chaotic, disordered, random, unexpected, and unexplained (Antonovsky, 1987, p. 17). The ability to create structure out of chaos makes it easier for us to understand one's context and one's part in it, for example, one's role in the family or the workplace. A prerequisite to being able to cope with a stressful situation is that one can, to some extent, understand it. What one comprehends is easier to manage.

Manageability, the instrumental or behavioral dimension, defined as the degree to which one feels that there are resources at one's disposal that can be used to meet the requirements of the stimuli one is bombarded by Antonovsky (1987, p. 17). Formal resources include, for example, social services and care staff in public and private organizations. Informal resources include, for example, family, a circle of friends, colleagues, and significant others, in other words, people who are trusted and who can be relied on difficult situations. Coping also requires that one is motivated to solve the problems that cause stress, is willing to invest energy to solve the problem, and finds meaning in being able to manage the situation. This leads to the third dimension of the sense of coherence, meaningfulness.

Meaningfulness, the motivational dimension, refers to the extent to which one feels that life has emotional meaning, that at least some of the problems faced in life a face are worth commitment and dedication, and are seen as challenges rather than only as burdens (Antonovsky, 1987, p. 18). One needs to have a clear desire to resolve difficulties and willingness to invest energy to get through experiences of stress that have the potential to cause distress.

The Validity and Reliability of the Sense of Coherence

Face validity: The sense of coherence scales has been empirically tested in different cultures, both Western and cultures in Africa and Asia. Studies have been conducted on different samples: general populations, different professions, in persons with disabilities, different patient groups as well as in children, adolescents, adults, and elderly, in families, in organizations, and also on a societal level. A systematic research review shows that as of 2003, the SOC-29 and SOC-13 had been used in at least 33 different languages in 32 different countries (Eriksson & Lindström, 2005). An update shows that another 16 languages can be added: Albanian (Roth & Ekblad, 2006), Croatian (Singer & Brähler, 2007), Brazilian (Bonanato et al., 2009), Hungarian (Biro et al., 2010), Korean (Han et al., 2007), Lingala (Bantu language spoken in parts of Africa) (Pham et al., 2010), Persian, Swahili (Rohani et al., 2010) as well as local languages in Africa Afar, Bilein, Hidareb, Kunama people, Nara, Saho, Tigre, and Tigrinya (Almedom et al., 2007; Getnet & Alem, 2019). An update per 2019 at least additional languages can be found: Portuguese (Encarnação et al., 2018) and Slovenia (Stern et al., 2019).

Since 2003, the SOC-29 and the SOC-13 have been used in further 13 countries (Eriksson, 2014): Eritrea (Almedom et al., 2007), Croatia (Pavicic Bosnjak et al., 2012), Hungary (Biro et al., 2010), India (Suraj & Singh, 2011), Iran (Rohani et al., 2010), Italy (Sardu et al., 2012; Ciairano et al., 2010), Korea (Han et al., 2007), Kosovo, the Democratic Republic of Congo (Pham et al., 2010), Spain (Virues-Ortéga et al., 2007), Sudan (Abdelgadir et al., 2009), Taiwan (Tang & Li, 2008), and Turkey (Öztekin & Tezer, 2009). More recent research shows three additional countries: Austria (Mautner et al., 2014), Estonia (Höjdahl et al., 2015), and Malaysia (Rostami et al., 2014). An update per 2019 shows further expansion: Ethiopia (Getnet & Alem, 2019), Ireland (Groarke et al., 2018), Portugal (Encarnação et al., 2018), and Slovenia (Stern et al., 2019).

In sum, the SOC questionnaires have been used in at least 51 different languages in at least 51 different countries around the world (Fig. 11.2).

The translation process: As shown above, SOC-13 has been translated and used in many countries and different populations. Translation of scales and questionnaires requires explicit attention since translation may influence validity (Naaldenberg et al., 2011). According to Fawcett (1997) and the Curitiba Statement on Health Promotion (Sotgiu et al., 2018), several translation techniques have to be used: calque, literal translation, transposition, modulation, reformulation, and adaptation. Transposition means rearranging a sentence's word sequence in order to satisfy grammatical rules; modulation is replacing original phrases with a set phrase, which has the same significance; reformulation is to express the same concept in a completely different manner; and, finally, adaption explains a concept in the source and target languages in a completely unique way, so it is appropriate to the culture of the recipients.

A critical term is the word "feelings." In English, the word "feeling" means both "something that you feel through the mind or the senses like hunger, sadness" and "the emotions of a person." A problem arose in the process of translation of SOC-13 from English to Italian. In Italian, two

Fig. 11.2 The distribution of studies using the sense of coherence scale 1992–2019 in a global context © Monica Eriksson 2017. (All Rights Reserved)

concepts are expressed, respectively, with the words "sensazione" and "emozione."

The translation of the question, "Many people – those with even a strong character – sometimes feel like sad sacks (losers) in certain situations. How often have you felt this way in the past?," revealed a minor difficulty of idiomatic equivalence. In the Italian version, it was necessary to eliminate the idiom "sad sacks" for which there is no corresponding expression. The significance of the question is still guaranteed by the translation of the word "losers."

Construct validity: The structure of the sense of coherence is complex. Recent research shows that the sense of coherence seems to be a multidimensional construct rather than a unidimensional as proposed by Antonovsky (1987), with all three dimensions continually interacting with each other and together to form a collective, overarching factor, sense of coherence. Following that, Antonovsky maintained that on theoretical grounds, one should avoid lifting out individual dimensions in order to examine them separately.

Nevertheless, recent research has focused on the study of the structure and content of the sense of coherence. There are studies that support Antonovsky's idea of the sense of coherence as a general factor with three dimensions (Antonovsky, 1993; Drageset & Haugan, 2015; Klepp et al., 2007; Rajesh et al., 2015; Söderhamn & Holmgren, 2004; Söderhamn et al., 2015; Spadoti Dantas et al., 2014), but these dimensions do not fully fit with comprehensibility, manageability, and meaningfulness. Söderhamn et al. (2015) found evidence in a confirmatory factor analysis that confirmed the SOC-29 as one theoretical construct with three dimensions, comprehensibility, manageability, and meaningfulness. In a cross-sectional survey among Norwegian cognitively intact nursing home residents, Drageset and Haugan (2015) found that the three-factor model fit their data. Lajunen (2019) examined the psychometric properties and the cross-cultural impact of the SOC-13 questionnaire among Australian, Finnish, and Turkish young adults. The findings from all the three countries suggested that the first- and second-order three-factor models fit the data better than the single-factor model. Nor cultural differences in SOC scale scores were found.

Other models obtained with factorial analysis, although three-dimensional and with considerable explained variance, are not related to the traditional dimensions of the SOC. This is in agreement with previous research on SOC factorial dimension that showed different results not fitting with the dimensions of comprehensibility, manageability, and meaningfulness (Togari et al., 2008; Larsson & Kallenberg, 1999).

A high correlation between item "Has it happened in the past that you were surprised by the behavior of people whom you thought you knew well?" and item "Has it happened that people whom you counted on disappointed you?" has been found in several studies (Naaldenberg et al., 2011; Sardu et al., 2012), and was explained by interviewees perceiving these questions as similar. Drageset and Haugan (2015) defined this correlation as "especially troublesome": the people whom we know well usually also embody the ones we trust or rely on, which is a central focus in OLQ3; you are not supposed to be disappointed by people you trust. Therefore, it seems theoretically reasonable that OLQ2 and OLQ3 share error variance. Nevertheless, including correlated error terms for this pair of items did not yield a good fit with the present data. Lerdal et al. (2017) found psychometric limitations of the 13-item SOC scale using Rasch analysis. Two items demonstrated poor fit, and once they were deleted from the scale, the remaining 11-item scale (SOC-11) demonstrated acceptable item fit. However, neither the SOC-13 nor the SOC-11 met the criteria for unidimensionality or person-response validity. While both the SOC-13 and SOC-11 were able to distinguish three groups of SOC, none of the subscales could distinguish any such groups. Recent research suggests that the sense of coherence seems to be a multidimensional concept consisting of many different dimensions rather than a single factor (Eriksson & Lindström, 2005; Feldt, 2007; Naaldenberg et al., 2011). Figure 11.3 shows the sense of coherence as a multidimensional construct.

Sandell et al. (1998) examined the sense of coherence instrument among a sample of Swedes and could not find

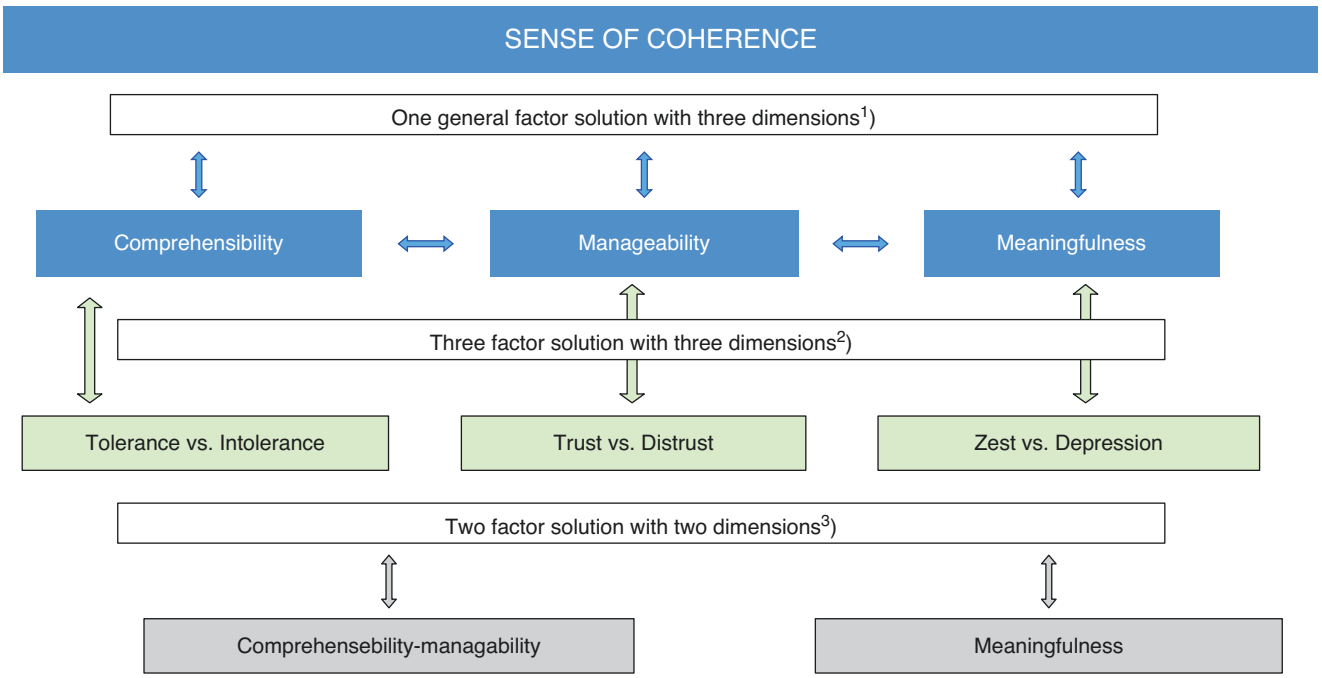

Fig. 11.3 The sense of coherence as a multidimensional construct. (1) Antonovsky, 1987, (2) Sandell et al., 1998, (3) Sakano & Yajima, 2005

support for a common factor, nor the three dimensions of comprehensibility, manageability, and meaningfulness. Three more or less stable dimensions emerged, where lust and depression were two extremes which could best be referred to the dimension of meaningfulness. Antonovsky's concept comprehensibility could in this study be seen in the form of tolerance versus intolerance. The third factor, manageability, was reflected by trust and distrust (Sandell et al., 1998, p. 701).

In the model reported by Larsson and Kallenberg (1999) in Sweden, the first factor appears to measure mainly anxiety and inner tension, although they partly also reflect one's ability to manage these emotions, the second factor covers comprehension regarding social perception, and the third factor appears to measure sense of personal meaningfulness and satisfaction. Also in the Sardinian general population, the model obtained with factorial analysis, although three-dimensional and with considerable explained variance, is not related to the traditional dimensions of SOC represented in more than one factor (Sardu et al., 2012. The same model was substantially confirmed in samples of students and persons affected by chronic diseases.

Although a clear structure based on the three components was never obtained, three more or less stable dimensions emerged in most of the studies that have explored SOC-13 dimensions. The main factor normally involves most of the questions related to Antonovsky's comprehensibility component (items 6, 8, 9,11) but also items related to manageability (13 and sometimes 5). The Antonovsky's meaningfulness component (items 12, 1, 4, 7) is mainly represented in the second factor but also shows relevant correlations with the first one (in Sardinia all these items are combined with comprehensibility in the first factor). In the Sardinian study, question 10 (manageability dimension) does not show a stable pattern (Sardu et al., 2012). So one factor identified the comprehensibility component, and a second factor correlated very strongly with meaningfulness. The third factor was related to questions B and C that, as previously discussed, are part of different dimensions, yet are strongly correlated.

On the basis of the present findings, one may conclude that the factorial structure of the SOCS is sufficiently stable across different samples, although the emerging factors are not related to the traditional Antonovsky's dimensions of SOC. Sandell et al. (1998) conclude that these patterns are clouded by the fact that the items are indeed not "cleanly" referring to one or the other component, as Antonovsky endeavored (Table 11.1).

Consensual validity is a term that indicates the extent to which various scientists agree on the properties of an instrument (Cooper, 1998). The consensual validity is somewhat weak. While many researchers use either the SOC-29 or the SOC-13, there are also many different modified versions in use, with different numbers of questions and different possibilities of response options. Most of the modified versions have partially abandoned the original scale of 1–7 points (but the wording of the questions is usually the same as in the SOC-29 and SOC-13). Results from a research review 1992–2003 showed that there were at least 15 different modified forms consisting of only 3 questions to 28 questions (Eriksson & Lindström, 2005). This includes the particular version adapted for families (FSOC) (Antonovsky & Sourani, 1988; Sagy & Antonovsky, 1992), for children (Margalit & Efrati, 1996), and a version for a school context (Nash, 2002). The Children's Orientation to Life Scale consists of 16 questions plus 3 distracters (Idan & Margalit, 2014; Margalit & Efrati, 1996). The response options follow a scale of 1–4, where 4 indicates the highest degree of sense of coherence. There are also two variants of the FSOC, the original with 26 questions and a shorter version with 12 questions (Antonovsky & Sourani, 1988; Sagy, 2008; Sagy & Antonovsky, 1992). The questions are the same as in the original form but tailored to the child or a family context. Table 11.2 provides a summary of some of the other sense of coherence scales in the literature, demonstrating a range of items from 3 to 16, and intended for use by various sociodemographic groups.

Antonovsky (1979) originally described the sense of coherence as an individual property. He later widened the perspective (Antonovsky, 1987) with sense of coherence also conceived at the family level. Recent research shows that the sense of coherence concept and measurement also can be applied in organizations such as a workplace (Bauer & Jenny, 2012; Bringsén, 2010; Bringsén et al., 2009; Forbech & Hanson, 2013; Graeser, 2011; Mayer & Krause, 2011; Mayer & Boness, 2011; Nilsson et al., 2012; Orvik & Axelsson, 2012; Vogt et al., 2013).

Research that examines and discusses salutogenesis and the sense of coherence at a societal level is sparse. Braun-Lewensohn and Sagy (2011) report findings from studies using an instrument adapted for the societal sense of coherence (Sense of Community Coherence), which contains seven questions describing how the individual experiences the society in terms of comprehensibility, manageability, and meaningfulness. Comprehensibility at the societal level addresses the experience of society as more or less organized in a way that makes life somewhat predictable, that the structure of society can be more or less understood, and that society is perceived as more or less safe and secure. Manageability is a state in which the individual experiences a society with resources that support individuals, for example, in emergencies or critical situations. Societal support includes, for example, programs to support young people's mental health and initiatives to create conditions so that people from different generations can meet each other. Meaningfulness refers to the experience that society supports people to experience

Table 11.1 Factorial structure (factor loadings) in a number of European populations

		General population 1			University students 2			High school students 2			University hospital 2			General population 3			Non-institutionalized people (>64) 4						General population 5		
		Sardinia-Italy			Sardinia-Italy			Sardinia-Italy			Sardinia-Italy			Romania			Netherlands			Netherlands (11 items)			Sweden		
Question		1	2	3	1	2	3	1	3	2	1	3	2	1	2	3	1	3	2	1	3	2	1	3	2
F	C	**0.69**	0.03	0.06	**0.64**	0.15	0.08	**0.65**	0.08	−0.02	**0.70**	−0.11	0.11	**0.48**	**0.43**	0.14	**0.51**	0.16		**0.46**	0.12	0.17	**0.42**	**0.24**	
H	C	**0.69**	**0.34**	0.03	**0.67**	**0.39**	−0.05	**0.75**	−0.01	0.05	**0.72**	0.16	−0.11	**0.77**	0.16	0.33	**0.82**			**0.85**			**0.76**		
I	C	**0.64**	0.19	0.19	**0.68**	0.21	0.20	**0.78**	−0.18	0.19	**0.68**	0.28	0.02	**0.76**	0.18	0.32	**0.79**			**0.71**		0.10	**0.76**		
K	C	**0.51**	−0.07	−0.05	**0.65**	−0.11	0.02	**0.48**	−0.45	−0.05	**0.48**	−0.20	0.05	**0.62**	0.12	−0.10	**0.26**	**0.33**		**0.28**	**0.27**		**0.28**		
M	MA	**0.67**	0.26	−0.02	**0.67**	0.31	0.06	**0.72**	−0.09	0.16	**0.70**	0.17	0.17	**0.66**	0.29	0.04	**0.63**	0.18		**0.62**	0.21		**0.66**		
E	MA	**0.62**	−0.19	**0.25**	**0.38**	0.22	**0.21**	**0.55**	0.04	0.15	**0.57**	−0.13	**0.34**	0.15	**0.48**	**0.46**	**0.29**	0.10	0.20	0.16		**0.37**	**0.34**	**0.32**	
J	MA	**0.47**	**0.31**	0.20	**0.40**	**0.37**	0.11	**0.53**	0.14	**0.46**	**0.47**	0.17	**0.37**	**0.37**	**0.47**	0.30	**0.36**		**0.30**	**0.14**		**0.58**	**0.28**		0.23
L	ME	**0.60**	**0.43**	−0.11	**0.53**	**0.51**	−0.05	**0.74**	0.14	−0.06	**0.74**	0.14	−0.01	**0.37**	**0.63**	0.10	0.11	**0.70**		0.17	**0.73**		**0.39**	**0.39**	
A	ME	**0.58**	−0.17	−0.05	−0.02	**0.69**	0.25	0.21	**0.77**	0.16	0.18	**0.80**	0.17	−0.02	**0.63**	0.13		**0.41**			**0.41**		0.05	**0.26**	0.22
D	ME	**0.30**	**0.72**	0.12	**0.62**	0.02	−0.01	**0.60**	0.27	−0.14	**0.68**	−0.09	−0.14	**0.32**	**0.59**	−0.05	0.13	**0.35**	−0.22				0.10	**0.58**	
G	ME	**0.31**	**0.71**	−0.02	*0.19*	**0.75**	−0.06	**0.43**	**0.55**	0.07	**0.47**	**0.57**	−0.02	*0.23*	**0.69**	0.04	*0.14*	**0.41**		*0.12*	**0.37**	0.13	*0.15*	**0.38**	
B	C	0.16	0.04	**0.86**	0.05	0.05	**0.90**	0.25	0.06	**0.79**	0.17	0.13	**0.85**	0.18	−0.05	**0.83**			**0.75**						**0.76**
C	MA	0.27	0.06	**0.83**	0.11	0.08	**0.89**	0.37	0.13	**0.76**	0.22	0.00	**0.85**	0.18	−0.05	**0.84**			**0.88**	-0.15		**0.67**			**0.71**

References: (1) Sardu et al., 2012; (2) Data from Cagliari University; (3) Vasiliu et al., 2015; (4) Naaldenberg et al., 2011; (5) Larsson & Kallenberg, 1999

Table 11.2 A selection of different versions of the sense of coherence instrument

Authors	Country	Sample	N	Number of items	Response options	Cronbach's alpha
Agardh et al. (2003)	Sweden	Healthy middle-aged women	4821	SOC-3	3	
Schumann et al. (2003)	Germany	General population	3515	SOC-3 BASOC Brief Assessment—SOC	3	0.45
Bayard-Burfield et al. (2001)	Sweden	Immigrants/refugees	4981	SOC-3	7 - Likert	
		Swedes				
Kivimäki et al. (2002)	Finland	Women employed in municipalities	433	SOC-6	7 - Likert	0.76
Toft Würtz et al. (2015)	Denmark	Pupils	773	SOC-7	7 - Likert	0.77
Forsgärde et al. (2000)	Sweden	Health professional	354	SOC-9	3 - Likert	0.60–0.69
Klepp et al. (2007)	Norway	Adults	1062	SOC-9	7 - Likert	0.79
Li et al. (2014)	China	Patients in hospitals	491	SOC-9	7 - Likert	
Mayer and Thiel (2014)	Germany	Elite sports	698	SOC-L9Leipzig Short Scale	2	0.82
Naaldenberg et al. (2011)	Netherlands	Elderly people ≥ 65	1361	SOC-11	7 - Likert	
Kanhai et al. (2014)	Finland	Adults	848	SOC-12	7 - Likert	0.85
Sagy (1998)	Israel	School children and their parents	399	SOC-12Family-SOC	7 - Likert	0.81
Margalit & Efrati (1996)	Israel	Children with learning disabilities	324	SOC-16 + 3Childrens'-SOC	7 - Likert	0.72
Suominen et al. (1999)	Finland	General population	3115	SOC-16	4 - Likert	0.84
Sagy and Antonovsky (1992)	Israel	Retirees and their relatives	214	SOC-26Family-SOC	7 - Likert	0.88

fulfillment, to develop their abilities, and to feel satisfied with life (Braun-Lewensohn & Sagy, 2011, p. 535).

The relevance of salutogenesis and the sense of coherence to the building of healthy public policy has also been a focus of theorizing and research (Eriksson et al., 2007; Lindström & Eriksson, 2009). To develop a social policy based on the salutogenic framework means to identify resources for health and welfare of the society, in the past as well as in the present, including risks of illnesses, and how this knowledge and the most effective measures can be used to resolve the current challenges. The core of such policy is to create coherence and synergies, from individuals to groups and organizations in the local community, and finally to the whole of society (Eriksson & Lindström, 2014; Lindström & Eriksson, 2009).

Criterion validity: Eriksson and Lindström (2005) present information about the relation between the SOC-29 and other instruments measuring health, perceived self, stressors, quality of life, well-being, attitudes, and behaviors. The correlation with health ranges in general from slight to good, using instruments such as the General Health Questionnaire, the Health Index, the Hopkin's Symptom Checklist, and the Mental Health Inventory, with such health measures explaining up to 66% of the variance in the SOC-29. There seems to be an overlap between the sense of coherence and the Big Five (Kase et al., 2018). Neuroticism was here negatively correlated, and extraversion was positively correlated with comprehensibility (r −0.47, 0.35), manageability (r −0.44, 0.26), and meaningfulness (r −0.28, 0.30). These correlations were strong, and the overlap between the two scales was about 36 percent. Also, there are a number of studies on the relation between SOC and quality of life and well-being. In general, they show that a high SOC is related to a high quality of life Eriksson and Lindström (2005).

Predictive validity: The ability of an instrument to predict how, for example, health develops in the future is called predictive validity (Abramson & Abramson, 1999). The predictive validity of the sense of coherence questionnaire seems to be relatively good, based on a review of longitudinal studies (Eriksson & Lindström, 2005). There are studies that support predictive ability (Lundman et al., 2010; Luutonen et al., 2011; Poppius et al., 2006; Surtees et al., 2003), whereas other studies have not done so (Norekvål et al., 2010). It seems that the time for follow-up is an important factor for the predictive ability of the instrument. The results of a study among elderly persons, the Umeå 85+ study, show that the sense of coherence predicted mortality at 1-year follow-up, but not at follow-up after 4 years (Lundman et al., 2010).

Reliability: SOC-29 test–retest correlations range from 0.69 to 0.78 (1 year), 0.64 (3 years), 0:42 to 00:45 (4 years), 0:59 to 0.67 (5 years), and finally 0:54 after the 10-year follow-up (Eriksson & Lindström, 2005). More recent research provides support for the stability over time, in 1- to 3-year perspective (Lindblad, Sandelin, Petersson et al., 2016). The *internal consistency* measured by Cronbach's alpha ranges from 0.70 to 0.95 using SOC-29 (124 studies) and 0.70 to 0.92 (127 studies) using SOC-13 (Eriksson & Lindström, 2005, p. 463). The sense of coherence scale shows high internal consistency overall. However, there are other results reported. Among Swedish nurses working at hospitals, the internal consistency, measured by Cronbach's alpha, was as low as 0.63 (Eriksson et al., 2019). An inter-item-correlation test indicated that item 5 "Do you have the feeling that you're being treated unfairly?" and item 6 "Do you have the feeling that you are in an unfamiliar situation and don't know what to do?" decreased the internal consistency.

Critique of the SOC-29 and SOC-13

One indirect form of criticism has practical roots: as mentioned earlier, various senses of coherence measures have been developed that are shorter than even the SOC-13, as short as just three items. This reflects the reality that in many health survey applications, questionnaires must be very short. More directly, the SOC-29 and SOC-13 have been criticized based on supposed shortcomings in the instruments' psychometric properties (Korotkov, 1993; Larsson & Kallenberg, 1999; Schnyder et al., 2000). It is also asserted that the sense of coherence concept does not deal adequately with emotional aspects of life experience (Flannery & Flannery, 1990; Flensborg-Madsen et al., 2006c; Korotkov, 1993; Korotkov & Hannah, 1994). Inconsistent evidence about the lability/stability of the sense of coherence over the life course has also been noted by critics (Geyer, 1997). Criticism of salutogenesis generally includes implicit doubt about efforts to measure the sense of coherence via any means (Bengel et al., 1999; Kumlin, 1998). The leveling of such criticism is welcome as part of the healthy evolution of a "living" theory or model, and responses to the critics are published (Eriksson, 2007; Lindström & Eriksson, 2010).

In the limits of this chapter, we focus on just the critical ideas of Flensborg-Madsen et al. (2005a). The critique stems from their conclusion that the SOC-29 and SOC-13 are only moderately to weakly related to various measures of physical health (Flensborg-Madsen et al., 2005a), leading them to construct and test a new measure of the sense of coherence, intended to overcome limitations in the SOC-29 and SOC-13 (Flensborg-Madsen et al., 2006a, 2006b). Their critique can be summarized in this way:

- Antonovsky presumed that one's internal and external environment has to be predictable in order for a person to have a high sense of coherence.
- Predictability should not be included in conceptualizing and measuring the sense of coherence, because lack of predictability is not necessarily unhealthy.
- Instead, unpredictability is what makes life matter in the first place; it can provide a state of initiative, energy, and positive attitudes.

Since the SOC-29 includes several items that have to do with predictability, Flensborg-Madsen et al. (2005b) regard the instrument as flawed and they developed an alternative 9-item measure that excluded the concept of predictability, but that otherwise was purportedly built, as they write, on the same idea, theory, and conceptualization used by Antonovsky (Flensborg-Madsen et al., 2006a, 2006b).

Their conclusion about a weak association between the SOC-29 and SOC-13 and physical health is based on a review of about 50 studies (2005a). They categorize the health instruments in the reviewed studies as having foci on physical health, biological measures, psychological measures, health measures incorporating psychological aspects, stress, and behavioral aspects. They conclude that the SOC scales are unable to explain health that is measured only in physical terms (Flensborg-Madsen et al., 2005a, p. 665). As a solution, Flensborg-Madsen et al. (2006c) propose the concept of "emotional coherence" in relation to physical health and "mental coherence" in relation to psychological health. This is supported by Endler et al. (2008).

Such fragmentation of the concept of the sense of coherence into physical and mental components breaks significantly from Antonovsky's fundamental notion of an "orientation to life" (1979, 1987). Such fragmentation also reinforces the physical health/mental health divide in modern health care (and in the public's imagination), which has been challenged vigorously (WHO, 2001).

We move on to the issue of excluding predictability in the sense of coherence measurement; to do so is to depart emphatically from "the same idea, theory and conceptualization" used by Antonovsky, who wrote:

> From the time of birth, or even earlier, we constantly go through situations of challenge and response, stress, tension, and resolution. The more these experiences are characterized by consistency, participation in shaping outcome, and an underload-overload balance of stimuli, the more we begin to see the world as being coherent and predictable. When, however, one's experiences all tend to be predictable, one is inevitably due for unpleasant surprises that cannot be handled, and one's sense of coherence is weakened accordingly. Paradoxically, then, a measure of unpredictable experiences-which call forth hitherto unknown resources—is essential for a strong sense of coherence. One then learns to expect some measure of the unexpected. When there is little or no predictability, there is not much one can do except seek to hide until the storm (of life) is over, hoping not to be noticed. Or else one strikes out blindly and at random until exhaustion sets in. No defense mechanisms can be adequate. We must note an implicit assumption here. If a strong sense of coherence is to develop, one's experiences must be not only by and large predictable but also by and large rewarding, yet with some measure of frustration and punishment. (Antonovsky, 1979, p. 187)

As this extended passage makes clear, reasonable predictability functions inextricably with many other aspects of experience to shape the sense of coherence.

Sense of Coherence Develops Over Time

According to Antonovsky (1987), sense of coherence develops until the age of about 30 years. After that, the sense of coherence was estimated to remain relatively stable until retirement, after which a decrease was expected. This assumption finds no support in subsequent empirical research. The sense of coherence seems to be relatively stable over time, but not as stable as Antonovsky assumed. Research shows that sense of coherence develops over the entire life cycle and increases with age (Feldt, Lintula, et al., 2007; Feldt, Metsäpelto, et al., 2007; Nilsson et al., 2010). Nilsson and co-authors were able to demonstrate on a sample of 43,500 Swedish respondents, aged 18–85 years, that sense of coherence increases with age in both men and women. Support for a corresponding development of the sense of coherence over time could also be seen in a longitudinal study of more than 18,000 Finns, in the Health and Social Support Study, where the sense of coherence continuously increased with age. A strong sense of coherence initially appears to determine its development over time (Feldt et al., 2011). There is a lack of longitudinal studies with long-term follow-up. The most extended follow-up is that of 13 years (Hakanen et al., 2007). Table 11.3 shows findings from longitudinal studies with different follow-up periods.

Table 11.3 The development of the sense of coherence over time, based on a sample of longitudinal studies

1 → 2 year	0.8 points	SOC-13	Bergman et al. (2012)
1 → 3 year	14.2 points	SOC-28	Kuuppelomäki and Utriainen (2003)
1 → 3 year	0.1 points	SOC-13	Honkinen et al. (2008)
1 → 5 year	1.6 points	SOC-13	Volanen et al. (2007)
1 → 5 year	1.8 points	SOC-13	Bergman et al. (2012)
1 → 5 year	3.6 points	SOC-13	Lövheim et al. (2013)
1 → 9 year	0.1 points	SOC-13	Luutonen et al. (2011)
1 → 10 year	2.7 points	SOC-13	Kalimo et al. (2003)
1 → 12 year	0.3 points	SOC-29	Holmberg and Thelin (2010)
1 → 13 year	0.4 points	SOC-13	Hakanen et al. (2007)

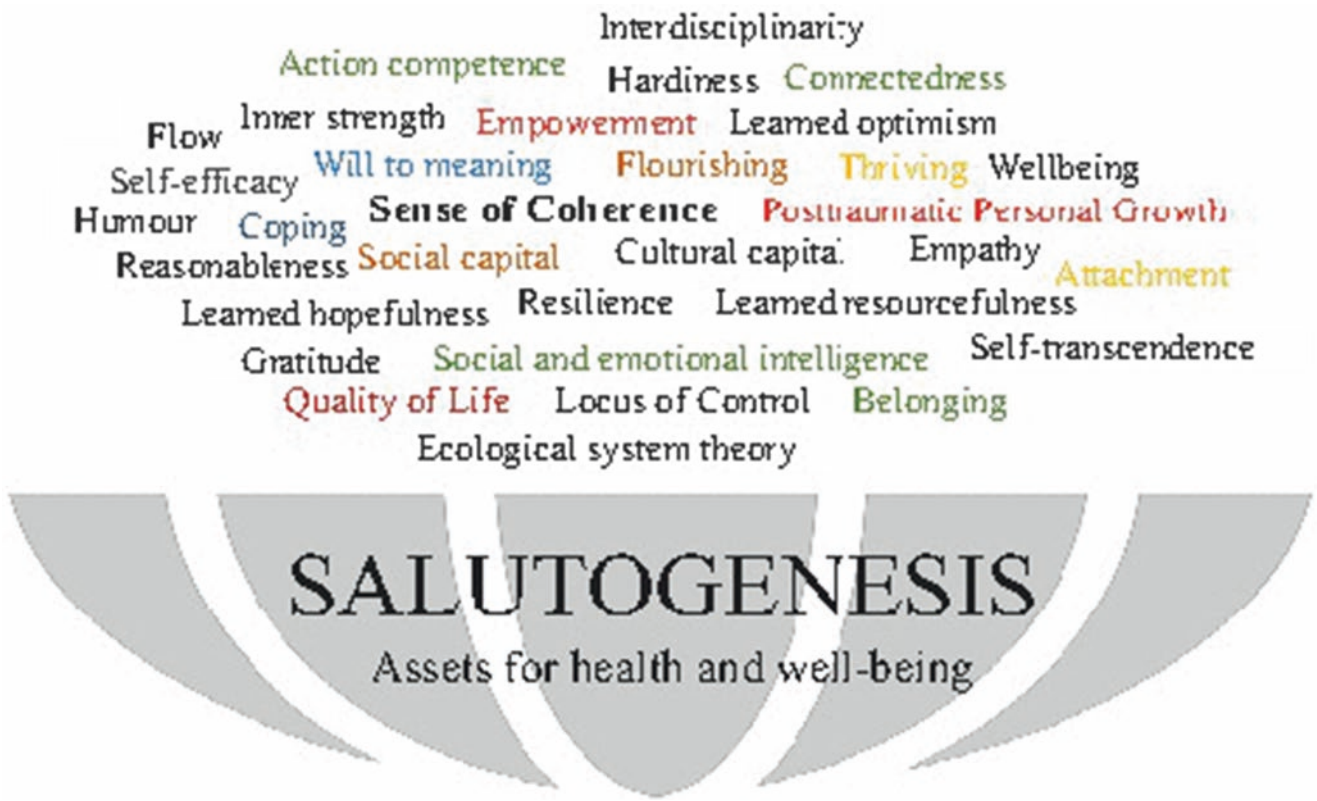

Fig. 11.4 The salutogenic umbrella, salutogenesis as an umbrella concept © Monica Eriksson 2017. (All rights reserved)

Salutogenesis Is More than the Measurement of the Sense of Coherence

Salutogenesis, focusing on health and people's resources, is something more than the measurement of the sense of coherence. Today, we can talk about salutogenesis as an umbrella concept with many different theories and concepts with salutogenic elements and dimensions (Lindström & Eriksson, 2010). There is extensive research that focuses on the resources of individuals, groups, and communities. All this and more can be accommodated under the common umbrella. Figure 11.4 shows some related concepts to the sense of coherence collected under an umbrella.

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Generalized Resistance Resources in the Salutogenic Model of Health

12

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Introduction

This chapter reviews and integrates conceptual and empirical research focusing on the role of generalized resistance resources (GRRs) within the salutogenic model. In particular, this chapter discusses findings regarding the conceptual and empirical progress seen in the study of GRRs at the individual, family, and community ecological levels in understanding individual differences in sense of coherence (SOC). Each of the latter attempts to relate to the lifespan in its childhood, adolescent, and adult developmental phases. Specifically, the present chapter uniquely focuses on variables that may contribute to the understanding of individuals' level of SOC within the salutogenic model, in contrast to previous reviews that focused primarily on SOC's role in understanding individuals' affective functioning, such as well-being, resilience, and coping strategies.

The term *generalized resistance resource* (GRR) was coined by Antonovsky (1979, 1987) and refers to the resources of a person, a group, or a community that facilitate the individual's abilities to cope effectively with stressors and contribute to the development of the individual's level of SOC. As proposed by Antonovsky (1987), the GRRs refer to "phenomena that provide one with sets of life experiences characterized by consistency, participation in shaping outcomes and an underload-overload balance" (Antonovsky, 1987, p. 19). According to Antonovsky (1979, 1987), such resources may include the following factors: (1) material resources (e.g., money), (2) knowledge and intelligence (e.g., knowing the real world and acquiring skills), (3) ego identity (e.g., integrated but flexible self), (4) coping strategies, (5) social support, (6) commitment and cohesion with one's cultural roots, (7) cultural stability, (8) ritualistic activities, (9) religion and philosophy (e.g., stable set of answers to life's perplexities), (10) preventive health orientation, (11) genetic and constitutional GRRs, and (12) individuals' state of mind (see Horsburgh & Ferguson, 2012 for a review).

In an attempt to develop a more parsimony model, Antonovsky (1987) merged the concept of the GRRs with his earlier concept of the "stressors" and combined them into one concept—*Generalized Resistance Resources—Resistance Deficits (*GRRs-RDs). Accordingly, each of these GRRs was presented on a continuum. Thus, an individual who is higher on the continuum tends to have consistent, balanced life experiences and high participation in decision-making. In contrast, an individual who is lower on the continuum tends to have inconsistent, low balanced life experiences and low participation in decision-making. In line with these assumptions, among individuals who are higher on the continuum, the GRR-RDs are viewed as GRRs, and among individuals who are lower on the continuum the GRR-RDs are viewed as GRDs. Based on these assumptions, both GRRs and GRDs contribute to the development of an individual's SOC.

Importantly, although the salutogenic model presumes that individuals develop strong SOC through successful applications of GRR-RDs across the lifespan, this model also proposed a reciprocal and dynamic relationship between SOC and GRR-RDs. Thus, GRR-RDs may contribute to an individual's level of SOC, and an individual's level of SOC may contribute to mobilizing GRRs for enhancing tension management. However, as suggested by Antonovsky (1987),

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when GRRs or GRDs may become chronic and built into the life situation of the person, they are viewed as the primary determinants of the strength of an individual's level of SOC.

In general, the initial GRR resources (Antonovsky, 1979) may be perceived as manifested within the life experiences as proposed by Antonovsky (1991). Thus, three types of life experiences are assumed to contribute to the SOC developmental process: consistency, load balance, and participation in shaping outcomes. The fourth dimension—emotional closeness—was added later by Sagy and Antonovsky (2000). The first of these life experiences—*consistency*—refers to the extent to which, during growing up, messages were clear, and there were order and structure rather than chaos in one's environment. As suggested by Antonovsky (1991), experiences of consistency in an individual's life provide the basis for the comprehensibility component of the SOC. The other life experience—*load balance*—refers to the extent to which, during growing up, one experienced overload or underload in the balance between the demands made upon one and one's resources. Such load balance is important for the SOC's manageability component. The third life experience—*participation in shaping outcomes*—refers to the extent to which one had a significant part in deciding her/his fate and was not an object of the power and whims of others. Participation in shaping outcomes provides the basis for the meaningfulness component. Sagy and Antonovsky (1996) selected the mentioned three life experiences in their qualitative analysis of the narratives of two women whose life histories were similar in their historical and social contexts. However, their life orientation as expressed in their stories and their levels of SOC were different. The fourth life experience (Sagy & Antonovsky, 2000)—*emotional closeness*—refers to the extent to which one felt consistent emotional bonds and a sense of belonging in social groups of which one was a member. Similar to the *participation in shaping outcomes*, the *emotional closeness* resource was assumed as relevant to the meaningfulness component.

Generalized Resistance Resources: The Individual Level

Emotional Closeness and Attachment Relationships

As mentioned above, *emotional closeness* is one of the four types of life experiences assumed to contribute to the SOC developmental process (Sagy & Antonovsky, 2000). Close emotional relationship with significant others has been conceptualized primarily within the framework of attachment theory (Bowlby, 1973; Grossmann et al., 2006; Mikulincer & Shaver, 2007). Overall, Bowlby's attachment theory (Bowlby, 1973; Bowlby, 1982/1969) underscored the role of early interactions with significant others in explaining individual variations in a variety of emotional, social, and behavioral adjustments (Cassidy & Shaver, 2008; Grossmann et al., 2006). To be noted, although this theory focused on early interactions with significant others, studies have pinpointed that attachment theory is a lifespan developmental theory (see Mikulincer & Shaver, 2007 for a review). Accordingly, researchers have underscored how adults' attachment representations (Bowlby, 1973, 1982/1969) contribute to a variety of psychological resources such as coping with distress and affect regulation (Bernier & Matte-Gagne, 2011; Collins & Ford, 2010; Mikulincer & Shaver, 2004, 2007).

Briefly, attachment theory emphasizes that during the first year of life, infants develop a specific and enduring relationship with their primary caretakers (Ainsworth & Wittig, 1969). Infants' strong tendency to seek proximity to caregivers is the overt manifestation of the inborn attachment behavioral system, which is designed to restore or maintain proximity to support others in times of need. Proximity to an available, supportive, and responsive caregiver ("attachment figure") provides the infant with a sense of "secure base," which refers to a set of expectations about others' availability and responsiveness in times of stress. As emphasized by this theory, attachment figures play a central role in the infant's cognitive, social, and emotional development as well as in the development of a sense of self (Bowlby, 1982/1969; Waters & Cummings, 2000). Children's experiences with attachment figures are internalized into "working models of attachment"—mental representations of significant others and the self. These result in unique attachment styles, that is, stable patterns of cognitions as well as behaviors that are manifested in other close relationships and social interactions across the lifespan. Following these assumptions, infants of available and supportive attachment figures are more likely to develop a sense of security and trust. In contrast, infants of unavailable, inconsistent, and/or unresponsiveness attachment figures are more likely to perceive the world as unpredictable, threatening, or rejecting.

In examining the relations between patterns of attachment and youngsters' well-adjusting functioning, the vast majority of attachment research studies indicated that securely attached children and adolescents revealed better mental health and functioning and higher levels of psychological well-being, than did children and adolescents with an insecure style (see Allen, 2008; Grossmann et al., 2006 for a review). Data from such studies also suggested the role of youngsters' attachment relationships with significant others in understanding their level of SOC. For example, Al-Yagon (2010) investigated the possible role of children's attachment with mothers in understanding variance in children's SOC in a sample of 205 mother–child dyads: 107 mothers and their children with specific learning disabilities

(SLD), and 98 mothers and their typically developing children. Utilizing structural equation modeling, this study's outcomes indicated that among both groups, children with and without SLD, children's attachment toward the mother significantly explained the variance in the children's SOC. Thus, children who felt more securely attached to the mother revealed a higher SOC level than did children who felt less securely attached to the mother. Similar findings emerged in examining the role of children's attachment with their fathers in explaining their level of SOC (Al-Yagon, 2011). Accordingly, for both groups (children with and without SLD), the variable of children's attachment toward the father significantly explained variance in children's SOC. Children who felt more securely attached to the father revealed a higher SOC than did children who felt less securely attached to the father.

Interestingly, in exploring the differences in the role of attachment with the fathers and the mothers, Al-Yagon (2014a) reported that in the model modified for elementary school children with SLD, a higher number of significant paths emerged between child–mother attachment relationships and internalizing measures than for child–father attachment. Data also showed that attachment with fathers contributed mainly to children's coping resources (i.e., SOC, hope, and effort), whereas attachment with mothers contributed to a broader range of internalizing adjustment measures including not only SOC but also self-reported loneliness and parent-rated internalizing problems. In other words, regarding attachment to fathers, those children with SLD who viewed themselves as more securely attached with the father reported a higher tendency to see the world as comprehensible, manageable, and meaningful (i.e., higher SOC) compared to children with SLD who viewed themselves as less securely attached.

The role of attachment relationships with significant others in understanding SOC has been less examined among adolescents and adults. However, such studies indicated similar findings to those reported for younger children. For example, in examining three groups of Chinese American college students, Ying et al. (2007) highlighted the important role of close attachment relationships with both parents and peers in explaining these individuals' development of SOC. Specifically, this study's outcomes yielded that for the groups of early and late Chinese immigrants, both parent and peer attachment enhanced their level of SOC. Thus, these college students' ability to comprehend, manage, and find meaning in their world was contributed both by their parents who may have served as an anchor in their cross-cultural transition, and their peers who facilitated an understanding and mastery of the American environment. As suggested by Ying and his colleagues (Ying et al., 2007), such close relationships may be of particular importance for these college students due to the Chinese cultural values of stigma and privacy, which may reduce their likelihood to utilize campus mental health services.

Likewise, attachment studies on adults also highlighted the contribution of adults' attachment to their level of SOC. For instance, Mikulincer and Shaver (2005) reported that lower scores on attachment anxiety and avoidance (i.e., higher levels of attachment security) were associated with higher levels of meaning and SOC in life. Also, in examining the role of adults' anxiety and avoidance attachment in exploring differences in SOC among parents of children with and without Learning Disabilities (LD), Al-Yagon (2014b) highlighted the potential role of parents' attachment anxiety in explaining their coping strategies. Specifically, for fathers from the two populations studied, a high level of anxiety in close attachment relationships, as reflected by a hyperactivation of negative emotions and rumination on distress-related thoughts (Mikulincer & Shaver, 2004), significantly contributed to fathers' low SOC. Similar findings emerged for mothers of children with SLD and mothers of children with typical development, indicating that a high level of anxiety in attachment relationships significantly contributed to these mothers' low SOC. This study also underscored the role of high parental level avoidant attachment, as reflected by a lower tendency to adopt attachment-deactivating strategies (Mikulincer & Shaver, 2004) in contributing to parents' high SOC.

Along with the attachment framework, studies have also utilized a variety of other measures to explore the role of emotional closeness in understanding differences in the individual's level of SOC. For example, in investigating the role of parent–child relationships in adolescents' SOC, García-Moya et al. (2013) and García-Moya et al. (2012) indicated that the quality of parent–child relationships (i.e., perceived affection, ease of communication with parents, parental knowledge, and satisfaction with family relationships) emerged as the main predictors of adolescents' (aged 13–19) level of SOC. Focused on adulthood, findings from Volanen et al. (2004) suggested that for both men and women the quality of a close relationship with their spouse significantly contributed to their level of SOC. Thus, an individual's poor close relationship with a partner was a significant threat in predicting their level of SOC. Furthermore, a study (Daoud et al., 2015) on styles of marriage (polygamous versus monogamous) as predictors of SOC found that Bedouin women in polygamous marriages demonstrated higher levels of SOC than women in monogamous marriages, when controlling for socioeconomic factors, sociodemographic factors, and social support.

These findings suggested that the patterns of attachment relationships and the quality of close relationships with significant others contributed to variation in individuals' coping resources and abilities (i.e., SOC), across the lifespan (see Mikulincer & Shaver, 2007 for a review). Accordingly, these outcomes highlighted that securely attached individuals

appraised themselves as able to cope effectively with stressors, whereas individuals with insecure attachment manifested deficiency in these coping resources. Furthermore, as assumed by attachment researchers, patterns of secure attachment and high qualities of emotional closeness may enhance support-seeking in constructive and effective ways, whereas patterns of insecure attachment and low qualities of emotional closeness may increase inhibition or interference with effective support-seeking (Florian et al., 1995; Seiffge-Krenke & Beyers, 2005).

Personal Characteristics and Resources

Studies have also explored the possible role of the individual's characteristics and resources in facilitating his/her level of SOC. For example, Volanen et al. (2004) examined the effect of childhood living conditions on SOC levels among men and women aged 25–64. Specifically, childhood living conditions comprised family long-lasting economic difficulties, alcohol problems of a family member, an individual's fear of family a member, and family conflicts. Outcomes of this study reported that childhood living conditions showed a strong association with men's and women's SOC. As suggested by those researchers, poor childhood living conditions may affect adult SOC in various ways such as the negative impact on self-esteem and positive life attitudes that may contribute to low levels of SOC.

Studies have also explored the role of another demographic feature—marital status—in understanding the SOC. For instance, Read et al. (2005) examined a sample of Finnish participants aged 65–69 years. Outcomes from their study yielded that for men, unlike women, marital status has an important impact as a GRR. Accordingly, for men, being married or cohabiting was positively associated with SOC and, SOC, in turn, contributed to physical, social, and psychological health. As suggested by these researchers, marriage may enhance health in several ways such as influencing the physical and psychosocial environment in which the individual lives. These results were similar to those reported by several other studies demonstrating the beneficial effect of marriage in buffering against morbidity and mortality, especially for men (see Read et al., 2005 for a review). Several explanations were proposed regarding these results, such as the possibility that men may profit more than women from marriage as a GRR because healthy lifestyle and behaviors are more encouraged by wives than husbands, due to the women's tendency to value health more than men (Read et al., 2005).

In these contexts of personal characteristics and resources, Al-Yagon (2014b) explored the role of parents' emotional resources (attachment anxiety/avoidance and negative/positive affect) in explaining differences in their coping resources (child-related active/avoidant coping and SOC). Results from this study highlighted the potential role of parental positive and negative affect in explaining their SOC, especially among parents of children with SLD. Thus, higher levels of positive affect such as feelings of "energetic" or "happy" significantly contributed to parents' higher SOC levels in both groups of fathers and mothers of children with SLD. In contrast, higher negative affect such as feeling anxious, tense, agitated, or worried significantly contributed to lower levels of parental SOC.

A high level of negative parental affect was a significant risk factor for lower SOC, and a high level of positive affect was a significant protective factor for higher SOC. This study suggested several directions for interventions, such as teaching parents to become more attuned to their emotional functioning, learn how their feelings influence parenting, and learn strategies to regulate emotions (Al-Yagon, 2014b).

Of particular importance, studies of personal characteristics and resources among individuals in the "third age" emphasize the contribution of psychological resources on SOC. Weismann and Hannoch (2011) examined salutogenic predictors of multiple health behaviors in a sample of healthy "third age" individuals and, consistent with Antonovsky's (1987) hypothesis, found that meaningfulness was the most distinguishing among the SOC components. Moreover, the aging individuals reported that their lives made sense and were worthy of commitment and engagement. SOC components were significantly associated with multiple health behaviors and were also significantly interrelated. Consistent with the salutogenic theory, the strong correlations among the components explained their overlapping and yet distinct character. Furthermore, meaningfulness mediated self-esteem and self-efficacy influences on multiple health behaviors, and advanced age was associated with a greater extent of comprehensibility of the world. The latter supported the salutogenic assumption that psychological resources such as self-esteem and self-efficacy created life experiences that contributed to the individual's meaningful world.

In this context of self-perception, studies have also examined the possible role of an individual's self-reported health; this refers to an individual's view of his/her health irrespective of one's actual health and predicts the comprehensibility component of SOC (Solcova et al., 2017).

Individuals' Social Support

In general, studies on social support investigated individuals' resources from a variety of approaches such as contextual, emotional, and cognitive perspectives and also highlighted that the presence of others in stressful situations enhances one's mental health (see Srensen et al., 2011 for a review). Such studies focused on several dimensions of social support

like the availability of support, irrespective of the extent of the support, provision of emotional support, information, tangible care, or material assistance from one's social network (Cohen, 2004). In examining the possible influence of social support on the development of SOC, Antonovsky and Sagy (1986) proposed that stable social support may reflect living in a stable community and therefore may enhance the development of a stronger SOC.

Consequently, several studies have examined such assumptions. For example, data from research studies among children and adolescents emphasized the contribution of social support provided by classmates and teachers at school (Bowen et al., 1998; Natvig et al., 2006), as well as from friends in the peer group (Evans et al., 2010; Marsh et al., 2007) for individuals' level of SOC. Similarly, these studies also demonstrated the role of aspects of neighborhood social support, such as neighborhood social cohesion (Marsh et al., 2007; Nash, 2002).

Studies have also explored the possible role of social support among adults. For example, Volanen et al. (2004) reported that among men and women aged 25–64, the ability to receive social support and their satisfaction with this support contributed to the level of SOC among both sexes. At the same time, Volanen et al. (2004) raised the possibility of reciprocal relationships between these two variables suggesting that a high level of social support may contribute to SOC, and a strong SOC may help gain social relationships.

Genetic Factors

According to the salutogenic model, two major subgroups of variables are essential for the GRRs. First, major psychosocial GRRs extensively described previously and second genetic and constitutional GRRs (Antonovsky, 1979). For example, in exploring the psychological factors, in the late 1990s Cohen conducted a study among 74 women (mean age 35) in which she examined which variables, sociological or personality factors, best explained the development of SOC (Cohen, 1997). The relationship between a narcissistic personality trait and the SOC was explored. The results showed that narcissistic elements made a more significant contribution to the SOC than the sociodemographic factors did. Here, especially items from the Narcissistic Personality Questionnaire linked to feelings of entitlement and self-satisfaction made the most significant contribution to SOC. A few years later, the question of the SOC as a state or personality trait was raised (Schnyder et al., 2000). The main aim of this longitudinal study was to investigate the stability of the SOC over 6–12 months and how SOC was associated with depression and anxiety (n = 156). The results showed that SOC could be seen as a relatively stable trait. It was negatively associated with depression and anxiety. The authors concluded that SOC was not merely a proxy measure of psychopathology, but rather a partially independent, general measure of a person's worldview.

Research exploring genetic factors has been conducted with twins. However, research on the association between genetic factors and SOC is sparse. Hansson et al. (2008) conducted the Twin Mother's Study with the specific aim to explore individual resilience factors from a genetic perspective among 326 Swedish twin pairs (150 monozygotic and 176 dizygotic). The study was the first one to investigate how genes and the environment influence resiliency/salutogenic factors. The results showed that nonshared environmental components were of principal importance in individual resiliency/salutogenic factors, but noted that genetic influences were important. They found that 35% of SOC was due to genetic effects and 57% was due to nonshared environmental effects (environmental differences between the twins). More recently, published research confirmed the results of the Swedish Twin Mother's Study. Silventoinen and colleagues analyzed the effects of genetic and environmental factors on the SOC in young adulthood among 3193 Finnish twins (Silventoinen et al., 2014). The twins and their parents rated their emotional family environment independently when the twins were 12 years of age. The findings showed that genetic factors explained 39% of the variation of SOC in males and 49% in females. The rest of the variation was explained by environmental factors unique to each twin individually. For the dimensions of SOC, the highest genetic correlation was found between comprehensibility and manageability (0.90 in males and 0.97 in females). These studies emphasize the possible role of genetic factors as well as environmental factors in understanding individual SOC.

Generalized Resistance Resources: The Family Level

Parental Resources

As observed in many studies, parents' psychological resources, as well as their developmental histories, may influence the quality of their childrearing and, through parenting, child development outcomes (Arteche & Murray, 2011; Belsky & Pluess, 2012). Such studies investigated diverse parental personal resources, including variables such as parents' psychopathology and well-being (Campbell, 2003; Goodman & Gotlib, 2002), parents' personality (Belsky & Barends, 2002), and parents' patterns of attachment (Mikulincer & Shaver, 2007). In light of these studies' assumptions, the current section will review research studies focusing on the possible role of parental personal resources in understanding children's SOC.

For example, outcomes from Al-Yagon (2008) reported on the unique value of the maternal level of SOC to her offspring's level of SOC. As suggested by this study, one may assume that mothers with high coherence levels, who tend to perceive stressful situations as less threatening and as more manageable, may provide their children with a more secure, consistent, and calm environment and may model effective strategies to cope with stressors as well. Similarly, Idan (2010) examined the role of parental SOC, hope, and family climate in explaining the coping resources, such as SOC, of high school students with severe and persistent LD, and reported that parental and family resources (parents' cohesion, SOC, hope, and effort) predicted their children's coping resources (children's cohesion, SOC, hope, and effort).

Research has also highlighted the contribution of fathers' emotional resources (i.e., attachment and affect) in explaining their offspring's SOC. For instance, Al-Yagon (2011) reported that among school-age children with SLD or with typical development, fathers' high positive affect and low level of avoidance in attachment relationships as reflected by a lower tendency to adopt attachment-deactivating strategies (Mikulincer & Shaver, 2004) contributed to children's high level of SOC.

Other studies of parental resources have investigated the possible influence of parenting style. For example, in a longitudinal study, Feldt et al. (2005) showed that parental child-centeredness, which refers to an accepting and emotionally warm parental attitude toward the child combined with parents' supervision, was the only adolescents' variable that contributed to these participants' high SOC in adulthood.

Together, these studies suggested that in order to provide optimal care and a more consistent and load-balanced environment, which in turn might enhance children's level of SOC, parents must possess sufficient psychological and coping resources such as regulating impulses, taking others' perspectives, perceiving stressful situations as more manageable, and providing a model for effective coping with stressors (Belsky, 1984; Zahn-Waxler et al., 2002).

Families' Demographic Resources

In exploring the GRRs, research studies have also demonstrated the possible role of the family's demographic resources and characteristics. For instance, Ristkari et al. (2008) reported that low levels of parental education level, death and serious illness of parents, and parental divorce contributed to lower levels of SOC among young men. Thus, higher levels of parents' education (Feldt et al., 2005), higher economic status (Geckova et al., 2010), and living with both parents (Ayo-Yusuf et al., 2009) contributed to higher level of SOC. Additionally, in accordance with the salutogenic framework assumptions on the GRRs (Antonovsky, 1979, 1987; Horsburgh & Ferguson, 2012), studies exploring families' demographic resources have also shown the role of familial economic wealth as a general resistance resource that increases individuals' opportunities to have SOC-promoting experiences (García-Moya et al., 2012).

Family Climate Factors

Several studies have highlighted the influential role of families' climate factors in SOC development across the lifespan. For example, in a study of elementary school children, Sharabi et al. (2011) emphasized the possible role of family cohesion, one of two dimensions in Olson's (1986) Circumplex Model of family climate, on children's SOC. Findings revealed that children in cohesive families reported higher levels of SOC compared to children within noncohesive families.

Family climate factors have been found to contribute during the adolescent period as well. For instance, data from García-Moya and her colleagues (García-Moya et al., 2012) demonstrated the role of family context as an important scenario in adolescents' SOC. This study yielded that among the family variables, the following had a significant individual influence on SOC during adolescence, of which the most important family dimensions were affection, ease of communication, and parental knowledge of their adolescents' life, such as their friends and leisure time activities. This study also demonstrated the contribution of the quality of relationships between the parents to adolescents' level of SOC. Similar results reported by Marsh et al. (2007) indicated the negative effect of parental high level of conflict in predicting levels of SOC in middle school youngsters. Furthermore, in an additional study on adolescents, Garcia-Moya et al. (2014) reported that the quality of the relationships between parents and their children was the most influential factor in explaining adolescent SOC.

The importance of the family environment on the development of SOC was similarly demonstrated in Silventoinen and colleagues' study (Silventoinen et al., 2014). The longitudinal study aimed to analyze genetic and environmental factors and their interaction affecting SOC among a large set of Finnish twins during young adulthood and during their home environment in childhood. The underlining assumption was based on evidence showing a strong genetic component behind psychological traits, such as personality and social attitudes (Bouchard & McGue, 2003). The study's results emphasized the significance of a supportive childhood home on the development of a strong SOC in early adulthood. Genetic differences between individuals explained a third to one-half of the variation of SOC, especially in supportive family environments. Children who grew

up in supportive family climates and experienced fewer emotional tensions with their parents demonstrated more genetic and less environmental variation in SOC in adulthood than children who were raised in emotionally less favorable family climates.

Data from research on families from at-risk populations also emphasized the role of family factors in explaining variation in SOC. The following review focuses first on families with special needs. For example, among families with children with Autism Spectrum Disorder (ASD), the severity of the disorders and their typically developing siblings' resources influenced the latter's SOC. Additionally, this study also demonstrated that among the group with high severity ASD symptoms, a greater number of positive coping strategies buffered the typically developing siblings' SOC (Smith et al., 2015). Significant coping strategies that were strongly associated with higher SOC included engaging in demanding activities, ventilating feelings, avoiding problems, and solving family problems. The strongest positive correlation was engaging in demanding activities, whereas ventilating feelings had a negative correlation suggesting that typically developing siblings who did not get angry or complain had lower SOC scores.

Other findings related to ASD compared the levels of SOC in parents of children with autism and parents of typically developing children and also examined the association between SOC levels and coping strategies. Pisula and Kossakowska (2010) found that parents raising children with ASD had a lower level of SOC compared to parents raising children with more typical development. The SOC level of parents of children with ASD was positively correlated to seeking social support and self-controlling and negatively correlated with accepting responsibility and positive reappraisal. In the group of parents of children with ASD, positive correlations between distancing and total SOC, comprehensibility, and meaningfulness were revealed. The latter was perceived to indicate that having high levels of SOC orientation coincided with cognitive distancing from problems. These findings confirmed previous findings (Olsson & Hwang, 2008) that parents of children with ASD had lower levels of SOC than parents of typically developing children and emphasized that the high level of stress related to the demands associated with raising a child with ASD had a negative effect on parental SOC (Mak et al., 2007).

Moreover, Pisula and Kossakowska (2010) considered additional potential factors of lower SOC among parents of children with ASD. In line with Antonovsky's (1987) suggestion that SOC develops in childhood and early adolescence, they proposed that levels of the SOC may fluctuate with life's circumstances. Thus, challenging life experiences such as raising a child with ASD may affect the level of parental SOC.

Furthermore, in reviewing vulnerable life phases, such as prenatal and postpartum periods, Finnbogadottir and Perrson (2019) demonstrated the association between lower levels of SOC and a higher risk of depression among expectant fathers.

Reviewing at-risk families revealed several types of families, among which were those coping with traumatic life experiences, such as the Holocaust. Fossion et al. (2015) examined the consequences of extreme family functioning on resilience, SOC, anxiety, and depression. Results demonstrated that the children of Holocaust survivors' family types were more often damaged than in the general population. Growing in a damaged family impeded the development of coping strategies and enhanced the existence of depressive and anxiety disorders. In line with Fossion and colleagues' study (Fossion et al., 2014) on SOC and resilience in cases of multiple traumas, SOC was predicted to mediate between extreme families and the emergence of depressive and anxiety disorders. The recent study (Fossion et al., 2015) confirmed, in a group of children of Holocaust survivors, that which was observed among Holocaust survivors: SOC mediated between family types and depressive and anxiety disorders.

Similarly, Zeidner and Aharoni-David (2014) found indirect effects of SOC in the relationship between memory traces of specific traumatic experiences of Holocaust survivors and adaptive outcomes. They concluded that the horrors of the Holocaust recruited the survivors' inner strengths and coping resources, which in turn contributed to the development of a stronger sense of meaning and coherence, improving a better sense of mental health.

Finally, caring for a close relative in the home requires stress management. In a Swedish study, informal caregivers (n = 32) were interviewed about the generalized resistance resources and deficits they used for managing stress (Wennerberg et al., 2016, 2018). Caring in this context has been understood as a life phase, here referred to Caregivinghood, living in a dyad, and characterized by several domains (Wennerberg et al., 2019). In the caregiver domain, "Being someone significant in my own eyes" unites the essence of having access to GRRs stemming from oneself and "Being 'blessed' with a co-operative co-worker" that of having access to GRRs stemming from the care recipient. This may be the core in an orientation to life, which creates positive life experiences since it enables caregivers to find a "fit" between the possible and desired when resolving challenges (Wennerberg et al., 2016). "Experiencing personal deficiencies," when stemming from themselves and "struggling with an uncooperative co-worker," when stemming from their care recipients were found to be experiences of specific and generalized resistance deficits (Wennerberg et al., 2018).

Generalized Resistance Resources: The Community Level

School Setting

Studies of school settings focused attention on the effect of the school setting features on SOC and its contribution as a mediating factor. Throughout the school years, students are faced with an array of increasingly difficult challenges related to their academic functioning. For instance, a study of the Norwegian education system (Natvig et al., 2006) explored elementary through junior high school children focusing on age and gender comparisons of school-related stress and resources and their relations to the SOC construct. The sample consisted of 4116 school children aged 11, 13, and 15 years old. This study revealed that SOC was related to school-related characteristics, such as feeling pressured by schoolwork, social support from peers, and expectations. Sex and age variables played a significant role indicating that among the group of girls, the association between SOC and school-related characteristics was stronger among the youngest group.

In an attempt to explore the influence of school-related characteristics among youngsters with special needs, studies emphasized the prolonged academic challenges emerging from neurodevelopmental disabilities. As suggested by previous studies, these youngsters' difficulties at school remain a continuous source for increased stress, endless day-to-day struggling with age-appropriate academic roles, and with social and emotional challenges that in turn may contribute to their lower SOC (Idan, 2010; Idan & Margalit, 2014; Lackaye & Margalit, 2006).

As demonstrated by Idan's (2010) study, high levels of SOC were related to high levels of autonomy/competence, measured by a subscale of the Basic Psychological Needs instrument. In general, this construct refers to the individual's natural, innate, and constructive tendencies to develop a unified self. This tendency toward integration is characterized as involving autonomy, tending toward inner organization, self-regulation and homonymy, and tending toward integration of oneself with others. Healthy development involves the complementary functioning of these two aspects (Deci & Ryan, 2008). These inner resources, innate psychological needs, are the bases for integrating the differentiation of goal contents and regulatory processes. Should the needs—competence, autonomy, and relatedness—be satisfied, individuals will develop and function in healthy and optimal ways (Deci & Ryan, 2000).

Idan's (2010) findings showed that the highest levels of SOC and autonomy/competence were reported by females with SLD in a specialized high school compared to typically developing females and females with SLD from regular school classes. The highest levels of SOC and autonomy/competence among adolescent males were reported by typically developing males. This parallelism between females with SLD in a specialized high school and typically developing males, and more interestingly, the females' high scores in levels of SOC and autonomy/competence may be explained by the females' belief that they had more control over their lives. Consequently, these females with SLD from the specialized school were better able to predict their internal and external environments, whether they be positively inclined or not. An additional explanation may lie in the possible role of the classification following diagnosis as SLD in self-evaluation, which in turn may contribute to the level of SOC.

Consequently, as suggested by Idan (2010), girls who had never received such a diagnosis lacked this so-called protection, and bad grades may have been evidence that they were not smart enough to do well in school. On the other hand, boys who were diagnosed in the past with learning disabilities demonstrated declining levels of perceived intelligence regardless of their academic achievement. This suggests that boys may be more concerned with impersonal labeling removed from the classroom setting.

A prominent school-related feature is the role of the teacher as an extrafamilial significant other. An illustration of this, in a study focusing on the perception of teachers as a secure base among children with reading difficulties, Al-Yagon and Margalit (2006) revealed that children's reading difficulties affected their lower level of SOC. Children's perceptions of the teacher as a source of secure base were significantly related to high levels of SOC, emphasizing the possible protective role of extrafamilial figures who provide care and support in times of need.

The above review of school-related characteristics reveals the scarcity of studies is apparent and calls for further exploration, examining in depth the variables that were presented in addition to a variety of other school-related features that may shed light on the school community.

Community Feature

In an attempt to shift from the personal to the collective SOC, based on the understanding that an individual is part of a community, studies have explored possible features of communities that may contribute to collective SOC. Sense of community coherence (Peled et al., 2013) consists of the identical three components of the individual's SOC concept. Comprehensibility refers to the sense of predictability and security felt by the members of a community and the extent to which the community is comprehensible; manageability refers to the ability of the community to assist its members in times of need; and meaningfulness refers to the ability of the members of the community to express themselves in order to feel a higher level of satisfaction and interest within the com-

munity. Studies on community ecology revealed its role in predicting SOC development. Being a member of a minority group predicted lower SOC than being a member of a majority group (Braun-Lewensohn & Sagy, 2011a, 2011b). Additionally, social support (Marsh et al., 2007) and neighborhood or community cohesion (García-Moya et al., 2013; Marsh et al., 2007; Peled et al., 2013) were contributing factors in the development of a strong SOC.

In this context of community features, prior studies have also investigated communities that cope with high and extreme levels of stress, such as political violence and war. For example, studies focusing on SOC and political violence revealed SOC as a mediator between exposure to missile attacks and stress-related reactions among adolescents (Braun-Lewensohn et al., 2011) and as a mediator between attitudes toward war and peace within the Israeli–Palestinian conflict and anxiety reactions among adolescents living in a conflictual area (Braun-Lewensohn et al., 2015). In both studies, strong SOC was related to higher resiliency and lower levels of stress-related reactions. In line with the assumption that peaceful ideas were correlated to stronger SOC (Pham et al., 2010), outcomes from the study of Braun-Lewensohn et al.' (2015) suggested that adolescents who supported resolution of the Palestinian–Israeli conflict in peaceful ways had a stronger SOC and were less anxious. In contrast, those who supported more violent conflicts and war did not reveal this relationship. SOC acted as mediator between peace and war attitudes and anxiety solely for peaceful attitudes.

In the context of anxiety-inducing events, natural hazards have also been a source of testing the endurance and resilience of communities. In a study on human resilience in coastal ecosystems following disaster, Matin and Taylor (2015) demonstrated that people with higher education and secure livelihoods have significantly higher resilience scores—including SOC—than those with a lower educational level and insecure livelihoods.

Conclusions and Directions for Further Research and Interventions

Together, the surveyed research studies emphasized the need for continued in-depth exploration of the possible role of different GRR-RDs for understanding individuals' SOC in different developmental phases across the lifespan, as well as through the individual, family, and community ecological levels. Furthermore, based on the expansion to community SOC, such in-depth exploration regarding the GRR-RDs is required. Moreover, in examining the impact of GRR-RDs on individuals' and communities' levels of SOC, it seems important to reconsider the possible role of several factors as follows:

A. *Reciprocal Relationship Between GRR-RDs and SOC*

As mentioned above, the salutogenic theoretical framework proposed that over the lifespan, individuals may develop high levels of SOC through successful applications of GRR-RDs. At the same time, this theoretical framework also assumed a reciprocal and dynamic relationship between SOC and GRR-RDs. Consequently, whereas GRR-RDs may contribute to an individual's and community's levels of SOC, an individual's and community's levels of SOC may, in turn, contribute to mobilizing GRRs for enhancing the ability of stress management (Antonovsky, 1987; Sagy & Dotan, 2001). However, only few research studies reviewed in the present chapter examined this assumption on the reciprocal relationships between these two variables (e.g., Volanen et al., 2004), calling for future investigation regarding the possible bidirectionality of these interrelationships.

B. *Individuals' Differential Susceptibility to Environment Effects*

Previous studies have underscored that individuals may vary in their responsivity to the qualities of their environments, including their childrearing experiences (see Pluess & Belsky, 2011, for a review). These assumptions are generally framed in diathesis-stress or "dual risk" terms, proposing that some individuals tend to be more vulnerable due to their biological/neurological and or behavioral characteristics (i.e., "stress" or "risk 1") to the adverse effects of negative experiences and environmental qualities (i.e., "diathesis" or "risk 2") (Belsky et al., 2007; Belsky & Pluess, 2009; Trentacosta et al., 2008), whereas others may be relatively resilient. Findings from such studies have also pinpointed that individuals may vary not only in the degree to which they are vulnerable to the negative effects of adverse experiences but also, more generally, in their "developmental plasticity" (Boyce & Ellis, 2005). Accordingly, this hypothesis, which was termed the "biological sensitivity to context" (Boyce & Ellis, 2005), or "differential susceptibility hypothesis" (Belsky, 2005), assumes that individuals may vary in their susceptibility to both adverse and beneficial effects of childrearing influences.

Overall, studies analyzing the susceptibility factors that may contribute to individual children's differential susceptibility emphasized the possible role of three categories of variables, such as genetic factors (e.g., short allele of the serotonin transporter linked polymorphic region, 5-HITTLPR), physiological factors (e.g., cortisol reactivity), and behavioral factors (e.g., negative emotionality) (see Pluess & Belsky, 2011 for a review). Such findings call for comprehensive additional exploration regarding individuals' variations in genetic, biological, and behavioral sensitivities, which may predict their susceptibility not only to the adverse

effects of GRR-RDs but also to beneficial effects of such factors. Such differential susceptibility has rarely been examined among communities, calling for future comprehensive investigation.

C. *Flexibility Versus Stability*

The current review raises an important question regarding the flexibility versus stability of SOC across the lifespan. Antonovsky (1987) hypothesized that SOC develops during childhood and stabilizes during the early adulthood stage. In contrast, other research proposed SOCs changes over an entire lifetime (e.g., Nilsson et al., 2003; Nilsson et al., 2010). These findings raise several important issues regarding the longitudinal fluctuations as well as stability versus flexibility in individual SOC across the different development phases.

D. *Hedonia, Eudaimonia, and Meaning in Life Perspectives*

In exploring the impact of GRR-RDs on individuals' levels of SOC, further studies may do well to consider exploring the possible role of three additional individual-level orientations—eudaimonia, hedonia (e.g., Huta & Waterman, 2014; Ryan & Deci, 2001; Ryff & Singer, 2008; Steger et al., 2008), and meaning in life (e.g., Costin & Vignoles, 2019; George & Park, 2016; Martela & Steger, 2016; Ryff, 1989). Briefly, eudaimonia is defined as striving to use and develop the best in oneself, in ways that are congruent with one's values and authentic self, including striving for excellence, meaning, acting with virtue, and having concerns beyond the self and beyond the immediate moment (e.g., Huta, 2012). Hedonia is defined as striving to experience pleasure, enjoyment, and comfort, whether through physical- or emotional-cognitive means (Huta & Ryan, 2010). The third concept—meaning in life—has been defined as comprising three distinct subconstructs: comprehension, purpose, and mattering (e.g., George & Park, 2016; Heintzelman & King, 2014; Martela & Steger, 2016; Steger, 2012). As argued by Martela and Steger (2016), *meaning in life* partially coincides with the eudaimonia concept as well as with the SOC concept. Much has been learned in recent years regarding these concepts and their association with a variety of well-being measures (e.g., George & Park, 2016; Huta & Waterman, 2014). However, the possible association with the SOC, as well as the possible role of concepts such as GRR-RDs, has not been sufficiently explored and calls for further investigation**.**

Selected GRR-RDs

Conceptual matters merit words of caution regarding the possible role of GRR-RDs in understanding individuals' levels of SOC. Since the GRR-RDs reviewed in the current chapter are only few of the possible individual, familial, and community factors, additional resources should be considered. Such resources may include the individual's self-regulation and executive functioning abilities, parental monitoring levels, and parental anxiety, as well as school climate and collective versus individual approach.

Furthermore, such resources may also include GRR-RDs that develop early in life (i.e., neonatal period and birth). As suggested by prior studies (Bauer et al., 2019; Hansson et al., 2008; Silventoinen et al., 2014), neuro-hormonal, epigenetic factors, exposure to risk conditions (e.g., maternal stressors and toxic substances), can set pathways for future well-being. However, such resources have been rarely examined within the SOC framework, calling for additional exploration.

Clinical and Interventional Implications

Acknowledging the importance of SOC as a factor contributing to effective coping with challenges and stressors and well-being, several intervention programs were developed in order to enhance SOC. These interventions highlight the factors that develop SOC throughout the lifespan and emphasize the flexibility of the construct and its potential influences (Janik & Kroger, 2007; Kahonen et al., 2012; Mayer & Boness, 2011; Pallasch & Hameyer, 2008). The following provides examples of interventions promoting SOC in different contexts.

Within the school setting, Mayer and Boness (2011) proposed a didactic model (the team ombuds model) which aimed at promoting SOC and transcultural competencies in educational contexts. Based on studies demonstrating that teachers perceived educational approaches such as concepts of intercultural communication as enriching and stimulating, strengthening self-consciousness, self-worth, and SOC (Pallasch & Hameyer, 2008), the model aimed at promoting GRRs of learners and teachers as well as at ameliorating comprehensibility, manageability, and meaningfulness. It was based on a vertical hierarchy of interacting social units in which learners created teams that were the basis of the educational process. The students who were in a position of trust worked closely with the teachers in resolving conflicts or improving interaction between the students and their teachers. This led to an increase in team competence and individual performance, which decreased feelings of anxiety, dissatisfaction, and uncertainty (Janik & Kroger, 2007). Thus, the learning input was acquired during teamwork (comprehensibility), teamwork was promoted (manageability), and students learned how to learn and set priorities according to their interests (meaningfulness).

Within an occupational context, Kahonen et al. (2012) reported on two group interventions (psychodramatic and

analytic) promoting SOC in an occupational healthcare context. The psychodrama method was based on socio- and psychodramatic techniques, such as drawing, music, and writing, and muscle relaxation and exercises using the imagination. The analytic method (Foulkes & Anthony, 1990) was based on free-flowing discussions in order to provide the participants with (1) a sense of security and belonging on the collective level, creating an atmosphere that enables expression of personal feelings; (2) an ability to discuss the feelings awakened by the group on a projective level; and (3) an awareness of one's inner world and its development in the complex relationship between past and present on the transference level. The action-based psychodrama group showed a higher increase in SOC than the dialog-based analytic group, while the improvement in the latter group was significant during the 6-month follow-up. The study concluded that due to its effectiveness, group intervention should be considered an important strategy alongside improvement in the organizational climate and second, that it was possible to enhance SOC by a relatively short group intervention among employees suffering burnout symptoms.

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Specific Resistance Resources in the Salutogenic Model of Health

13

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Introduction

This chapter discusses conceptual and concrete differences between generalized and specific resistance resources in the salutogenic model of health. How generalized resistance resources (GRRs) and specific resistance resources (SRRs) are developed differ, with implications for health promotion practice.

To summarize, the main idea is that GRRs arise from the cultural, social, and environmental conditions of living and early childhood rearing and socialization experiences, in addition to idiosyncratic factors and chance (Lamprecht & Sack, 2003; Lindström & Eriksson, 2005). SRRs, on the other hand, are optimized by societal action in which health promotion has a contributing role, for example, the provision of supportive social and physical environments.

The Salutogenic Model of Health Logic

Antonovsky (1987) called for research to develop scientific knowledge about strengthening the sense of coherence. This could be done by building on the resistance resources (RR) that are the properties of individuals, groups, and even situations. GRRs facilitate coping with stressors and strengthen the sense of coherence. Confronting the question of how a strong sense of coherence translates into better health, Antonovsky proposed that "a strong SoC […] allows one to 'reach out,' in any given situation, and apply the resources appropriate to that stressor" (Antonovsky, 1996, p. 15).

The highly simplified salutogenic model of health logic is

$$\text{RR} \rightarrow \uparrow \text{SOC} \rightarrow \uparrow \text{use of RR} \rightarrow \uparrow \text{HEALTH}$$

GRRs and SRRs will be formally defined later, but for now, GRRs are resources that have wide-ranging utility (one's social network, for example). In contrast, SRRs have situation-specific utility (e.g. an emergency phone number to reach the police). Antonovsky felt it was

> …imperative to focus on developing a fuller understanding of those generalized resistance resources that can be applied to meet all demands (Antonovsky, 1972, p. 541), while

> … [SRRs] are often useful in particular situations of tension. A certain drug, telephone lifelines of suicide prevention agencies… can be of great help in coping with particular stressors. But these are all too often matters of chance or luck, as well as being helpful only in particular situations…[and] … it is the GRR that determines the extent to which specific resistance resources are available to us (Antonovsky, 1979, p. 98–99).

This goes a great way toward explaining why Antonovsky's attention was mostly on the left side of this more detailed salutogenic model of health diagram:

$$\text{GRR} \rightarrow \uparrow \text{SOC} \rightarrow \uparrow \text{use of GRR}$$
$$\& \uparrow \text{use of SRR} \rightarrow \uparrow \text{HEALTH}$$

A more realistic depiction would be a systems-like diagram with double-headed arrows connecting everything to everything. The simplification above is useful for the present purpose, which is to elucidate the GRR/SRR distinction.

SRRs need not always be "matters of chance or luck". Indeed, it is an essential aspect of health promotion to replace chance and luck with fair and dependable availability of SRRs that support health. One of the highest priorities of health promotion is providing supportive environments for health (WHO, 2009). Supportive environments include both GRRs and SRRs, but as suggested in the salutogenic model of health logic above, they have distinctions.

Most of the space in this chapter is devoted to discussing the nature of SRRs and health promotion's role in their

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nurturance. However, some space is given to a brief overview of the nature of GRRs, to help illuminate distinctions, similarities, and interrelationships between GRRs and SRRs. The reader interested in a full exposition of GRRs is referred to Chap. 12 in this handbook and to chapter 4 in Antonovsky's *Health, Stress and Coping* Antonovsky (1979).

Antonovsky (1979, P. 99) defined a GRR as "any characteristic of the person, the group, or the environment that can facilitate effective tension management". He was quite clear that GRRs and SRRs are not exchangeable concepts: "…it is the GRR that determines the extent to which specific resistance resources are available to us… being literate or being rich… opens the way to exploitation of many specific resistance resources…" (Antonovsky, 1979, pp. 99–100). A perhaps more precise formulation is that when confronted with a particular stressor, a strong sense of coherence enhances one's ability to recognize and activate the most appropriate SRR from those that may be available.

Antonovsky (1979, pp. 103–119) discussed GRRs that operate through physical and biochemical mechanisms (e.g. immune function) that enable the acquisition of SRRs (as money may do), that are intrapersonal (e.g. with ego identity, intelligence, and coping), that are social (interpersonal ties and social embeddedness), and that are cultural (guiding as to how stressors should be encountered). GRRs play two important roles in coping: they help determine the strength of the sense of coherence, *and* they enable the use of specific resistance resources.

Specific Resistance Resources

Neither Antonovsky nor the few others who have written about SRRs have shown much interest in the GRR/SRR differentiation. For example, in Antonovsky's (1979) extremely detailed depiction of the salutogenic model of health (ibid, pp. 184–185), a strong sense of coherence is shown as mobilizing GRRs and SRRs, with no clear differentiation of the two. Both types of resistance resources are posited to have roles in avoiding stressors, in the definition of stimuli and non-stressors, and in overcoming stressors. Antonovsky hardly mentioned SRRs in his *Unraveling the Mystery of Health*, and he did not dwell on the distinction between GRRs and SRRs:

> What the person with the strong SoC does is … [choose] from the repertoire of generalized and specific resistance resources at his or her disposal… (Antonovsky, 1987, p. 138).

Others seem to agree that the GRR/SRR distinction is not particularly important. Poppius (2007) wrote about choosing "from the repertoire of generalized and specific resistance resources […] in what seems to be the most appropriate combination". Nene (2006) noted that the sense of coherence is influenced by GRRs and SRRs and makes no differentiation between them. Sullivan (2006) does make a differentiation, stating that nursing is a GRR while the nurse providing help with a particular problem is an SRR. Yet, Sullivan does not develop that distinction in terms of the role of sense of coherence. Haldeman and Peters (1988) intended to measure SRRs in a study to identify the combination of SRRs and tension that would best predict stress. They operationalized SRRs as satisfaction with family life and family finances, frequency of interactions with friends and relatives, and community resources used. These measures are distant from the concept of SRRs as distinguished from GRRs, even if the number of community resources is measured. SRRs are particular resources used in encounters with particular stressors, as in Antonovsky's example of using a suicide hotline by a suicidal person. Reininghaus et al. (2007) noted the distinction between GRRs and SRRs, in a study of the stress connected to assault on psychiatric nurses, and then rejected the distinction by creating a measure of "stress resistance resources" composed of self-esteem (a GRR), self-confidence (a GRR), received clinical supervision (an SRR), and staff support services (an SRR). Taylor (2004) differentiated GRRs and SRRs in her literature review of salutogenesis as a framework for child protection, but characterized both, without differentiation, as helping people to structure life experiences to reinforce the sense of coherence.

These citations are not "cherry-picked", highly selected counter-examples from an extensive literature in which GRRs and SRRs are discussed: they are all the instances in which SRRs received explicit attention in a reasonably thorough literature search.

Why do SRRs receive so little attention? One answer is that following Antonovsky's lead, there has been all-consuming attention to GRRs and the sense of coherence (Eriksson & Lindström, 2005) and its relationship to health and well-being (Eriksson & Lindström, 2006, 2007). Even if Antonovsky wished health promotion to focus on the sense of coherence as the dependent variable, most researchers have focussed on it as the independent variable. While this could be assumed to drive interest in SRRs as mediators in the sense of coherence/health relationship, such interest is not manifest. On the contrary, there has been little interest in the question of what *mediates* the connection between the sense of coherence and health, despite Antonovsky's postulation that a strong sense of coherence allows one, in any given situation, to apply the appropriate GRR and/or SRR (Antonovsky, 1979).

One additional, critical point needs to be made to clarify why SRRs have received little attention in salutogenic research and why this should be rectified. As already noted, Antonovsky viewed SRRs as all too often matters of chance or luck. In the mid-1990s, he observed that health promotion had not:

> …confronted the question of the creation of the appropriate social conditions which underlie or facilitate health-promotive behaviors, for example adequate day care facilities and access to health care, not to speak of incomes adequate for decent nutrition and housing. (Antonovsky, 1996, p. 12)

Put in contemporary terms, Antonovsky referred to social determinants of health (e.g. the GRR "income") and supportive social environments (e.g. the SRR "daycare facilities"). Examined closely, what may be a GRR from one person's perspective may be an SRR from another person's perspective. For example, a child daycare facility is an SRR for the parents, and hopefully, a source of GRRs for the child. In contrast, an eldercare facility is an SRR for the resident *and* an SRR for relatives that need professional care assistance.

Antonovsky's criticism of health promotion for not confronting social conditions was perhaps valid for the approach to health promotion that dominated in Europe and the USA in the 1970s and 1980s, concerned mostly with individuals' responsibility for their health and calling for individuals to abandon their risk behaviour to prevent chronic diseases.

However, health promotion has evolved. The 1986 Ottawa Charter for Health Promotion acknowledged individuals' responsibility but emphasized the importance of social determinants of health and creating supportive environments (Eriksson & Lindström, 2008; Kickbusch, 2003). In recent decades, health promotion moved from an almost myopic concern with individuals' health-related lifestyles to a balanced concern with processes for empowering individuals and communities to control their health. In good part, this is accomplished by creating environments supportive of health, or "appropriate social conditions" in Antonovsky's words. Health promotion's concern with appropriate social conditions has taken two forms. One is an overarching emphasis on reducing social inequities in health by a fairer distribution of social resources (Marmot et al., 2008). The other is the health promotion "settings" approach, in which schools, workplaces, and whole communities are considered as locales for health promotion, expanding from the traditional locus of health care in doctors' offices, health clinics, and hospitals (Dooris et al., 2007; Poland et al., 2009). Does health promotion's settings approach mean that it has engaged the SRR concept or the GRR concept? A nuanced answer depends in part on a precise definition of specific resistance resources.

Definition of Specific Resistance Resources

A useful definition of SRRs must distinguish them from GRRs. Bengt Lindström is famous for his illustrated lectures on salutogenesis. A cartoon figure travels across the chalkboard, in the river of life, encountering stressors, trials, and tribulations, equipped with a knapsack stuffed with GRRs acquired during a lifetime (Fig. 13.1). The main point is that the GRRs are already available to be engaged as needed as one encounters various situations creating tension. In concert

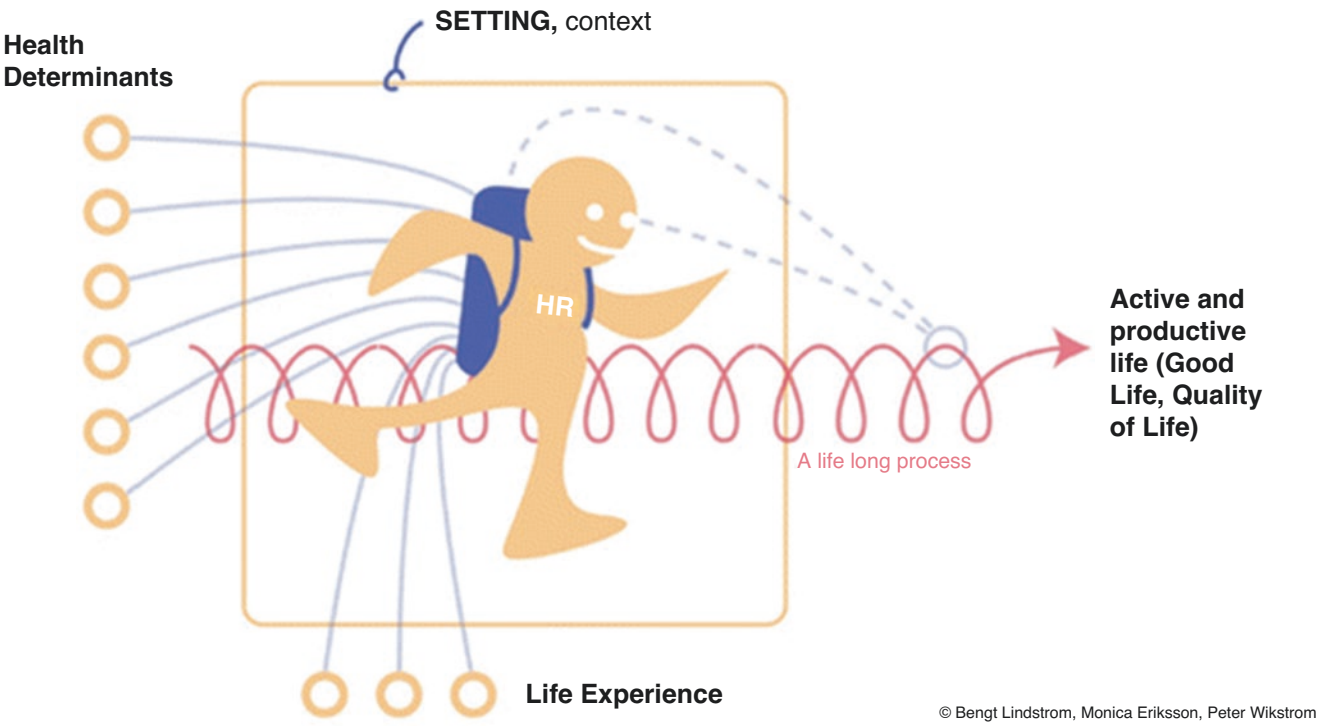

Fig. 13.1 Generalized resistance resources in the knapsack. (© Bengt Lindström, Monica Eriksson, Peder Wikström. All Rights Reserved)

with this metaphor, we conceptualize SRRs as available in the river, picked up and used as needed in specific encounters with stressors, and not necessarily placed in the knapsack afterwards. The relationship between GRRs and SRRs is that via the sense of coherence, GRRs enable one to recognize, pick up, and use SRRs in ways that keep tension from turning into debilitating stress, assuming useful SRRs are available.

A brief example: Having access to and understanding the empowering potential of the Internet is a GRR. The availability of information about your present worrying symptoms on Wikipedia is an SRR. That you have access to, and proactively search for, read, critically evaluate, and use the Wiki's information exemplifies the salutogenic model of health logic:

(a) GRR → ↑ use of SRR → ↑ HEALTH
(b) INTERNET → ↑ SPECIFIC WIKI → ↑ HEALTH

This is, of course, an oversimplification. For example, while the Internet has undoubtedly contributed to an enhanced sense of coherence for many people, it is but one of many GRRs having an equal or more significant influence on the sense of coherence. The diagram's point is not to depict the salutogenic model of health in detail but to show how GRRs and SRRs are substantially different. Of course, health promotion interventions might focus on both—increasing people's unfettered access to the Internet and their skill in using it (enhanced GRR) *and* making websites that address various specific health issues that are of salience when particular nasty symptoms pop up (enhanced SRR).

A formal definition of SRRs is shown in Fig. 13.2, using Facet Theory's sentence mapping approach (Borg & Shye, 1995; Canter, 2012). Antonovsky (1979) used the same approach to define key concepts, including health on the ease/dis-ease continuum (ibid, p. 65), GRRs (ibid, p. 103), and the sense of coherence (Antonovsky, 1987, p. 77). The elements in the three arrays of the mapping sentence definition are not meant to be exhaustive but rather are illustrative.

SRRs are instrumentalities whose meanings are defined in terms of the particular stressors they are invoked to manage.

A GRR is a generality, and an SRR is a particularity.

Usually, SRRs are not invoked unless tension is perceived to threaten to convert to debilitating stress, which many tensions do not. The salutogenic model of health is concerned with ubiquitous tensions that *can* convert to health-threatening levels of stress. Antonovsky (1979, pp. 89–90) listed these:

> …accidents and the survivors; the untoward experiences of others in our social networks; the horrors of history in which we are involved; intrapsychic, unconscious conflicts and anxieties; the fear of aggression, mutilation and destruction; the events of history brought into our living rooms; the changes of the narrower world in which we live, phase-specific psychosocial crises; other normative life crises—role entries and exits; inadequate socialization, underload, and overload; the inherent conflicts in all social relations; and the gap between culturally inculcated goals and socially structured means.

A useful examination of the differences between GRRs and SRRs should be undertaken with this understanding of psychosocial stressors in mind. At extremes—surviving a plane crash, taking an exam—stressors are stressors from the start or tensions that simply remain tensions.

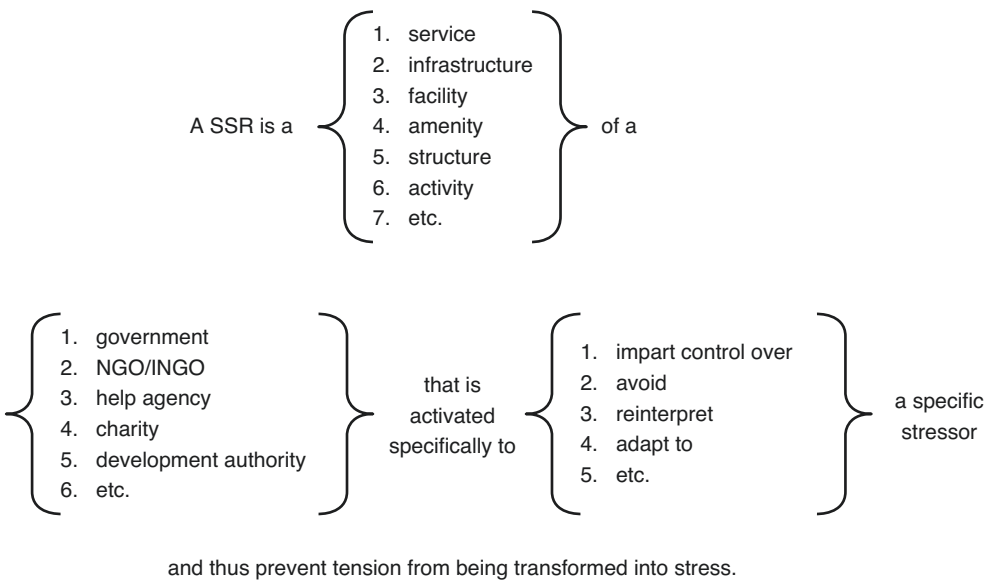

Fig. 13.2 Mapping sentence definition of specific resistance resources. (Reproduced with permission from Mittelmark et al. (2017))

Examples of Specific Resistance Resources

Health-Promoting Schools in Norway

Virtually all adolescents attending school are stressed by the demands of maturation, peer relations, teachers' demands, home and community conditions, and so on. In this cauldron of tension, schools in Norway (and in many other countries) have implemented *Health Promoting Schools* programmes which aim to support educational goals by attending to the health and well-being of all who inhabit the school milieu; students, teachers, administrators, parents, and neighbourhoods (Langford et al., 2015; Tjomsland et al., 2009; Wold & Mittelmark, 2018). The health-promoting school strives to meet these goals:

- Promote the health and well-being of students.
- Enhance the learning outcomes of students.
- Uphold social justice and equity concepts.
- Provide a safe and supportive environment.
- Promote student participation and empowerment.
- Link health and education issues and systems.
- Address the health and well-being issues of all school staff.
- Collaborate with parents and the local community.
- Integrate health into the school's ongoing activities, curriculum, and assessment standards.
- Set realistic goals built on accurate data and sound scientific evidence.
- Seek continuous improvement through ongoing monitoring and evaluation.

Thus, the health-promoting school aims to be a powerful GRR for the youth, the staff, the parents, and the surrounding community. The Norwegian school is also a repository of, or a portal to, some SRRs, offered through the school nursing service (Moen & Skundberg-Kletthagen, 2018) and other student-support services. Examples include support for pregnant students to help keep them in school, special education teachers and facilities equipped to help students with learning disabilities, and referral to community child protection services in cases of need.

These SRRs are present in or around the school, but they are not particularly salient to the adolescents that do not need them, and therefore do not use them. The school as a GRR helps contribute in a general way to strengthen the sense of coherence of many pupils, and a strong sense of coherence facilitates the uptake/use of particular SRRs when the need should arise. Let us consider two students. Jack has a typical day, experiencing "normal" strain and hassles, but nothing out of the ordinary happens. SRRs abound, but this student makes use of none of them; they are not salient. On the same day, Jill discovers she is pregnant, and her sense of coherence is high enough that she does not panic and sink into depression. Instead, she contacts the pregnancy support programme, which she knows about and trusts because of other pupils' good experiences. The pregnancy support programme is an SRR for this student, offering highly salient services at this inflection point in her life.

There is a vexing equity dimension to this. If SRRs are more readily available to those with lots of GRRs (e.g. money), SRRs might contribute to a widened equity gap. Equality in access to SRRs depends on a reasonably fair distribution of GRRs, so health promotion needs to focus on both types.

Child Health in the Andean Highlands in Peru

Perhaps the most apparent SRRs are social services established to provide targeted assistance to groups living in conditions that impart severe vulnerability (Mittelmark, 2021). A prime example was documented in research in a remote and low-income district in the Andean highlands in Peru (Urke et al., 2013). The field researcher (Urke) interviewed mothers with local reputations for providing good childcare. All the mothers participated in a Peruvian NGO-run social and health programme. The interviewer did not mention the NGO programme—a clear example of a social services SRR—to avoid prompting. The respondents explicitly referred to it and attributed improved health-related knowledge and skills to the NGO interventions that included education about nutritious meal preparation, childcare skills, and sanitation practices. This project also illuminated the close relation between GRRs and SRRs. There was some evidence that the women with more GRRs (such as money and social support in the home and the community) benefited more from the NGO's activities than did the women with fewer GRRs.

Support Services for Orphaned Children and Adolescents in Botswana

Another example of NGO-as-SRR is described in research from Botswana (Thamuku & Daniel, 2012). In collaboration with the Botswana Department of Social Services, the Botswanan NGO People and Nature Trust developed a programme called Ark for Children to provide support services for orphaned children and adolescents. They employ culturally appropriate interventions to strengthen orphans and build them into cohesive groups of age-mates who support each other. *Ark for Children* organizes 16-day retreats for up to 40 adolescent orphans from the same village. The retreats harken to historical *Setswana* initiation rites and link with cultural traditions recognized by the members of the adoles-

cents' community. The adolescents are followed up in a 3-year support programme. This is an illuminating example of an SRR (*Ark for Children*) that builds GRRs (social cohesion and supportive ties).

Sexual Orientation and Gender-Identity Support Services in the USA

Identity-based adversity begins early in life, affecting the availability and development of GRRs. Young people's experience of sexual orientation prejudice is exemplified in many cases by bullying, harassment, rejection, social isolation, and internalization of negative attitudes and beliefs. Gender-identity adversity is framed by stigma arising from societal norms and biases (Horn, 2019). While sexual preference-related adversity is typically an emergent feature in adolescence and young adulthood, gender-role tension may have roots in earliest childhood behaviour. Little boys are encouraged to dress, think, and act like boys "should" and little girls to act like girls, with norms varying according to their culture. Boys holding hands beyond young childhood is not gender-consistent in many cultures but is normative in other cultures. This points out that salutogenesis' relevance to identity-based adversity, tension, and coping is complex, rooted in culture and impacting one's early life experience, the acquisition of GRRs, the availability and use of SRRs, and therefore the development of the SOC.

In this chapter on the nature of SRRs, we turn aside momentarily, noting that the experience of and developing resilience to gender-related prejudice may be a GRR. In their research with young adults in the USA, Schmitz and Tyler's (2018) respondents explained it in ways like this: *"[My lesbian identity] opens up a lot more doors… I think that [it] opens up opportunities for friendship because you like to confide in people that have similar situations, so I think it builds stronger relationships"*.

Now narrowing the discussion to SRRs, we focus on just one dimension of salutogenesis and gender-based identity: the tension, stress, and coping-enabling SRRs of young persons with lesbian, gay, bisexual, transgender, and queer (LGBTQ[1]) identities. In coping research with lesbian, gay, and bisexual (LGB) American Latino and non-Latino young adults, Toomey et al. (2018) examined the use of three types of coping strategies: engagement of SRRs, alternatives-seeking strategies (e.g. finding new friends), and cognitive strategies (e.g. imagining a better future). Regarding SRRs, respondents reported employing a closely knit constellation of coping behaviours, including getting involved in LGBT groups and organizations, looking for services for LGBT youth, and looking for information on LGBT issues.

Similar findings are reported by Asakura (2016), whose LGBTQ respondents reported coping by engaging in collective action, by participating in safe social spaces like gay-straight alliances, and by accessing social services from organizations that welcome gender and sexual diversity among youth. Likewise, Schmitz and Tyler (2018) observed the importance of institutional support in LGBT coping. As one college student expressed it, "[the campus] is very open and accepting… there are plenty of resources on campus, specifically for LGBT students".

Non-institutional SRRs in Caregiving Dyads in Sweden

Figure 13.2 may convey an impression that SRRs are exclusively facilities and organizations whose mission is to provide specific types of assistance to people with particular needs. Yet, the definition does embrace the concept of SRRs in the private sphere ("activities", listed sixth in the first facet of the definition). This has been well described in a Swedish programme of research with caregiving dyads in which care was provided to persons aged 65+ (Wennerberg et al., 2016). Caregivers' overall feelings of competence in being a caregiver—a GRR in the researchers' analysis—were bolstered by caregiver SRRs such as having enough physical strength to provide physically demanding care activities (e.g. lifting) and having the professional/technical knowledge required for managing complex medication regimes. In these caregiving dyads, having children and grandchildren functioned as an SRR, a shared experience that was a mutual pleasure to the dyad (Wennerberg et al., 2019). A mutual understanding of the caregiving situation and good dyad communication skills was also revealed as an important SRR (ibid). For dyads in assisted living facilities, the facility—an SRR—enabled caregivers to gain/regain personal SRRs that had been problematic in their homes (SRR deficits). Examples cited by respondents included shopping facilities in the living complex, elevators, and apartments that were disability adapted (Eriksson et al., 2017).

The Swedish studies cited above also report findings regarding general and specific resources deficits (GRDs and SRDs) (Wennerberg et al., 2019). A discussion of GRDs and SRDs is beyond this chapter's scope. Still, it is in place to mention that the general-specific differentiation also pertains to negative life experiences, unsuccessful tension management, and a weakened sense of coherence. A caregiver's loss of a well-functioning partner is simultaneously a GRD—the

[1]Some of the acronyms used below vary from this form, following the usages of the various authors cited.

fading quality and equality of a mutually caring and sharing relationship—and an SRD as in the care receiver's reduced ability to reciprocate care (ibid).

Conclusion

This chapter's aim has been modest, to illuminate a part of the salutogenic model of health that seems to be overlooked—SRRs have as much or more relevance to health promotion practice as do GRRs. By drawing attention to SRRs, one also draws attention to what should be a core aim of health promotion: to ensure that the availability of the right SRR at the right time is not all too often a matter of "chance or luck", as Antonovsky worried.

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Part III

The Sense of Coherence in the Life Course

The Sense of Coherence in the Life Course

14

Claudia Meier Magistretti

Introduction

Antonovsky understood the sense of coherence (SOC) as the outcome of learning processes that begin at the time of birth, or even earlier. To create a strong SOC, these processes should provide challenges that are perceived as consistent, that allow participation, and are characterised by an underload–overload balance. Initially, Antonovsky considered the SOC to be relatively stable after early adulthood, with only minor fluctuations occurring after that. Later, he clarified that stability of the SOC pertains mainly for adults with a strong SOC, since "the person who has, in early adulthood, crystallised a strong SOC, [has] the ability to bring into play the generalised resistance resources available to him or her" (Antonovsky, 1987, p. 121).

Antonovsky assumed that early childhood is a critical period to create a strong SOC. He conceptualised the infant as an active subject that can interact in ways that produce stable, consistent response interactions (Antonovsky, 1987, p. 94). These actions occur very early, according to Antonovsky, immediately after birth.

Relating to Bowlby's attachment theory, he developed the idea that a strong sense of comprehensibility is fostered early in life by the consistent experience of parents' and other caregivers' responsiveness and sensitivity. Still, Antonovsky criticised the imperative for parents to be always consistent and responsive, stating that real life is far more complex. Perfectly responsive parents do not exist, because multiple tasks and demanding environments are the reality for all. On the contrary, "natural" frustrations are necessary to create a sense of comprehensibility. When the infant learns that objects and satisfactions can disappear and reappear, he or she learns about the continuity (and to a certain extent the predictability) of social interactions.

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Manageability is, according to Antonovsky, built by experiences of load balance fostered by parents that respect their child's abilities at different stages of development. Using the example of forced toilet training in toddlers, Antonovsky describes how overloading demands are created when the biological and psychological realities of the child are not sufficiently recognised. Consequently, the development of the sense of manageability can be disturbed or hindered by inappropriate expectations of a child's caregivers. In Antonovsky's thinking, load balance is achieved when a demand corresponds to the child's development state, in the sense that it is somehow "reasonable" and when it is subjected to the child's choice.

The sense of meaningfulness develops by participation in decision-making, which in early childhood occurs when the infant experiences that his or her actions produce the desired reaction in the adult. "To the extent that desired outcome is contingent on the infant and child's action", Antonovsky stated, "it can reasonably be said that early on there is participation in decision making" (Antonovsky, 1985, p. 97). The sense of meaningfulness in the early stage of life is fostered by the infant's experience of being able to pressure the environment to act and thereby comprehend that she or he *matters* to the parents or other caregivers.

In adolescence, the SOC is potentially volatile, and the basis that has been laid in childhood for a strong the SOC may become upset. This stage of life is characterised by transitions and a constant balancing of a fragile identity between "not anymore" and "not yet". Antonovsky related the development of the SOC to Erik Erikson's main developmental tasks that adolescents have to face in all cultures:

- First, they are challenged to develop a personality within a social reality that they have to understand.
- Second, they have to "get their act together" to acquire a "vitalising sense of reality" (Erikson, 1950, p. 89).
- Third, they need growing experience mastering challenges.

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The sense of comprehensibility is reinforced by the growing ability of the adolescent to develop a sense of reality. The experience of mastering challenges nurtures the sense of manageability. The sense of meaningfulness is supported by a "vitalising" way to deal with reality. Still, Antonovsky appreciated that adolescence is a fragile period of life, needing adult guidance.

Adulthood is perceived as a period of life where roles and GRRs are decisive for the development of the SOC and for shaping identity. Antonovsky assumed that in the first decade of adulthood, an individual tends to put together the new roles he or she assumes at work, in partnership, in creating a family, and in society. While some of these new roles may weaken the individual's SOC, others may strengthen it. The SOC is assumed to remain somewhat volatile in this period of life. Antonovsky supposed (but gave indications of not being entirely convinced) that at the end of the second decade, individuals have sorted out or accepted the different areas of life, and "one has attained a given location on the SOC continuum" (Antonovsky, 1987, p. 119).

Following Antonovsky's passing in 1994, Lindström and Eriksson (2010) defined the development of the SOC as a *lifelong learning* process. Analysing SOC levels in different age groups in longitudinal studies, they observed the SOC's tendency to strengthen with age (Lindström & Eriksson, 2010). The strengthening of the SOC over the lifespan is—neglecting some fluctuations—continuous, consistent over different measurement scales (SOC-13, the SOC-29), steady, and moderate.

Nevertheless, we know little about how the development of a stronger SOC occurs. Only recently, Maas and colleagues (2017) investigated mechanisms strengthening the SOC in adults. They found that systematic, coherent experiences in everyday life might play a crucial role in building a strong SOC.

Significant life events may cause fluctuations in the SOC. Becoming a parent, for example, is posited to be s a critical life experience that may alter one's SOC (Lindström et al., 2017). From the perspective of anthropological pedagogics, we can hypothesise that the SOC, as any other learning outcome, could benefit from sensitive phases of development. These have been studied in children as a developmental phase of specific readiness to learn, which enables a person to acquire specific skills and characteristics relatively effortlessly (e.g. Montessori, 1995). Further investigation of the SOC as a lifelong learning process may reveal critical points throughout life when the SOC is particularly prone to change.

As the preceding discussion shows, the development of the SOC is understood as a lifelong learning process. Among the important questions about this process are as follows:

- What are the crucial factors that contribute to build, enhance, and strengthen the SOC during the life course?
- Is the role of the SOC in coping stable during the life course, or does it have different functions at different life stages? For example, does the SOC open one to new GRRs at the beginning and facilitate access to GRRs later in life?
- Can salutogenic interventions strengthen the SOC during various phases in the lifespan?

The chapters in this part of the Handbook tackle all three of these questions with varying emphasis at different periods of life.

Childhood and Families

Chapter 15 on salutogenesis and the sense of coherence in families and children deals with the contributions of children's environments to the adjustment of children with typical development and the development of children with special needs. The chapter starts with a short description of childhood development. Orly Idan and colleagues report on their comprehensive literature review covering 20 years of research and 44 studies from 15 countries, including children from infants and toddlers through preschool to school-aged children up to 12 years of age. The construction and use of the children's SOC scale and methodological considerations are discussed. Also in focus is the influence of the SOC on various health outcomes, and children's emotional, social, and cognitive development (both in children with regular development and in children facing challenging life circumstances, health-related adversity, and special needs).

The chapter concludes that the SOC plays a significant protective role at school and emphasises the crucial role of teachers' ability to engage with children in responsive and caring relationships. For families with children with special needs, the SOC is demonstrated to be a significant protective factor related to coping and hopeful thinking, as well as to parental adjustment and effective coping outcomes. The chapter also provides examples of programs to foster the SOC in young children, by promoting play and reinforcing self-worth in the first years of school.

Adolescence

In Chap. 16 by Braun-Lewensohn and colleagues, the focus is on salutogenesis and the sense of coherence during the adolescent years. The authors' approach is itself salutogenic, in the sense that they develop their arguments in line with a positive youth development perspective. Adolescents are appreciated as individuals eager to explore the world, to

acquire competence, and to struggle with challenges and difficulties, rather than as a vulnerable group in need of risk prevention, cure, and treatment for maladaptive tendencies.

Still, the literature is replete with studies of the authors' review of more than 30 studies in 16 countries shows a significant role of the SOC for physical and mental health, health behaviour, social adaption, and academic or professional success of adolescents. This is demonstrated for the individual the SOC (in several studies measured by specific adolescent the SOC scales) and hypothesised for family and community the SOC. In adolescence, the SOC is a predictor for physical health and the use of medication in consequence.

The studies reviewed in this chapter confirm that a strong SOC is associated with reduced stress, and decreased internalising/externalising of problems. Related to health behaviours, adolescents with stronger SOC report a more healthy lifestyle as well as a better quality of life and well-being. The authors report on studies observing that a strong SOC in adolescence is associated with higher levels of physical activity and exercise, less tobacco and alcohol use, and healthier eating habits.

Factors strengthening the SOC in adolescence are discussed, with an emphasis on the child's socio-ecological context, such as open family communication, child-centred parenting, and parents' knowledge regarding their children's activities. The authors also discuss how social support and neighbourhood and community cohesion may play a positive role in the development of a strong SOC in adolescence.

Transitions in Adulthood

Salutogenic research with adults has focused on their roles in workplaces, families, communities, and caregiving institutions. Researchers have tended to neglect the lifetime and developmental perspective of adult age. This might reflect a general view of the adult as a performing, not as a developing individual. It might be, as well, a consequence of methodological difficulties in describing transitions at various points of life in biographies that may deviate from a formerly "normal" life course, becoming more and more diverse.

Nevertheless, lifespan developmental psychology of the past two decades provides an understanding of adulthood as a series of interrelated transitions (Sugarman, 2001). Transition periods have been shown to play a crucial role in one's adaption to life stressors, and the development of physical and mental health throughout the life course.

In Chap. 17, Claudia Meier Magistretti and Beat Reichlin treat the topic of the transition from adolescence to adulthood and focus on young adults facing difficulties during this transition. Young adults not in education, employment, or training (NEETs) emerged only recently as an interest in public health and health promotion debate. Although estimates of the number of NEETS vary, the problem seems to be global and growing. This has stimulated the International Labour Organisation to talk in terms of "a generation at risk". Yet, the many programs that try to support NEETs fail to reach them and guide them successfully into work, housing, and social participation.

The authors consider why current initiatives to assist NEETs do not produce sustainable effects. "Helping" systems regard NEETs as patients, cases, or not yet enabled adults and thereby fail to meet their needs as well as their potential. Confronting the limits of current approaches, the authors emphasise the need for a salutogenic orientation in research and practice with NEETs. To provide guidance and inspiration in this direction, the authors describe new and promising NEET initiatives. These initiatives are characterised by having a genuine health orientation, NEET participation, the centrality of learning processes, and flexible, adaptive models of individual and social development in combination with enhanced employment, education, training, and entrepreneurship opportunities.

In Chap. 18, Ottomar Bahrs and colleagues focus on the transition from middle to late adulthood. The questions of when and how past transitions affect subsequent aging are discussed. While middle age was long considered undramatic, the authors state that it is increasingly gaining profile. They focus on a phase typically observed in the sixth decade of life, characterised by the initiation of the transition to deprofessionalisation and change of responsibilities within the family when crisis and chronic situations can lead to the need for help from health professionals.

Bahrs and colleagues deliberate on how a dialogue between middle-aged adults and professionals can contribute positively to the naming, modification, design, and further development of health goals, linking physiological and unconscious processes to the theory of salutogenesis.

Notably, the authors frame illness processes from the perspective of salutogenic resources, also discussing the *benefits* of crises experienced in middle adulthood.

I hope the authors' novel ideas about a salutogenic perspective on life in middle adulthood will inspire researchers and practitioners to a more innovative approach to this large segment of society.

Older Age

In Chap. 19, Maria Koelen and Monica Eriksson consider the meanings of the concepts of healthy aging, aging well, salutogenic aging, and reciprocity between the SOC and aging processes. They discuss how the community can pro-

vide resources to strengthen older adults' SOC, perceived well-being, and quality of life. Quoting "It's not how old we are; it's how we are old", the authors illuminate critical differences in understanding healthy aging by professionals, researchers, and older people themselves.

While professionals tend to focus on negatively phrased topics (e.g. disability, disease, loneliness), older people emphasise a supportive social environment, the ability to use resources, to manage restrictions, and to make one's own decisions. As the authors clarify, evidence on the potential for enhanced health at older age points clearly to these factors: participation in social networks, contact with family and friends, and engagement in leisure and social activities. Since many of the prerequisites to strengthen general resistance resources (GRRs), specific resistance resources (SRRs), and the SOC are provided by or mediated through the community, the authors emphasise the role of intergenerational and age-friendly communities in providing supportive neighbourhood environments, social cohesion, and adequate transportation facilities for older people, and support for their ability to continue living in their own homes.

Enhancing the Sense of Coherence along the Life Span

Chapter 20, by Eva Langeland and colleagues, is titled *Effectiveness of interventions to enhance the sense of coherence in the life course: a summary of the empirical evidence.* It provides an overview of the effectiveness of programs and interventions that aim to strengthen the SOC throughout the lifespan. The authors report on more than 40 studies investigating the effectiveness of interventions to strengthen the SOC. They structure and summarise findings for young people, employed and unemployed adults, health professionals, people with disabilities, people with psychosomatic and mental health problems, people with physical problems, hospital patients, and older people. Even though most studies are limited to short-term pre-test and post-test study designs, a few studies have investigated the effects of intervention for longer follow-up periods of up to several months, and even more than 1 year.

The authors classified interventions on the extent of their salutogenic orientation, defining criteria for salutogenic interventions based on Antonovsky's theory and current research. They found that the effective interventions aiming at strengthening the SOC might have three qualities: they facilitate access and use of GRRs and SRRs, they foster active participation, and they understand SOC development as a learning process. The authors conclude that more intervention studies are needed, with (a) a more robust grounding in salutogenesis principles, (b) larger sample sizes, (c) longer follow-up periods, and (d) stronger research designs. Overall, the chapter indicates that it is possible to improve the SOC throughout the whole life course and that health promotion professionals' work to enhance the SOC should embrace a person-centred, resource-oriented approach.

Knowledge, Gaps, and Perspectives

In closing, we return to the three questions posed at the start of this chapter:

- What are the crucial factors that contribute to build, enhance, and strengthen the SOC during the life course?
- Is the role of the SOC in coping stable during the life course, or does it have different functions at different life stages? For example, does the SOC open one to new GRRs at the beginning and facilitate access to GRRs later in life?
- Can salutogenic interventions strengthen the SOC during various phases in the lifespan?

Addressing the first question on crucial factors that contribute to a strong SOC in the various phases of the life course, the authors of these chapters are unanimous about the significance of a strong linkage between the development of the SOC and the availability and use of GRRs. Even though GRRs change during a lifespan, the family, the social circle, and the community environment are crucial to the development of a strong SOC from early life to old age. At all life stages, the SOC is the product of the *interaction* of an individual and the environment—of the SOC, GRRs, and SRRs.

Therefore, the enrichment, attainability, and accessibility of resources are crucial to strengthening the SOC. This conclusion, based on mounting evidence presented in these chapters, is supportive of Antonovsky's contention that the most significant potential for strengthening the SOC lies in the availability and use of resistance resources.

Yet, as he regretfully noted, fostering resistance resources in a significant way depends on "radical change in the institutional, social, and cultural settings that shape people's life experiences" (Antonovsky, 1987, p. 124). Those levels of social life are rarely subjects of health research and not a primary focus of the chapters discussed here. However, this subject is taken up in other parts of this Handbook, most notably in Chap. 24 on the application of salutogenesis in politics and policy-making.

The answer to the second question is that we lack sufficient evidence to comment decisively about the stability of the SOC during the life course and its functions at dif-

ferent ages. There is a striking lack of research on healthy adults and little research on weak SOC and how to strengthen it. Questions of how a strong SOC is created in children are partly answered, but we do not know how a strong SOC is created and maintained in adulthood, and we do not know how stable positive changes in people's SOC are over the lifetime. This gap might be due to the view of the adult as a performer of different roles, rather than as an individual in development. Therefore, salutogenic research investigates adults mainly as employees, parents, patients, caregivers, or inhabitants of cities or communities.

The third question, on how to strengthen the SOC, can be answered to a degree. It seems the SOC can be influenced at any age and in many life situations, as Chap. 20 on salutogenic interventions discusses. Antonovsky suggested that lasting SOC strength is obtained when interventions enable people to perceive coherent life experiences, when they learn how to nourish their sense of comprehensibility, meaningfulness, and manageability.

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Salutogenesis: Sense of Coherence in Childhood and Families

15

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Introduction

Infancy and early childhood are distinct developmental periods in which young children differ significantly from older children, adolescents, and adults in terms of cognitive skills, language and communication, self-regulation, and socioemotional functioning (Mowder et al., 2009). The science of early childhood development demonstrates that the foundations for sound mental health are built early in life, as early experiences shape the architecture of the developing brain (Miller & Kinsbourne, 2012). These important experiences include children's relationships with parents, caregivers, relatives, teachers, and peers, which play a critical role in shaping social, emotional, and cognitive development. Recent research indicates that early intervention can have a positive impact on the trajectory of common emotional or behavioral problems as well as on outcomes for children with adversities and disorders (National Scientific Council on the Developing Child, 2012). Adverse experiences early in life, particularly for vulnerable children, have been shown to predict the emergence of later physical and mental health problems (Edwards et al., 2003). Although mental health challenges for young children share many biological and behavioral characteristics with those of older children and adults, several aspects differentiate early childhood from later developmental stages. First, emotional health for young children is very strongly influenced by their environment and the nature of their relationships and the support or risks these relationships confer. Therefore, it is essential to examine the quality of the children's environments and relationships to tap the risks for adversaries and the protective factors that may assist in promoting mental and physical health. Second, cognitive, social, and emotional characteristics are all intertwined within the architecture of the brain, and these capacities vary at different developmental stages. Children understand, manage, think, feel, and talk about their experiences differently at different ages. These developmental differences are important to understanding the behavioral and emotional risks and protective factors involved. Finally, in early childhood, it can be challenging to distinguish temporary deviations in behavior from persistent problems, or typical differences in maturation from developmental delays (Rubin et al., 2006).

From birth, children develop their abilities to experience and express a diverse range of emotions, as well as their capacity to cope with and manage different feelings (Thompson & Lagattuta, 2006). The development of these capabilities occurs at the same time as a wide range of highly visible skills in mobility, cognition, and communication (Thompson, 2001). The foundations of social competence that are developed in the first 5 years are linked to emotional well-being and affect a child's ability to functionally adapt in school later on and form promoting relationships during adolescence and adulthood (Cassidy & Shaver, 1999). Therefore, it is important to address children's affective and cognitive aspects. Failure to address difficulties in the socioemotional domain may result in missed opportunities for interventions at critical periods (National Scientific Council on the Developing Child, 2004).

The emotional experiences of newborns and young infants occur for the most while interacting with their caregivers.

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Associations between positive emotions and the availability of responsive caregivers are strengthened during infancy in both behavior and brain architecture (Cassidy, 1994). Toddlers and preschool children depend on their emerging capacities to interpret their personal experiences and understand what others are doing and thinking, as well as to interpret the distinctions between different responses to them. By the end of the preschool years, children who have acquired emotional regulation skills can use their awareness of their own and others' feelings to interact daily (Thompson & Lagattuta, 2006). Studies on preschool children have shown how the interrelated development of emotion and cognition relies on the emergence, maturation, and interconnection of complex neural circuits in multiple areas of the brain (Davidson et al., 2002). A large-scale study examining a biopsychosocial model of risk and resilience on behavior at preadolescence indicated the importance of biological and psychosocial factors, including the SOC, on resilient outcomes and preadolescents' mental health (Agnafors et al., 2017).

Thus, the emotional development of young children is correlated to the characteristics of the environments in which they live, including their families, school, and community (Reid et al., 2002). A Children's Sense of Coherence Scale (CSOC) based on the three components of the SOC construct was developed (Margalit & Efrati, 1995).

Children's Sense of Coherence Scale

The Children's Sense of Coherence Scale (CSOC) (Margalit & Efrati, 1995) is an adaptation of the Antonovsky Orientation to Life (Sense of Coherence—SOC) Scale (Antonovsky, 1987). In line with the sense of coherence construct and the adults' scale, a children's version (CSOC) was developed, field-tested, and revised several times at the Special Education Laboratory in Tel-Aviv University.

Due to the children's young age and reservations regarding the ability of children to comprehend the construct and scale, it was decided to develop a scale that would meet the unique characteristics of the target population. The scale was developed in collaboration with Aaron and Helen Antonovsky. The scale included distractors relating to the children's lives and activities. The CSOC's wording, the order of words, examples, and distracters were examined to ensure the comprehension of young children and the inclusion of age-appropriate content. Since its development, several new versions have been used, such as for junior high school students, omitting the distracter items, for example, "I'm interested in lots of things" and "I'm interested in lots of things in my class" (for school-based research, or "at home"—for family-based research). In general, distractors were coherent with culture.

The children's scale was tested on children of age 5 to adolescents. Comprehension was examined using unstructured interviews; a series of retests verified stability. Conceptually, the items were derived from SOC-29 and the three components of the SOC. This consisted of 16 primary items and 3 filler items on a four-point Likert scale (the range was reduced to 4 from "never" (1) to "always" (4)). Scores ranged from 16 to 64, with items describing the children's feeling of confidence in their world, as expressed in their sense of comprehensibility—understanding their environment (i.e., "I feel that I don't know what to do in class"); sense of manageability—feelings of control, and confidence that when help is needed, it will be available (i.e., "when I want something, I'm sure I'll get it"); and meaningfulness interest in investing efforts in different tasks (i.e., "I'm interested in lots of things") (Alpha = 0.72). Similar to the SOC scoring procedures, a high score reflected a high level of CSOC.

Studies using the CSOC explored children's personal and contextual resources and their ability to perceive family, social, and educational environments as structured and meaningful realities. The following section presents studies that used CSOC.

Studies on SOC During Childhood

A systematic search for studies on children and SOC between the years 2000 and 2019 in online databases (PsychoInfo, Ebsco, Proquest, APApsycnet, SocioFile, SAGE, Web of Science, and PubMed) using keywords (sense of coherence, salutogenesis, children, and family) and Boolean operators, presented 44 studies from 15 countries. Table 15.1 summarizes the studies.

Two major foci emerged from the review of the studies: Children's SOC within the family, school, peer group, and community environments and CSOC as a predictor of children's health and health behavior. The studies relating to CSOC and different contextual environments may be divided into three age groups/developmental stages: the preschool age stage, the elementary school-age stage, and a prolonged stage from infant to adolescence/adulthood focusing on families of children with special needs.

SOC and the Child's Environments: Family, School, Peers, and Community

The salutogenic paradigm focuses on promoting growth and adjustment. The following research deals with the contributions of children's environments: families, friends, and school systems, to the adjustment of children with typical development and children with special needs. The resilience

Table 15.1 Studies (2000–2019) on SOC during childhood

Author	Year	Place	Population	Variables	Results
1. Agnafors et al.	2017	Sweden	889 children and mothers from a birth cohort	Maternal symptoms of depression, psychological risk, children's experiences of life events, genetic polymorphisms, child temperament, social functioning, maternal sense of coherence	The l/l genotype of the serotonin-transporter-linked polymorphic region was associated with lower internalizing scores, but not mainly related to the level of adversity. An easy temperament was associated with resilience for children exposed to high adversity. Social functioning was found to be promotive independent of the risk level
2. Al-Yagon	2003	Israel	145 mother–child dyads of 5–6.5-year-old kindergartners with/without mild developmental delays	Children: developmental delay status, temperament, gender, loneliness, SOC, friendship nomination, attachment security style; mother's SOC, family cohesion and adaptability	Child's SOC demonstrated that the attachment pattern mediator variable significantly explained 15% of the variance among children with developmental delays. Children with secure attachment reported higher levels of SOC than children with insecure attachment
3. Al-Yagon	2007	Israel	110 mother–child dyads of 8–11-year-old schoolchildren with/without LD	Children: LD and non-LD group, gender, loneliness, SOC, attachment security style, hope; mothers: coping, affect, experience in close relationships, child behavior	Mothers' low use of avoidant coping strategies and less avoidance in close relationships with significant others were found to moderate the effect of children's disabilities on children's levels of loneliness, hope, and secure attachment
4. Al-Yagon	2008	Israel	58 mother–child dyads of 8–11-year-old schoolchildren	Children: loneliness, SOC, mother-rated behavior; mothers: SOC, attachment style, loneliness	Maternal SOC significantly contributed to all child socioemotional adjustment measures and attachment scores
5. Al-Yagon	2010	Israel	205 mother–child dyads of 8–12-year-old schoolchildren with/without LD	Children: LD and non-LD group, gender, SOC, attachment security style, hope, effort; mothers: experiences in close relationships, affect, child behavior	Children's adjustment and SOC mediated associations between maternal emotional resources and children's well-adjusted functioning. The significantly lower SOC among children with LD emphasized this coping resource
6. Al-Yagon	2011	Israel	205 father–child dyads of 8–12-year-old schoolchildren with/without LD	Children: LD and non-LD group, gender, SOC, loneliness, attachment security style, hope, effort; fathers: coping, SOC, child behavior	The mediating role of CSOC emerged for both groups in the association between fathers' resources and children's well-adjusted functioning. The significantly lower SOC among children with LD emphasized this coping resource
7. Al-Yagon	2012	Israel	312 8–12-year-old schoolchildren with/without LD and their parents	Children: LD and non-LD group, gender, SOC, loneliness, attachment security style, hope; parents: child behavior	Children who felt securely attached to both parents reported a higher global orientation or enduring tendency to see the world as comprehensible, manageable, and meaningful than children who felt securely attached to only one parent or neither parent. In contrast, children who exhibited insecure attachment to both parents appeared to be the most vulnerable in forming coping resources

(continued)

Table 15.1 (continued)

Author	Year	Place	Population	Variables	Results
8. Al-Yagon	2014	Israel	107 children with LD and 98 children with typical development ages 8–12 years	Children's attachment with father and mother, loneliness, SOC, hope, effort, internalizing behavior syndrome	Results indicated the unique and complementary roles played by children's attachment with the father and with the mother for explaining children's internalizing socioemotional variables. The LD group's heightened vulnerability to insecure attachment relationships with significant others was revealed
9. Al-Yagon	2015	Israel	107 parent couples with LD children and 98 couples with typically developing children, ages 8–12 years	Parents' low anxious/avoidance attachment, low/high negative affect, active/avoidant coping, SOC	Results revealed the contribution of fathers' high attachment anxiety to their greater use of active coping strategies; a lower effect of avoidant attachment than anxious attachment in discriminating between individuals' coping strategies was found; higher levels of positive affect significantly contributed to parents' higher SOC level for groups of fathers and mothers of children with LD
10. Al-Yagon and Cinamon	2008	Israel	96 mother–child dyads of 8–12-year-old schoolchildren with/without LD	Children: LD and non-LD group, gender, attachment security style; mothers: experiences in close relationships, affect, work–family relations, SOC, family cohesion, and adaptability	Higher maternal perceptions of the world as comprehensible, manageable, and meaningful contributed significantly to children's secure attachment and level of connection, closeness, and involvement between the family members
11. Al-Yagon and Margalit	2006	Israel	266 third graders with/without reading difficulties	Loneliness, SOC, children's appraisal of the teacher as a secure base	Children's perception of their teacher as their secure base correlated significantly with higher levels of SOC and lower levels of loneliness
12. Al-Yagon and Mikulincer	2004	Israel	196 8–11-year-old schoolchildren with/without LD; 23 homeroom teachers	Children: LD and non-LD group, gender, loneliness, SOC, attachment security style; teachers: ratings of children's academic functioning	Secure attachment classification correlated significantly with higher levels of SOC and lower levels of loneliness
13. Berntsson and Gustafsson	2000	Sweden	1163 7–12-year-old schoolchildren	Psychosomatic complaints, mental stability, family activities, parents' health status, gender, parents' social class, education, income, ethnicity, employment, and family structure	Predictors of psychosomatic complaints were mother's health, child's mental stability, contacts with peers, long-term illness, and via other factors, parents' SOC, social competence, and school satisfaction
14. Bonanato et al.	2009	Brazil	546 mother–child dyads of 5-year-old preschool children	Mothers' SOC, oral health status, social class	Mothers with lower levels of SOC were more likely to have children with decayed teeth or filled teeth regardless of the child's social class and gender
15. Dabrowska	2003	Poland	77 parents of children with cerebral palsy (CP) and 62 parents of typically developing children	Coping, stress, SOC	Parents of children with cerebral palsy, reporting higher levels of SOC, less often used avoidance, wishful thinking, and resignation as coping strategies than parents reporting lower levels of SOC

16. Dabrowska	2008	Poland	128 fathers of children with and without developmental disabilities	SOC, coping	Fathers of children with developmental disabilities reported lower levels of SOC more frequently and used strategies of avoidance compared to fathers with higher levels of SOC that used confrontation more frequently and positive reappraisal and problem-solving behavior
17. Efrati-Virtzer and Margalit	2009	Israel	337 schoolchildren grades 3–6 with/without behavior difficulties (BD); 47 teachers	Children: SOC, loneliness, peer nominations; teachers: hyperactive behavior, aggressive behavior, academic achievements	Teachers evaluated students with BD as achieving lower academic grades and displaying higher levels of hyperactive behavior and aggression. Children with BD were less accepted by their peers, reported lower levels of SOC and higher levels of loneliness. Students who were rated by their teachers as revealing higher levels of hyperactive and aggressive behavior experienced lower levels of personal coherence
18. Einav et al.	2012	Israel	111 mother–child dyads of infants ages 3–24 months with developmental delays	SOC, family cohesion and adaptability, coping, hope	Mothers with high levels of SOC and with high coping strategies felt more hopeful. In families characterized by flexibility and open to changes, mothers reported higher levels of coping that contributed to their hope measure. Family cohesion was interrelated with mothers' SOC, but not directly related to coping or hope. Cohesion was related to hope only indirectly, mediated through mothers' SOC
19. Eli et al.	2016	Sweden	565 mothers of 4-year olds	SOC, maternal and child characteristics, pressuring or restrictive feeding practices	Child gender, age, and BMI were not associated with SOC. Lower SOC was associated with controlling practices and with concern about child weight and eating
20. Feldman et al.	2018	Israel	1719 fifth and sixth graders from 29 schools	SOC, hopeful thinking, loneliness, family cohesion, effort, success in school	The results support the distinctive contribution of family cohesion and the mediating roles of sense of coherence and hope (as protective factors) as well as loneliness (as a risk factor) in predicting students' school effort
21. Forinder et al.	2005	Sweden	52 patients ages 9–22 years (at least 3 years following stem cell transplant (SCT))	Late effects in each of eight predefined problem categories, patient activity, SOC, quality of life	SOC scores for younger children (ages 9–12 years) showed that the SCT group was on par with that of both the norm groups and other chronically ill children. The mean value for the younger children in the SCT group was on par with that of the norm group
22. Groholt et al.	2003	The five Nordic countries	9524 2–17-year-old children of which 35% were co-responders (with their parents), 2% children	Parental SOC, parental health, marital status, education, socioeconomic status, income, child chronic health condition, child gender	Compared to the higher social classes, low levels of SOC were more common in the lower classes. The association of child health with parental SOC was found to be disability-specific (diabetes, epilepsy, psychiatric problems)

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Table 15.1 (continued)

Author	Year	Place	Population	Variables	Results
23. Hedov et al.	2002	Sweden	207 parents of children (ages 3.5–7 years) with down's syndrome (DS), 237 parents of healthy children	Parents' groups, SOC, parental self-perceived stress, frequency of gainful employment, amount of time spent on child care	Mean SOC scores of the parents of children with DS did not differ from those of the control group. Parents from both groups who experienced lower stress in parenthood had a stronger SOC
24. Hintermair	2004	Germany	235 mothers of children ages 1–13 years with hearing impairments	SOC, stress, life satisfaction, social support, age, gender, education, means of communication with children	Mothers with a stronger SOC had an advantage in coping with the experience of raising a deaf and hard of hearing child over mothers with lower SOC scores. SOC was of greater importance than experienced social support
25. Honkinen et al.	2005	Finland	1231 12-year-old schoolchildren	Profession of parents, gender, SOC, physical activity, weight, academic achievements, social support, class climate, psychosomatic symptoms	SOC and variables of social support were found significantly associated with perceived health. Physical exercise and SOC were associated with perceived health and father's occupation, and low SOC was found to be independently associated with relatively poor health
26. Jellesma et al.	2006	Netherlands	153 8–13-year-old schoolchildren at three levels of somatic complaints	Groups: Low somatic complaints, many somatic complaints, clinical group; happiness, anger, fear, sadness, depressiveness, emotion awareness, SOC	The clinical group and the children with many somatic complaints reported more negative moods on the anger, sadness, and fear scale, more difficulty differentiating emotions, and a lower SOC
27. Kan et al.	2015	Japan	1497 men and 1764 women from the Stratification, Health, Income, & Neighborhood Study (J-HINE)	Mastery, SOC, childhood SES, self-related health, psychological distress	Mastery and SOC significantly and independently mediated the association between childhood SES and current health in the total sample after adjusting for age, gender, and respondent education, regardless of the type of SES or health outcome indicators. SOC significantly mediated the association between parents' education and current health only among women, and it mediated the association between perceived childhood SES and current health only among men
28. Krause	2011	Germany	226 5–10-year-old schoolchildren; longitudinal	Health promotion by self-worth reinforcement program, SOC, feeling of self-worth, sense of belonging	Developing sense of coherence in promoting mental health in schoolchildren was perceived fundamental and most effective in the early years of childhood, requiring training of professionals within the school
29. Liberman et al.	2013	Israel	50 5–6-year-old schoolchildren with/without developmental coordination disorder	Gender, mother education, family income, place of living, movement, children's partaking (completed by parents for ages 4–6.5), performance skills, SOC, hope, effort	Levels of SOC, hope, and effort in children with DCD were lower than their typically developing peers. The explanatory variables (SOC, hope and effort, motor skills, and processing skills) did not predict either the diversity or the frequency measures of participation

30. Londal	2010	Norway	36 8–9-year-old children participating in an after-school program; 4 months, qualitative	Play, SOC	Play in the ASP had considerable potential for promoting the children's SOC. Most of the children in the study experienced their world as comprehensible, manageable, and meaningful. Negative thoughts and feelings were reduced during bodily play. Play offered particularly strong opportunities for the children themselves to shape outcomes and interact with children
31. Mak et al.	2006	Hong Kong	157 mothers of children with autism (ages 1–28)	Severity of autistic symptoms, SOC, parenting attitudes, parenting stress, age, education, marital status, income	Mothers with a higher level of SOC reported less stress than those with a lower level. SOC had a moderating effect on the association between symptom severity and parenting stress
32. Margalit et al.	2006	Israel	80 mothers of children ages 2–39 months exhibiting delayed development	SOC, family cohesion and adaptability, mood, coping, parenting stress	Mothers from noncohesive families with lower SOC experienced higher levels of stress than mothers from cohesive families with higher SOC. Mothers from noncohesive families with lower SOC experienced lower levels of positive mood than mothers from cohesive families with high SOC
33. Most et al.	2000	Israel	98 5–6.4-year-old preschool children with/without risk for developing LD	Groups (at risk and not at risk), gender, phonological awareness skills, loneliness, SOC, peer acceptance	Children at risk scored lower on phonological awareness, loneliness, SOC, peer acceptance. The largest group of children at risk had the lowest levels of SOC and phonological awareness skills
34. Nammontri et al.	2013	Thailand	257 10–12-year-old schoolchildren; 133 intervention group	Clinical variables, oral health-related quality of life, SOC, oral health beliefs	Greater SOC predicted positive health beliefs and fewer symptoms. Intervention provided evidence that SOC influences oral health-related quality of life
35. Natvig et al.	2006	Norway	4116 schoolchildren age 11, 13, and 15 years.	Age, gender, SOC, supportive school climate, learning conditions, school-related stress	In analyses of all resources and stress factors, the strongest and most adverse associations with the SOC were seen with feeling pressured by schoolwork. Among girls, this association was strongest for the youngest group. School-related factors represent both resource and stress factors of importance for the SOC
36. Neves et al.	2019	Brazil	769 5-year-old preschoolers from public and private schools	Parental/caregiver SOC, SES, untreated dental caries,	The prevalence of clinical consequences of untreated dental caries was low in the present sample and was associated with socio-demographic factors (type of preschool, caregiver's age, and the number of children in the family) and SOC
37. Oelofsen and Richardson	2006	United Kingdom	104 fathers and mothers of preschool children (average age 43.8 months) with/without developmental disabilities	Family structure, parental age, socioeconomic classification, child gender, child age, SOC, parenting stress, parental health status, parental social support	Parents of children with DD reported parenting stress within the clinical range, weaker SOC, and poorer health than parents of children without DD. Mothers of children with DD reported poorer health, higher levels of parenting stress, and weaker SOC than their partners

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Table 15.1 (continued)

Author	Year	Place	Population	Variables	Results
38. Olsson and Hwang	2002	Sweden	429 fathers and mothers of children ages 0–16 years with/without intellectual disability	Parental group, SOC, depression	Parents of children with ID who reported low levels of SOC were more depressed than control parents with low levels of SOC. No relation was found between the age of the child and SOC levels in parents of children with ID
39. Pisula and Kossakowska	2010	Poland	45 couples of parents to children ages 3–7 years with/without autism	Parental gender, education, employment, time spent caring for the child, SOC, ways of coping	Parents of children with autism had lower total SOC, meaningfulness, and manageability, compared with controls, and used escape avoidance coping more often. SOC level was positively associated with seeking social support and self-controlling and negatively with accepting responsibility and positive reappraisal
40. Ray et al.	2009	Finland	772 parent–child dyads of 10–11-year-old schoolchildren	Children: meal patterns, food frequency intake; parents: SOC, eating patterns	A weaker parental SOC was associated with children's irregular meal patterns, more frequent intake of energy-rich foods, and less frequent intake of nutrient-rich foods
41. Sharabi et al.	2012	Israel	287 10–11.6-year-old schoolchildren	Loneliness, SOC, hope, effort, family cohesion, and adaptability	Four family profiles were identified: Children in the two cohesive families' clusters reported the lowest levels of loneliness and the highest levels of personal strengths. Children within noncohesive family clusters reported the highest levels of loneliness and the lowest levels of SOC
42. Sivberg	2002		37 families, 66 parents of children with and without autism	Coping, coping behavior, strain, SOC	Parents of children with autism reported low levels of SOC. Lower levels of coping were associated with higher levels of strain on the family system, and the level of strain on the family system was higher in the families with a child with an autism spectrum disorders (ASD)
43. Svavarsdottir et al.	2005	Iceland	76 American families (75 mothers and 62 fathers) and 103 Icelandic families (103 mothers and 74 fathers)	Family adaptation, family hardiness, SOC, caregiving demands, family demands, severity of illness	SOC and family hardiness predicted family adaptation. Icelandic mothers perceived their family's adaptation more favorably than American mothers. Regarding fathers, family demands predicted adaptation. SOC moderated the effect of family demands on adaptation for both parents
44. Torsheim et al.	2001	Norway	1592 grade 6, 1534 grade 8, 1605 grade 10 children	Health complaints/symptoms, school-related stress, SOC	Age group comparisons revealed that the association between SOC and stress weakened with age. Association between SOC and health complaints grew stronger

approach defines assumptions about the critical predictors of the full potential of children to learn and to thrive in diverse settings regardless of personal and environmental challenges and risk factors (Damon, 2004). A major role of resilient research is to identify the complex transactions and processes among internal and external (risk and protective) factors that affect children's resilience and sense of coherence (Margalit, 2003).

Sense of coherence at the preschool age stage Children of various ages, with a strong sense of coherence, may perceive their day-to-day experiences as comprehensible and manageable. To compare the sense of coherence of typically developing preschool children with preschool children having special needs, studies have examined children and their parents in various social contexts (Al-Yagon, 2003; Margalit, 1998; Most et al., 2000). In a sample of 187 preschool children ages 4.9–6.3 years, children who were identified as at risk for developing learning disabilities (LD), even before they were formally diagnosed and labeled, had a weaker sense of coherence, had fewer friends, and were less accepted by their peers. The sense of coherence assessment revealed the children's heterogeneity, and even among the group of typically developing children, a small subgroup could be defined with a very low sense of coherence and many social challenges. Also, in line with the salutogenic paradigm, special attention was given to a small subgroup of children within the group of children at risk whose sense of coherence was high. The relatively small extreme groups may add to the understanding of the development of coherence from early developmental stages (Margalit, 1998).

The children with a risk for developing learning disabilities received tutoring on an individual and small group basis during school time by the special education teachers. The focus was on language enrichment and basic learning skills. The sense of coherence of a subgroup of these preschool children ($N = 67$) was tested. Significant differences were noted in the comparisons between the sense of coherence scores at the beginning of the intervention and at the mid-year evaluation. However, no significant differences were found between mid-year and the end of the year. The correlations between the first and the second assessments of children's sense of coherence were significant (0.34) and between the second and the third assessments (0.32) as well. It can be concluded that at this age, there was some level of flexibility in the children's sense of coherence. Remedial training on delayed academic, language, and cognitive functioning was related to an increased sense of coherence and a narrowing of the gap with the typically developing group (Margalit, 1998).

Language difficulties and social-emotional challenges are often considered as two separate risk factors at the preschool age stage. A study of preschool children explored the relations between children's sense of coherence, loneliness, and phonological awareness. Phonological awareness consists of language skills such as awareness of the structure of sounds in words and sentences. Research reports that they predict reading acquisition (Most et al., 2000). The study examined the phonological awareness skills, loneliness, sense of coherence, and peer acceptance among 98 children ages 5.0–6.4 years. Children at risk had lower achievements as a group on the phonological awareness measures, reported weaker CSOC, viewed themselves as lonelier, and were less accepted by their peers.

Family ecology is comprised of parental, familial, and environmental characteristics that may affect the capacity of the family to provide optimal care (Greenberg et al., 1993). Olson (2000) identified cohesion and adaptability as two major parameters for evaluating the functioning of a family. Cohesion refers to the extent of connection, closeness, and involvement between the family members. Adaptability reflects the family's capability to change as an adaptation to developmental and external pressures (Olson, 1986, 2000). A family system has been considered balanced when it demonstrates moderate scores on these two dimensions. In a study examining SOC, attachment security style, loneliness, and temperament of 145 children ages 5–6.5 years with and without developmental delays, and their mothers' SOC and family cohesion and adaptability, children having a secure attachment to their mothers reported a stronger SOC than children having an insecure attachment (Al-Yagon, 2003).

In summary, the studies on preschool children identified SOC as an important protective factor that differentiated children with typical development and high-risk children, even before their formal assessment and measurable academic challenges.

Sense of coherence at the elementary school-age stage The transfer to elementary schools expands the variability of the factors that affect and are affected by the children's sense of coherence. Children's academic success, social competence, and coping capabilities contribute to their well-being and adjustment during that period, while academic, social, and behavior difficulties may be considered risk factors. Interactions with teachers and peers have a profound impact on children's life quality. Multiple studies examined the relations between children's sense of coherence and their family; their perceptions of teachers' support, peer friendships, and their overall school experience, revealing the complex and multivariate interactions at the elementary school-age stage (Al-Yagon, 2007, 2008, 2010, 2011, 2012; Al-Yagon & Cinamon, 2008; Al-Yagon & Margalit, 2006; Al-Yagon & Mikulincer, 2004; Efrati-Virtzer & Margalit, 2009; Liberman et al., 2013; Sharabi et al., 2012).

To further clarify the role of teachers in understanding children's sense of coherence, the attachment conceptualization (that was developed for children–mothers' relations) was adapted to schools' relationships. Children's perceptions of the teachers as a secure base were examined, and the results revealed that secure attachment patterns expressed in the development of close relationships with teachers predicted children's SOC and loneliness (Al-Yagon & Margalit, 2006; Al-Yagon & Mikulincer, 2004). Children, who felt that their teachers were more available to them and more accepting, reported a stronger SOC and less feelings of loneliness.

In another study (Efrati-Virtzer & Margalit, 2009), the characteristics of children with behavior difficulties were examined (behavior difficulties included verbal and physical aggression toward children and objects). The age range of these children was 9–12 years, and they were compared with children with no adjustment problems from the same classes. Results revealed that the behavior difficulties contributed to the explanation of social and academic functioning and were linked to social difficulties—in terms of lower peer acceptance and increased rejection by children in their classes, as well as to lower academic achievement. Children with disruptive behavior also reported weaker levels of CSOC. Those children with stronger CSOC revealed emotional self-regulation and participated in fewer behavior conflicts at school. It is not clear whether a weaker SOC was the outcome of the multiple academic, social, and behavior difficulties or predicted them. Students with a weaker SOC were less accepted by their peers and rated as more rejected by them.

The study of social relations at school provided additional validation to the complexity of the interacting variables. The most common approach for identifying a child's status in class is done by asking the children to state the names of their best friends (and those that they do not like) as measures of social acceptance and rejection. The construct of reciprocal positive nomination (mutual friendship) attracted increased research attention since it provided information on mutual perceptions, reflecting the interpersonal attraction and liking where within a pair of children, each one selected the other as a friend (Yugar & Shapiro, 2001). If the positive mutual nomination was an important indicator in reflecting friendship and explaining decreased alienation experience in schools, the reciprocal negative nomination (mutual selection within a dyad of children of the least liked child in the class) extended the understanding of the increased experience of social isolation, identified enemies in classes and enhanced feelings of social exclusion and loneliness. It is not surprising that they were related to a weaker SOC (Efrati-Virtzer & Margalit, 2009).

Research on elementary schoolchildren with and without developmental delays and their families identified SOC as playing a significant protective role during the first year at school. In a study on 50 schoolchildren ages 5–6 years with and without developmental coordination disorder (DCD), levels of CSOC, hope, and effort in children with DCD were lower than their typically developing peers. Significant correlations were found between CSOC to the children's involvement in daily activities in a variety of environments. The CSOC was related to the children's independence and enjoyment from participation in age-appropriate social and leisure activities (Liberman et al., 2013).

The Relations Between Children's SOC and Families' Characteristics

Several studies have shown that maternal coping resources moderated the effect of children's learning disabilities on secure attachment, levels of loneliness, feelings of hope, and future expectations. The degree to which the learning disability affected the children's socioemotional academic competence and social interrelations was related to the type of coping their mothers employed and their reliance on social support (Al-Yagon, 2007, 2008, 2010, 2011, 2012, 2014, 2015; Al-Yagon & Cinamon, 2008): Maternal SOC significantly enhanced the child's socioemotional adjustment measures and attachment scores (Al-Yagon, 2008); children's adjustment and SOC mediated associations between maternal emotional resources and children's well-adjusted functioning. The significantly weaker SOC among children with learning disabilities (LD) emphasized this coping resource (Al-Yagon, 2010); studies also recognized the significance of children's relations not only with mothers but also with fathers. The mediating role of CSOC emerged for children with and without learning disabilities in the association between fathers' resources and children's well-adjusted functioning (Al-Yagon, 2011); children who felt securely attached to both parents reported a higher global orientation or enduring tendency to see the world as comprehensible, manageable, and meaningful than children who felt securely attached to only one parent or neither parent. In examining the differences in the role of attachment with fathers and mothers, Al-Yagon (2014) reported that in the model modified for elementary schoolchildren with severe learning disabilities (SLD), a higher number of significant paths emerged between child–mother attachment relationships and internalizing measures than for child–father attachment. Data also showed that attachment with fathers contributed mainly to children's coping resources (i.e., SOC, hope, and effort), whereas attachment with mothers contributed to a broader range of internalizing adjustment measures including not only SOC but also self-reported loneliness and parent-rated internalizing problems. In investigating the coping resources of parents of children with LD and children with typical development, Al-Yagon (2015) highlighted the potential role of parents' affect. Specifically, higher levels of positive affect

significantly contributed to parents' stronger SOC for fathers and mothers of children with LD. However, greater negative affect contributed to greater utilization of active and avoidance coping strategist only for mothers of children with LD. Furthermore, children who exhibited insecure attachment to both parents appeared to be the most vulnerable in forming coping resources (Al-Yagon, 2012; Al-Yagon & Cinamon, 2008).

Parents comprise only in part family cohesion. In a study on 287 schoolchildren ages 10–12 years, four family profiles were identified: children in the cohesive families' clusters reported the lowest levels of loneliness and the strongest levels of CSOC, whereas children within noncohesive family clusters reported the highest levels of loneliness and the weakest levels of CSOC (Sharabi et al., 2012). Additionally, the degree of cohesion within families was found to predict effort investment and success in school. Feldman et al. (2018) revealed that family cohesion and the mediating roles of SOC and hope (protective factors), as well as loneliness (risk factor), contributed significantly in predicting school effort among elementary school pupils.

In conclusion, during elementary school, children acquired basic learning skills, established positive and negative relations with teachers and peers, and their functioning predicted their life quality, as well as presenting special academic and behavior challenges. At this age stage, SOC was shown to provide a unique and relatively stable index of children's social and emotional adjustment and well-being. The entrance to high schools and the adolescence age stage not only provided extended opportunities but also revealed continued difficulties and new challenges. A study of the Norwegian education system explored elementary through junior high schoolchildren focusing on age and gender comparisons concerning school-related stress and resources and their relations to the SOC construct. The sample consisted of 4116 schoolchildren ages 11, 13, and 15 years. SOC was related to feeling pressured by schoolwork, social support from peers, and expectations. Among girls, this association was strongest for the youngest group. School-related factors were shown to represent both resource and stress factors related to the SOC (Natvig et al., 2006).

From infancy to adolescence/adulthood: Families of children with special needs Children with special needs are considered a source of distress to their families. Their increased levels of stress reflect their emotional reactions to the unexpected and challenging reality of having children with developmental disabilities and behavior challenges. The fathers' and mothers' SOC reflects the impacts of the prolonged stress but at the same time reveals their parental resources that may be conceptualized as resources that serve as protective factors (Margalit, 1994).

Research on infants and preschool children with developmental delays and their families (Einav et al., 2012; Hedov et al., 2002; Margalit et al., 2006; Oelofsen & Richardson, 2006; Pisula & Kossakowska, 2010) identified the parents' SOC as meaningful for the development of their children. In a study of 111 mother–child dyads of infants ages 3–24 months with developmental delays, mothers with strong levels of SOC and with high coping strategies felt more hopeful. The family cohesion (the mothers' perceptions that their family members were close to one another and provided support when needed) was interrelated with mothers' SOC. Cohesion was related to hopeful thinking only indirectly, mediated through mothers' SOC. Only for mothers who reported strong levels of SOC was the family support meaningful in the prediction of hopeful thinking (Einav et al., 2012).

Mothers from noncohesive families with weaker SOC experienced higher levels of stress than mothers from cohesive families with stronger SOC in a study examining SOC, family cohesion and adaptability, mood, coping, and parenting stress of 80 mothers of children ages 2–39 months exhibiting delayed development. Furthermore, mothers from noncohesive families with weaker SOC experienced lower levels of positive mood than mothers from cohesive families with a strong SOC (Margalit et al., 2006). Oelofsen and Richardson (2006), studying fathers and mothers of preschool children with developmental disabilities (DD), found that parents of children with DD reported parenting stress within the clinical range, weaker SOC, and poor health than the comparison group—parents of children without DD. The study's results focused the attention on the mothers who, as the major caregiving parent, experienced more stress than the fathers and reported more health problems, and weaker SOC than the fathers.

Studies focusing on parents to children with special needs emphasized the significance of SOC with parenting stress: parents of children with cerebral palsy, reporting a stronger SOC, less often used avoidance, wishful thinking, and resignation as coping strategies than parents reporting a weaker SOC (Dabrowska, 2003); parents of children with Down's syndrome as well as the comparison group had a stronger SOC when their stress level was lower (Hedov et al., 2002); and fathers of children with developmental disabilities reported a weaker SOC more frequently and used strategies of avoidance compared to fathers with a stronger SOC that used confrontation more frequently and positive reappraisal and problem-solving behavior (Dabrowska, 2008).

In a study on parents of children with autism, the parents reported a weaker SOC than the comparison group and used avoidance coping more often. Among parents of children with autism, the SOC level was positively associated with seeking social support and self-controlling and negatively with accepting responsibility and positive appraisal. The

results demonstrated that the frequency of using accepting responsibility strategy increased with decreasing levels of SOC among the parents. This may suggest that one of the consequences of low SOC may be a self-blame tendency for the occurrence of stressful situations related to parenting a child with special needs (Pisula & Kossakowska, 2010). This confirms earlier findings of a weaker SOC among parents of children with autism (Olsson & Hwang, 2002; Sivberg, 2002).

Several studies explored SOC in families of children with developmental disorders from birth to adolescence (ages 1–13, 0–16 years) and/or adulthood (ages 1–28 years). Hintermair (2004) studied 235 mothers of children ages 1–13 years with hearing impairments and found that mothers with stronger SOC had an advantage in coping with the experience of raising a deaf and hard of hearing child over mothers with weaker SOC scores. SOC was of greater importance than experienced social support. Similarly, Olsson and Hwang (2002) studied 429 fathers and mothers of children from birth to 16 years of age with and without intellectual disability (ID). They found that parents of children with ID who reported low levels of SOC were more depressed than control parents with low levels of SOC. No relation was found between the age of the child and the levels of SOC in parents of children with ID. In a study of children, adolescents, and young adults with autism, Mak et al. (2007) reported that mothers with a strong SOC reported less stress than those with a weak SOC. SOC had a moderating effect on the association between symptom severity and parenting stress.

In summary, the studies on families of children with special needs identified SOC as a significant protective factor related to effective coping and hopeful thinking that differentiated between families of children with typical development and families of children with special needs. Understanding the relationship between SOC and coping among parents of children with special needs provides insight into the mechanisms involved in parental adjustment and effective coping outcomes.

SOC as Predictor of Health and Health Behavior

In the past decade, research has shown the relationship between social factors, health, and disease, focusing attention on salutogenic models, concentrating on personal control. This trend followed former studies that revealed that persons with a strong SOC tended to manage stress better, whereas persons with a weak SOC tended to be more sensitive to health challenges and illness (Lundberg & Nystrom, 1994). Recent multiple pieces of research on SOC and health have identified SOC as a predictor of health and health behavior (Berntsson & Gustafsson, 2000; Bonanato et al., 2009; Forinder et al., 2005; Groholt et al., 2003; Honkinen et al., 2005; Jellesma et al., 2006; Kan et al., 2015; Krause, 2011; Løndal, 2010; Nammontri et al., 2013; Ray et al., 2009; Torsheim et al., 2001).

Studies examined the determinants of psychosomatic complaints in children. They found that the predictors of psychosomatic complaints were the mother's health, child's mental stability, contacts with peers, long-term illness, and, via other factors, parents' SOC, social competence, and school satisfaction (Berntsson & Gustafsson, 2000). Furthermore, in an attempt to understand the relationship between poor perceived health during childhood and an individual's well-being throughout life, 1231 12-year-old schoolchildren in Finland were studied. SOC and variables of social support were found significantly associated with perceived health. Physical exercise and SOC were associated with perceived health and father's occupation, and weak SOC was found to be independently associated with relatively poor health (Honkinen et al., 2005). Kan et al. (2015) demonstrated the mediating role of SOC on the association between childhood economic status and health in the community adult population of Japan. SOC significantly mediated the association between parents' education and current health among women and mediated between perceived childhood socio economic status (SES) and current health among men.

Studies focusing on the relation of somatic complaints and emotional functioning of children pinpointed attention to the existence of emotional problems in children who reported somatic complaints. Jellesma et al. (2006) studied 153 schoolchildren ages 8–13 years at three levels of somatic complaints (few, many, and clinical). The results showed that the clinical group and the children with many somatic complaints reported more negative moods on the anger, sadness, and fear scale, more difficulty differentiating emotions, and a weaker SOC than the group with fewer complaints. Torsheim et al. (2001) studied 1592 sixth-grade children, 1534 eighth-grade children, and 1605 tenth-grade children in an attempt to tap the role of SOC and school-related stress as predictors of health complaints. Age group comparisons revealed that the association between SOC and stress grew weaker with age, whereas the direct association between SOC and health complaints grew stronger. Fifty-two patients aged 9–22 years, who had stem cell transplant at least 3 years before the study, participated in a study of health and quality of life. The scores obtained on SOC for younger children (ages 9–12 years) showed that children in the SCT group have a SOC level equal to that of both the norm groups and other chronically ill children. The mean value for the younger children in the SCT group was in line with that of the norm group of children age 9 (Forinder et al., 2005).

Parents' SOC and Children's Health

The parents' role in predicting their children's health and health behavior was examined based on the salutogenic model. The relation between parental SOC and child health was explored in a large-scale study (Groholt et al., 2003) in the five Nordic countries, which included 9524 children ages 2–17 years, of which 35% co-responded with their parents due to their young age. Compared to the higher social classes, low levels of SOC were more common in the lower socioeconomic classes. The association of child chronic health complaints with weak parental SOC was found to be disability-specific (diabetes, epilepsy, and psychiatric problems). Parents of children with diabetes, epilepsy, or psychiatric problems had 2–5 higher odds of having weak SOC compared to parents of children without a specific diagnosis.

Ray et al. (2009) studied 772 parent–child dyads of 10- to 11-year-old schoolchildren to find the relationship between food intake and parents' SOC. Weaker parental SOC was associated with children's irregular meal patterns, more frequent intake of energy-rich foods, and less frequent intake of nutrient-rich foods. Eli et al. (2016) found that mothers who had a stronger SOC were less likely to engage in pressuring or restrictive feeding practices. Resilience to stress reduced counterproductive practices, even in the presence of concern about the child's weight.

In another study, mothers with weaker levels of SOC were more likely to have children with decayed teeth or filled teeth regardless of the child's social class and gender (Bonanato et al., 2009). In contrast, the prevalence of clinical consequences of neglected dental caries was low among children attending public and private preschools in Brazil. It was associated with stronger levels of parental/caregiver SOC (Neves et al., 2019).

In a study identifying the predictors of adaptation and assessing potential moderating effects of parents' sense of coherence and family hardiness on the relationship of severity of illness of a child with asthma, SOC and family hardiness predicted family adaptation. Icelandic mothers perceived their family's adaptation more favorably than American mothers. Regarding the fathers, family demands predicted adaptation. SOC moderated the effect of family demands on adaptation for both parents (Svavarsdottir et al., 2005).

Intervention programs promoting children's health In addition to identifying SOC as a significant protective factor related to effective coping, the contribution of the salutogenic paradigm in explaining successful coping with stressors and health promotion has guided the development of intervention programs promoting health and health behavior. The following studies are examples of such intervention programs involving children and their families.

An intervention program based on the salutogenic model promoting oral health resulted in improved oral health. The intervention provided evidence that SOC influenced the oral health-related quality of life (Nammontri et al., 2013). Positive health beliefs and a stronger SOC were found to predict positive health beliefs and fewer symptoms. An additional intervention program focused on promoting play in an after-school program (ASP) had considerable potential of promoting the children's SOC. Most of the children in the study experienced their world as comprehensible, manageable, and meaningful. Negative thoughts and feelings were reduced during play. Play offered particularly strong opportunities for the children themselves to shape outcomes and interact with children, promoting their SOC (Løndal, 2010).

In another intervention program that aimed to promote health resources in children, 226 schoolchildren ages 5–10 years participated in a longitudinal self-worth reinforcement program. The results showed that developing SOC as a part of promoting mental health in schoolchildren is most effective during the early years of childhood. This finding emphasized the need to train professionals within the school (Krause, 2011).

Conclusions and Future Research Directions

The results of the surveyed studies support the conceptualization of the SOC construct as an important personal resource that develops during childhood. Stresses and challenges are a part of children's lives. However, most children who have a strong SOC can transform their potential resources into actuality, thereby promoting well-being. Children and adolescents with a strong SOC may have a good comprehension of most of their contextual conditions, situational demands, and personal experiences. They may feel relatively in control of their lives and may consider most of their tasks and participation in age-appropriate activities as meaningful, significant, and worth of investing the effort. When they face a stressful situation, they can select the appropriate strategies to cope effectively with the stressors. Thus, acquiring a wide range of coping strategies, alongside an emphasis on collaborative activities, developing social partnerships that respect different voices and self-reliance, may enhance the youngsters' resilience and motivation to invest effort to reach their preferred goals (Margalit, 1998). Consistency, a special cognitive challenge for children, may strengthen comprehensibility; an overload–underload balance, a special risk for children who struggle with school demands, may affect manageability; and the participation in socially valued decision-making may strengthen meaningfulness (Margalit, 2008).

The results of these studies have clear educational implications for school systems at various age groups in terms of

prevention and intervention planning. The early manifestations of the developing SOC, as a personal resource, and the results that indicate that stresses and difficulties are disclosed in weaker levels of SOC, call for early awareness and empowering programs within educational systems. In addition, the results that show the impact of effective intervention not only on better academic functioning but also on friendship development and significant growth incoherence justify focused attempts on early intervention before SOC is structured and stabilized. The studies demonstrated the importance of early comprehensive intervention, as well as the significant value of preventive measures through sensitizing teachers not only to meet crises and difficulties but also especially to provide attentive support to the children's experiences. Preventive programs that empower children's abilities to integrate their thinking and learning skills with the abilities to regulate their feelings (emotion regulation) and actions (behavioral competence) promote growth, effort, and motivation (Idan & Margalit, 2011). School-based intervention programs and teachers' training promoting salutogenic approaches in class are required, alongside family-based interventions and parents' training, to promote salutogenic approaches in the home.

In the reviewed studies, children with typical development and children with developmental disabilities, learning disabilities, and various additional adjustment challenges were included. Most children who reported higher levels of loneliness also experienced a weak sense of coherence. In several studies, the weak sense of coherence was related to children's current distress, as well as to early expressions of adjustment difficulties and family climate. Mothers' sense of coherence was found as an important personal resource that enabled successful attachment relations and was related to children's sense of coherence (Al-Yagon & Mikulincer, 2004). Special attention was provided to groups of children with developmental or contextual challenges that reported levels of sense of coherence compatible with their typically developing peers. Thus, the awareness of the fact that difficulties never appeared in isolation, encouraged the multidimensional prevention and intervention approaches that treated not only academic or behavior challenges, but supported the whole child who had been developing satisfactory social relations while struggling with difficulties, to support coping and celebrate success and competencies. The salutogenic paradigm provides a structure to this planning, by emphasizing comprehensibility (explaining and clarifying the goals and the procedures), manageability (teaching the required skills to reach these goals), and meaningfulness (enhancing motivation and involvement in the effort).

Research presented in this review demonstrated the importance of the salutogenic approach in developmental research of children and adolescents and its potential for educational planning. The studies emphasized the interacting role of academic demands and social challenges with the SOC, clarifying the dynamic interactions between academic and socioemotional factors and children's readiness to treat their difficulties as challenges worthy of effort investment. These findings emphasized the major role of resilience approaches, considering SOC as a predictor in explaining well-being and adjustment, and calling for the future development of comprehensive educational intervention programs (Idan & Margalit, 2011).

To benefit schools and children from the salutogenic approach, two future research directions are needed. First, there is a need for longitudinal studies that will document changes and stabilities in the development of CSOC. Through longitudinal studies, we can clarify the interactions between the stabilization and the flexibility of children's SOC within different contextual conditions. Second, research calls for cross-cultural comparisons of the sense of coherence development. There is a need for a coordinated international collaboration for longitudinal research to explore the interactions of SOC between cultures, families, schools, communities, and children's different growth paths.

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Salutogenesis and the Sense of Coherence During the Adolescent Years

16

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The Developmental Stage of Adolescence

Adolescence is a period of growth and development between childhood and adulthood. This developmental period involves new demands on the individual. A major task of this period is moving toward independence from dependency on the family; therefore, peers become a crucial socialization circle for the adolescent (Romeo, 2013; Spear, 2013). During this period, several physiological and cognitive changes occur as young people confront developmental tasks and challenges. During the last decade, there has been a marked increase in neurobiological research on cognitive, emotional, and behavioral changes, and development during adolescence. These studies have found that cognitively, adolescents, as well as adults, can suppress responses when no emotional information is provided (Tottenham et al., 2011). However, it is the avoidance of social cues during challenging situations in which adolescents have a difficulty to make a proper and rational response (Casey & Caudle, 2013). Thus, it seems that tension between regulation of behavior and sensitivity to positive environmental cues makes the response of the individual during the period of adolescence more complex (Somerville et al., 2011).

In line with the positive youth development perspectives (Damon, 2004), there is a growing recognition of the individuals who are eager to explore the world, to acquire competence, and to struggle with challenges and difficulties. This approach focuses on productive activities rather than on trying to cure and treat maladaptive tendencies. The agenda is to maximize the potential of the individual and to reduce the potential of hazardous, destructive, and antisocial behaviors (Lerner & Benson, 2003). The period of adolescence is a particularly important developmental stage since social, emotional, and cognitive processes are involved in attempts to navigate increasingly complex relationships (Blakemore & Mills, 2014). Indeed, it is during these years that abstract thinking and cognitive processing develop along with enhanced moral reasoning and judgment. These positive processes enable the adolescent to explore the world, gain competences, and contribute to the world surrounding him/her (Damon, 2004). As children age, their coping repertoire expands and shifts from primarily external, behavior-oriented to more internal, cognitively based strategies (Aldwin et al., 1994).

The advanced forms of reflection, such as the ability to consider things in hypothetical and abstract terms, and the ability to monitor one's cognitive activity during the process of thinking, enable adolescents to see from the perspective of other persons, to plan, to anticipate the future consequences of an action, and to offer alternative explanations of events. Cognitive mastery is, therefore, an important contribution to young people's ability to manage or regulate their feelings and to control their emotions and/or avoid being overwhelmed by them (Garnefski et al., 2001). These abilities also have the potential to influence the emotional–motivational and behavioral components of sense of coherence (SOC). It is during these years, as young people move from one experience of using specific coping resources to another, that different resources can be reviewed and crystalized.

In the following section, we present adjustments to the SOC questionnaire and discuss a variety of ways that researchers have approached the study of salutogenesis and adolescence.

The adolescent, at the very best, can only have gained a tentative strong SOC, which may be useful for a short-range prediction about coping with stressors and health status (Antonovsky, 1987, p. 107).

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Studies of SOC During Adolescence

Our literature search used Ebsco, PsycInfo, PubMed, SocioFile, and GoogleScholar, and we searched the sites of the publishers Sage, Springer, and Wiley. We looked at the last decade from 2014 to 2019 and included the search words: adolecs*, youth, sense of coherence, and salutogenesis. We came up with more than 30 articles and research from 16 countries in Europe, the Middle East, Australia, and the United States. Table 16.1 summarizes these studies.

The following themes emerged from the identified studies.

Table 16.1 Studies of SOC during adolescence

Author	Year	Place	Population	Variables	Results
1. Abu-Kaf et al.	2017	Israel	Jewish and Bedouin adolescents, aged 14–18, during a period of escalated political violence	SOC, hope, anxiety, anger	Bedouin Arab adolescents reported lower levels of SOC and higher levels of hope and anger, compared to Jewish adolescents. SOC contributed significantly to the reduction of state anxiety only among the Jewish adolescents
2. Abu-Kaf & Braun-Lewensohn	2019	Israel	Bedouin Arab adolescents, 14–18 years old, during three periods of escalated political violence	SOC, hope, anxiety, anger, psychological distress	Over time, SOC was found to be a significant predictor of those stress reactions, whereas the association between hope components and stress reactions weakened over time
3. Al-Said et al.	2018	Israel	Bedouin adolescents, 13–18 years old, from recognized and unrecognized villages; some had experienced home demolitions	SOC, emotional reactions	Stress reactions were strongest among adolescents from unrecognized villages with demolitions. Personal SOC was related to fewer emotional reactions among the adolescents from recognized villages. Among adolescents from unrecognized villages, especially adolescents living in an unrecognized village with demolitions, a stronger SOC was linked to stronger emotional reactions
4. Aitcheson et al.	2017	Gaza	11th–12th grade Palestinians in refugee camps	Depression, anxiety, coping skills, self-regulation, optimism, parenting style, family sense of coherence, national identity, ethnic identity	Adolescents with stronger national identity, stronger family SOC, greater self-regulation, and more optimism reported less severe depressive and anxious symptoms. Age, optimism, family SOC, ethnic identity, self-regulation, and coping skills were all significant predictors of resilience
5. Barni & Danioni	2016	Italy	Italian adolescents between 14 and 19 years old	Values, SOC	Adolescents' conservative and self-transcendent values were the most important predictors of their SOC. The greater the importance placed on conservatism and self-transcendence, the stronger the confidence in the perception that problems to be faced are clear, manageable, and worthy of commitment and engagement
6. Braun-Lewensohn et al.	2015	Israel	Jewish and Arab adolescents aged 14–19	SOC, community SOC, participation in extra-curricular activities, exposure to violence	Jewish adolescents reported significantly stronger SOC and community SOC. They participated more in extra-curricular activities and were more exposed to and victimized by violence. While SOC was an asset among both groups, participation in extra-curricular activities was an asset only for the Arab youth

Table 16.1 (continued)

Author	Year	Place	Population	Variables	Results
7. Braun-Lewensohn	2016	Israel	16–18 year olds during a social protest	Values, SOC, social responsibility, civic efficacy, hope	Values and SOC explained civic engagement, while only universal and collective in-group values and civic engagement directly explained citizens' efficacy
8. Braun-Lewensohn et al.	2017	Israel	Secular Jewish, religious Jewish and Bedouin Arab adolescents aged 12–18	SOC, hope	Religious Jews reported the strongest SOC and Bedouin Arabs reported the strongest hope. In both Jewish groups, significant correlations were found between the expectation component and/or global hope and SOC. However, no links were found between global hope or its components or dimensions and SOC among the Bedouin Arab group
9. Braun-Lewensohn et al.	2018	Israel	Bedouin Arab adolescents, 14–18 years old, in 2010 and 2015	SOC, anxiety, anger	In the 2010 sample, unlike in many stable Western societies, the stronger the SOC, the more severe the stress reactions. However, in 2015, the results resembled those reported in Western cultural settings and the stronger the SOC, the fewer symptoms of stress were reported
10. Braun-Lewensohn & Al-Said	2018	Greece	Syrian refugee adolescents aged 13–18	Exposure to war, appraisal of danger, receiving aid, SOC, wishes and expectations, internalizing and externalizing problems	Boys, younger adolescents, and those who had more recently arrived in the refugee camp reported stronger SOC. The amount of time spent in the refugee camp, gender, exposure to war situations, and appraisal of danger all contributed to the explained variance in the different psychological problems. However, SOC mediated the relationships between all of the sociodemographic and situational variables and the examined psychological problems
11. Carneiro et al.	2017	Brazil	29 adolescents with MPS and 29 adolescents without MPS, and their mothers	SOC, MPS	The SOC of the mothers of adolescents with MPS was associated with the adolescents' experiences with dental caries. Improving mothers' SOC should contribute to a better quality of life for their children
12. da Costa et al.	2017	Brazil	12–15 years	SOC, self-perceived dental aesthetics, Dental Aesthetic Index	SOC was associated with self-perceived dental aesthetics. Among the adolescents with no need for orthodontic treatment, those with a low SOC perceived their dental aesthetics more negatively than those with high levels of SOC; SOC being higher in the younger
13. Elfassi et al.	2016	Israel	8th–11th grade from three communities	Community SOC, involvement in risk behaviors	Community SOC is a significant protective factor that could be related to reduced involvement in risk behaviors
14. El-Shahawy et al.	2015	USA, California	Adolescents attending high school	SOC, smoking behavior, smoking expectations	SOC was correlated with baseline cigarette smoking and next-year smoking expectation. SOC did not predict change in cigarette smoking or change in next-year smoking

(continued)

Table 16.1 (continued)

Author	Year	Place	Population	Variables	Results
15. Evans & Davis	2018	USA, Nevada	30 American Indian (AI) youth 14–18 years old	SOC, psychological problems, historical loss	Higher levels of SOC predicted fewer historical trauma-related symptoms. SOC may enhance AI youth's sense of belonging by countering the effects of thwarted belongingness
16. Garcia-Moya et al.	2014	Spain	Spanish adolescents	Bullying victimization, physical and psychological symptoms, SOC	Weak-SOC adolescents were significantly more likely to be bullied. In addition, among weak-SOC adolescents, there was a significant association between having been bullied and physical and psychological symptoms. In contrast, among strong-SOC adolescents, having been bullied was not significantly associated with increased physical complaints and its effects on psychological complaints seemed to be weaker
17. Huss et al.	2018	Israel	14- to 16-year-old Bedouin youth	Drawing on coping resources	The findings reveal and concretize a mismatch between SOC among these youth and the predominant Western understanding of coping in terms of meanings, manageability, and comprehensibility of coping methods
18. Jakobsson	2014	Sweden	15- to 18-year-old Swedish adolescents	Participation in a sport club, SOC, and its components	The teenagers found sports fun and meaningfulness because they experienced learning and development. They found competition challenging, and they enjoyed the involvement and engagement with others
19. Kalagy et al.	2017	Israel	Ultra-Orthodox and national religious adolescents aged 14–18.	Attitudes toward the military operation, Attitudes toward the Israeli–Palestinian conflict, SOC, anxiety, anger	SOC was positively related to more wars Hawkish attitudes among the national religious group. SOC was negatively related to peaceful resolution Dovish attitudes among the ultra-Orthodox adolescents. In both groups, SOC was negatively related to anxiety
20. Krok	2015	Poland	Older adolescents, 16–20 years old	SOC, optimism, subjective and psychological well-being	Direct and indirect effects of SOC on subjective and psychological well-being measures were found, suggesting that optimism served as a partial mediator. SOC should not be interpreted as an autonomous resource contributing to a favorable development of late adolescents' well-being, but as a factor that works in connection with dispositional optimism
21. Lage et al.	2017	Brazil	Adolescents	SOC, oral clinical examinations	Higher mother's SOC and adolescent's SOC were protective factors against dental caries among the adolescents
22. Latzer et al.	2019	Israel	Boys in grades 8–12	SOC, body shape, eating attitudes, eating disorder	SOC was negatively correlated with developing an eating disorder
23. Lindblom et al.	2017	Sweden	14- to 21-year- olds in pre-criminal and early criminal phases	Criminal Thinking Styles (PICTS), SOC	Cognitive intervention shows promise for reducing criminal thinking patterns and increasing SOC, which may have beneficial effects on the behavior of young offenders

Table 16.1 (continued)

Author	Year	Place	Population	Variables	Results
24. Moksnes et al.	2014	Norway	Adolescents, 13–18 years old	Stress, SOC, emotional symptoms	Girls scored higher than boys in terms of stress related to peer pressure, home life, school performance, school/leisure conflict, and emotional symptoms. Conversely, boys reported higher SOC than girls. SOC was strongly and inversely associated with emotional symptoms, especially anxiety among girls. SOC also moderated the association between stress related to peer pressure and depressive symptoms among both genders
25. Moksnes & Haugan	2015	Norway	Adolescents, 13–18 years old	SOC, life satisfaction, stress	Boys reported higher scores for SOC and life satisfaction, whereas girls scored higher than boys in most of the stressor domains. There was a significantly strong and positive association between SOC and life satisfaction, independent of age, and each individual stressor
26. Moksnes & Lazarewicz	2016	Norway	Adolescents, 13–18 years old		Adolescents aged 13–14 years had significantly higher SOC scores than those aged 15–16. A significant positive association was found between self-esteem and SOC when controlling for sex, age, stress, subjective health complaints, and subjective health. Neither sex nor age moderated the relationship between self-esteem and SOC
27. Rizou et al.	2017	Greece	Children, 10–18 years old, with epilepsy	Disease characteristics, perception of the illness, psychological distress, sleep problems, somatic complaints	A brief self-regulation-based intervention may have beneficial effects for children and adolescents suffering from epilepsy, through improvements in coherence, psychological distress, and sleep problems
28. Shreuder et al.	2014	Netherland	Adolescents and young adults, 17–22 years old	Semi-structured interviews to elicit their experiences from a salutogenic perspective	Analysis revealed that several on the youth care farm worked well for the youngsters and contributed to their personal development and to their SOC: the feeling that the world is or can be meaningful, comprehensible, and manageable, associated with positive outcomes in endeavors linked to improving health and well-being
29. Smith et al.	2015	USA	Adolescents aged 11–18 with a sibling diagnosed with autism	Coping orientation, relationships, SOC, psychological problems	The stress of autism spectrum disorder (ASD) severity and adjustment resources are related among typically developing (TD) adolescents who have an autistic sibling. There was a strong relationship between TD sibling adjustment and SOC. A greater number of positive coping strategies buffered TD sibling coherence levels when ASD severity scores were high
30. Super et al.	2018	Netherland	Vulnerable youth, 12–23 years old	Behavior, school performance, subjective health and well-being, self-regulation skills, SOC, sports participation	Sports participation was positively related to pro-social behavior, subjective health, well-being, and SOC

(continued)

Table 16.1 (continued)

Author	Year	Place	Population	Variables	Results
31. Ustinavičienė et al.	2018	Lithuania	Adolescents aged 13–18	Amount of time spent playing computer games, types of games, SOC	Boys and girls aged 13–15 with a weak SOC were significantly more likely to play action or combat computer games for 5 or more hours per day, in comparison to the respondents who had a strong SOC
32. Vilija & Romualdas	2014	Lithuania	8th graders	Posttraumatic stress (PTS) symptoms, daily consumption of unhealthy foods, physical inactivity, smoking, SOC	All lifetime traumatic events were associated with PTS symptoms, as well as were consumption of unhealthy foods. SOC weakened the strength of those associations
33. Wadsby et al.	2014	Sweden	High-school students	Parental bonding, psychiatric symptoms, SOC	SOC was higher among teens with alternating residences and teens living with both parents, but it was lower among those living with a single parent
34. Wang et al.	2014	Australia	Adolescents with heart disease, 12–20 years old	Quality of life, adolescents' knowledge of their cardiac condition, anxiety, depression, perceived social support, Life Orientation, SOC	Health-related quality of life was found to be positively correlated with low levels of anxiety and depression, a good understanding of their cardiac condition, feelings of optimism, adequate social support, and a strong SOC
35. Würtz et al.	2015	Denmark	7th and 8th graders	Use of over-the-counter painkillers, pain, well-being, friends, SOC	Girls with a weak SOC (the lowest first quartile) had a significantly increased risk of receiving unemployment benefits, social assistance and disability benefits, compared with girls with a strong SOC. For boys, only minor protective and non-significant differences were found
36. Xu et al.	2019	China	Middle- and high-school students	Socioeconomic status, maternal care and control, SOC, depression	Socioeconomic status, maternal care, and adolescent SOC were positively related to each other and negatively related to adolescent depressive symptoms. Socioeconomic status was associated with adolescent depressive symptoms indirectly through maternal care separately, as well as through maternal care and adolescent SOC sequentially

Adaptations of the SOC Questionnaires

Based on the original SOC questionnaire (Antonovsky, 1983), several researchers have examined the adaptability of the questionnaire to adolescent populations. For example, *the adolescent sense of coherence scale* (Antonovsky & Sagy, 1986) was adjusted to fit adolescents' characteristics, that is, development of self-identity, orientation to one's self society, confusion, unpredictable changes, close emotional ties with parents for the development of open communication, stability of the community, etc. Several items were removed from the original 29-item scale, and others were rephrased to make sure that adolescents understand the items (Antonovsky & Sagy, 1986), ending up with the final version of 13 items which is considered as a single factor and not the three separate components—meaningfulness, comprehensibility, and manageability (Hagquist & Andrich, 2004). Many studies have used this scale, and reliability proved to be very good ($\alpha \approx 0.80$). Another approach to the adaptation of the scale to the adolescence developmental stage was based on the use of the child version (CSOC) without the examples and distractors for younger children. The description of the CSOC can be found in the chapter on children (Margalit & Efrati, 1996). The adolescence adaptation from the CSOC consisted of 16 items (e.g., "When I want something I'm sure I'll get it"; "When I need help there is someone around

to help me"), on a five-point Likert-type scale ranging from 1 (never) to 5 (always). A Cronbach's alpha of 0.78 was obtained (Levi et al., 2014).

The SOC Construct During Adolescence

The stability question regarding SOC accompanied this construct since the beginning of research about it. Antonovsky and Sagy (1986) argued that SOC should be strengthening during adolescence and stabilized toward the end of this developmental period. However, studies that addressed the issue of age and the stability of SOC revealed inconsistencies (Apers et al., 2013; Ayo-Yusuf et al., 2008; Garcia-Moya et al., 2013a, b, c, d; Kristensson & Öhlund, 2005; Moksnes et al., 2012). Indeed, Eriksson and Lindström (2007) stated that SOC is likely to vary during adolescence due to developmental changes, transitions, and challenges. While some researchers did not find differences among various age groups (Honkinen et al., 2008) and claimed the existence of SOC stability during adolescence (Kröninger-Jungaberle & Grevenstein, 2013), others focused on the variability between groups of adolescents between younger and older adolescents (Garcia-Moya et al., 2013a, b, c, d) as well as between groups with strong versus weak scores of SOC. The group with a weaker SOC reported more variability in its SOC scores (Buddeberg-Fischer et al., 2001).

Moreover, during periods of political violence, studies have shed light on the impacts of fragile periods and documented a drop in SOC levels during acute stress situations. However, once the acuteness is over, the SOC gains back its strengths (Braun-Lewensohn et al., 2013). Nevertheless, when adolescents face chronic states of stress, such as longitudinal missile attacks, the deterioration of the SOC remained stable over time (Braun-Lewensohn & Sagy, 2010).

Other *demographic characteristics,* apart from age, have significant roles in the determination of the SOC levels. Gender differences were examined, and many studies showed that the SOC scores of boys were higher than the scores of girls (Apers et al., 2013; Dorri et al., 2010; Evans et al., 2010; Kristensson & Öhlund, 2005; Moksnes et al., 2011, 2012; Nio, 2010). Also, socioeconomic status plays an important role in the SOC prediction. Thus, higher levels of parents' education (Feldt et al., 2005; Geckova et al., 2010; Ristkari et al., 2009), higher economic status (Geckova et al., 2010), and living with two parents (Ayo-Yusuf et al., 2009) have been important indicators of stronger SOC. Lastly, membership in a minority group in different cultures around the world predicted weaker SOC scores than those of majority groups (Braun-Lewensohn, 2014; Braun-Lewensohn & Sagy, 2011a, b; Glanz et al., 2005).

SOC, Health, Mental Health, and Psychosocial Behavior

Examining the various studies, we found that the relations of health, mental health, and psychosocial behaviors with SOC were explored. More specifically, researchers investigated the SOC as a predictor of health outcomes, mental health, and diverse health-promoting behaviors during adolescence.

Several studies examined the relations between the SOC and general health (Eriksson & Lindström, 2006; Nilsson et al., 2003). Stronger SOC was related to better-perceived health, while weaker SOC was related to medication use. Moreover, SOC was negatively related to reported health problems (Blom et al., 2010; Garcia-Moya et al., 2013a, b, c, d; Geckova et al., 2010; Honkinen et al., 2005; Koushede & Holstein, 2009; Mattila et al., 2011; Modin et al., 2011; Moksnes et al., 2011; Myrin & Lagerström, 2006).

Other examinations related to health focused on groups with specific health problems. For example, surprisingly, adolescents with heart problems were found to have a stronger SOC compared to healthy adolescents. These results were explained by the fact that youngsters with such chronic disease have learned to cope with their problem, which increased their manageability, besides having existential implications that increased their meaningfulness. Moreover, a supportive home environment experienced by these adolescents emphasizes specific life events as being more comprehensible, manageable, and meaningful; hence, nurtured feelings of SOC (Luyckx et al., 2012). More expected results were found for adolescents with epilepsy where a weaker SOC was found in the long run, reflecting the experience of losing control during seizures and difficulty in assessing when to expect the next seizure. Following this line, those adolescents with no seizures had a stronger SOC (Gauffin et al., 2010).

Mental health has been the focus of numerous studies that examined diverse outcomes. Stress-related outcomes such as anxiety, anger, depression, psychological distress, and other emotional and internalizing or externalizing problems were examined in the context of political violence (Braun-Lewensohn & Sagy, 2010, 2011a, b; Sagy & Braun-Lewensohn, 2009) and with regard to challenging and extreme life events such as child abuse (Gustafsson et al., 2010) or juvenile delinquency (Koposov et al., 2003). However, adolescents were also examined during regular daily life with "normal" life stressors, such as academic, school, or peer pressure as well as family conflicts (Moksnes et al., 2012, 2013; Nielsen & Hansson, 2007; Ristkari et al., 2009; Simonsson et al., 2008). All these studies confirm that the SOC can be considered a resilience factor. It can be concluded that a strong SOC predicts reduced stress and decreased internalizing or/and externalizing problems.

Moreover, examining the relationships of SOC with *psychosocial behaviors* even strengthens the consideration of SOC as a resilient factor. Accordingly, results of various studies showed that adolescents with stronger SOC reported a healthier lifestyle, a better quality of life, and well-being (Honkinen et al., 2009; Neuner et al., 2011). The healthy lifestyle is related, on the one hand, to physical activities and exercises (Bronikowski, 2010) and, on the other hand, to smoking habits, alcohol abuse (Garcia-Moya et al., 2013a, b, c, d, 2013a; Myrin & Lagerström, 2006; Nielsen & Hansson, 2007), and eating habits (Myrin & Lagerström, 2006). Similarly, the relations between SOC and oral behavior (e.g., toothbrush habits) were reported. Stronger SOC was linked to lower gingivitis, more willingness to change toothbrush habits, and especially increased tooth brushing (e.g., Ayo-Yusuf et al., 2008, 2009; Dorri et al., 2010).

Ecological Contexts: Family, School, Peers, and Community

Ecological contexts (Bronfenbrenner, 1977, 1979; Bronfenbrenner & Morris, 2006) extend the consideration from a focus on the personal level to awareness and sensitization to contextual characteristics and systemic consideration such as the families, schools, and communities. Several family-related factors were examined in relation to the SOC. For example, open family communication (Garcia-Moya et al., 2013a, b, c, d; Marsh et al., 2007), focused parenting style (Garcia-Moya et al., 2013a, b, c, d), and parents' knowledge regarding their children activities (Garcia-Moya et al., 2013a, b, c, d) were considered positive contributors to the development of a strong SOC. In addition, child-centered parenting during adolescence (examined within a longitudinal paradigm) predicted a stronger SOC at adulthood (Feldt et al., 2005).

In addition to examining family contexts and factors which could enhance or reduce personal SOC, few studies also related to family sense of coherence as another source to rely on when facing difficulties and/or stressful situations. Likewise the personal SOC, it was found that also family SOC is a resilient factor, and adolescents with stronger family SOC reported reduced stress (Sagy & Braun-Lewensohn, 2009; Sagy & Dotan, 2001).

Another important ecological system is *school*. While the family dimension produced mainly studies that pinpointed attention at the contribution of family characteristics to the development of SOC, studies of schools focused attention on outcomes, examining the adolescents' achievement and adjustment, and their relationship to SOC as a mediation factor. Within the educational systems, a stronger SOC predicted high grades and enhanced academic motivation and success. Lower stress levels were also reported as related to stronger SOC (Honkinen et al., 2005; Kristensson & Öhlund, 2005; Lackaye & Margalit, 2006). Moreover, stronger SOC was linked to social competence (Mattila et al., 2011; Moksnes et al., 2011).

The school system provides a unique opportunity to look at particular populations with regard to SOC. Adolescents with learning disabilities are an additional example of the importance of the SOC (Idan & Margalit, 2014; Lackaye & Margalit, 2006). These youngsters are identified by their chronic academic challenges emerging from neurodevelopmental difficulties. Their difficulties at school systems remain a continuous source for increased stress, endless day-to-day struggling with age-appropriate academic roles, and with social and emotional consequences. Indeed their sources of stress are not dramatic, but their lasting impact is expressed in weaker SOC. Studies placed the SOC as a mediator of hopeful thinking, predicting adjustment and effort investment in school. The adolescents' systems, such as families, schools, and communities, may further clarify the important role of the SOC and the factors that predict its development.

The focus on *peer relations and community atmosphere* produced studies that explored these factors as predictors of SOC development. An additional group of studies explored SOC as a collective construct contributing to the mental health of adolescents. Exploring SOC as a dependent variable, it seems that social support (Marsh et al., 2007), neighborhood or community cohesion (Garcia-Moya et al., 2013a, b, c, d; Marsh et al., 2007; Peled et al., 2013), and success in school (Garcia-Moya et al., 2013a, b, c, d) are all constructive in the development of strong SOC.

To expand the measurement of the SOC from the personal to the collective level, the *sense of community coherence* instrument was developed, which includes the components of comprehensibility, manageability, and meaningfulness (Braun-Lewensohn, 2014; Braun-Lewensohn & Sagy, 2011b; Peled et al., 2013). *Comprehensibility* refers to the sense of predictability, safety, and security felt by members of the community and the extent to which that community is understandable. A community's *manageability* expresses its ability to assist its members, via treatment providers and group programs, among others, in times of crisis and distress. Lastly, the higher the level of *meaningfulness* among the members of a community, the abler they are to express themselves, and the higher the likelihood that they will feel satisfied with and challenged and interested by what the community has to offer them (Braun-Lewensohn & Sagy, 2011b). Recent studies showed that indeed the sense of community coherence is another source of support for coping during adolescence when facing acute or chronic types of stress, especially among collectivist cultures (Braun-Lewensohn, 2014; Braun-Lewensohn & Sagy, 2011b; Peled et al., 2013).

Conclusions, Implications, and Directions for Future Research

This chapter focused on the sense of coherence and salutogenesis during the developmental period of adolescence. While in many ways, adolescents appear to function similarly to adults, numerous cognitive, biological, and behavioral processes are formed and shaped on the path to maturity and normative adulthood.

A recent review on salutogenesis and the concept of SOC examined the influence of different factors such as gender and age as well as different developmental contexts (family, school, peers, and neighborhood) on the development of SOC (Rivera et al., 2013). In our current review, we extended conceptualization and research results regarding SOC during this important developmental period of adolescence within a different orientation. Mainly, we addressed how the SOC questionnaire was adopted to fit adolescent populations, as well as the clarifying ways how SOC is linked to different health, mental health, and psychosocial behaviors in different ecological contexts. We can conclude that the review of studies from around the world in the last decade demonstrated that personal and systemic (i.e., family and community) SOC are important resources for coping with a wide variety of stressful situations. The survey of the studies shows that the SOC may be considered as a protective factor for adolescents in different cultures. During adolescence, the SOC may contribute to moderating and mediating stress experiences and may also play a protective role, similar to that of the mature adult SOC.

The educational and community implications of the current consideration of the SOC as a critical resource call for the sensitizing educators and community workers to the importance of the salutogenic construct. Future empowering programs should be guided by this construct, leading to the development of prevention/inoculation to stress planning as well as programs promoting positive psychosocial and healthy behaviors and academic success.

Our review raises several directions for future research in the field of salutogenesis and the sense of coherence during adolescence. Despite developments, there are still some issues that require attention. This includes the role of family coherence as a protective factor for health and mental health, for success in school, and psychosocial behaviors that determine their relationships and their attitudes toward each other. Moreover, non-western cultural groups were less studied in this context. When studied, some questions regarding the universality of the concept of SOC were raised (Braun-Lewensohn & Sagy, 2011a). Thus, it seems important to examine this issue further. We should focus on the meanings of sense of coherence in such cultures as well as the understanding of the questionnaire and the implication of SOC in such societies.

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Salutogenesis and the Sense of Coherence in Young Adults Not in Education, Employment, or Training (NEET)

17

Claudia Meier Magistretti and Beat Reichlin

Introduction

Young adults not in education, employment, or training (NEETs) emerged as an interest of public debate in the 1990s (Hussmanns et al., 1990). The debate was taken up by the fields of health promotion and public health in the mid-2000s. NEETs, also referred to as "disconnected youth", have since been a priority topic in policymaking (Levitan, 2005) and research (Patel et al., 2007).

In the years following the banking crisis of 2008, unemployment levels rose, and youth unemployment rates were substantially higher than those for adults (Robertson, 2018). The numbers of young people not in education, employment, or training remained stable even in those countries where employment rates increased remarkably (Carcillo et al., 2015; Wilson & Bivand, 2014). However, a decline in the numbers of NEETs due to economic improvement had been expected in the following years (Fernandes & Gabe, 2009). Additionally, the share of well-educated youth among NEETs was rising (Carcillo et al., 2015) as well as the proportion of rural NEETs among young adults (Simões, 2018). In accordance, data from Eurostat (2020) reveal disparities within countries and show higher rates of NEETs in rural than in urban contexts, especially in southern and eastern European countries (Eurostat, 2020). These developments indicate that disconnectedness in young adults is not exclusively due to an economic crisis in general.

The global estimates of numbers of NEETs vary widely since indicators of NEET and age groups included in the group of "young adults" differ markedly among available studies and between disciplines (Fernandes & Gabe, 2009) and countries (Elder, 2015). For example, NEET young adults have been defined, ranging from 15 to 30 years of age. The Organisation for Economic Co-operation and Development (OECD) defines two groups of young NEETs, one from 15 to 19 and a second from 20 to 24 years. Referring to the second age group of young adults ages 20 to 24 years, estimates for NEETs in different countries vary for men from 5.1% (Czech Republic) to 28.6% (Italy) and women from 4.4% (Switzerland) to 44.4% (Turkey) of the total number of young people in the corresponding age group (OECD, 2021). The US Social Science Research Council (Measure of America) estimated NEETs' rates as 12% of the general population in the same age group (OECD, 2018; Burd-Sharp & Lewis, 2017). The European Commission counts 4.6 million young people in NEET situations all over Europe, yet again considering a different range of ages (15–24 years). Using this calculation, 20.4% of the young people ages 14–25 years throughout Europe are unemployed, not in education and not in training (European Commission, 2016). However, the prevalence differs substantially among European regions. Rates of NEET status in 20- to 24-year-olds are much lower (approximately 8.5–11%) in central and northern European countries compared to southern European countries with rates of 23% (examples of Spain and Greece, OECD, 2021). The pattern in all regions shows that women are more affected than men worldwide—even in regions with low numbers of young adults in a NEET situation (Fig. 17.1).

The problem of young people not in education, employment, or training represents a global concern (McGorry, 2019). Studies, reports, and position papers cover a wide range of countries with various economic backgrounds all over the world. They reach from Scandinavia (Bania et al., 2019; Stea et al., 2019) to Mexico (Gutiérrez-García et al., 2018) and Australia (Rodwell et al., 2018), from Japan (Genda, 2007) to Europe (European Commission, 2016) and South Africa (Hallstein Holte et al., 2018). They cover the United Kingdom (Goldman-Mellor et al., 2016), Senegal (Cabral, 2018), and the United States (Carcillo et al., 2015), as well as South Korea (Noh & Lee, 2017) Austria (Tamesberger &

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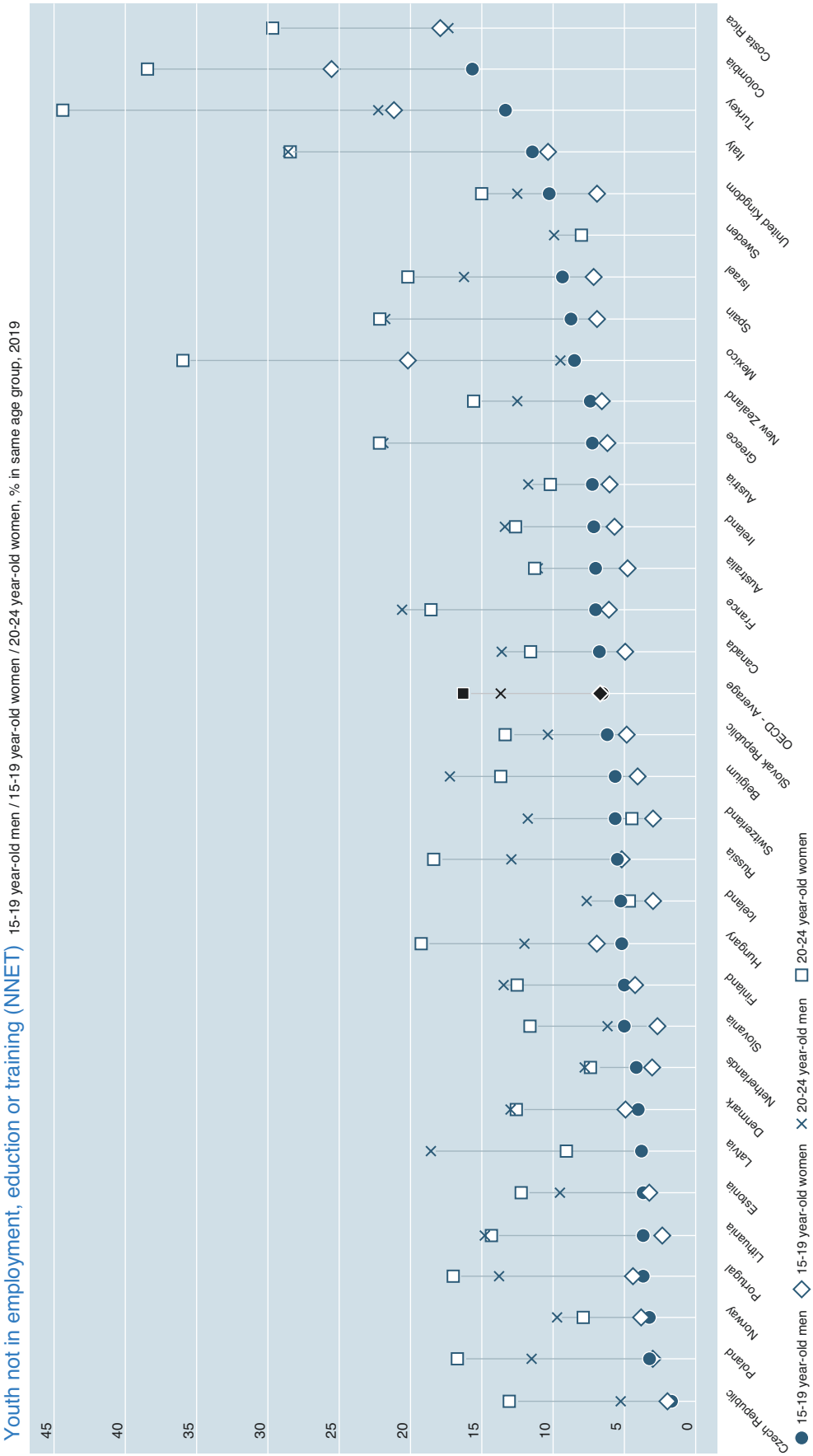

Fig. 17.1 `Youth not in education, employment, or training (NEET) (indicator), 20–24-year-olds / 20–24-year-old men / 20–24-year-old women, % in same age group. (Reprinted with permission from OECD (2021))

Johann Bacher, 2014), and Switzerland (Baggio et al., 2015), among other countries. Even though studies show substantial differences in the definition of NEETs and despite differences in the economic situations and welfare structures of the various countries, all authors conclude that there are no valuable and functioning solutions to the problems related to NEET (Bania et al., 2019). The persistence of this problem has led the International Labour Organisation to talk in terms of "a generation at risk" (ILO, 2013).

The urgency of the problem is emphasised by the UN 2015 Sustainable Development Goals (SDGs). Goal No 8 aims to "promote sustained, inclusive and sustainable economic growth, full and productive employment, and decent work for all". Within this goal, two proposed targets identify youth: (i) by 2030, achieve full and productive employment and decent work for all women and men*, including for young people* and persons with disabilities, and equal pay for work of equal value (United Nations, 2016), and (ii) by 2020, substantially reduce the proportion of youth not in education, employment, or training (NEET) (United Nations, 2020).

Despite being deprived of employment, NEETs value work as much as other youths, and they are as likely as non-NEETs to think that work would be important in their life. Therefore, the lack of a job has an impact on life satisfaction. NEETs report higher levels of dissatisfaction with their lives compared to non-NEETs. This suggests that, for a majority of youth, unemployment or inactivity is not a choice and that they would be willing to integrate into the labour market if they could (OECD, 2016).

On an individual level, NEET situations are perceived as a burden and a source of suffering from lack of participation and life perspective: Most of the young people in a NEET situation did not become NEETs by choice (Chen, 2011). In a Japanese qualitative study, a young NEET woman framed this in clear words: "*If you're not working and not in school or training, it will be boring, and it is no fun at all"* (Chen, 2011, p. 36). NEET situations negatively affect young adults' self-esteem and self-confidence. Some of them stated that it was difficult to defend themselves from being exploited. They felt they had to be grateful for having a job at all, and therefore they had to be ready to accept any working conditions. As Chen (2011) concludes, *"Their previous work experiences led them to believe that they were not worth much and that their choices for succeeding in the workforce were limited"* (Chen, 2011, p.41).

Risk Factors and Risk Situations

Since the banking crisis, policymakers, and researchers have increasingly focused on the analyses of factors influencing NEET. Studies have concentrated mainly on individual characteristics such as gender and migration background on the one hand and macro-level social factors such as economic growth and minimum-wage regulations on the other hand. In general, studies focusing on risk factors in NEET situations and the deficits of young people negatively affected are predominant.

NEET situations are more common in lower socioeconomic groups, resulting from poor participation in formal education (Thompson, 2011; Duckworth & Schoon, 2012). Other authors maintain that lower educational and professional skills are the main underpinning factors of a NEET situation, especially in rural areas (Simões, 2018). Care leavers are particularly at risk in the transition to adult independence (Akister et al., 2010).

Being a Woman—Being at Risk for NEET

Women are generally much more likely to be in a NEET situation than men. Caring roles as young mothers or in other care roles do not explain the gender difference, and the reason why women are overrepresented in the group of disconnected young adults remains unexplained. A recent study revealed that NEET women suffered poorer physical and mental health compared to both NEET men and same-age women in employment or education (Stea et al., 2019). The authors reported NEET women more often endure physical pain and report a higher number of adverse experiences as well as have fewer resources. It might be worth considering that women become involved in NEET situations because of poorer mental health, more psychosomatic disorders, and traumatic experiences.

In Sweden, Bania et al. (2019) found that NEET status in young adulthood was significantly higher among females than among males and ethnic minorities compared to the general population, with minority women bearing the highest risk of NEET status. They further specify that among females, adolescent peer problems and hyperactivity problems were associated with later NEET status. In contrast, in male adolescents, this status was associated with problems related to poor peer relations, conduct, and physical health (mainly musculoskeletal problems).

Poor Health as Cause and Effect of NEET Situations

Mental and physical health problems play a crucial role as antecedents and as consequences of NEET conditions. Across various countries, mental and physical health problems (e.g., Bania et al., 2019) are significantly more prevalent in the pre-history of NEETs in comparison with their non-NEET peers. In contrast, cannabis and other drug use do not seem to be strong predictors (Zuccotti & O'Reilly 2019; Cabral, 2018). In particular, the early onset of childhood mental and behavioural problems enhances the risk of a NEET status (Rodwell et al., 2018). A Canadian research group showed

that NEET status was thrice as prevalent in young adults with psychotic developments as in the peer population (Iyer et al., 2018). In line with this finding, O'Dea et al. (2014) found a high proportion of NEETs among mental help-seekers. Compared to their peers in education, training, or work, they were more likely to be male and to have a history of criminal charges and/or economic hardship. They also showed a more advanced stage of mental illness with symptoms of poor mental health (risky cannabis use, higher levels of depression, poorer social functioning and greater disability). Even minor mental problems may increase the risk of NEET status. A study based on census data in the US describes three main groups of NEETs: young mothers and young carers, young adults with disabilities or health problems, and young people (mainly young men) who do not have any overt disadvantage, but who cannot find a way to enter the labour market (Fernandes and Gabe, 2009). A randomised study in Greece showed increasing symptoms of anxiety and depression in young people between 15 and 24 years of age the longer the duration of NEET situations (more than one year) and the older the young person (Basta Maria Basta et al., 2019). Other authors emphasise the heterogeneity of the NEETs as well as their multiple and various burdens of poverty, mental illness, social deprivation, low education, and low self-esteem that are a reinforcing determinant of a NEET situation (Stea et al., 2019; Carcillo et al., 2015). Baggio et al. (2015) therefore conclude from their study on causal paths analysis that NEET status is a consequence of mental health and thereby induced substance use is a way of self-medication rather than a cause. According to Basta Maria Basta et al. (2019), studies from countries with significantly different economic and cultural backgrounds, such as Australia, the United Kingdom, Mexico, Japan, Sweden, and Switzerland, that explored associations between NEET status, mental health, and substance use confirm these associations between NEET status, mood disorders, suicidal behaviours, depressive symptoms, and substance use.

Other authors question the prominent role of mental health problems in the genesis of NEET situations: Gutiérrez-García et al. (2018) conducted a representative, prospective, longitudinal 8-year cohort study in Mexico City with 1000 adolescents aged 12–17 years in wave 1 and 19–26 years at the second point of measurement. They found no marked differences between young people in NEET situations and their working or studying peers of the same age group. The authors conclude: *"NEET youth were not that different from their peers…The greatest differences between NEET youth and all their peer groups were their increased risks of incident suicidal behaviour"* (Gutiérrez-García et al., 2017).

A third perspective relates to NEET situations due to mental problems in young adults to general societal developments. Robertson (2018) assumes that underlying societal circumstances may further hamper the transition to adulthood. He states that the pathways from adolescence to adulthood are prolonged, more complicated, and more individual in general: Those who manage well find a broader range of opportunities and those who do not face NEET situations very often have health problems. Robertson (2019) states that health-risk factors facing young people increase due to the trend towards a prolonged and complicated period of transition from youth to independent adulthood. During this transition period, unemployment is likely and has the potential to increase stress, mental health issues, use of drugs, promiscuity, eating disorders, and self-harm. Stewards and colleagues confirmed this observation in a British study, where NEETs were significantly more likely than non-NEETs to be smokers, not to participate in sport, and have an unhealthy BMI (Stewart et al., 2017).

NEET status itself causes health-damaging effects. A meta-synthesis shows evidence that young people are especially vulnerable to health problems when unemployed or working in precarious conditions (Vancea & Utzet, 2016). Bruckner et al. (2010) confirm that levels of demand for youth mental health services are related to levels of unemployment. Japanese researchers show that young people whose expected returns from working are low tend to refrain from working and seeking jobs (Genda, 2007). This is particularly true for young women, the less educated, and the long-term jobless. Young people seem to resign at an early age with unforeseeable and presumed catastrophic long-term consequences for their lives, their health, and their changes to participate in society.

Programs and Projects to Resolve an Unresolved Global Problem

In parallel to the growing scientific interest, an equally growing number of policies, projects, and initiatives have evolved that aim at integrating and educating the young NEET adults by supported education, supported employment, supported housing, and other means of social welfare. The results of these efforts are discouraging (Strandh et al., 2015). Even though a small number of studies show that individual job placement is useful in helping young adults to attain employment (Bond et al., 2016), two persisting problems remain unresolved. First, most young adults who are not in employment stay out of the reach of these measures or they fail to complete programs within the predefined (and economically guaranteed) time. Secondly, most of the labour policy programs are tailored for and successful with men, but not (equally) effective for women (Bacher et al., 2017).

Very few scientific evaluations of the various existing programs are available. The retrievable evaluations consist of short-term evaluations of effectiveness or customer satisfaction. No studies on long-term effects of supported education

or supported employment on the specific group of young adults in NEET situations could be located. These findings correspond to statements by several authors (e.g., Robertson, 2018) describing a lack of strong evidence for the effectiveness of back-to-work programs. Accordingly, in a previous literature review, Lakey et al. (2001) revealed a near absence of evidence for the health effects of labour market programs for NEET young people.

In Taiwan, a 4- to 10-month program named "Flying young"was offered nationwide to young people in a NEET situation (Chen, 2011). Although the program was targeted at this group, was tailored to this group locally, and participants were offered monetary compensation that allowed them to make a living, the retention rate was low. Of the participants, 59% did not complete the program. Those who finished had little to say about the job skills they had learned in the program. They considered the program to be of low practical help to participants. It did not increase their chances of employment, but it provided social and emotional support and helped them feel better about themselves (Chen, 2011). These findings are in line with the results of Swiss authors who conclude that the broad and heterogeneous projects in the field of supported education and supported employment for young adults widely lack evidence of effectiveness (Sabatella & Wyl, 2017). A large variety of offers and programs of assessed quality and adequate length (24-month duration on average) did result in a meagre success rate. For example, 8% of participants completed an apprenticeship (Sabatella & Wyl, 2017). Moreover, the contribution of the programs to the success is much lower than the two main determinants for successful integration: neither was related to professional support but rather to an individual's motivation and their parents' or their informal network and relationships to employers (Sabatella & Wyl, 2017).

From a policy point of view, Bacher et al. (2017) conclude that there is no "one-size-fits-all" solution for reducing the number of young people in NEET situations. Group-specific aspects related to age, migration, and gender should be considered in order not to leave behind young women and migrants. The most promising structural intervention, according to the authors, consists of an active labour market policy (Bacher et al., 2017).

Young people with psychological problems have even lower chances of finding access to the labour market due to stigmatisation and self-stigmatisation of psychological and psychiatric problems (O'Dea et al., 2016). However, there is no association between a change in depression and a change in NEET status in the same study on young adults with depression. The authors conclude that psychiatric and other services need to address functional outcomes and re-engagement with education and employment in addition to symptom reduction. Re-employment improves the health of formerly unemployed adults in general (Rueda et al., 2012) (Bjarnason & Sigurdardottir, 2003): The best health outcomes result when full-time employment and role satisfaction are achieved.

The social risks influencing the likelihood of NEET status are multi-dimensional, so interventions that focus on one risk factor are likely to be inadequate (Duckworth & Schoon, 2012). Overall, the conclusion might be Shore and Tosun's (2017): "One of the main reasons for this failure is that the proposed activities do not match NEETs' needs".

A Salutogenic Perspective on NEET Situations

Given the failure of support initiatives for young adults in NEET conditions, this field needs new and different approaches as well as new questions. It is crucial to understand who these young people in NEET situations are, what they need, and how they could receive appropriate support in improving their quality of life and their life perspectives, with or without becoming educated, employed, and trained. To date, such a comprehensive approach to the NEET situation is lacking; it is necessary to develop an approach that incorporates the experiences and visions of these youth, their relations with formal and informal systems, as well as their cultural and economic condition (Simões & Drumonde, 2016). Salutogenesis may offer a framework towards a new understanding, a comprehensive approach, and a different way of handling the problem. It focuses on resources and capabilities instead of risks, deficits, and predefined "normality". We, therefore, attempt to illuminate the situation of NEETs from the perspective of salutogenic theory and research by advancing a new approach to learning and research with NEETs and with their non-NEET peers. In this section, we present some first results of a current research program and conclude with future policies and practices.

We conducted literature research on the Web of Science to retrieve publications that link the topic of NEETs to salutogenesis. We limited the publications years to 2006 to 2019 and used the keywords salutogenesis, sense of coherence, SOC combined with NEET, disconnected youth, and other terms. We could not find any study that did explicitly link salutogenesis or SOC to NEET situations or disconnected young adults. Therefore, we recurred to publications that throw light on related topics, such as research on SOC and unemployment in general.

We know from studies conducted with unemployed populations that Sense of Coherence (SOC) is a strong predictor for positive outcomes in terms of re-employment: SOC is an important personal resource that enhances the chances of re-entering the labour market after unemployment (Vastamäki et al., 2011), independent of educational level, age, gender, and duration of unemployment. The SOC of adolescents

may affect their stress and coping in much the same way as is seen in adults (Eriksson & Lindström, 2005), young people are especially vulnerable to health problems when unemployed or working under precarious conditions. This is mainly true for their higher risk of mental health disorders, health-risk behaviour, poor quality of life, and occupational injuries (Vancea & Utzet, 2017). Again, SOC is a crucial buffer when coping with unemployment and marginalisation in the early years of adult life. Starrin et al. (2001) found that in unemployed young adults who were exposed to a greater degree of financial hardship as well as to more shaming experiences, the mean SOC score was much lower compared to young unemployed men and women who were not victims of financial deprivation and shaming experiences.

Consequently, we assume that strengthening SOC in NEET situations is a feasible approach to support young adults. Dealing openly with experiences of shame, providing minimal basic incomes and housing may be the first important psychological and material resistance resources in this process. Additionally, a salutogenic approach may be more attractive and motivating for affected youth than the current paradigms that ask them to fit into defined programs and life plans defined by educators, experts, and rehabilitation systems.

A 3-Year Peer-to-Peer Study to Understand Young Adults in NEET Situations

We assume that a salutogenic perspective on young people in NEET situations will reveal new approaches to urgently needed solutions. According to Antonovsky and following his example, we must ask new questions. These questions should shift from the deficit-oriented approach in the literature and include the central concepts of the theory of salutogenesis. What are the resources of these young adults? How do they build their SOC? How do their resources, coping, and coherence fit with the support systems they find in their societies? These questions were addressed in a 3-year study of 76 NEETs in the German-speaking part of Switzerland. The study was based on three assumptions:

- We need to ask new questions.
- We need to use new research methods.
- We need to work with researchers in the same age group as the NEETs.

It is difficult and costly to reach NEETs (Stea et al., 2019), and it is difficult to gain the confidence of these young adults who have mostly had various adverse experiences with the social-care system (Genda, 2007). We, therefore, worked with students of the social work department at a Swiss university, assuming that each of them would know a friend, colleague, or relative in a NEET condition. To allow the young researchers to ask new questions, we excluded questions regarding the causes and history of the NEET situation, and we chose a process-oriented design, following the method of rhizomatic learning and research by Deleuze and Guattari (1988). Rhizomatic research attempts to overcome hierarchical and binary thinking that traditionally leads to a top-down process in scientific approaches that generate hypotheses, methods, and results. In contrast, a rhizome, according to Deleuze and Guattari (1988), is an "image of thought", analogous to the botanical rhizome, which is a stem of plants that sends out roots and shoots from its nodes. In other words, the ontological thinking by Deleuze and Guattari (1988) can be understood by analogy with these rhizomes in nature. The underpinning concept of rhizome ontology is that material and semiotic entities have the same ontological status, that is, both material entities and discursive statements are "real" in an identical way. Deleuze and Guattari (1988) do talk about assemblages of entities as active, creative affected and affecting processes that define and limit themselves and each other, as rhizomes of plants do in nature. Deleuzian ontology (and in consequence rhizome research) is based on the assumption that reality is made up of discursive statements and material entities, both of which are active, mutually affecting, and affecting the world. Therefore, this research methodology and design shifts from a deductive and hierarchical conceptualisation towards a process of interacting with the question of interest. In this process, the research question, the researchers, and reality affect influence and change each other mutually. This ontology has a broad impact on research and learning, as some of the fundamental principles of rhizome research demonstrate (Clarke & Parsons, 2013). Box 17.1 describes the basic principles.

Box 17.1 Principles and Methods of Rhizomatic Research

Nomadism: Rhizome researchers are «nomadic» in the sense that they transcend the current state of knowledge and allow them themselves to be led by the research question and the research process. They might change along the process of moving from place to place, idea to idea, and concept to concept. Nomadism demands an openness to interrelationships even if these interrelationships present places and concepts that are not traditionally linked.

Assemblages: An assemblage consists of heterogeneous components and forces that form a unity by working together as a whole to produce or create a temporary entity. The components of an assemblage have traditionally been considered separate. Rhizome

research deliberately sees things, processes, and people as equally important elements co-creating assemblages. Therefore, researchers link seemingly unconnected aspects (for example, architectural, technological, emotional, and discursive aspects)—into assemblages and they consider elements that seem less likely to provide research insights rather than dismissing them as being irrelevant.

Deterritorialisation: Rhizome researchers develop sensitivities to elements/people that are not part of the status quo.

Affect: In rhizome research, emotions (affects) are not considered to be confounders that have to be controlled or at least reflected. Emotions like interest, fear, compassion, etc. *are means of gaining knowledge and insight. They co-create and co-direct the research process that ideally will allow the research project to control itself.*

The students learned these principles at the beginning of the course in a challenging process. They found themselves in a very open situation and soon recognised the parallels to the situation of their peers in NEET conditions. They had to find their way into a completely new and uncertain process, make efforts without ensured success, and did not know whom and how to ask for help. These students left the "secure ground" of professionals "knowing" solutions for problems, and they accessed the topic of NEETs with a humbler and more open attitude of learning.

The overarching aim of the study was to understand the inner and outer world of young adults in NEET situations. Within this frame, students were free to choose their specific research questions, which they then studied together in two phases of fieldwork, each 2 weeks long. In between the fieldwork periods, they gathered all together in a 1-day marketplace workshop, where each group's study was discussed with other students, tutors, teachers, and an artist. The marketplace served as a reflection on the ongoing research process and as a support to further orient and specify the research questions for the second period of fieldwork.

Research questions varied broadly: How do NEETs with a psychiatric diagnosis and those without view their lives? How much or how little do NEETs accept their reality of living and themselves? Where do young adults in NEET situations find resources for their everyday struggle? Why are they in a NEET situation? What are their dreams and their visions of life? (cf. Box 17.2). The results are presented in the following section.

Box 17.2 Research Questions and Methodology

The research methods used by students were predominantly qualitative approaches focusing on interviews of different types. Guideline-based, narrative, and biographical interviews were conducted. In some cases, the storytelling method or (photograph) diaries were also used, since some of the young adults in NEET situations were often able to express themselves better with this method. Some of the student's groups choose to explore and contrast two perspectives: the one of the young adults in NEET-situations and the ones of the results professionals of their help systems. They conducted a first field work with young adults, discussed the results and generated questions for the second phase of field work, where they interviewed social workers, psychiatrists, youth workers, working educators, family nurses, and other professionals. The latter presented the experiences of young adults in comparison with an expert view and gathered information on the type of cooperation between professionals. The 22 groups dealt with a wide variety of questions, which allows the results presented to be used to form different categories and summarise complexes of questions:

The study groups that explored the experiences of young adults pursued the following questions:

- *How do those affected experience working with help systems?*
- *What kinds of plans and visions do those affected have?*
- *What is important in the area of housing?*
- *What was supportive in the socialisation process?*
- *What do those affected do in their free time?*
- *How do those affected experience their everyday life?*
- *What kind of support do affected people want?*

Study groups dealing with institutional support systems attempted to answer the following summarising sets of questions:

- *What form can inter-institutional cooperation between the support systems take?*
- *Which accesses to support systems are open to affected persons?*
- *What options are available to those not recognised as disabled by the social security system?*

Study groups that focused on the closest personal environment dealt with the following questions:

- *How do relatives experience their everyday life with those affected?*
- *What support do relatives want?*

A total of 116 interviews were conducted, of which 76 were with affected persons, 7 with relatives, 25 with professionals, and 6 with young adults who formerly were in NEET situations that they ended by successfully integrating into work or education.

Tutors accompanied the students during two research phases of 2 days each, and they received support in the evaluation of their results by targeted feedback. It quickly became apparent that a significant challenge was to establish contact with young adults in NEET conditions. The second field phase built on the evaluation of the first phase. Often this led to a revised question and also to more precise interest in knowledge. The implementation of the principles and methods of rhizomatic research was a continuous learning process requiring reflection by all participants. Altogether 80 students participated in the course over the three terms of investigation that extended over 3 years.

Generalised and Specific Resistance Resources of Young Adults in NEET Situations

The prerequisites for the sense of coherence (SOC) are general resistance resources (GRRs), conceptualised as any physical, material, cognitive, emotional, attitudinal, interpersonal, social, or macro-sociocultural characteristics of an individual to cope with a wide variety of stressors (Lindström & Eriksson, 2010). Specific resistance resources (SRRs) are individualised, dependent on the person's particular context, and used during certain circumstances (Antonovsky, 1987; Mittelmark et al., 2017). In terms of young adults in NEET situations, GRRs are resources that generally allow access to societal roles and participation, for example, education, social belonging, and societal and political participation. SRRs are those specifically needed to overcome the hardship of NEET situations and their negative consequences on health, for example, integration programs, social assistance, and psychiatric or psychotherapeutic treatment. The results are presented alongside the generalised and specific resistance resources.

In the 3 years of rhizomatic research, both young adults and the professionals who supported them were interviewed. The patterns of their narratives show remarkable differences, which might explain why the variety of assistance available does not reach the young adults in the NEET situation. There seems to be a misfit of concepts, attitudes, and expectations between the two systems of help-seekers and professionals. Of the nine key resources of well-being that young adults emphasise, only three were fully shared by the representatives of the helper system, three were mentioned but defined differently, and three of the young adult's key issues were perceived as irrelevant (Table 17.1).

Table 17.1 Contrasting the perceptions of young adults and professionals

General Resistance Resources (GRR)	Young adults' perception of GRR	Professionals' perception of GRR
Employment	Very important	Important
Time	Very important	Important
Stigma	Important	Important+
Housing	Very important	Somehow important
Personal development and identity	Very important	Somehow important
Coping skills	Very important	Somehow important
Visions and perspectives	Important	Not relevant
Leisure	Important	Not relevant
Peers and friends	Important	Not relevant

Both young adults in NEET situations and social workers in the helper system consider work and employment as a key issue and central goal. Young adults' difficulties in finding employment on the first job market were confirmed by social workers who stated that there were too few employers ready to hire young adults with psychological and/or social difficulties or handicaps. Employers often perceived the available programs of supported training, supported education, or supported employment as too bureaucratic and too complicated. At the same time, the young adults found them as too demanding, difficult, and stressful. In Switzerland, programs for youth in NEET situations that focus on education, training, and employment are either funded by municipalities or by national insurance systems. Both demand defined steps of success within fixed time limits, which means that if predefined objectives are not achieved within the required time, support is discontinued and young adults find themselves back in the NEET situation. Support systems are fragmented, and in the majority of cases, continuity between different support systems is not provided. In consequence, the young adults themselves should seek and find consecutive programs. This proves to be an excessive demand for many since they struggle with feelings of shame and low self-esteem. A common consequence is a nomadic journey of attempts, failures, disruptures, and new attempts that may last 5, 8, or more years (Mögling et al., 2015).

Accordingly, time was mentioned as an important issue by both young adults and social workers. They talked about the time young people lose finding relevant information

about support systems, the time they lose trying to overcome failures, and the time they wait for replies or authorisations from the helper system, communities, or health insurance. Once they are in a support system, young adults feel themselves being under constant time pressure to shape their personal and psychological development in a way to follow the demands and time limits of educational and welfare systems.

The young NEET adults' perception of illness, diagnosis, and stigma corresponded with the view of professionals in the support systems, which reveals the important impact and correlation of psychiatric diagnosis, mental problems, and stigmatisation. As the young adults stated in the interviews, a psychiatric diagnosis can be both a support and a burden for them. Some find it helpful to have an explanation for their suffering; others reinforce their already existing self-deprecation. The researchers observed that diagnoses received before adolescence shape individuals' self much more strongly than diagnoses made in early adulthood. In surprising contrast, a psychiatric illness, by itself, was viewed positively. The young adults in our study emphasised that mental health problems can be a reason to engage in a process of critical self-analysis and a starting point for personal growth: "People without mental health problems can easily go through life without reflecting on who they are". For a process of personal reflection and growth, young adults in this study consider it important to have access to a value-free, non-judgmental environment, be this nature, animals, sports, music, a theatre group, or something else. Only when they start to compare themselves with others (or with people on social media), do they start to doubt their lives and themselves. There, a vicious circle may start where low self-esteem and self-stigmatisation weaken the process of becoming healthy as well as achieving social and professional participation.

Communicating the diagnosis remains difficult due to employers' contradictory attitudes: They want to be informed of a job applicant's psychiatric problems, but employers also think they would not employ the applicant if they knew of a psychiatric diagnosis (Baer et al., 2017). The young adult's experiences described in the interviews mirror this contradiction. To receive support, they must communicate the psychiatric diagnosis, but consequently, they experience, "employers don't feel confident about your abilities, and you feel like a burden to them. And you're perceived as your diagnosis only; you're not perceived as a person. This makes you feel unhopeful".

A second group of resources concerns housing as well as psychological and coping resources. Housing, "to have a place of your own where you feel secure and are free to live your life", as one of the young adults framed it, is considered important by professionals and young adults alike. Views diverge, however, about the way housing should be provided. Young adults consider housing as a basic resource. *"Housing means intimacy. My home gives me security and is a place in which I can determine what happens"*. From there, they can start to find training, participate in professional education, and find employment. They are also convinced that having their place to live in would help them to become more independent and gain self-esteem: *"If I feel at ease at home and can live the way I want, I'm fine and I can use my energy for the next task"*.

The support system instead follows an opposing logic: As long as young adults do not earn their living, as long as they have not completed their professional education, and as long they have not learned to manage a household, they are better in sheltered housing, where social workers and social pedagogues take care of them. Consequently, situations perceived as humiliating by young adults in NEET situations persist: *"My apartment is one the region pays for. It bothers me when the social worker comes into the house unannounced and does what he wants, whether I am at home or not. I have no privacy for myself and my family in this apartment – he even looks in the fridge"*.

The support system offers sheltered or accompanied housing in institutions that generally are not conceptualised for young adults in NEET situations. As a result, they found themselves in institutions for people with handicaps or patients with severe psychiatric disorders—a situation they found depressing.

For professionals, one's place to live is a reward, but for these young adults, it is a prerequisite to building up an independent life. "Housing First" projects in the US, Canada, and recently Europe, especially Finland, may well prove the young adults right. In most existing welfare models, individuals should graduate through a social rehabilitation process to earn their housing. The housing first principle suggests a paradigm shift. Instead of an ultimate goal, housing is considered a first step, a basis, and a precondition to start and succeed in the social recovery process. Results of recent randomised controlled trials (RCTs) show better outcomes in housing first programs than in the traditional educational models for quality of life, mental health, social inclusion, and other parameters (Aubry et al., 2019). Some social workers in our study did not acknowledge the young adult's wish for independent housing. One stated: *"They need to consume, to have everything, iPhone, computer; brand-name clothing is huge today. I think those are more important for the young than having an apartment of their own"*.

Attitudes towards psychological and coping resources also differ between young adults and social workers. Individual biographies of young adults in NEET situations show an almost unbreakable will to succeed, to achieve, and to survive. Five to ten attempts at integration, education, or training were frequent among the young adults in the interviews. *"You need persistence and a strong will to survive*", one of them stated. This contrasts with the beliefs of professionals. They don't emphasize persistence but the capability to sacrifice, to adapt to given circumstances.

Similarly, the concept of identity is perceived differently by professionals and young adults. The young adults interviewed said that all they asked and wished for was to be accepted and appreciated the way they are. It was the strong conviction of all interviewees that they are—presumably special—but full human beings, with identities of their own. In contrast, the professionals demonstrated the conviction that these young adults would stay in a state of "not yet", still searching for themselves and still in the process to become and to build up a personal identity. These contrasting perceptions are not explicitly exchanged or expressed in routine interactions between the partners involved. Nevertheless, such a stark contrast can hinder a genuine and functional working alliance.

The third group of general resistance resources was composed of those aspects of life quality that were not perceived and were therefore not addressed by supporting systems and professionals. However, they were of crucial importance to young adults in NEET situations. One of the most prominent findings was that young adults were surprised to be asked about their aims and visions in life. They said that their visions had never been a topic of interest for professionals of the helping systems. In line with these NEET adults' statements, some representatives of the support system affirmed they never ask about visions, since the young adults might be overstrained by this question (because they are not able to reflect on and express themselves). The visions of their future the young adults described were modest but still far away from their current living situations. They dreamed of having a place to work, becoming an appreciated member of the community/society, doing something meaningful, and having a family—if possible outside the city and in the countryside. Stable relationships were a constant wish since most of the young adults interviewed looked back on a life full of interrupted relationships within the family, but also with peers and the various professionals of support systems they had known, worked with, and then lost. Money was not the main issue: They wanted to be economically self-supporting, and they aimed at living a simple life in which they had enough money not to suffer from a deficiency.

Support systems for young adults in NEET situations are mainly directed at education, employment, and training that are usually rather difficult to achieve. In our interviews, young adults emphasised the important role of leisure activities. They are considered to be an opportunity for positive experiences, a source of self-esteem, and a relatively easily accessible resource since professional background or education usually are not requested to take part in sports or groups of creative, social, or other leisure activities. In leisure groups, social background or position are less important than shared interests and activities. Some leisure groups are aware of this and actively involve people in difficult living situations. Social workers stated that leisure time is not important. In their views, hobby and leisure activities are a later priority of learning—a successful integration into working life comes first. Social welfare professionals could but rarely do support leisure initiatives of young adults in NEET conditions, predominantly for economic reasons. These opinions contrast with the view of the young adults who feel that it is easier for them to find access to leisure groups than to professional or educational systems. The importance young people in NEET situations attribute to leisure activities in this peer-to-peer study contrast with research (OECD, 2016) that found NEETs are less likely than non-NEET youth to think that leisure time is very important for their life. The different findings may be due to differing research questions and methods as well as to the fact that most participants in our sample suffered from slight or moderate mental problems. For them, leisure groups were a gate for social contact and participation, since stigmatisation is less prominent, access is easier, especially when peers accompany young NEETs.

Peers compose the third GRR in the group of NEETs' resources neglected by professionals but considered important by the young adults in our interviews. Some of them have lost former friends due to mental problems, the NEET status, and the stigmatisation of both. They were living a rather lonely life but claimed to have "many friends", who on closer inspection turned out to be friends on Facebook, Instagram, or Twitter with whom they have no personal contact in real life. Still, young adults consider these friends very important and spend a significant amount of time with them on social media. Others could keep friendships with former friends who are not in a NEET situation and reported they receive support from them, but also "a situation of equality and belonging without any power gap". Ideally, friends support or can cope with the specific vulnerability the young NEET adults show, as one NEET adult describes his peer group: "*Everyone knows about my illness and my problems. I don't have to pretend, and I can be sad and calm. Even when I feel very bad, I can always be there and do not have to be involved. But I can take part in fun evenings without having to do anything or to pretend. This helps me a lot. We care for each other. We have agreed on a sign language: When I raise my hand, they all know that I don't want to talk now*".

A third group of the young adults in our sample found new friends during previous treatments in psychiatric hospitals or detoxification clinics with whom they kept contact after the treatments. These friends were considered emotional resources and people to talk with about problems, but since most of them are in NEET situations as well, they were not of practical support. In contrast, social workers and other professionals either ignore peers, regard them as a private matter, or have a more negative perspective of NEETs' peers, fearing their harmful influence. In any case, friends and peers were not involved in integrative, therapeutic, or supportive

treatment nor did professionals in this sample provide support in developing a private social network.

To conclude, young adults in NEET situations and the professionals who support them share a common view, but with differing understandings, of the GRRs regarding work, education, housing, psychological and coping capabilities, and the insight that de-stigmatisation of NEET situations are needed. Professionals ignore or are unaware of the resources that might be crucial to strengthen the SOC of young adults. Closing this gap in the perception of support systems may help to empower young adults to more easily access and use both GRRs and SRRs.

Specific Resistance Resources (SRRs) and the Support System

The support system can be viewed as the organ to facilitate the access to or to provide specific resistance resources that are needed in NEET situations to access the GRRs described above. An inconsistency between the high number of available supporting programs and the persistent stability of the number of young adults in NEET situations calls for an explanation. To discover the reasons for this inconsistency, a group of questions in our study addressed the young adults' perception of the helper system.

In Switzerland, young adults in NEET situations who have access to the support system are usually accompanied by an average of five different institutions (Baer et al., 2015). Institutions and their representatives lack time and resources, so they rarely coordinate with each other or actively involve their clients. This results in a lack of cooperation among professionals and requires young adults to spend a substantial amount of time and energy keeping appointments, which gives them the impression they are being "administered". They described their situation by asking a question: "Are we all puppets?" This lack of coordination often results in young adults being buffeted about on their journey among the different support systems because of bureaucratic and legal requirements. Since the institutions, not the young adult, lead the process, dealing with access to protected personal data needs time.

Moreover, every institution sticks to its profile, and tasks and transitions between support systems are often not provided. Sometimes, specific support is even lacking: One participant stated: *"I'm too sick for the primary labour market, but I am too strong for the second – what shall I do?*" Others stated that they think that each program might be useful and valuable, but that all lack flexibility and their criteria for admission, progress, and success are unduly restrictive.

In sum, the misfit between institutional support and individual needs may be due to a support system that functions within a financial, organisational logic that cannot respond to individual life circumstances and development processes. As our research shows, support by non-profit organizations was a crucial factor for NEETs who were able to overcome their situation. Private services could provide the support and time the young adults needed because of flexible economic standards. In contrast, most of the public support programs demand specific progress within a predefined time.

Inter-institutional coordination, in particular, appears to be poorly developed. For example, young adults in NEET situations perceive that there is too little communication among the experts involved; they also experience the individual processes offered by institutional helpers as closed systems. Moreover, when different institutions are connected, the number of professionals with whom a young adult speaks considerably increases. Finally, the highly specialised support systems make things even more difficult: Individual aspects of problems only are tackled, but the situation of the individual as a whole is not seen.

Discussion

Among the most striking results were those that expressed the individual needs, dreams, wishes, and future perspectives of the young adults in NEET situations. It was impressive to learn that what they wanted was normality. They defined this based on their needs (see also Table 17.1). In contrast, institutional support systems take a different approach. Their focus is on integration through work, and their priority is for NEETs to earn a living. The promotion of earning capacity is seen as the key. Support systems seem to not take into account the normal range of up to 6 years in differences in psychological and social development among children and adolescents. In line with other authors (Maguire, 2015), we consequently can assume that the problem of NEET situations in early adulthood is at least partly due to the misfit of offered support by organisations and the individual needs of development. Here, we will claim that the system could work much more effectively if the support system were able to understand the young adults and their situation in terms of the SOC and the GRRs.

The normative structure of support offers hinders young NEETs from accessing GRRs. The final question by the student interviewers addresses this: "Why are there no niche offers in the first labour market for NEETs?" A possible solution to this lack and dilemma may be to create new and adequate GRRs in a "third" labour market overlapping and bridging the first and the second ones. Recent initiatives in Portugal provide promising examples. In *Highlights of an untold story,* Simões (2018) described an initiative for rural NEETs. Cooperation among youth and social workers, farmers, and ecologists led to the development of a training and entrepreneur's program. It broke the former rule for NEETs

to fit into pre-designed projects. It allowed them to work, be trained, and build up their business project within a flexible system of transition to the labour market in an eco-agriculture cooperative. The project, called *Terra nostra,* was based on an equality approach to talks, learning, and evolving. It thereby addressed important dimensions of the SOC: *comprehensibility* was tackled by learning and gradually understanding, *manageability* by developing a business with an income, and *meaningfulness* by planning a personal future. *Terra nostra* consisted of several offers for young adults in NEET situations that were multi-level, open, easily accessible, and flexible. The main elements of the program were as follows: Integration of young adults in NEET situations into an eco-agriculture social business.

- The launch of one's own small business, with the support of project partners.
- Linkage to local food production businesses where apprenticeships took place while the apprentices were mentored by *Terra nostra*.

Terra nostra take into account that many young adults in NEET situations look back on a history of educational failure or underachievement. It is based on individualised informal learning in contrast to the formal educational system that overemphasises labour market demands. This approach refuses traditional teacher-centred methodologies and rigid curricula and instead fosters informal learning techniques, allowing individuals to take the time they need to evolve. Learning sessions occur mostly in the field rather than in a traditional classroom environment. Direct observation, demonstration, peer mentoring, small-group problem-solving, and learning diaries are the primary teaching methods used in this bottom-up learning and teaching process, during which the youths' questions and contributions are the starting point for exploring training topics.

Terra nostra and the young adults together developed a system of after-learning transition to the labour market offering three pathways: the creation of an eco-agriculture social business, which could integrate some of the youths; entrepreneurship, for example, participants could create their own small business with the support of the project's partners; and integration into food production businesses where apprenticeships took place. This is also in contrast to traditional services that do not consider the young adults' expectations and predominantly offer counselling and training in narrowly defined work alternatives to low-skilled intensive labour (Carcillo et al., 2015; Tosun, 2017). The system offered flexibility in that youths could combine various solutions according to their personal needs (Simões, 2018).

The authors conclude that at all stages, projects should be organised as laboratories in which youth can understand, by themselves, the demands, the achievements, and the barriers to activities, with minimal (but significant) input from professionals. Together, self-determination and free experimentation are elements of an activation formula that becomes a sense of empowerment otherwise seldom experienced by NEETs (Simões & Drumonde, 2016).

From a salutogenic viewpoint, projects like *Terra nostra* reconstruct the distinction between SRR and GRR in the sense that they combine them in a new way. When we regard such projects in relation to our results from NEET and professional interviews, we observe that *Terra nostra* covers all but one GRR dimension (see Table 17.1). We propose three main qualities for suitable and effective Specific Resistance Ressources (SRRs). First, successful support should provide a particular experience of coherence for the NEETs. The experience of resources, not their availability, is crucial for strengthening SOC (Maass et al., 2017). Young adults who have the opportunity to learn according to their capabilities and within an encouraging and open process are much more likely to live positive experiences of resources than those who feel overwhelmed by long curricula of aims, objectives, and abilities they have to achieve within a predefined limit of time.

Second, professionals' attitudes towards young adults should be shaped by respect, equity, and trust in processes of growth, rather than based on systems of control and mistrust.

And third, young adults need challenging and demanding, but yet flexible and individualised pathways to achieve the societal autonomy they wish for. These pathways need supported transitions in between different support systems as well as the willingness of professionals to cooperate and invest in transprofessional and interdisciplinary networks.

In sum, support systems and young adults have so far agreed on the GRRs to be achieved, but support systems have not yet been able to design adequate, accessible, and attractive SRRs for young adults. *Terra nostra* is one example of how to create them. Others are strongly needed, not only for the benefit of young adults: "Greater cooperation between youths, social agents, and producers (not to mention political decision-makers) would result in a win-win situation: not only would youths and social organisations find alternatives for youth employment based on local opportunities, but producers could also use an additional channel to tackle the increasing labour force shortage" (Simões, 2018). Thereby, the NEET situation could become a collective challenge and would no longer be defined as an individual failure. Moreover, the thousands and thousands of young people in NEET situations around the globe would no longer be an overload for fragmented services but rather a valuable resource for society.

Support systems are thus challenged to understand the young adults in order to strengthen their SOC. This means understanding the inner reality of these young adults rather than attempting to fit them into economy-driven, rigid programs (Lindström & Eriksson, 2010; Meier Magistretti et al.,

2016, 2019). One of the key capacities in professionals that our study revealed to be positively associated with NEETs' successful transitions was to bear NEETs' insecurity and their periods of no apparent progress. We thus suggest that the professionals should commit themselves to acquire a more profound understanding instead of providing fast, predefined solutions. Another factor that strengthens SOC is the professionals' agility and flexibility in following their clients and challenging them with adequate and attractive tasks (Antonovsky, 1987).

Future Questions and Developments

Young adults in NEET conditions tend to preserve coherence and SOC by narrowing their radius of action. Alcohol and drug consumption, excessive online gaming, and other behaviours (that may even grow to become lifestyles) serve as a means to maintain or create a world that is understandable, manageable, and meaningful. In online games, for example, they understand their tasks, they can manage them, and the achievement of different levels provides motivation and a sense of meaningfulness. Focusing on gaming, the young adults can successfully fade out other sectors of life, for example, work and employment, that potentially weaken their SOC. Antonovsky (1987) stated that the boundaries people set about which parts of the world and life we consider of importance affect the SOC. He further assumed that the boundaries cannot be illimitably restricted but must include the person's inner feelings, the closest interpersonal relations, the main occupation, and the main existential themes. Hochwälder (2019), referring to Antonovsky, proposes a "measure of the boundaries, or in other words, a measure of which sectors of the world and life the person takes into consideration when assessing his or her SOC" (Hochwälder, 2019, S.4). Even though this measure is still lacking, the concept of boundaries is a useful heuristic for practical work with young adults in NEET situations. Assuming that current behaviours of these young people serve to maintain the four basic functions of SOC by narrowing their world, setting boundaries to sectors of life they do not threaten their experience of coherence. The task of professionals then might be to support young adults to widen their boundaries slowly. The example of terra nova shows this is possible. Other, more various and new initiatives are to be developed to create perspectives and sustainable quality of life for young adults in NEET situations.

Finally, new questions risen by students in the rhizomatic research program mentioned above should receive more attention, and difficulties now perceived as individual problems could be recognised as (also) societal ones. Basic questions of what is and who defines quality of life will arise.

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Salutogenesis and the Sense of Coherence in Middle Adulthood

18

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Introduction

The life course can be understood as a dynamic learning process that is socially pre-structured in the sense of electoral opportunities but is experienced and lived individually (Erikson, 1980). This is how life phases with expected developmental tasks and corresponding risk-resource profiles can be described – culturally differently structured. Besides, critical – usually unexpected – life events must be taken into account, which in turn present specific challenges and require flexible coping strategies. The formation of personal and social identity (Goffman, 1975) is thus a continuous challenge of 'making yourself who you are' (Sartre, 1964, p. 1977–1979, translated by the authors) and which is also expressed in the formation of the SOC (Antonovsky, 1987; Ventegodt et al., 2003).

For a long time, the late middle age has been considered an undramatic phase of life, but it is increasingly beginning to acquire its particular profile (Perrig-Chiello & Perren, 2005; Perrig-Chiello et al., 2008). We focus here on a phase typically observable in the sixth decade of life, which can be described as the initiation of the transition to de-vocationalization and a change in family responsibilities. It is thus an approach towards balancing and future orientation, looking for a coherent life.

Crises, whatever their causes, as well as long-standing problems, can lead to a need for help from health professionals who can provide support in defining individual health objectives and in developing ways to achieve them according to the situation, the person and the problem. The often implicit personal life goals must be taken into account.

This chapter uses a case study to illustrate how general practitioners can contribute by using a specific framework for encounters (*review dialogue*) to the naming, modification, design and development of health goals. Further, we want to illustrate how this kind of encounter can promote the use and formation of salutogenic resources, and how this relates to the life situation and life history of persons in chronic conditions. We focus on the challenges of the sixth decade of life – here, especially the care and support of parents as the continuing effect of developmental tasks. From this perspective, for example, the tasks of developing autonomy and detaching oneself from the parental home, which is typically on the agenda in earlier phases of life, become relevant again in a modified form. The meaning of the tasks at hand is shown employing a biographical reconstruction and gives an idea of the interweaving of coexisting constellations in the family context (cf. Oevermann, 2000). This chapter underlines, based on the specific transitional situation in the sixth decade of life, that life tasks need to be emphasized and taken into account for the joint negotiation of health goals.

We illustrate that individual health goals, such as those discussed in the context of long-term care by family doctors and agreed upon by the patient and the doctor, are the more likely to be achieved the more closely they correspond to the implicit life tasks (Bahrs & Henze, 2019). It requires a relationship based on understanding and mutual acceptance, in which the interlocutors can meet as subjects and take into account their particular contextual conditions. The dialogue aims at enabling the person seeking help to find individual solutions, extends the concept of shared decision-making (Elwyn et al., 2012), which is usually related to the agreed-upon treatment plans, by the definition of the underlying problems and thus becomes an action-guiding philosophy. We show that this participatory approach helps to strengthen the sense of meaningfulness, and thus the SOC as a whole (Antonovsky, 1987).

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The chapter illustrates this process with a case study based on a series of four detailed family doctor-patient interviews (review dialogues) and a subsequent narrative interview lasting three hours. By systematically relating narrated life, experienced life and lived life to one another, we depict the process of forming resources and identity and illustrate its structuring function for the formation of relationships. It becomes clear that there is an inherent healing potential in the narration itself (Rosenthal, 1995; Nünning & Nünning, 2019).

First, we outline specific features of the sixth decade of life with a particular focus on gender aspects. Further, we outline the selected theoretical aspects regarding our case study. We deal with the life course as a contradictory unit of socialization and individuation, which is mentally processed in the form of a biography. The life course is organized along with life phases and life tasks, the mastering of which is challenging and involves learning processes. These can be crisis-like, but it is precisely phases of transition that offer the chance to mature. The development of ego-identity and the relationship between identity and SOC are lifelong processes (Lindström & Eriksson, 2010).

Late Middle Age: Time for Stocktaking

Preliminary note: the cited empirical results do not always refer precisely to the sixth decade of life. In the study by Lademann and Kolip (2005), for example, a broader age group between 45 and 65 years is considered. In their comparative study, Perrig and Höpflinger (2001) refer, amongst other things, to the age group of 50- to 55-year-olds.

Particularities of the Sixth Decade of Life

The life span between the 50th and 60th year of life is less clearly organized as a specific life phase than some earlier and later stages of life (Perrig-Chiello & Perren, 2005). In this decade, the confrontation with illness, dying and death occurs more frequently, for example, through reports from the environment, illness or death of a family member. Concerning parents, the probability of care and nursing tasks increases (Höpflinger & Perrig-Chiello, n.d.). Increasingly, physical limitations are becoming apparent, for example, at the level of sports or more general physical activities.

There are several specific health changes in the late middle age group, for example, the prevalence of many chronic diseases - such as skeletal and cariovascular diseases and cancer - are increasing (Lademann & Kolip, 2005). Possible functional limitations also evoke a changed body life. This requires repeated repositioning of the attitude towards the body. It should be noted that the body is involved in perception and communication and can be the object of observation and evaluation of one's perception and the perception of others. As the performer of the self, it also has a recursive effect on the self through its performance (Corbin & Strauss, 1988, 2004, p. 70–86). According to Foucault, the body is produced through discursive practices. It is socially and culturally constructed. For example, scientific disciplines provide patterns of thinking or interpretation, which then become part of everyday knowledge and have an impact on action. This mediated knowledge influences how the body is spoken about in our society. Discourses are thus inseparably connected with power (Gugutzer, 2002, 2004). Since the body is also a significant factor in the self-value representation of the individual, constant identity work is required.

In the sixth decade of life, children will usually move out or have already left the parental home. The parents have to focus more strongly on themselves or the couple's relationship again and, if necessary, realigning oneself. Reasons for change often result from crisis-like events such as separation, divorce and loss of a loved one. In other areas of life, too, there is a stocktaking of the goals of life that are strived for, achieved and not achieved. The life priorities and plans of the past will become at the latest now a virulent and partly emotionally occupied topic. An example from two psychotherapeutic consultations – conducted by one of the authors – illustrate this:

> Mrs. A., 55 years old: 'Now in the menopause, I have a growing feeling of physical insecurity, sometimes I sit there and have stomach aches, become thin-skinned and more vulnerable. Sometimes I feel guilty because of the breakdown of the relationship with my parents. My son is an adult, sometimes I think I should have done more for him, but I know it's over. Certain doors close.'

Here begins a reflexive and affective process of coming to terms with the situation, which – perhaps through mourning – is an essential prerequisite for moving from passively resigned accepting of what happened to an integrative perspective or inner balance and experience of self-efficacy. Perhaps the result will be a similar insight as with Mrs. B.:

> Mrs. B., 57 years old: 'My marriage is deadlocked, nothing more will happen. I was depressed often and for a long time, wondering how it came about. Then the thought came up: "What do I want to experience anymore?" So the thought came to me, "When one door closes, another opens." I began to reorient myself professionally.'

Against the background of increasing life expectancy, new challenges, fields of activity and responsibilities may arise, combined with the recognition that stable limits of previous life may be shifted. It can even be experienced as enriching and enjoyable to face new challenges. For example, grandchildren may enrich life towards the end of the decade.

Significant social and cultural dimensions influence the specific life situation or the design of life plans. These

include, for example, growing income disparities, such as the level of education or access to education (Perrig-Chiello & Höpflinger, 2001, p. 106).

Gender

Gender has a biological and social dimension, which is interrelated in the broadest sense. 'Gender' refers to sex in the sense of cultural, social or societal construction. It is expressed, for example, in the role of the sexes or gender identity. Gender construction affects social interactions and attributions from the beginning of the life course, and therefore gender-specific differences result in the respective phases of life.

Concerning the sex differences described in the following, it should be noted that other variables have a causal, moderating and differentiating effect, especially influences of socioeconomic status (education, occupation, income). Life situation, attitudes to health and the resulting behaviour diverge for gender groups (Backes, 1998; Backes & Wolfinger, 2009).

Women, in particular, have to integrate family tasks and gainful employment and have more discontinuous career paths compared to men. Moreover, women are more likely to have jobs 'with less room for manoeuvre and autonomy' and are paid less for comparable work than men (Lademann & Kolip, 2005, p. 81).

Looking at the sixth decade of those born between 1950 and 1959 on the basis of the German Ageing Survey (1996 to 2017), women are somewhat more satisfied with their lives than men during this phase. Satisfaction is highest at the beginning of the sixth decade and then decreases (Vogel et al., 2019, p. 14–15).

The drug consumption of women is comparatively higher, whereby hormone therapy playing a particularly relevant role during and after menopause. According to Lademann and Kolip (2005), its appropriateness must be questioned and partly interpreted as an indication of a tendency to medicalization.

Women are usually responsible for family health and more often make use of screening examinations and medical assistance (Robert Koch Institute, 2014; Beutel et al., 2019). Compared to men, affective disorders, anxiety disorders and somatoform disorders are more frequently diagnosed in women of the sixth decade of life. The most frequent cause of death in women is breast cancer (Lademann & Kolip, 2005, p. 63–64).

Care work is unequally distributed between the sexes. In addition to caring for grandchildren, care activities include, in particular, the support and care of relatives. Concerning the cohort of those born between 1950 and 1959, there is a probability of care and nursing tasks of 23% for women and 16% for men (Vogel et al., 2009, p. 29).

The data of a representative telephone survey by the Robert Koch Institute (Wetzstein et al., 2015) confirm and complete the picture. According to these data, although the share of men providing nursing care is increasing, private home care is predominantly provided by women (Wetzstein et al., 2015, p. 3). The study does not make any specific statements for the sixth decade of life, but tendencies become apparent that are equally relevant for this age group. In general, about two-thirds of the carers across all age groups are women, and one third are men. As the extent of care increases, the share of women in the care of relatives increases (Wetzstein et al., 2015, p. 8). Nurses with a high level of care receive less social support than non-nurses, and the health status of carers is worse than that of non-carers.

The German Institute for Economic Research (DIW) has determined the importance of informal care in Germany for the years 2001 to 2012 and states that employed caregivers are more satisfied than non-employed caregivers, the satisfaction of caregivers is significantly lower compared to people who do not provide care and the general life satisfaction decreases with increasing care provision (Geyer & Schulz, 2014, p. 299–300). Conversely generally applies: prerequisites for greater life satisfaction are 'good health resources and a low level of stressors such as chronic anxiety, social isolation and problems with the immediate family' (Perrig-Chiello & Hutchison, 2010, p. 204).

The least willingness to care is found amongst people with high social status (Wetzstein et al., 2015, p. 8). Presumably, in contrast to families with a lower social status, they have more options at their disposal, such as the financed delegation of care tasks to third parties.

Care work, therefore, has many possible implications, such as restricted or (temporarily) abandoned employment, limited prevention opportunities, increased psychosocial burdens and limited options for realizing interests, needs and requirements. However, this probably does not concern care activities per se. Depending on the relationship with the person being cared for, work can also strengthen the SOC with meaningful and enriching experiences, experiences of satisfaction.

Men's life expectancy is shorter than that of women. In 2012, men in the age group between 50 and 60 had a mortality risk that was at least 1.7–1.8 times higher. The mortality of unmarried men is higher than that of married men, that is, partnership or marriage, and family can act as protective resources or health-promoting context. Concerning diseases of the circulatory system, especially coronary heart disease (age group 45–65 years), there is a 2.9-fold excess mortality rate compared to women. Lung tumours, external causes (e.g. injuries, accidents) and diseases of the digestive and respiratory systems are comparatively more frequent causes of death in men (Lademann & Kolip, 2005, p. 16; Robert Koch Institute, 2014). In a gender comparison, men display more frequent tobacco consumption, overweight and more

inadequate nutritional behaviour. Health-endangering alcohol consumption is also higher amongst working men than amongst inactive men (Lademann & Kolip, 2005, p. 41; Robert Koch Institute, 2014). Compared to women, men are more likely to have jobs with higher physical stress (Lademann & Kolip, 2005, p. 81).

It is interesting to note that men's health awareness is much more developed than their health behaviour (Faltermaier, 2004). The development of health awareness may be counteracted by traditional concepts of self and masculinity that support 'risky' health behaviour, and corresponds to 'masculinity concepts'. If one pursues this aspect further and assumes that the definition of male identity continues to be strongly influenced by the professional role, then it should be noted that in the sixth decade, the forthcoming retirement with the expected loss of significance, status and relationships will cast its shadow. Often there are no alternative concepts to this. Instead, a mental and affective confrontation with the upcoming life changes is fended off.

The Biography as a Learning Process

The development of a human being can be understood as a contradictory unity of forming him/her into a member of society (socialization) and shaping his/her unique characteristics (individuation). In his concept of existential psychoanalysis, Sartre starts from a double birth of man, which he calls constitution (Sartre, 1977-1979, Vol. 1) and personalization (Sartre, 1977-1979, Vol. 2 and 3). On the one hand, man as a biological and social being finds himself in a world of social facts. Thus, body, history and environment determine a priori the chances for the social place that a person will be able to occupy and constitute a part of the social body: 'The meaning of life comes to the living person through the human society that sustains him and through the parents who engender him' (Sartre, 1981, p. 134). On the other hand, the social body reproduces and transforms itself through the social practice of the members of society who, through their designs, make themselves into individuals and thus, to a certain extent, occupy self-defined places. 'To live is to produce meanings' (Sartre, 1981, p. 15).

Sartre – similar to Antonovsky regarding the SOC (Antonovsky, 1987) – assumes an autopoietic process. In every situation, man is confronted with a pre-structured world with various (thought and) action possibilities, which he cannot use simultaneously. He has to make choices (with always incomplete information), and thus at the same time invents the basic structure of his life project. Man first sets the values that define him. Nevertheless, the choice as a project in a self-structured world is, in turn, conditional. 'The basic behaviours are only accepted if they exist first' (Sartre, 1977-1979, Vol. 1, p. 53, translated by the authors). The constitution, as a meaningful body, is first conveyed in baby care. Although in this form of interaction, the actors refer particularly clearly to each other as 'whole people', the 'basic choice' as the attitude towards oneself and the world always concerns the psychosomatic unit and therefore has an affective structure. It indicates that 'hidden core(s) in which the experienced body and the sense mix' (Sartre, 1977-1979, Vol. 1, p. 56, translated by the authors).

Biography denotes 'the subjective construction or coherence formation of lived life'; it is the result of a 'conferring of meaning and significance' or 'the active performance of the subject through which the past is reorganized in the face of the present and the future' (Marotzki, 1990, p. 77). By their biography, which is continuously being newly constructed or changed, individuals simultaneously construct, reflect and develop drafts for action about the future perspective of life.

The biography is also 'the place where the individual processes of reflection and learning are synchronized' (Maier-Gutheil, 2015, p. 15). 'From a process perspective, experiences of everyday life, as well as crises, form potential triggers for learning activities' (Maier-Gutheil, 2015, p. 11), which can relate to attitudes, patterns of interpretation, experiences, self-awareness and resources. This happens in the most diverse learning contexts, such as family and relatives, leisure activities, job, sport, cultural and social gatherings and in contacts with professional helper systems, such as in the family-doctor relationship.

Life Stages and Life Tasks

Any age phase can be understood as a product of cultural representations, social constructions, social institutionalizations and structural principles as well as biological mechanisms. An order takes place through the life course, which is characterized by distinctive transitions and phases of life. In Kohli's sense, it is a system of rules built up over time (van Dyk, 2015, p. 48). As an example, the family life cycle is briefly sketched out here in line with Hegemann et al. (2000). It comprises key stages such as 'birth', 'early childhood', 'schooling', 'adolescence', 'early adult life with entry into the world of work, a transition to starting a family', 'bringing up children', 'midlife crisis with reassessments and reorientations', 'ageing', 'exit from working life', 'old age', 'very old age' and 'dying and death'.

With the increasing pluralization of life worlds, modernization and differentiation in postmodern societies, however, life courses are less structurally framed; there is a growing diversity of role patterns and individual design options (Eikelpasch & Rademacher, 2004, p. 59; Bauman, 2001; Gilleard & Higgs, 2019). Despite the growing flexibility of life courses, specific developmental tasks and challenges

must be mastered in each of these phases against the background of corresponding risk and resource profiles. Therein, the here and now is not conceivable without the experienced past and the anticipated future.

The transitions or transitional periods between the respective phases are partly characterized by normative crises, which can be accompanied by severe challenges and instabilities. Transitions are 'life events that require coping with discontinuities on several levels, accelerate processes, stimulate intensified learning, and are perceived as significant biographical experiences of change in identity development' (Griebel & Niesel, 2011, p. 37–38).

Learning in Crises: Continuity and Break

The transitions between development phases, life stages or life spans (Baltes, 1987) are associated with numerous new requirements. This refers to challenges such as integrating new roles and dealing with changing life contexts and self and identity issues (e.g. family changes and entry into or termination of working life) (Griebel & Niesel, 2011, p. 37–38). It requires an intensified and accelerated learning process. Whilst anticipated grand-parenthood represents, for example, a positively experienced transition (Perrig-Chiello & Perren, 2005, p. 178), tasks arising with the parents' need for care or accompanying the dying mother/father are very stressful or ambivalent (Perrig-Chiello & Höpflinger, 2001, p. 106).

Crisis events beyond transitions can, of course, occur at any time and within any phase of life. The reasons can be strokes of fate, such as the loss of essential caregivers or the occurrence of severe illness or misfortune at work, break-up of relationships and much more. Even seemingly processed previous life experiences, conflicts and crises can then become virulent again, and existing certainties and an inner sense of security can dissolve. On an individual level, initial denial tendencies and affects such as grief, fears, helplessness, excessive demands, stagnation, helplessness and hopelessness, as well as body-related complaints, can occur. At the same time, in the sense of a learning process, the crisis opens up an opportunity for developmental steps by acceptance (e.g. of limits to the controllability of life; Lindström & Eriksson, 2010, p. 13) balancing and reflexive processing of the past life, the here and now and the view of the presumed future. The balancing does not only refer to supposedly missed chances and failures but also to experiences that represent abilities or growth potentials, where one experienced satisfaction or pride. Ideally, the image of a realm of possibilities can emerge, combined with an experience of one's potentials (and limitations) as well as emerging needs and desires: Do I now want to change something in and about the previous life model? If so, what? How could I start to realize this?

Identity, SOC and Life Cycle

According to Antonovsky (1979, p. 110), ego-identity plays a central role in the field of generalized resistance resources. Ego-identity can be understood concerning the subject as an inner, interactive and constant process of everyday identity work. It is regulative that makes it possible to experience oneself as 'the same' in different social situations, and it is constantly re-established in interaction with other subjects. However, it is also a (self-)attribution that can be recognized by third parties, through which the person remains recognizable as identical in different situations (and is thus reliable). For this, several competencies must be acquired, including the ability to fill the contradictions of life with meaning and to synthesize them. This development is interactive and takes place against the background of societal, social and cultural conditions (Bohleber, 1997; Höfer, 2006; Keupp, 1997; Keupp et al., 2006; Krappmann, 1975, 1997).

An important question is how the relationship between ego-identity development and the SOC could look like. Höfer (2006) has attempted to analyse this. Before we describe her considerations, the SOC will be outlined in short.

In the salutogenic model, the sense of coherence (SOC) is of central importance. According to Antonovsky, it is composed of three dimensions, comprehensibility, manageability and meaningfulness, and it is a general and profound life orientation. It is a 'dispositional orientation rather than a response to a specific situation' (Antonovsky, 1987, p. 75). The SOC represents 'the extent to which one has a pervasive enduring though dynamic feeling of confidence that (1) the stimuli deriving from one's internal and external environments in the course of living are structured, predictable and explicable (2) the resources are available to one to meet the demands posed by these stimuli; and (3) these demands are challenges, worthy of investment and engagement' (Antonovsky, 1987, p. 19). The SOC is developing based on life experiences such as 'experiences of consistency, participation in decisions and a balance between demands and resources' (Faltermaier, 2006, p. 190; Antonovsky, 1987). In contrast to Antonovsky's early, but later modified, hypothesis, the SOC seems to have developmental potential beyond the age of 30 and is even expected to increase in the further course of life (Lindström & Eriksson, 2010, p. 23–25). In this respect, the SOC represents a dynamic process not only in childhood and youth but also in later life cycles.

Höfer (2006) conceptualizes 'identity as a source of the feeling of coherence' (2006, p. 57). It represents a 'reflexive frame of reference' within which the individual deals with his or her own life, for example, and attempts to 'develop coherent passages of internal and external demands' (Höfer, 2006, p. 60). SOC is formed on evaluations of how everyday

demands are dealt with and expresses, as Antonovsky (1979) puts it, the relationship to the world (Höfer, 2006, p. 62). In Höfer's view, the SOC is the result of many successful identity-shaping experiences. The better the subject succeeds in creating 'links in his projects and experiences the project designs as subjectively coherent and authentic, the stronger the SOC will be' (Höfer, 2006, p. 63). One may assume that there will also be a positive feedback effect from the SOC on the feeling of identity.

Salutogenesis as Relationship-Related Health Development and Learning Process

The development of identity and the SOC takes rise within the framework of processes of interaction and social exchange (Antonovsky, 1987, p. 92–94). These processes last a whole lifetime and are never completed (Lindström & Eriksson, 2010). How this connection is formed is specific to the individual, and it is expressed in one's relationship to the world as a whole, in one's relationship to others and in relation to oneself (especially one's body). This specific style can also be expressed in health and illness behaviour as well as in the formation of symptoms, insofar as these are understood as part of a communicative process and can be attributed as active contributions (Sartre, 1977-1979; Weizsäcker, 1956; Uexküll, 2004).

Although the formation of health is designed as a result of self-regulation, professional support is required in special cases. In the fields of care, counselling, therapy and (family) practice, the relationship between the (two) actors is also of central importance. If the person seeking help feels taken seriously and appreciated as a person when interacting with a professional contact person, he/she can also experience him/herself and his/her relationships in a new way. He/she learns to make use of previously unknown resources and can subsequently test and stabilize the development potential in everyday life.

The long-term care of (healthy and) sick people requires a hermeneutic case understanding, taking somatic, psychosocial, sociocultural and ecological aspects into consideration. Hermeneutic case understanding is 'a specific professional activity, which is patient-centered, context-related, biographical and within a joint interpretive community (inclusion of the patient's concept of illness) and has a case-specific individual result' (Bahrs, 2012, p. 356).

Striving for a trusting, cooperative and open relationship includes, for example: establishing a stable work alliance, continuous cooperation, active listening, trying to understand the patients and their (family) life situation as well as an orientation towards his resources and strengths (cf. Honermann et al., 1999). A fundamental acceptance of the patients as experts of themselves promotes all three components of the help-seeking person's SOC.

Case Study: 'I Have Lost Sight of My Goal'

If you ask people about the most important thing in their lives, many will say: 'Health.' On closer listening, it quickly becomes apparent that the respective meaning of health is individual (Matthiessen, 2010; Sturmberg et al., 2019).

What is called and desired as 'health' is by no means arbitrary. We are all born into a particular, historically grown cultural and social environment so that this framework already shapes many of our perceptions and feelings in everyday life and social relationships. Against this background, we learn to interpret our own physically mediated experiences, to perceive signs of well-being and discomfort in ourselves and others and to differentiate more and more between ideas of desirable 'health' and 'illness'. What we consider to be 'healthy' and 'ill' is thus also an expression and result of a social learning experience (Payer, 1993; Faltermaier, 2009; Helmich et al., 1991) and relates to social developmental tasks faced by the individual (Buddeberg, 2003).

In this learning process, there are always situations in which the participants have different views on whether or not a behaviour or condition should be assessed as 'sick' or 'healthy'. According to this, 'health' is not an inherent fixed characteristic of the person, but rather the result of negotiations taking place in interpersonal relationships (Balint, 1957). Health is (also) between people, and thus social 'treatment' is also required to contribute to social recovery (Weizsäcker, 1930).

The development of the SOC is mediated through social relations and social interaction. Every human being has developmental potentials (GRR) from birth and learns to use these potentials (or is hindered in doing so) through interaction with the social environment (Antonovsky, 1987). The development of the SOC is, therefore, a lifelong process in which the primary caregivers (family) play a central role, which is later supplemented and/or temporarily replaced by other supporting persons in the social environment (family, friends, colleagues) and professional helpers. They can promote the further development of the SOC, especially in accompanying transitional crises. But to bring about sustainable change, it is necessary to expand the opportunities for influencing the shaping of one's own living conditions. A vital catalyst can be the family doctor, who plays the role of an 'elective relative' for many people.

Family doctors are often the first point of contact for health issues, and they often treat family members and people from social neighbourhoods over a long time. Therefore, patients and doctors usually assume that they know each other well and act following their respective needs. Admittedly, essential aspects – especially psychosocial

aspects – regularly remain unaddressed. The patient and the doctor attribute to each other – often unnoticed by both – that the other person does not want to discuss this or is unable to do so – likewise an 'agreement in misunderstanding' (Brucks et al., 1998, p. 43). Thus, it is not discussed what health means for the patient and if or how it is worthwhile for him/her to be healthy or to become healthy again (Bahrs & Matthiessen, 2007). The treatment thus becomes a routine act, which is carried out like a ritual (Balint, 1975).

The long-term care of chronically ill people is a significant challenge for the doctor-patient relationship. This challenge pertains, at least implicitly, to all relevant areas of the life of the patient and his or her social and family network. As a rule, long-term care includes spontaneous treatment related to an acute problem on the one hand and regular, quasi-ritualized checks concerning diagnosed chronic diseases with an already established treatment regime on the other. However, there is no 'natural point in time' to reflect on the various aspects together to enable comprehensive treatment; a conversation setting is required that is free from acute pressure to act and well-established routines. The instrument of review dialogue (RD) offers the opportunity to leave the routines, to assess the significance of already known facts and to gain new insights into relevant life contexts and so to win a comprehensive understanding of the patient in terms of an 'overall diagnosis' (Balint, 1957).

The review dialogue was developed in a model project (Bahrs & Matthiessen, 2007, Bahrs, 2011a; Rojatz et al. in Chap. 38 in this book). In the trial phase, general practitioners specifically invited some patients with chronic illnesses outside of the usual consultation hours for a 20- to 30-minute conversation to develop jointly an understanding of the overall situation. Furthermore, the aim was to find out one or two health goals relevant to the patients and to develop jointly an individual treatment plan tailored to these goals. The development was regularly reviewed in three further meetings in the following year; successes were acknowledged and, if necessary, the goals were modified, or new ways of achieving them were looked for (Bahrs, 2011b).

The following example is based on four consecutive videotaped review dialogues and additional information from a three-hour biographical interview with the patient. The review dialogues (Table 18.1) took place in 2012/2013

Table 18.1 Health goals and their development over time (Bahrs et al., 2017)

Review dialogue	I (June 2012)	II (October 2012)	III (January 2013)	IV (July 2013)
Symptoms	Back pain, visual disturbances	Complaints without organic findings	Feeling for own body lost	Visual disturbances, tensions
Topics	Care for the father, emotional support for the mother	Father has been diagnosed with incurable cancer	Organization of palliative care for father and emotional support for mother	Father has died → supporting the mother, mourning
Agreed health goals	1. Less pain in movement	'Total package' (feel better and more relaxed in the body, less pain, become aware of one's capabilities)	1. Improve fitness	1. Improve fitness and movement
	2. Improve vision		2. Be aware of one's capabilities	2. Decrease stress
Success concerning the achievement of health goals		Less pain; visual problems remain unchanged	Improved mobility, aid is organized	Death of the father, self-care is hardly possible
Developmental task	Respect the autonomy of both (parents and oneself), pledge support	Acknowledge limitations, accept help	Prepare to say goodbye, secure aid and take care of oneself	Mourning, prepare for new projects
GP's significant intervention/flash	'You have an enormous sense of duty. You could have said: "Mum, you know what, you move into sheltered living and see who's taking care of you!" Of course, you can't do that. When I hear you talk about your backaches, I think, 'This woman has a heavy load to bear"'	'A health goal can be to ensure that you are doing well and that you make good decisions. That you don't unpack everything and you don't say, "'Okay, next job, next job, next job." Instead, you take a closer look at your own limitations'	'You're a family of caring women'	'Whenever you want to move forward and develop, there is something physical, that stops you. And then you stay with your mother'
Metaphor	'My mother follows me like a shadow'	'I'm afraid not to come back again'	'I feel totally let down'	'My vision is blurred, and I don't want to have to live with that anymore'

within the framework of the BALANCE project (Bahrs et al., 2015, 2017).

Dr. Angela Mead[1] is 50 years old and has been a general practitioner for 12 years. Since then, she has known her patient Mrs. Pamela Smith, 58 years old, an engineer by profession, having been a housewife for about 20 years and now working as a freelance archery trainer. She is married to Mr. John Smith, a 62-year-old hard-working academic who appears to be in good health and is described as a 'centre of tranquillity'. Pamela Smith visits her doctor about once a month, often because of back pain. Dr. Mead also treats Mrs. Smith's parents Mary and Martin Philipp. Both live, albeit in their apartment, in the same house as Mrs. Smith. The 87-year-old Martin Philipp has been suffering from type I diabetes for many years, which he has managed well with the support of his wife. In the meantime, dementia has developed, the need for care has grown and 82-year-old Mary Philipp now also needs the help of her daughter, Pamela Smith. Dr. Mead knows the other family members – the two sons Gerald and Thomas, who are already studying, and the husband Johann Smith – from sporadic encounters.

A Brief Characterization of the Encounters

Review Dialogue I: Problem outline: current situation, challenges and development task

In the first review dialogue, Mrs. Smith complains of back pain and visual disturbances, which massively restrict her mobility and frighten her. She comments on her situation, which is dominated by caring for her mother and father. Since early childhood, she was significantly influenced by her mother's panic attacks: '*My mother is like a shadow*'. Although Dr. Mead knows and treats the entire family, the mother-daughter constellation has never been an issue of the consultations with the family doctor. The general practitioner learns that Mrs. Smith's main development task is one of attaining autonomy and not the support of her parents. Although both actors are aware of this fundamental problem, this is not reflected in their prioritization of the two primary health objectives. These relate instead to the physical complaints, which usually would be treated by specialists (orthopaedist/physiotherapist, ophthalmologist).

Review Dialogue II: The body is taking part in the communication: the need for self-protection and defining one's own health goals

Medical examinations in the following three months do not show any organic findings for Pamela's complaints. But Mrs. Smith reports a reduction in her back pain resulting from physiotherapy, but an increase in new problems for which no physical or organic cause can be found. She narrates on the diagnosis of an incurable carcinoma in her father and her lack of care for herself. Her mother does not understand the situation and Mrs. Smith is left alone regarding the organization of her father's care. Instantly, Dr. Mead suggests that the already agreed health goals (less pain in movement and improved vision) should be supplemented to include the importance of self-awareness and empowerment ('total package'). She supports Pamela Smith's insight that it is crucial to perceive and recognize one's limitations and to allow help. Pamela Smith's homework is to pay attention to her strengths.

Review Dialogue III: Farewell, mourning, setting limits, relief and hope for new beginnings

Mrs. Smith seems to progress. Having organized outpatient palliative care for her father, emotional support for her mother and body therapy (acupuncture) for herself, she has become physically more mobile again. She acknowledges the painful reality and prepares for the imminent farewell to her father's death. Because of the experienced help, she can imagine a further development of the mother-daughter relationship, which releases both of them from their mutual dependence. Nevertheless, Pamela worries that her mother might be overwhelmed by the care of the dying father. The mother cannot yet come to terms with the situation and believes – following a family-mediated ethical imperative – that she has to cope with everything herself. Dr. Mead points out that in this *'family of caring women'* all women tend to overtax themselves. *'You are very close to it, aren't you?'* The doctor now directs attention to relaxation possibilities and lets Pamela find legitimate and necessary free space for herself with her artistic activities on the one hand and with indispositions on the other. Although it is difficult for her to attend and support her dying father, Mrs. Smith is optimistic regarding the future.

Review Dialogue IV: Being thrown back and ambivalence

However, the hope for structural change is deceptive. Mrs. Smith reports that on his deathbed, her father obliged her to look after her mother. Mary Philipp also loses her independence after her husband's death. Again, Pamela Smith suffers from tension, cardiac arrhythmia and visual problems without any apparent physical causes. Her father has passed on in the meantime, and her mother now needs her intensive support. Mrs. Smith is fundamentally concerned about her eye problems: *'My vision is blurred, and I don't want to have to live with that.'* Dr. Mead draws a line between Mrs. Smith's attempts to increase her independence, her increase in pain and physical symptoms and her remaining with her mother. Dr. Mead suggests seeking professional psychotherapeutic support, but Mrs. Smith rejects this idea and shows interest in further review dialogues with Dr. Mead.

[1]All names and other personal identifiers in the case study have been changed to protect privacy and confidentiality.

The pattern of the mother-daughter relationship, which has been established for more than 50 years, apparently cannot be abandoned. For all her resentment about her domestic situation, Pamela Smith seems to prefer the security of the ever-same to the uncertainties that come with a change.

Pamela Smith has developed remarkable self-help potentials and makes full use of these resources. With Qi Gong and dance, she uses body-oriented offers that promote mindfulness and enable social support in groups. She is active as an artist and is also successful in this. What all these activities have in common is that Pamela gets into a flow and creates a new reality for herself for a limited time, in which she can transcend the boundaries that are so obvious in everyday life.

However, she has to return to this everyday life again and again, and so she will probably continue to depend on the help of Dr. Mead.

Health Goals and Biographical Development Tasks in the Course of the Review Dialogues

As usual in primary care, the starting point of any treatment is the physical complaints presented by the patient. In the first review dialogue, Dr. Mead initially assumes difficulties in the current family situation as a background for Mrs. Smith's raw feeling of tension. However, Mrs. Smith sees her husband and her sons as havens of tranquillity. Problems and stress are connected to her family of origin.

Caring for elderly family members is a typical development task for Mrs. Smith's present life stage. Both the development task, in general, and Mrs. Smith's living situation, in particular, are well known to Dr. Mead. However, the doctor unexpectedly becomes aware of the interdependence between Mrs. Smith and her parents, a situation that has existed from her childhood to the present. Detachment from the mother remains a development task to be attained in the future. The phrase 'we are a double-pack' reveals the severance of her dependence and lack of respect ('flash', (Balint & Norell, 1975)). Further, Mrs. Smith missed a socially competent mother in her childhood and adolescence who would promote her self-development extensively. Therefore, she has only been able to attain her goals to a limited extent across the developmental phases, such as self-confidence and security, autonomy and detachment from early bonds.

The 'in-between' in this family are characterized in particular by anxiety, which characterizes the family atmosphere as a whole (GRD) and is expressed in different ways by several members of the family (family SOC; see Vossler, 2001, Braun-Lewensohn et al., 2017) (Table 18.2). The panic attacks of her mother are caused by traumatizing war experiences which seems to be a silenced taboo: *'The worst was actually that my mother did not confess it. It happened already when I was a child. Nobody could ever know that. Even we children did not know what was going on.'* (Review Dialogue I).

Mrs. Smith suffered from panic attacks during her studies, whilst her son, later on, develops similar symptoms from

Table 18.2 Diseases/illnesses across the life span

Development phase	Diagnosis according to the patient	Treatment	Important life data	Stressors	Expressive content
Childhood and youth (< 20)	Scoliosis	Gypsum bed and physiotherapy	Panic attacks of the mother	Structural overload in care, role reversal daughter/mother Back problems as 'birth defect' Back strengthening required	Structural lack of back support
Young adulthood (20–35)	Panic attacks; arrhythmias	Talk therapy	Strenuous studies; separation from a partner	Recognition through performance is no longer sufficient; insult (rejection by the partner and his family and thus simultaneously the separation from the family of origin fails ('heartache')	Fear of failure and loss of face
Middle adulthood (approx. 35–50)	Disc prolapse; sinusitis; fears of the oldest son	General practitioner, specialists; talk therapist	Birth of children; being no longer in work	Constitutional 'deficiency' and permanent overstrain are reflected in organic damage and massive crises	Body strike
Mature adulthood (from 50)	Iritis; disc prolapse; hip necrosis (or arthrosis?); sinusitis; mitral valve collapse	General practitioner, specialist; alternative therapy	The eldest son leaves home; the parents need care End-of-life care for father (cancer) and emotional support for mother	Accompanying the dying father (cancer) and emotional support for the mother. Extending and intensifying multiple physical complaints and impairment of perception (vision) and movement. Comprehensive insecurity (no physical feeling, goal lost)	Restriction of perception and movement

Modified following Bahrs et al. (2017)

time to time during school lessons. Both her son and herself improved through talk psychotherapy (SRR). Mrs. Smith's manifold physical complaints, however, are connected to her occurring fear, and the repeated investigations remain fruitless in the long term. Nevertheless, the investigation is effective in terms of short-term treatments, and Mrs. Smith feels fine. This intervention expands physical exclusion diagnostics: it is based on personal recognition and a biographical understanding (GRR).

Support has its limits where the predominance of the family task cannot be resolved by reflection. When the father on his deathbed commits Pamela Smith once again to taking care of her mother, the family force field is restaged, which Pamela Smith can hardly escape.

> *And my father then somehow did a tiny ceremony. (...) But he just said, 'I promise with all my heart and all my hand', but I don't know what? And then he shook hands with everyone. (...) He tried terribly hard. (...) But I actually thought that it was really important to let someone go. (...) He can't really only leave after we have said that we would take care of our mother and it would all be done, he doesn't need to worry (crying). (Biographical interview)*

The Body as Mediator

In the following, we assume that the body has a double function. It mediates between inner and outer demands and is the gateway to and part of the environment and the world around us. On the one hand, the body can be regarded as a thing amongst things, as a machine, so to speak, which controls itself according to describable rules. On the other hand, it can be seen as interpreting and expressing carrier of meaning, in which social rules are inscribed, manifested, expressed and reinvented. The self-regulation and impression/expression of the living body (Leib) are the result of a continuous learning process, with the SOC acting as its virtual coordination centre. This learning process is also expressed in the history of symptom formation. The reconstruction of the formation of symptoms in the context of life history is therefore also a key to understanding the world view (and thus to the development of the SOC).

The following description is hypothetical. We cannot describe in detail the relationship between biography, symptom formation and the development of coping mechanisms in the whole life course of Mrs. Smith. However, we have put information from the various documented conversations into a *mental order* that takes up the patient's self-interpretations, the doctor's interpretations and our reflections. This is intended to illustrate a *possible development* on a case-by-case basis.

Since the peculiarities of the sixth decade of life are based on the increase of meaning in the course of life and cannot be understood if one does not think of the preceding experiences, we follow the process as a whole.

In her childhood, Pamela experiences perception and interpretation of physical phenomena in the mirror of her environment. Thus, Pamela Smith's back problems are interpreted as a (congenital) malposition (scoliosis), which has to be 'straightened out' via plaster bed and physiotherapy. A retrospective alternative interpretation could be that the child, carrying a heavy load, has a hard time getting into an upright position from the beginning and needs continuous support.

In young adulthood, the body increasingly becomes a means of perception and expression, which is gradually and consciously acquired. Pamela Smith speaks about this time as having panic attacks, nervousness and heartache, which are associated with high-performance requirements in a male-dominated study and with an insulting separation from the life partner. She must become aware of the expressive content of the body's events in the therapeutic dialogue. Although she describes the conversations as helpful, she sees the central support above all in the helpful attitude of the (future) husband, that is, especially not in a *therapeutic* relationship.

In adulthood, following pregnancy and birth, back problems reappear, now in the area of the cervical spine and accompanied by temporary numbness in the face. Metaphorically speaking, fainting and loss of face could be associated with this – but any of the participants does not express such thoughts. The overwhelming effect, however, becomes practically tangible. What had been described as a structural weakness in childhood, but not perceived as suffering, now becomes painfully acute and calls urgently for treatment and a change of attitude. This is expressed in giving up one's job and changing roles. The underlying distress is not felt by Pamela but is delayed and communicated via her son's fears.

In late adulthood, the variety and intensity of the symptoms increase. In temporal connection with the increasing need for care of the parents, vision problems occur, which particularly frighten Pamela Smith, because she 'is a person who does it with her eyes' (Review Dialogue I). Due to a renewed herniated disc and hip problems, she is also severely impaired in her mobility. Heart rhythm disturbances and stomach problems direct attention inwards and Pamela Smith becomes a problem altogether: 'I am a terribly nervous shit' (Biographical interview). The complaints call for a rethinking of the family division of labour and the self-perceived mission. However, Pamela Smith cannot draw the obvious conclusions from this. At her father's deathbed, she is once again obliged to care for her family, so that her freedom of self-definition proves to be limited. The doctor raises the question whether 'whenever you want to go forward on your own, what physical stops you? And then you stay with your mother?' (Review Dialogue IV). Since

real independence from her mother is not possible, Mrs. Smith is referred to a virtual reality (painting) in which she invents herself grandiosely and thus, in a way, exceeds the physical limits.

Using the example of back problems, we summarize the formation of the body and the attribution of meaning (Leder, 1990). The formation of symptoms is a simultaneous process of illness and recovery, as well as the emergence of resistance deficits and the development of resources. Back problems accompany Pamela Smith throughout her life. Diagnoses such as scoliosis or pelvic obliquity indicate structural problems (GRD) whose effects can at best be limited by physiotherapy (SRR). As an adult, Pamela Smith learns that dance and Taiji not only encourage movement (SRR) but are also fun and convivial (GRR). Her sister, a physiotherapist, emphasizes the success: 'I never thought you would get your back so straight again' (Biographical interview) (SRR→GRR→SOC). Increasingly, however, Pamela Smith has to accept that she can only influence the healing process to a limited extent (GRD) and that the muscles temporarily work against each other (SRD). This tension can be seen as an expression of a lack of fit between internal and external demands (Uexküll, 2004). The general practitioner states: 'The muscular system is the largest sensory organ of the body. All feelings, tension, external influences, and internal influences are also mediated via the muscle fibers.' Interpreting posture in a broader sense (SOC), the doctor advises a fundamental change of attitude (GRR). Pamela Smith looks for therapeutic support in the complementary medical field (acupuncture) (SRR) and benefits in particular from her self-chosen hobby, painting (SRR → GRR). 'When I paint, when I am somehow switched off, I am complete with myself. (...) I am then simply beamed away' (Biographical interview) (SRR → GRR → SOC).

The corporeal history includes the formation of the body as well as the development of resources. So, we would like to emphasize that Pamela Smith has considerable personal (resistance) resources (Antonovsky, 1987). She is ambitious and persistent as we can learn from her educational, professional and sports development. She is creative as well, expressing her point of view by painting, dancing, and her love for music. Having done Taiji exercise for 20 years, she is reflective and sensitive to her physical reactions.

In conclusion, she conceptualizes health and illness in a differentiated way. She organizes herself and gains support through her laity system (friends and colleagues) and professionals in her complementary and biomedical system. Additionally, she manages to apply the philosophy of the review dialogues, wondering what she has said: 'I cannot see the goal at archery.' Becoming aware of the underlying meaning of her wording, she concludes that she has to ask again: *'What are my life goals?'* (Review Dialogue IV).

Development of the SOC in the Life Course

Antonovsky regarded consistency, a good load balance and participation in shaping the outcome as crucial for the development of the SOC (Antonovsky, 1987, 92). In this perspective, we can imagine the development of the SOC in the case of Pamela Smith roughly as follows (see Table 18.3):

Table 18.3 Resource development across the life span

Development phase	Important life date	Symptom formation as an adaptive process	Generalized resistance resources (GRR)	Specific resistance resources (SRR)	SOC
Childhood and youth (< 20)	Growing up in a city in an industrial region; 5-year younger sister Secondary school and apprenticeship; panic attacks of the mother – parents war children	No information	Secondary school, apprenticeship, technical secondary school Younger sister starts studying directly at about the same time Finances: rather tight	Back gymnastics Technical secondary school	*Comprehensibility:* clear rules about role behaviour, but the background cannot be addressed (latently diffuse) *Manageability:* tends to be overburdening *Meaningfulness:* (relatively low) *Participation:* relatively little *Emotional closeness:* not with the mother, maybe with the father, possibly with the sister

(continued)

Table 18.3 (continued)

Development phase	Important life date	Symptom formation as an adaptive process	Generalized resistance resources (GRR)	Specific resistance resources (SRR)	SOC
Young adulthood (20–35)	Study and work in a male-dominated field of work; (humiliating) partner separation	Development of autonomy as a challenge and excessive demand; social limitation creates fear, which is physically felt and expressed as well as withdrawn from being addressed	Access to university on the second educational pathway, studying	Successful use of talk therapy The new partner is helpful	*Comprehensibility*: unclear; fails in interaction with a milieu foreign to her *Manageability:* enormous performance despite obstacles *Meaningfulness:* critical *Participation:* (follows the marked path) *Emotional closeness:* critical
Middle adulthood (approx. 35–50)	Birth of children; being no longer in work: change of roles/compromise (no 'male' career) Living with the parents	The shift of fear to the body and other family members – the experience of limits goes hand in hand with a stronger outward orientation	Stable partnership Financially well-off New resources through leisure time and help in the field of sports and alternative therapies	GP, specialists, individual talk therapist, family talk therapy, acupuncture, Taiji, dancing, music, archery, a gymnastics group	*Comprehensibility:* not prepared for the 'female' role, sister as an unattainable role model *Manageability:* takes a step back from the role of housewife and mother; creates a parallel network; uses professional helpers *Meaningfulness:* fragile *Participation:* unclear; has to look after parents again whilst starting a family *Emotional closeness:* yes, regarding the partner, but problems with the family of origin
Mature adulthood (from 50)	The eldest son leaves home; the parents need care End-of-life care for father (cancer) and emotional support for mother	Transformation crisis and reorientation	Stable partnership, financially well-off; regular contact to the sister Turns hobby into a profession (archery trainer); mediation training; access to various support systems; further training in artistic design, mediator training	GP: review dialogue; specialist; alternative therapy; can access various support systems (hospice association, group for dementia patients and relatives, palliative care doctors, hospice, Taiji, painting)	*Comprehensibility:* high, but she can hardly escape the operating rules *Manageability:* manages the terminal care successfully, organizes help (professional helpers, sister, friends, etc.). Body as mediator *Meaningfulness:* rather high *Participation:* She increasingly learns to organize her own space *Emotional closeness:* to husband (anchor); also to sons

- As a child, Pamela experiences herself as particularly crucial in terms of the support of the mother and receives recognition for her seemingly remarkable independence. She develops the necessary knowledge of rules and handling skills for this, which go far beyond what can be expected at her age. Since the mother's fears are taboo as a central theme, there is a systematic limit to comprehensibility that lies like a veil of uncertainty over everyday life. Accordingly, the experienced recognition is not based on actual participation (see Antonovsky, 1987, p. 92), but on the successful completion of a role. Reduced attention to self-care accompanies the development of care competencies.
- In young adulthood, some of these duties are transferred to the younger sister. Pamela 'pulls herself out' and seeks

recognition through successes in studies and work. Here she reaches the limits of her social skills and experiences rejections that centrally touch the sense of meaningfulness. In this crisis, she receives considerable support from her future husband (emotional bonds), but after her sister's departure, she once again becomes the primary contact person for her mother.
- With birth and motherhood, Pamela Smith gives up the possibility of a professional career. She now opens up new social contacts and areas of realization outside the family through sport and health education.
- In the sixth decade of her life, she can fall back on this extended network. She can assess the situation (comprehensibility) and organize help (manageability). Therefore, to others such as her doctor at the beginning of review dialogues, her resources appear strong. However, she has difficulties in accepting the help and follows a traditional family pattern ('caring women') (meaningfulness). One could, therefore, assume that her sense of meaningfulness temporarily decreases with increasing awareness of her overall situation.

In the course of her life, Pamela Smith succeeds in differentiating her strategy of 'pulling herself out' in a socially acceptable way and in strengthening her sense of meaningfulness: In her artistic activities, she was able to express her specific style. Her mentor acknowledged that Pamela had her own world and was an artist. Pamela felt this as a knighthood since she had not studied art. Pamela Smith proudly sums up: 'I have quite a few facets' (Biographical interview).

Discussion

Our considerations on the sixth decade of life are based on the situation in modern industrialized countries, where – with sometimes remarkable differences depending on social situation and cultural conditions – the average life expectancy is now over 80 years. Middle age is, therefore, less characterized by intervals related to years of life than by upcoming developmental tasks and is altogether a phase of transition in which a balance is being taken, and new orientations are possible.

An individual case cannot exhaust the variety of possible developmental trajectories. Still, it can illustrate a pattern that has heuristic value and contribute to the further development of research and practice. In the following, we discuss the relationship between the conceptual considerations presented at the beginning and our case study.

Double Birth: Constitution and Personalization

Pamela Schmidt not only has back problems as a constant companion, but she also lives them and redesigns herself and her environment accordingly. An active sportswoman, for example, becomes a coach who acknowledges her limitations and passes on her knowledge.

Special Features of the Sixth Decade of Life

Like many others, Pamela Smith's condition is becoming increasingly chronic – from a persistent illness to findings which, on closer examination, have a history that would have made an 'epicritic case evaluation' (Brucks et al., 1998, 43) worthwhile even in her 20s and 30s. Supporting and caring for the ageing parents are typical tasks of this phase of life, but in Pamela Smith's case, they are an explosive, ongoing issue. Thus, the question becomes virulent again with the care of the dying father: What is worth living for? In this situation, Pamela Smith can use the offer of the review dialogues (SRR) for a new orientation, strengthen her resources (GRR) and make her life more coherent, strengthening SOC.

Critical Life Events

The burdens associated with cancer, terminal care and the death of the father are dramatic. However, they are not entirely unexpected for Pamela Smith so that she can cope with them, partly with external help (SRR). The same applies to her own slipped disc. Her vision problems, on the other hand, are new, unexpected and throw her off track. The fact that she can *readjust her gaze*, so to speak, is a remarkable achievement and indicates a change that now allows her to define goals more strongly herself (GRR→SOC). The crisis becomes an opportunity.

Identity, SOC and Life Cycle

We interpret Pamela Smith's development as a (dis)continuous process of learning and competence development, in the course of which she has reoriented herself and yet remained recognizable. Although she repeatedly encounters limits, which are mainly due to the logic of interaction and the context of obligations in her family of origin, she is increasingly succeeding in opening up a new scope and becoming a person recognizable beyond the role-mediated action ('person-

alization'). Interestingly, the discrepancy between performance and autonomy becomes noticeable, so that her salutogenic resources seem to be decreasing despite the apparent development of competencies. We term this *flexibilization* (analogous to Antonovsky's reflections on the rigid SOC, Antonovsky, 1987, 24f), which is also expressed in increased attentiveness towards her own body.

Development of the SOC

For Pamela Smith, the development of the SOC is closely linked to health crises and upheavals. Illness and recovery are to be understood as temporary changes of location on the health-ease-disease continuum (Antonovsky, 1987). Phases of illness, although associated with limitations, can enable further development in the long term, so we propose to view the dynamic health-illness process as a whole, as 'the adaptation of the whole person to his entire past, to his present and to the visible forms of his future' (Sartre, 1981, p. 168).

Salutogenesis is both a biological and a social process (Sturmberg et al., 2019). Every human being is endowed with the capacity for self-regulation and yet, as a social being, cannot survive alone. The significant others enable, promote and limit the process of maturation, and thus salutogenesis takes place from the beginning as a bodily as well as a social process. If the abilities to cope with a situation are not sufficient (SRD) – for example, in case of chronic illness – professional support (SRR) may be necessary, ideally with a salutogenic orientation (Mittelmark et al., 2017).

Caring for patients with chronic conditions implicitly evokes the definition of life goals and the conduct of a healthy lifestyle. Treatment, life goals and lifestyle need to be aligned (Johnston et al., 2007). However, patients are often unaware of these interlinkages, and the general practitioner needs to create awareness around these issues and thereby provide the opportunity to reinvent their life history. Health and illness then cease to be real antagonisms (Antonovsky, 1987); they are strongly connected (Weizsäcker, 1956; Antonovsky, 1979, 1987) and part of the life process.

The presented person-centred care requires a new format of a conversation, empathy and time management (Coulter et al., 2013; Walseth et al., 2011; Derksen et al., 2017; Henselmans et al., 2015). We propose to perform review dialogues to apply this person-centredness. This case study shows the practical realizations of such professional interaction. This interaction needs to be designed as a process in which both conversation partners need to reinvent their roles as doctor and patient.

Doing this, both can experience that other ways of thinking and acting can be transferred. Ideally, in the sense of empowerment, this experience leads to lasting changes in behaviour and attitude patterns in everyday life and thus becomes a salutogenic resource (strengthening SOC). The experience with review dialogues shows that storytelling itself contributes to the development of health (Nünning & Nünning, 2019). Still, it also shows that repeated offers and opportunities for discussion and thus a certain continuity are needed. Primary care must be developed into a health-promoting setting (see Chap. 38 for a discussion of this issue).

According to our analysis, although the tasks Pamela Smith is facing become particularly urgent in the sixth decade of her life, they have been pending for some time. A resource-oriented offer of conversation – let's call this *development dialogue* – would, therefore, have made sense at an earlier point in time, starting, so to say, at another point of the health-ease-disease continuum.

The case study illustrates the limitations of medical interventions in doctor-patient interaction. Despite Pamela Smith's awareness and considerable personal resources, the patient does not succeed in becoming independent, due to her strong inner commitment towards her father and the experience of overwhelming social pressures.

Both, the patient and the general practitioner, sustain the established relationship pattern, and it might be assumed that Mrs. Smith will in the future continue to present somatic complaints to her general practitioner to recharge emotionally (Helmich et al., 1991). In the future, physical discomfort may continue to be a cause and expression of concern for Mrs. Smith, but in the knowledge of the possible professional help (SRR), and the experience of being able to rely on her family doctor (GRR), the visit can take place with less distress. The thought of the possible help may be occasionally enough (SOC), and the visits to the doctor may become less frequent. To prevent medicalization and somatic fixation, both actors will repeatedly be required to reject this invitation for constant repetition of their communication pattern and develop beyond it.

The case study underlines that the development of the SOC is a lifelong process and that change can be achieved even in (chronic) situations that appear to be frozen. It shows that such (health) crises indicate the need for change and can also be the beginning of change. It becomes clear that existing resources can be used for coping with them, of which those seeking help are often not even aware. It is evident that new potentials can be developed – and that for successful outcome support by 'obstetricians' with a 'sense for coherence' (Meier Magistretti et al., 2019) may be necessary. Given the

current social organization of life courses, it is to be expected that such assessments and redrafts will become more frequent in the sixth decade of life. Still, given the pluralization of life plans, they are also possible in other stages of life. It, therefore, seems sensible to us to determine the individual need for support against the background of upcoming development tasks and long-term structuring life goals. As the health behaviour of women and men diverges, there are gender-specific resources and risk profiles to be considered.

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Older People, Sense of Coherence and Community

19

Maria Koelen and Monica Eriksson

Introduction

Population ageing is a global trend. For example, in the EU-27 population, the share of the older population (65 and above) increased from 13.9% in 1991 to 19.7% in 2018 (Eurostat, 2018). It is expected that by 2060, the share of those 65 years and over will account for 29.5% of the EU-27 population (Eurostat, 2013). Moreover, we can observe a worldwide increase in very old people, aged 85 and over. The ageing of the population results from decreasing fertility rates, but also from increasing life expectancy rates and the progressive ageing of the ageing population itself. These latter trends are partially attributable to improved quality of nutrition, and advances in medicine, especially knowledge about diseases and their control, and to developments such as early detection of colorectal and breast cancer in screening programmes which increase the chances of survival. Improvements in housing, nutrition and sanitation standards have also contributed to improved life expectancy (Staehelin, 2005).

In middle- and high-income countries, years added to life are generally lived in good health. However, because more people live into old age and because chronic diseases – such as cancers, diabetes, heart disease, Alzheimer disease and related dementias – more frequently occur in the older population, the burden of disease will also increase. The ageing of the population will have an impact on health care, housing and community facilities, consumption patterns and also on social security costs. In response, health professionals, researchers and policymakers are increasingly concerned with healthy ageing, where ageing in place is used as a key concept. In this chapter, we first discuss the meaning of the concept of healthy ageing, and how sense of coherence contributes to this process. Next, we discuss the characteristics of the community in which older people live their lives and how the community can contribute to healthy ageing in place.

From Healthy Ageing to Salutogenic Ageing

The simple question, 'when is someone old?' is not easily answered. Up to now, the question is mainly answered from an exogenous, administrative and political perspective (Koelen, 2011). In many countries, 'becoming old' is defined by retirement (in countries where retirement exists) or chronological age (Cattan, 2009). Retirement age can however vary, from 55 to 75 years of age, depending on country and/or profession. Occasionally, people of ages 45 or 50 years are included under the label 'older' for policy or research purposes. At the same time, several countries seek to increase the paid work participation and to increase state-pension-age. Hence, defining 'old age' simply as chronological age can be rather misleading, particularly if we accept the social construct of old age. It is not possible, in this chapter, to explore the extensive debates, theories and research paradigms linked to ageing and old age, but suffice to say that the concept will continue to be redefined and refined as our perceptions and understanding of old age evolve. This is also true for the concept of healthy ageing. There are many definitions for 'healthy ageing', and the concept is often used alongside related concepts such as 'effective ageing', 'positive ageing', 'successful ageing' and 'ageing well'. Hanson-Kyle (2005, p. 52) summarized different definitions and, based on commonalities, defines healthy ageing as 'the process of slowing down, physically and cognitively, while

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resiliently adapting and compensating in order to optimally function and participate in all areas of one's life (physical, cognitive, social and spiritual)'. The World Health Organization previously proposed to use the concept of 'active ageing', defined as 'the process of optimizing opportunities for health, participation and security in order to enhance quality of life as people age' (WHO, 2002; p. 12). In their 2015 World Report on Ageing and Health, WHO replaced the concept of active ageing by healthy ageing, defined as 'the process of developing and maintaining the functional ability that enables wellbeing in older age'. Functional ability is about having the capabilities that enable people to be and do what they have reason to value. It is made up of the intrinsic capacity of the individual, relevant environmental characteristic and the interaction between them (WHO, 2015). Intrinsic capacity is defined as the composite of all the physical and mental (including psychosocial) capacities that an individual can draw on at any point in time (Beard et al., 2016; Sadana and Michel, 2019).

The meaning attached to healthy ageing also depends on whether it is defined by professionals or by older people. Research reveals that older people have a different view from that of professionals, research scientists and policymakers. Older people may report that they experience good health and well-being, regardless of their clinical condition, impairment or disability (Young et al., 2009; Sadana and Michel, 2019). Professionals frequently focus on negatively phrased topics such as disability, disease, loneliness, overweight and falls, thereby emphasizing the problems and limitations that occur due to ageing. Older people focus more on supportive social environments, the ability to use resources, the ability to manage restrictions (Naaldenberg et al., 2011), the ability to make one's own decisions (Stephens et al., 2015) and on adaptation, meaningfulness and connectedness (Jeste et al., 2010). This perception relates to the increasingly accepted definition of health as 'the ability to adapt and self-manage' (Huber et al., 2011). Kennaugh (2016) explored how older Australian women experienced ageing. Using a salutogenic approach to ageing the focus in her doctoral thesis in philosophy, 'It's not how old we are; it's how we are old', was to understand the main issues that were reported by older women to be important, how they coped as they aged and how they adjusted following changes to their marital status. The women used multiple resources for strengthening SOC, which in turn enabled women to feel their life as comprehensible, manageable and meaningful. Despite the challenges of ageing, they found ways to manage the circumstances of life, and reported that they were indeed ageing well. In a systematic review on health assets in older age (n = 78,422 from more than 13 different countries), Hornby-Turner et al. (2017) evaluated an extensive range of health assets, highlighting the evidence for factors that positively influence health in older age. They found that higher scores of self-rated health, psychological well-being and life satisfaction were associated with better health in older age. Social network and contact with family and friends and engagement in leisure and social activities were important support mechanisms.

Life Course Perspective

Healthy ageing is a lifelong process, and it evolves through the lifespan from (pre-)conception, infancy, adolescence and young adulthood into old age. Lifespan is usually understood as the duration of a person's life history from conception to the end life. Genetic endowment, exposures to health enhancing or deteriorating occurrences in the physical and social environment at any moment in time influence health development across the lifespan (cf. Kuh and Ben Shlomo, 2004; Westendorp and Kirkwood, 2007; Kuh, 2019).

Older people are often seen as passive and frail, even though in reality a substantial number are quite resilient and active in managing the challenges they face as part of the ageing process. It should be recognized that older people do not constitute a heterogeneous group. People in their 60s and 70s are typically healthy and most continue to live independently. The dependency of those in their 80s and above is typically prone to increasing frailty and susceptibility to illness and disability (Stones and Gullifer, 2016, p. 450), but also the older old increasingly prefer to live independently. Indeed, individual diversity increases with age across the life course (Marcoen et al., 2007). Or, as Aldwin et al. (2006) put it, 'some individuals become severely disabled in midlife, whereas others are running marathons in their 70s and even 80s' (p. 85).

From a life course perspective, old age (65+) may be considered as the 'last season', or the third age, but reaching the age of 65 years is not the last transition. Increasingly, we also talk about 'the fourth age' or 'the oldest old', meaning people of ages 85 years and over. Life course in this context is taken to mean the social aspect of the lifespan which involves biological, social and psychological processes leading to planned or unplanned life transitions and/or events. Importantly, a life course approach recognizes that ageing experiences are influenced by factors relating to cohort effects (Hubley and Copeman, 2008; Phillipson and Baars, 2007). Some issues related to this are unique for later life; others are of greater relevance in later life.

With increasing age, many changes occur in the social environment, as a result of retirement (loss of role), death of a spouse, death of family members and friends and the onset of age-related sensory loss and mobility problems. It has sometimes been said that old age is an accumulation of losses forcing older people to adapt and adjust to constantly changing physical and social environments. For most part,

older people demonstrate great ability to find a range of different strategies to deal with these changes. Over time, however, the available options become fewer as a result of declining resources and ability. This can have an impact on the older person's mental health and increase the risk of social isolation and loneliness (Dykstra, 2009). Research has shown that the availability of social contacts and the ability to engage in social interaction are important in maintaining healthy ageing and alleviating loneliness (Forte, 2009; Nyqvist et al., 2013). In adapting to changing circumstances, older people may use a range of 'tools' available to them to facilitate engagement. Results from a systematic review and meta-analysis suggest a significant relationship between the Internet use (through, for example, social media, email, Skype) and mental well-being in older people (Forsman and Nordmyr, 2015). Research on the facilitation of social participation and the stimulation of social interaction is ongoing, but there are still gaps in our knowledge and understanding of the processes involved. However, research in associated areas has shown that there is an accumulation of socioeconomic disadvantage with regard to disability over the life course, leading to morbidity and mortality inequalities in later life (Kingston et al., 2015) and also that high levels of physical capability is associated with mental well-being in older people (Cooper et al., 2014). Such findings suggest that investigations of the role of social interaction in maintaining health over the life course may need to consider the wider constructs of health in old age, including socioeconomic factors and physical capability.

Sense of Coherence and Its Three Dimensions

Sense of coherence (SOC) reflects a person's view of life and capacity to respond to stressful situations. It is a global orientation to view the life as structured, manageable and meaningful or coherent. It is a personal way of thinking, being and acting, with an inner trust, which leads people to identify, benefit, use and reuse the resources at their disposal (Antonovsky, 1987; Lindström and Eriksson, 2005; Eriksson, 2017). SOC consists of three elements: comprehensibility, manageability and meaningfulness. The original definition is as follows: 'a global orientation that expresses the extent to which one has a pervasive, enduring though dynamic feeling of confidence that: (1) the stimuli from one's internal and external environments in the course of living are structured, predictable, and explicable; (2) the resources are available to one to meet the demands posed by these stimuli; and (3) these demands are challenges, worthy of investment and engagement' (Antonovsky, 1987, p. 19).

Comprehensibility refers to the extent to which a person perceives the stimuli confronted with, deriving from the internal and external environments, as making sense as information that is ordered, consistent, structured and clear. The person scoring high on the sense of comprehensibility expects that stimuli they encounter in the future will be predictable, ordered and explicit. This is the cognitive component of the SOC. Manageability is the extent to which a person perceives that resources are at their disposal that are adequate to meet the demands posed by the stimuli that bombards them. 'At a person's disposal' refers to resources under the person's own control or to resources controlled by legitimate others. This is the instrumental/behavioural component of the SOC. Meaningfulness refers to the extent to which a person feels that life makes sense emotionally, that problems and demands are worth investing energy in, are worthy of commitment and engagement, seen as challenges rather than burdens. This is the motivational component of the SOC. The original name of the instrument to measure sense of coherence is 'the life orientation questionnaire'. The original SOC scales consist either of 29 items, or a shortened form of 13 items. There are also modified translations of the instrument with varying number of questions and scoring alternatives. Up to date it has been used in at least 51 different languages in at least 51 different countries around the world. For more details of the SOC questionnaire, see Chaps. 11 and 12 in this book.

Development of the SOC in the Life Course.

A person's SOC affects and is affected at each stage across the lifespan by the surrounding environment and people in the local environment. In the mid-1980s, Antonovsky wrote an article about the importance of the sense of coherence for mental health and related this to a life course perspective (Antonovsky, 1985). In a lecture he gave in Berkeley, he discussed the transition from adolescence to adulthood and ageing, and argued for the usefulness of the salutogenic perspective (Antonovsky, 1993). He positioned ageing persons in a context of a health continuum, the ease/dis-ease continuum, and argued that people are all constantly moving in this continuum. People, dependent on age, are in different positions in this continuum. In Antonovsky's words: 'I propose that all living human beings, at any point in time, are somewhere on a continuum between the two extreme poles. An elderly person with a thick medical folder is no less on the continuum than an active, hungry, screaming, and smiling infant or than a strapping adolescent. They are at different points on the continuum; the dynamic prognoses are different.'

Antonovsky considered ageing as a process of human development instead of just a biological and mental

degradation of the body: 'Is it not possible that the 10 billion neurons in the human cortex can come up with some replacement for what has senesced? Whatever the case may be for the biological development of salutary factors till the very end of life …, I can surely see the possibility of the growth of social-psychological salutary factors as one gets older' (Antonovsky, 1993). These thoughts can be related to Erikson's theory of human identity development and the need for full awareness of context, especially as one gets older (Erikson and Erikson, 1998).

According to Antonovsky (1987), the SOC is assumed to develop until the age of 30 years, to remain stable until retirement, and thereafter to decrease. However, this assumption has not been empirically supported in previous research. The SOC seems to be relatively stable over time, but not as stable as initially assumed (Eriksson and Lindström, 2011). Research findings show that the SOC develops over the entire lifespan; in other words, it increases with age (Wiesmann and Hannich, 2019; Lövheim et al., 2012; Feldt et al., 2007, 2011; Nilsson et al., 2010). Wiesmann and Hannich (2019) investigated the stability of SOC over a time span of four years in active older German individuals (n = 125) and long-term effects of this life orientation on three different indicators of positive ageing – subjective well-being, psychological health and physical health. This is the first study to explore associations between gain in sense of coherence and future positive ageing. They found that SOC increased over four years, disclosing a small effect size. The baseline SOC had a substantial predictive value for future subjective well-being and psychological health, but not for physical health. Analyses showed that both the baseline SOC and gain in SOC predicted future subjective well-being and psychological health.

Findings from additional longitudinal research (n = 19.629, response rate 80.2%) sheds light over how the development of the SOC from different age groups can be understood. Feldt et al. (2011) found that the strongest development (46–58%) was amongst those participants whose SOC was strong at baseline. A class of strong SOC with a decreasing trend and that of a weak SOC with an increasing trend was also found. Nilsson et al. (2010) were able to demonstrate on a sample of Swedes, aged 18–85 years (n = 43.598), that SOC increases with age in both men and women. In a longitudinal study amongst Japanese volunteers aged 65 and over, Murayama et al. (2014) investigated the effect of intergenerational programmes on the mental health amongst older adults. They found that the meaningfulness component of the SOC significantly increased for members of the intervention group at all terms, with no changes in the control group over time. Participation in the intergenerational programme was associated with a sense of manageability which was also significantly related to depressive mood.

SOC Contributes to Ageing Well

Research amongst older people shows, as during other periods of the life cycle, that a strong sense of coherence is related to good perceived health and quality of life (Tan et al., 2013; Eriksson and Lindström, 2005, 2006) and mediate the association between perceived stress and depression (Guo et al., 2018; Boeckxstaens et al., 2016). In the longitudinal Aichi Gerontological Evaluation Study (AGES), the relationships between social factors and depression amongst older Japanese were investigated (Misawa and Kondo, 2019). They found that of the study participants without mental illness or depression at Wave 1, 14% had become depressed by Wave 2 (3-year follow-up). In both men and women, life events predicted increased odds of depression, whilst SOC predicted reduced odds. In a German study amongst older people (n = 387, mean age 73.8 years), the role that the SOC and generalized resistance resources have for older people's experience of life satisfaction was investigated (Dezutter et al., 2013; Wiesmann et al., 2014). The results showed that the SOC – as the ability to cope in everyday life – social support and self-esteem were factors that contributed to older people's satisfaction with life. In a population-based prospective cohort study in 29 primary care practices throughout Belgium (n = 567, ages ≥80), subjects with strong SOC scores showed a higher cumulative survival than others (Log rank = 0.004) independent of other prognostic characteristics (adjusted hazard ratio 0.62 (95% CI, 0.38–1.00). Even very elderly persons with strong SOC scores were shown to have lower mortality rates and less functional decline. These effects were independent of multimorbidity, depression, cognition, disability and sociodemographic characteristics (Boeckxstaens et al., 2016). A selection of studies using SOC amongst older people is shown in Table 19.1.

A Singaporean qualitative study amongst 27 older adults, using focus group interviews, was conducted and appreciative inquiry was adopted as a strengths-based interviewing approach (Seah et al., 2020). Four themes emerged: (1) contending evolving vulnerabilities, (2) intrinsic value of health, (3) taking care of oneself is a personal responsibility and (4) taking one day at a time: outlook towards later part of life (ibid, p. 3). The authors suggest that SOC towards the pursuit of healthy ageing can be addressed by reducing the unpredictability of ageing-related processes and vulnerabilities (comprehensibility), supporting active adoption of actions which promotes physical, mental and social health (manageability) and individual reflection in making sense of old age to seek motivation in living each day purposefully (meaningfulness). In another review study, Tan et al. (2013, p. 497) found that a strong SOC amongst older people was correlated with better physical, social and mental health.

Table 19.1 A selection of studies using SOC amongst older people

Country	Sample	Variables	Study design and measures	Results and conclusions	First author
Singapore	Older adults ≥65 years	Perceptions of healthy ageing through SOC	Qualitative, focus groups, appreciative inquiry (AI)	The four emerging themes were: (1) contending evolving vulnerabilities, (2) intrinsic value of health, (3) taking care of oneself is a personal responsibility and (4) taking 1 day at a time: outlook towards later part of life. Older adults' underlying pathogenic orientation towards health contributed to their perceived unpredictable confrontations with vicissitudes including illness and death. This played a part to their short outlook towards old age. Consequently, this could limit their will and abilities to seek meaningful pursuits or valued aspirations and movement towards the salutogenic health pole. By reframing the definition of health to pursuing and fulfilling valued accomplishments, optimal health can be achieved regardless of physical health state. This study suggested that sense of coherence towards the pursuit of healthy ageing can be addressed by reducing the unpredictability of ageing-related processes and vulnerabilities (comprehensibility), supporting active adoption of actions which promotes physical, mental and social health (manageability) and individual reflection in making sense of old age to seek motivation in living each day purposefully (meaningfulness)	Seah (2020)
Republic of Korea	Literature review	Analysis of what works for whom, in what circumstances, focus on strategies/interventions, contexts, mechanisms and outcomes	Realist review methodology	Four key themes emerged: (1) maintaining personal identity, (2) maintaining social identity, (3) keeping a familiar environment and (4) sustaining daily activities. It is hypothesized that these four factors combine and interact to maintain continuity and ultimately lead to psychosocial benefits. Maintenance of identity, environment and activities is central to continuity for persons with dementia. The resulting model and programme theories respond to the need for a coherent approach to continuity maintenance	Lim (2020)
Germany	Elderly (mean age 71)	SOC, subjective well-being, subjective health	Longitudinal SOC-29, The Philadelphia Geriatric Centre Morale Scale, SF-36 Health Survey	The sense of coherence increased over 4 years, disclosing a small effect size. The baseline sense of coherence had a substantial predictive value for future subjective well-being and psychological health, but not for physical health. Stepwise hierarchical regression analyses showed that both the baseline sense of coherence and gain in sense of coherence predicted future subjective well-being and psychological health. With respect to future physical health, only gain in sense of coherence was significant. Consistent with gero-salutogenic theory, the baseline sense of coherence is an effective predictor of future positive ageing, and growth in sense of coherence within a time span of 4 years is reflected in improved positive ageing. It is important to encourage experiences in older age that cultivate the three components of the sense of coherence – feelings of comprehensibility, manageability and meaningfulness	Wiesmann (2019)

(continued)

Table 19.1 (continued)

Country	Sample	Variables	Study design and measures	Results and conclusions	First author
Japan	Elderly persons ≥65 years	Depression, social Factors, SOC, social support	Longitudinal Geriatric Depression Scale SRH, IADL, SOC-13	Of the subjects without mental illness or depression at Wave 1, 14% had become depressed by Wave 2. In both men and women, life events predicted increased odds of depression, whilst sense of coherence predicted reduced odds. The frequency of meeting with friends, hobbies and self-rated health predicted reduced odds of depression in men whilst age predicted increased odds in women. Social interaction is important for preventing depression in Japan, and that the establishment of a system capable of promoting social interaction and providing care to the elderly during life events may be a useful social policy approach to preventing depression	Misawa (2019)
China	Older stroke patients ≥60 years	SOC, perceived stress, depression	Cross-sectional Perceived Stress Scale (PSS), the Sense of Coherence Scale (SOC-13) and the Center for Epidemiologic Studies Depression Scale (CES-D)	The total score of the SOC and perceived stress showed a negative correlation ($r = -0.80$, $P < 0.01$), the total SOC and depression also resulted in a negative correlation ($r = -0.77$, $P < 0.01$) and the total score of the perceived stress and depression resulted in a positive correlation ($r = 0.82$, $P < 0.01$). The results of multiple regression analyses indicated that SOC mediated the association between perceived stress and depression, and the influence of perceived stress on depression was decreased by16.0% within the sense of being out of control dimension and was decreased by 12.3% within the feeling of tension dimension when sense of coherence was added to the model. The structural equation model confirmed that the sense of coherence had a partial mediation effect between perceived stress and depression. SOC is the mediating variable between perceived stress and depression and can reduce the influence of perceived stress on depression	Guo (2018)

Belgium Iran Sweden Belgium Poland	Caregivers of frail older patients (mean age 79.4) Elderly with chronic diseases (mean age 63) Older immigrants (mean age 74) Elderly ≥80 (mean age 84.7) Older adults (mean age 71.04)	Self-esteem, lack of family support, health problems, caregiver burden, SOC, depression Self-efficacy, SOC SOC Depressive symptoms, cognitive dysfunction, mortality, hospitalization, ADL decline, SOC Religiousness, SOC, coping	Cross-sectional Zarit Burden Inventory, SOC-13, Geriatric Depression Scale, Caregiver Reaction Assessment, Global Deterioration Scale, Neuropsychiatric Inventory Cross-sectional The Sherer's Self-efficacy Questionnaire, SOC-29 Longitudinal SOC-13 Longitudinal Geriatric Depression Scale (GDS-15), Mini-Mental State Examination [MMSE], SOC-13 Cross-sectional Religious Meaning System Questionnaire, SOC-29, Coping Inventory for Stressful Situations	Caregivers with a high SOC and an older age reported a lower burden (odds ratio (OR) 0.18, 95% confidence interval (CI) 0.04–0.65 and OR 0.87, 95% CI 0.76–0.98, respectively). A higher burden was associated with patient functional limitations (OR 8.69, 95% CI 2.28–40.46). Having a high sense of coherence seems to be a protective factor against the burden. To support caregivers, health providers should recognize the expertise of the caregivers and the meaningfulness of this care situation The mean change of the self-efficacy score in the intervention and control groups was 9.48 ± 5.32 and 1.68 ± 6.04, respectively (t[56] = 5.20, $P < 0.001$). The mean change of the SOC score in the intervention and control groups was 24.17 ± 12.05 and 0.10 ± 13.42, respectively, t[56] = 7.18, $P < 0.001$). The applied empowering self-management model led to an improved self-efficacy and SOC amongst the retired elderly with chronic diseases. This model can be used to empower the elderly to achieve comprehensibility, manageability and meaningfulness in their lives There was a significant improvement in total SOC scores for the intervention group at 6-month follow-up. Also, the ORs for the SOC components were higher in the person-centred intervention group. However, we found no significant between-group differences nor did the effect last until the 12-month follow-up. Persons who have lived a long time in a host country after migration seem to have an SOC similar to native-born persons. Interventions with a person-centred approach could support the SOC by capturing individual life situations. Such interventions could support older persons by making everyday life more comprehensible and manageable and helping them to cope with challenges in daily life caused by ageing Subjects with high SOC scores showed a higher cumulative survival than others (Log rank = 0.004) independent of other prognostic characteristics (adjusted hazard ratio 0.62 (95% CI, 0.38–1.00), $P = 0.049$). For ADL decline, a high SOC was shown to be protective, and this effect tended to be independent from the covariates under study (adjusted odds ratio 0.56 (95% CI, 0.31–1.0), $P = 0.05$). Even very elderly persons with high SOC scores were shown to have lower mortality rates and less functional decline. These effects were independent of multi-morbidity, depression, cognition, disability and socio-demographic characteristics Findings showed that the religious meaning system had significant relationships with SOC and three coping styles: emotion-oriented coping, avoidance-oriented coping and social diversion. In addition, SOC mediated the relations between the religious meaning system and three coping styles: the emotion-oriented, avoidance-oriented and social diversion. The positive associations between meaning-oriented religiousness, SOC and coping styles imply that their underlying mechanisms are based on the structures of significance and comprehension. The character of mediational relations (i.e. mediator vs. suppressor) depended on the emotional and social coping strategies used by older adults	Potier (2018) Hourzad (2018) Arola (2018) Boeckxstaens et al. (2016) Krok (2015)

(continued)

Table 19.1 (continued)

Country	Sample	Variables	Study design and measures	Results and conclusions	First author
Norway	Cognitively intact nursing home residents	SOC	Cross-sectional SOC-13	In accordance with the salutogenic theory of sense of coherence, the three-factor model revealed the best fit to our data. In particular, item OLQ2, defined as 'concerns the experience of being surprised by the behaviour of people whom you know well', seemed troublesome. Removing this item resulted in good fit to the present data. Rewording or deleting item OLQ2 seems needed to get a reliable instrument measuring sense of coherence amongst nursing home residents	Drageset and Haugan (2015)
Norway	Nursing home residents	SOC, social support	Longitudinal SOC-13, Social Provisions Scale	SOC increased statistically significantly from baseline to follow-up. The social support sub-dimension reassurance of worth predicted change in SOC after adjustment for socio-demographic factors. When controlled for baseline SOC, attachment was associated with change in SOC, but reassurance of worth was not. The study indicates that the change in SOC over time during the 5 years of follow-up and the social support dimension attachment appear to be important components of change in SOC	Drageset et al. (2014)
Spain	Older adults (mean age 74.8)	SOC, posttraumatic stress disorder symptoms, daily life functioning, religious beliefs and practices and social support	Cross-sectional SOC-13, Severity of Posttraumatic Stress Disorder Symptom Scale, Daily Life Functioning Scale, Systems of Beliefs Inventory, Posttraumatic Growth Inventory	Older people may experience psychological growth following a life major event. The objective of this study was to analyse the degree of posttraumatic growth (PTG) developed by widowed and non-widowed older adults ($n = 103$) as well as the impact of possible predicting variables such as socio-demographic characteristics, experienced or witnessed life major events, religiosity and sense of coherence. The findings suggest that, in spite of widowhood, elder people develop PTG in the same way as non-widowed elder people. Therefore, the support of a religious community, age, life major events experienced and the subjective meaning given to them correlated with PTG	Lópes et al. (2014)
Japan	Volunteers >65 years old (mean age 69.1)	SOC, depressive mood	Longitudinal SOC-13, Geriatric Depression Scale-Short Version-Japanese (GDS-S-J)	Analyses of the simple main effects showed that sense of meaningfulness significantly increased for members of the intervention group at all terms, with no changes in the control group over time. Multiple mediation analysis revealed that participation in the intergenerational programme was associated with a sense of manageability which was also significantly related to depressive mood. However, given our limited sample size, generalizability was restricted and studies with larger cohorts are required to further validate our findings	Murayama et al. (2014)
Norway	Elderly caregivers (mean age 79)	SOC, cognitive decline (persons with dementia), caregiver burden, social support	Cross-sectional SOC-13, Informant Questionnaire on Cognitive Decline in the Elderly (IQCODE), Relative Stress Scale (RSS), Social Provision Scale (SPS)	With adjustments for socio-demographic variables, the association with burden of care was statistically significant for the sub-dimension attachment ($p < 0.01$) and for sense of coherence ($p < 0.001$). The burden of care was associated with attachment and with sense of coherence. Community nurses and other health professionals should take necessary action to strengthen attachment and sense of coherence among the caregivers of people with dementia	Stensletten et al. (2014)

Germany	Older persons (mean age 73.8)	SOC, self-esteem, generalized self-efficacy, optimism, social support, morbidity, bodily pain	Cross-sectional Bodily Pain subscale of the SF-36 Health Survey, SOC-29, Rosenberg Self-Esteem Scale, Life Orientation Test, Generalized Self-Efficacy Scale, Expected Social Support Scale	We found that morbidity and sense of coherence were the only significant predictors of pain, with morbidity showing the strongest effect. Using path analysis, the sense of coherence was a mediator of the relationship between resistance resources/deficits and pain. With respect to our analytical model, in which pain experience was the criterion variable, morbidity and the sense of coherence are important predictors of pain. Moreover, we found evidence for the salutogenic idea that the sense of coherence represents a mediator variable as it pools resistance/deficits influences on pain	Wiesmann et al. (2014)
Belgium	Flemish elderly (mean age 76.5)	Depressive symptoms, life satisfaction, SOC, ego-integrity, despair	Cross-sectional Centre for Epidemiological Studies Depression Scale (CES-D), The Satisfaction with Life Scale (SWLS), SOC-13, Ego-integrity and despair (Van Hiel & Vaansteenkiste)	A positive relationship between SOC and well-being was found. Elderly individuals with a strong SOC experienced less depressive symptoms and higher levels of satisfaction with their life. In addition, mediation analysis indicated that the relationship between SOC and depressive symptoms was partially mediated by the positive resolution of the integrity-despair crisis, whereas the relationship between SOC and life satisfaction was fully mediated by integrity and despair. Our findings indicate that SOC might be a resource for greater well-being in the elderly. Furthermore, our study offers a partial explanation for the relations found and points to the importance of finding integrity and resolving despair in this stage of life	Dezutter et al. (2013)
Sweden	Older Swedes (mean age 91.2)	Sense of coherence Negative life events	Longitudinal SOC-13, Barthel's index of activities in daily living (ADL), the mini-mental state examination (MMSE), Geriatric Depression Scale (GDS), The Philadelphia Geriatric Center Morale Scale (PGCMS), medical diagnosis, index of negative life events	For the whole group of subjects ($n = 56$), the SOC scores was higher (70.1 vs. 73.7, $p = 0.029$) at the second point measure. The most common negative life events at follow-up were loss of independence in activities in daily living and decrease in cognitive function. A significant correlation between the index of negative life events and changes in SOC over 5 years was found ($p = 0.025$). The more negative life events, the more decrease in SOC. We concluded that there is a risk of decreased SOC and thereby quality of life when negative life events accumulate among very old people. Nursing interventions might play an important role for maintaining and perhaps strengthening SOC among old people exposed to negative life events	Lövheim et al. (2012)
Sweden	75-year-old Swedes	General health, health behaviour, health problems, socio-demographic status, SOC	Cross-sectional SOC-3, VIPS-Well-being, Integrity, Prevention and Safety, The Health Index Questionnaire	Most 75-year-old persons reported their health as good or very good, but they also reported health problems such as pain, sleeping problems, memory failure, fatigue, poor understanding of their own health and illnesses, problems with elimination patterns and underweight and overweight. 75-year-old persons living alone, those with elementary school education and women reported worse health and well-being than other groups. This study contributes to the knowledge about health issues that concern persons of 75 years of age. It gives a suggestion as to what the district nurses should be aware of when performing preventive home visits	Sherman et al. (2012)

Gender differences are reported in terms of SOC and perceived health amongst older people. In a Norwegian study amongst 242 older people (mean age 84.6 years), examining how the SOC affected the perception of health (Saevareid et al., 2007), it was found that both men and women had health problems directly related to perceived health, whilst psychological symptoms were directly related to perceived health only in men. The gender difference reduced the effect of SOC on perceived health.

As pointed out earlier, ageing is a process, and concepts such as successful ageing and healthy ageing are frequently used (Lezwijn et al., 2011). Salutogenic research also uses the term 'resilient ageing' (Hicks and Conner, 2014) and 'ageing well' (Kennaugh, 2016). As a basis for an EU conference 'Salutogenesis and the promotion of positive mental health in older people' (19–20 April 2010, Madrid, Spain), Billings and Hashem (2010) conducted a review of studies amongst older people using a salutogenic approach to ageing. The review included concepts and theories closely related to SOC, such as resilience, hardiness and religiosity (religious beliefs). The authors highlighted different models for healthy ageing, including factors such as self-reliance, sense of control over life and a positive attitude to life, all to be important determinants of good ageing. They also noted that although the salutogenic approach provides a valuable contribution to maintain and develop health amongst older people, research and application in practice had not achieved the expected attention and impact. In a qualitative study on Irish healthy and active older people, Walsh (2014) examined the salutogenic theory within the context of later life and considered the value of salutogenesis as an analytical perspective applicable to understanding older people's health and well-being as they age in place. The analysis and the results demonstrated the potential value of the qualitative application of the SOC and incorporate context and place as central positions of analysis. This method contributes to a deeper understanding of the health-place relationship.

For a long time, research on SOC has been focused on testing the validity and reliability of the SOC questionnaire in a variety of samples, for example, older people. Thus, we have a good knowledge of how a strong SOC mediates and moderates perceived stress in different samples (Guo et al., 2018; Potier, 2018; Eriksson and Lindström, 2005, 2006). A new trend in salutogenic research is emerging, that is the development of salutogenically designed healthy ageing programmes, such as the AGES project in Japan (Misawa and Kondo, 2019), the SHAPE programme in Singapore (Seah et al., 2018), a health promotion intervention amongst ageing migrants (Arola et al., 2018) and finally an empowering self-management model on the self-efficacy and SOC in Iranian elderly (Hourzad et al., 2018). This is encouraging because research has moved from testing to implementation in practice.

GRRs and SRRs for Older People

Two important concepts in the salutogenic theory are *generalized resistance resources* (GRRs) and *specific resistance resources* (SRRs). *Generalized resistance resources* (GRRs) are those resources that help a person to avoid or to combat a wide variety of stressors (Antonovsky, 1979). GRRs arise from the cultural, social and environmental living conditions and early childhood upbringing and socialization experiences (see Chap. 7). GRRs can be found not only within people as resources bound to their person and capacity, but also within their immediate and distant environment and can be both material and non-material (Lindström and Eriksson, 2005). Examples of GRRs are genetic and constitutional qualities, knowledge, intelligence, ego-strength, control, social support, commitment, cultural stability and also material resources such as money. Importantly, it is not just that such resources are available, but that the individual has the capacity to recognize, use and reuse the resources for the intended purpose, which helps to increase health and well-being. GRRs are applicable in a wide variety of situations. SRRs on the other hand are particular resources, useful in specific situations. Or, as Mittelmark et al. put it, a GRR is a generality, an SRR is a particularity (Mittelmark et al., 2017, p. 75). In their words, '… SRRs … are optimized by societal action in which public health has a contributing role, for example, the provision of … health and social and protective (welfare) services, and supportive social and physical environments'.

The Community

Many of the 'prerequisites' to strengthen GGRs, SRRs and SOC are provided by or mediated through the community. But what constitutes a community? Even though the concept is used often in health promotion literature, there is no general understanding of the concept. However, two broad lines can be distinguished, that is, definitions in terms of geographical area and definitions in terms of shared characteristics (Koelen and van den Ban, 2004, p. 136). For the sake of simplicity, here we mean groups of people living in a certain geographical area, often sharing a common culture, values and norms, and who are placed in a social structure according to relationships which the community has developed over a period of time (based on Nutbeam, 1998).

At the centre of the community is the house, which is considered to be the primary setting for ageing in place (Felix et al., 2015; Orrell et al., 2013; Oswald and Wahl, 2005; Sixsmith and Sixsmith, 1991). Older people spend on average 80% of their time inside the house (Oswald et al., 2006; Windle et al., 2006). Studies by, for example, Felix et al. (2015), Oswald et al. (2006), Percival (2002), Rowles (1983), Sixsmith

(1986) and Smith (1994) show a variety of conditions that turn a house into a meaningful place in which to live. In the broader sense, 'home' refers to the constellation of both the built and social community within which the individual resides (Stones and Gullifer, 2016). The physical structure of the house functions as a stage for daily activities. Basic qualities of the house, like daylight, the level of thermal and sound insulation, and the ease of maintenance are valued for their physical comfort, as well as for providing feelings of privacy, safety, freedom and independence. A meaningful house enhances feelings of personal control, autonomy and responsibility, which seem to be pivotal to health development (Koelen and Lindström, 2005) and hence to healthy ageing. People who have a responsibility for day-to-day events, even seemingly small things such as watering plants, or caring for a little bird or dog, have more favourable psychological well-being and show higher health and activity patterns than people without such responsibilities (e.g. Rodin and Langer, 1977). In addition, the house provides a place for personal belongings, which are used to set priorities in life, to create a personal atmosphere and to keep memories of the past alive. As Rowles and Bernard (2013) argue, one's own home provides security, it holds memories and it provides the possibility to stay in proximity with friends, neighbours, kin and local services. As such, one's own home contributes to each of the SOC components: meaningfulness, comprehensibility and manageability.

The social dimension of the house is shaped through interaction with the surrounding community environment, which first of all includes the near social environment (family, friends, and neighbours). Social contacts are seen as an enrichment of life for all age groups: it is fun to do things together. It seems that, especially when people become older, social contacts become more and more important (Oswald and Wahl, 2005; Puts et al., 2007).

A key finding in a qualitative study by Felix et al. (2015), which focused on the experience of the house as a home, was that all participants mentioned the importance of the neighbourhood for feeling at home. Having contact with neighbours, the provision of help and care and the availability of facilities locally seem to be essential for people's sense of 'home'. Research shows that, irrespective of physical decline during older age, most older people prefer to continue living in their own homes amongst their own communities (Stones and Gullifer, 2016). Indeed, many aspects of the community environment are important for older people. This includes the social environment, which provides a feeling of belonging and social inclusion; features of the built environment, including services such as shops, restaurants, schools, churches and community centres, formal and informal health services and infrastructure and transportation; and features of the natural environment, such as availability of urban green space and recreation areas (Felix et al., 2015; Stephens et al., 2015). A study of Yu et al. (2019) showed that perceived neighbourhood environments were positively associated with sense of community and self-rated health. Especially 'transportation' and 'respect and social inclusion' were the physical and the social environmental domains most strongly associated with sense of community. Clearly, the physical and social environments interact. Spatial design of housing, proximity of shops, church and other services and infrastructure largely influence the mobility, self-reliance and social participation in the neighbourhood and larger community. A lack of facilities in each of these domains may negatively affect quality of life. Hence, the neighbourhood can provide important GRRs for older people. In their review study, Khoon-Kiat et al. (2013, p. 497) concluded that older people who have access to GRRs are more likely to have a strong SOC, relatively good health and quality of life.

Ageing in the Community

Important for healthy ageing is that people have the possibility to age in place. Ageing in place can be defined as 'the ability to live in one's own home and community safely, independently, and comfortably, regardless of age, income or ability level' (Centers for Disease Control & Prevention, 2009, p. 1). It enables older people to not only maintain autonomy and independence, but also connection to social support, family and friends. Assisting people to age in place implies that older people receive adequate support whilst they continue to live and be involved in the community. Attention needs to be given to housing options, health and care services, transportation, recreational opportunities and facilities for social interaction and cultural engagement. Over the past decade, the concept of 'age-friendly communities' has emerged. According to the WHO, 'in an age-friendly community, policies, services and structures related to the physical and social environment are designed to support and enable older people to "age actively", that is, to live in security, enjoy good health and continue to participate fully in society. Public and commercial settings and services are made accessible to accommodate varying levels of ability' (WHO, 2002). In line with this, in 2010 WHO established the Global Network for Age-friendly Cities and Communities (AFCC). The mission of the network is to stimulate and enable cities and communities around the world to become increasingly age-friendly. Currently, over 1000 cities and communities in 41 countries, covering over 240 million people worldwide, are connected to the network (WHO, n.d.) which shows the relevance that is assigned to facilitate healthy ageing. AFCC builds on the notion that the physical and social environment contribute to physical health, mental health and well-being (Menec and Brown, 2018), hence to quality of life. Menec et al. (2011) provided an interesting conceptualization of age-friendly communities (see Fig. 19.1).

According to the authors, age-friendly communities create connections between the older persons and the environ-

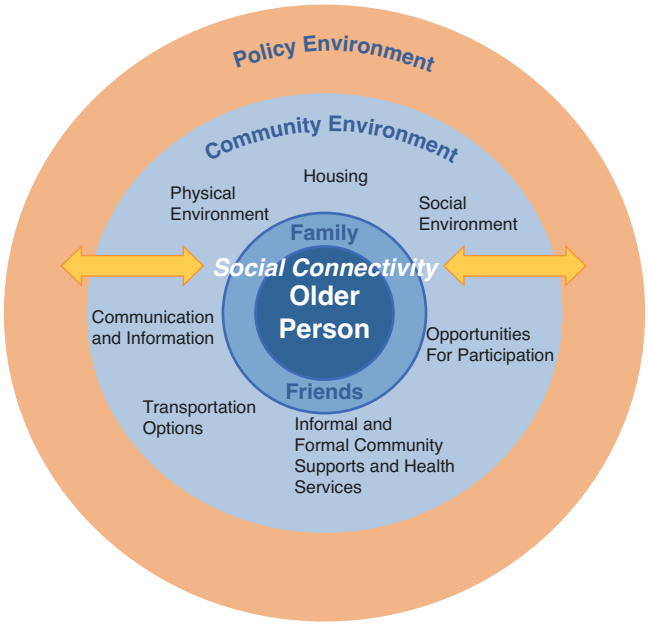

Fig. 19.1 Conceptualizing age-friendly communities . (Reprinted with permission from Cambridge University Press. Menec et al., 2011. This Figure cannot be reproduced, shared, altered or exploited commercially in any way without the permission of Cambridge University Press, as it is copyrighted material and therefore not subject to the allowances permitted by a CC licence)

ment in which they live and vice versa (p. 484). Without an extensive description of the seven identified community dimensions, we wish to emphasize the importance that is attached to conditions in both the physical and social environment contributing (or not) to healthy ageing. Housing is in fact a part of the physical environment but is considered in its own right. This relates to what we have mentioned before about housing and feelings of home. Also opportunities for participation are considered important. This includes social participation and employment, but also other forms of participation such as physical activity, spiritual activity and volunteer options.

From a life course perspective, perhaps an even more interesting concept is that of 'intergenerational communities'. In the age-friendly communities approach, the focus is foremost on how older people can be supported in the context of their environment. However, older people do not live in isolation but are part of the 'whole-life-cycle environment', which includes newborns, children, youth, young and older adults. Intergenerational communities address quality of life and physical and psychological needs for all age groups, with an additional consideration of how different generations interact and form relationships (Kaplan et al., 2016, p. 118). An intergenerational lens may also prevent communities to loose fit with its inhabitants. Communities are no static entities, but change over time, both in terms of population demography (e.g. from mainly young families to a mostly ageing population), the level of maintenance and quality of housing and the surroundings. In fact, communities with features which are important for older people might also be beneficial for children and young adults. For example, the quality of side-walks is important for both older people needing walking aids and young parents using a baby buggy. Moreover, intergenerational contacts are beneficial for all age groups, and, as pointed out before, healthy ageing is a lifelong process, evolving throughout the lifespan.

Intergenerational communities are age-friendly communities, creating connections between the older persons and the environment in which they live and vice versa. This very much relates to the SOC dimension of meaningfulness. The maintenance of social relationships and having the possibility to be physically and socially active is closely related to having a purpose in life (Takkinen and Ruoppila, 2001; Stones and Gullifer, 2016). It enables older people to recognize and use GRRs to strengthen one or more of the three dimensions of SOC – meaningfulness, manageability and comprehensibility – which in turn enables them to recognize, pick up and use SRRs as needed in specific encounters with stressors (see Chap. 8). The home and neighbourhood provide a basis for consistency (coherence) and GRRs, enhancing meaningfulness, comprehensibility and manageability. Intergenerational communities provide supportive environments for people whilst ageing. They provide resources for health in the social and physical environment which – combined with their personal resources – enable people to live their lives despite possible limitations. The model of intergenerational communities may provide a useful framework for future research and practice, towards the facilitation of independence, participation and well-being of older people.

Discussion and Implications for Salutogenic Research

Older people's perceptions of healthy ageing, that is, being independent, being connected, being able to use resources, being able to make one's own decisions (see the relation with the three dimensions of SOC), are related to the notion of ageing in place. Especially the availability of social contacts, the ability to engage in social interaction and the availability and accessibility of social and material resources (GRRs and SRRs) are important. The community, with home as a central place, offers many opportunities for maintaining or enhancing well-being and quality of life of older people.

Developing age-friendly, or preferably intergenerational communities, is more easily said than done. It requires input from a variety of disciplines, from the health, care and social sector, to architecture, city design and environmental planning. The fact that there is a difference in the perception of what constitutes healthy ageing and what is needed for ageing healthy by older people, professionals, researchers and policymakers emphasize the importance of active participation

of older people in research and policy-making for healthy ageing, and also for environmental design. It can be expected that such differences in perceptions also exist between different age groups and between age groups and professionals. An intergenerational approach, hence, also requires input from the other age groups. Participation in decision-making and planning enhances feelings of control and empowerment, which, in turn, may contribute to a strong(er) SOC.

Societies are changing at a rapid pace, and ICTs are increasingly applied in all areas of society. The ability to use them is also increasingly essential for everyday life activities. The digitization of various activities in society can mean that new opportunities open up for older people to live an active life but can also be marginalizing for people who do not master the technology. Therefore, it becomes important when designing technological solutions for older people to take this notion into account. Another new innovation is that of artificial intelligence (AI), commonly known as robots with built-in human characteristics such as speech. So far, research of what the consequences of AI are for elderly is still scarce.

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Effectiveness of Interventions to Enhance the Sense of Coherence in the Life Course

20

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Introduction

There is an extensive amount of publications about the Sense of Coherence (SOC), the main concept in salutogenesis (Eriksson and Lindström, 2005, 2006, 2007; Eriksson and Mittelmark, 2017). However, there is a lack of knowledge about studies investigating the effects of interventions, based on salutogenesis during the life course, on SOC (Bauer et al., 2019; Hochwälder, 2019). Besides, there is a call for reaching a consensus that defines what characterizes a salutogenic intervention and the minimal characteristics that a salutogenic intervention should follow (Álvarez et al., 2020).

Antonovsky (1979, 1987, 1992, 1996a) claimed that the Sense of Coherence is an internal experience that gradually develops during youth to a rather lasting and stable quality of an individual after 30 years of age. He emphasized that this is a hypothesis based on theoretical considerations and is not based on empirical evidence (Antonovsky, 1996a). However, Antonovsky made this tentative hypothesis in 1987, over 30 years ago. The world and societies have developed and changed since then. People live longer in general and experience major life changes after 30 years of age. They participate in different kinds of therapies or coaching, start a new partnership, parenthood, education, different kind of courses, and new jobs. In general, knowledge is much more available. Accordingly, the view that the SOC is stable after 30 years of age might be modified (Suominen, 1993). Research also indicates that the SOC may become stronger due to major life events such as childbirth (Lindström et al., 2017) or experiences in everyday life (Maass et al., 2017).

In the last two decades, there was an increasing research interest in the ability of tailored interventions to modify and strengthen the SOC of various target groups. Research emerged on therapies, training, or interventions aiming to strengthen the SOC (Langeland et al., 2006). However, an overview of empirical evidence on the SOC's changeability by health-promoting interventions is lacking. The main purpose of this chapter is to provide a synopsis of interventions over the life course and their effectiveness on the SOC. Besides, we aim to assess to what degree the content and methods of each intervention are salutogenic.

The Theory of Salutogenesis and Interventions

According to Antonovsky (1987), the salutogenic orientation does not view health as a dichotomous variable, but instead as an active process along a continuum. It focuses on the story of the whole person and life situation rather than on specific problems and diagnoses. It sees people as biological, psychological, social, and spiritual beings who are both proactive and reactive, and who make choices. Persons are perceived as actively involved in health-seeking and self-actualization. Further, salutogenesis understands tension and strain as potentially health-promoting, rather than as inevitably health-damaging. The use of potential and/or existing general and specific resistance resources (GRRs and SRRs) enhances the SOC, and the individual's active adaptation is emphasized as the ideal in treatment. This illustrates that the

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theory of salutogenesis is a broad and comprehensive theory, and it provides a general understanding of how the SOC and well-being are created. Research shows that a strong SOC will also improve especially mental health (Eriksson and Lindström, 2006). The theory has been applied in several fields, such as nursing (Sullivan, 1989) and mental health care (Eriksson and Lindström, 2006; Griffiths, 2009; Langeland, 2007; Langeland et al., 2006; Langeland and Vinje, 2017). Salutogenesis has also been suggested as a suitable framework for public health development (Eriksson and Lindström, 2006; Super et al., 2016), health promotion (Antonovsky, 1996b; Garcia-Moya and Morgan, 2017), healthy aging (Lezwijn et al., 2011), workplace health promotion (Vaandrager and Koelen, 2013), mental health rehabilitation (Griffiths, 2009; Pijpker et al., 2019), mental health promotion (Langeland and Vinje, 2013), and maternity care (Downe, 2010; Meier Magistretti et al., 2016).

The main aim of salutogenic interventions is to create an environment with meaningful and attainable resources and thus arrange for that individuals and groups might come into a positive interplay between the use of internal and/or external resistance resources and the SOC. This means that there are many ways to possibly promote the SOC dependent on a person's or a group's needs and available resources. Yamazaki et al. (2011) have concluded that the first intervention program based on the salutogenic model of health (salutogenic orientation and main concepts) and aimed to strengthen Sense of Coherence as one main outcome was developed by Langeland et al. (2007), and this intervention program has been further developed in Langeland and Vinje (2013).

Up to present, we lack an overview of how much interventions based on salutogenic theory are effective to positively change the SOC.

Methods

This is a scoping review (Grant and Booth, 2009), including quantitative intervention studies with SOC as an outcome. We have systematically searched for, appraised, and summarized the existing research evidence on intervention studies with the SOC as a primary or secondary outcome.

Data Searches

We have carried out searches in the databases PubMed, PsycINFO, Ovid, ERIC, Embase, SocINDEX, Cochrane, Cochrane trials, Cochrane review, and Google Scholar. The inclusion criteria were English literature from 2005 to 2019, focusing specifically on intervention studies with the SOC as an outcome. We included RCTs, controlled clinical trials, and follow-up studies.

The data searches have been performed twice, where we included new search terms in the second search. The first search has been performed by an especially trained librarian and the fourth and the last author. The fourth author and last author also provided a first summary of all the retrieved articles to facilitate selection and further additions by the last author. Another librarian, trained specially in health disciplines, and the first author, have performed the second searches. The reference lists of all the papers retrieved have been examined for any paper missed with the other searches.

In the first searches, we identified 31 included articles. In the second search, we included an additional ten articles. Two articles were excluded because of insufficient reporting of the SOC scores. Thus, we finally considered 41 included articles (see Table 20.1 for an overview of the search process). Table 20.2 (Cf. The electronic supplementary file) shows a summary of the 41 articles, including authors, year of publication, country, title, method, sample, salutogenic intervention content, assessment points, and effect on the SOC.

Definition of the Criteria for Salutogenic Interventions

We developed five criteria based on salutogenic theory as well as on the work of Langeland et al. (2007), Langeland and Vinje (2013), and Polhuis et al. (2020). The criteria that designate an intervention salutogenic are defined as follows:

1. A focus on health-promoting factors: general resistance resources (GRRs) and/or specific resistance resources (SRRs).

Explanation: To promote health from a salutogenic perspective, the primary focus of the intervention must be on the dynamic interaction between GRRs, SRRs, and stressors in human life, thus facilitating the use of resistance resources and support the participants to move toward the healthy end of the health continuum.

Background: According to the theory of salutogenesis (Antonovsky, 1987), to increase awareness of internal and external resources and increase the ability to use them promotes the transformation of tension and stress into coping (Langeland et al., 2016; Langeland et al., 2007).

2. A whole-person approach (WPA).

Explanation: This perceives the participant as a whole person and includes the life course within the life circumstances of the participant. Understanding the unique life story and current life situation of people is important for providing meaningful interventions.

Background: In a salutogenic approach, the focus is on the history and experiences of human beings rather than

Table 20.1 Overview data searches

Database	Keywords	Number of hits	Inclusion criteria	Exclusions (title)	Exclusions (abstract) incl. duplicates	Number of suitable hits	Excluded (duplicates, theoretical, not intervention not relevant)	Included
PsycInfo Psyndex plus; ERIC	"Sense of coherence" AND intervention OR training AND increase OR strength* OR enhance*	298	English literature; from 2005 to 2019 /focuses specifically on interventions that should bring about a change in the SOC	189	68	41	Totally 79	**Totally 31**
Google Scholar	Sense of coherence; intervention; increase; strengthening; enhance	980	English literature; from 2005 to 2019 /focuses specifically on interventions that should bring about a change in the SOC	876	79	25		
PubMed	Sense of coherence; intervention; enhance	136	English literature; from 2005 to 2019 /focuses specifically on interventions that should bring about a change in the SOC	76	26	34		
Cochrane	"sense of coherence" AND intervention OR training AND increase OR strength* OR enhance*	73	English literature; from 2005 to 2019 /focuses specifically on interventions that should bring about a change in the SOC	31	32	10		
New search: December 4, 2019								
Oria	Salutogen*OR "Sense of coherence" AND intervention* AND effect*	102	English literature; from 2005 to 2019 /focuses specifically on interventions that should bring about a change in the SOC.	89	13	–	–	–
PubMed	"Sense of coherence" AND salutogen* AND intervention* AND effect*	8	English literature; from 2005 to 2019 /focuses specifically on interventions that should bring about a change in the SOC.		6	2		2
Embase	"Sense of coherence" AND intervention* AND effect*	118	English literature; from 2005 to 2019 /focuses specifically on interventions that should bring about a change in the SOC		111	7		7
Cochrane	Reviews "Sense of coherence"	28	2005–2019	13	14	1		1
								A total of 41 included articles

focusing solely on disease and physical health (Antonovsky, 1987). Health incorporates multiple aspects of well-being (Antonovsky, 1996b). Therefore, salutogenic interventions must take into account multiple aspects of health and well-being, including the physical, mental, social, and spiritual dimensions of participants.

3. Active adaptation (A).

Explanation: The focus is on the participant's ability to actively adopt or become actively involved in the interplay between the person or group and the internal and external environment. Adjusting intervention strategies to the

individual's priorities, motivations, and capabilities increases the chance of accomplishing meaningful and active participation in the interventions. Active participation facilitates the successful change in comprehensibility, manageability, and meaning, as well as the implementation of newly adopted attitudes and behaviors in everyday life.

Background: Active adaptation is ideal in treatment (Antonovsky, 1987). This orientation leads us to the overall problem of active adaptation to an inevitably stressor-rich environment (Antonovsky, 1987). It is crucial that the participants experience appropriate challenges and thus develop the ability to use the resources (Langeland and Vinje, 2013; Langeland et al., 2007).

4. Stressors and Tension as potentially health-promoting (ST).

Explanation: This point is based on the understanding that stressors and tension are normal to experience. When demands or expectations are perceived as appropriate and challenging, the tension will be transformed into coping experiences (Antonovsky, 1987; Langeland and Vinje, 2013; Langeland et al., 2007). Magrin et al. (2006) define tension as "the salt of life."

Background: In the salutogenic model, stressors, tension, and strain are potentially health-promoting. Antonovsky (1987) distinguishes between tension and stress. When demands exceed a person's resources or a person's ability to use resources, then the tension created by the stressor leads to stress and the person moves toward the dis-ease end of the continuum.

5. A focus on the SOC as a learning process (L).

Explanation: To learn is to discover and use GRRs and SRRs, thus promoting a constructive self-identity, SOC, and health. A learning process focused on self-identity and social support may lead to the discovery of individual internal and external resources that can be used to facilitate coping with life challenges.

Background: In a salutogenic approach, health is understood as a lifelong process in which people learn to identify resources and to use them (Lindström and Eriksson, 2010). The process consists of: (a) experience life as being consistent, (b) to find an appropriate overload/underload balance, and (c) to participate in making decisions that are relevant to one's own life thus strengthening identity and other important resources (Antonovsky, 1987).

We rated the interventions according to the degree they fulfill the criteria for a salutogenic intervention. For each intervention, we assessed and determined the extent they matched the criteria. All authors did that individually by labeling each intervention as follows: specific resistance resources (SRRs) and/or general resistance resources (GRRs), whole person approach (WPA), active adaptation (A), stressors and tension as potentially health-promoting (ST), and learning (L). The labeling was then compared. Interventions that were assessed differently were studied again by the first, second, and last author individually and then discussed up to a consent agreement.

Some interventions combined salutogenic and pathogenic elements. Although the pathogenic elements might be in the description of the aim of the intervention such as prevent illnesses or stress and reduce burnout instead of describing what to promote such as promote coping and well-being, they have been defined as salutogenic if the content of the intervention fulfilled the criteria.

Findings

Search Outcomes

The search identified 41 articles that fulfilled the inclusion criteria. This includes 22 RCT studies, 11 follow-up studies with a control group, and 8 follow-up studies without a control group. Many of the included studies did not explicitly define whether the SOC was a primary or secondary outcome. In studies that have included several outcomes and that did not define primary and secondary outcomes, we defined the SOC as a primary outcome when it has been included in the title and/or mentioned first in the measure section of the article.

The SOC as the Outcome of the Studies: The Extent of Salutogenic Content in the Intervention and the Development of the SOC

Table 20.2 (Cf. The elctronic supplementary file) contains an overview of all included studies and the coded interventions as specific resistance resources (SRRs) and/or general resistance resources (GRRs), whole person approach (WPA), active adaptation (A), stressors and tension as potentially health-promoting (ST), and the SOC as a learning process (L)

The 41 articles have been classified according to their main target groups and are presented in the following paragraphs. The description of each study follows the structure: Specific target group, setting, content, length, frequency, the level of salutogenic content assessment, and the development of the SOC. The studies are described and discussed in the following paragraphs structured by the target groups of the interventions.

Young People

Nammontri et al. (2013) have performed a cluster RCT study, including a salutogenic intervention for enhancing oral health with the SOC as the primary outcome.

Students ages 10–12 years old participated in seven 40- to 60-minute sessions delivered by teachers over two months, focused on child participation and empowerment. The first four sessions were classroom activities involving didactic teaching, discussion, activities, and games. The last three sessions involved working on healthy school projects: brainstorming, planning, implementation, and evaluation. This intervention fulfilled four of the salutogenic intervention criteria: it addressed the participants with a whole-person approach (WPA), active adaptation (A), and enhanced an active learning process (L). They also received access to GRRs such as activities, games, and most likely social support. The SOC improved significantly in the experiment group ($n = 133$) compared to the control group ($n = 128$) both two weeks and three months after the intervention.

Another RCT study (Recabarren et al., 2019) included an intervention about stress prevention, quality of life, well-being, and psychological resources among university students with the SOC as a secondary outcome. The program included eight 2-hour weekly sessions with a salutogenic multidimensional stress prevention program, integrating mindfulness-based activities, cognitive and behavioral strategies, social skills exercises, and emotional regulation (A, GRRs, and L). Homework between sessions was also proposed (L). Participants performed written exercises, discussions, and role-playing in personal or fictive situations based on different types of material and triggers such as videos, audio, and visual supports (WPA). The program did fulfill four of the five criteria. The SOC improved significantly in the intervention ($n = 32$) after eight weeks (from before to after intervention) compared to the control group ($n = 32$).

Bronikowski and Bronikowska (2009) is a controlled clinical trial among adolescent boys aiming at improving the health resources of adolescent boys with the SOC as a secondary outcome. The program, which lasted 15 months, included regular moderate to vigorous physical activity (MVPA). During four lessons of physical education per week, the teacher used at least one activity per lesson including the following teaching strategies: teacher talk, modeling (being), reinforcement, reflection time, and student sharing to improve the levels of self-control, involvement, self-responsibility, and caring-responsibility of pupils. Additionally, a specially self-designed, personalized form "Planning of Leisure-time Physical Activity" was used. The program provided access to GRRs, active adaptation (A), and learning (L) related to physical training together with others. It did not fulfill the other criteria WPA and ST and was therefore considered to be a moderate salutogenic intervention. The pre- and post-intervention showed a significant difference between the groups on the SOC after a 15 months salutogenic program. However, the significant differences between the groups were due to decreased SOC in the control group ($n = 115$), and there was just a slightly SOC improvement in the experiment group ($n = 84$).

Davidson et al. (2012) have done an intervention study among first-year college students with the SOC as a secondary outcome. The participants were distributed in three groups ($n = 14,15,14$, respectively), all included salutogenic elements (promotion of hope, sense of coherence, and self-efficacy for enhancing students' academic adjustment), but one of these groups had an explicit focus on salutogenesis. The version of this workshop delivered to this group included a short lecture on the salutogenesis paradigm, including the SOC construct in addition to the short lecture on hope theory that the other groups received. In addition, they filled out a cognitive-mapping worksheet that was in line with the salutogenesis model and focused their attention on lessons they learned in the past and their future expectations. This intervention satisfies three of the five salutogenic criteria. The programs provided access to GRRs and their participation in workshops promoted their active adaptation (A) and learning process (L). At the times of measurement, just after the intervention one month after the conclusion of the program, there was a significant improvement in the SOC across the groups. However, there were no significant differences between the groups on the SOC.

A total of three of the four studies that have been performed among younger people showed a significant difference in the SOC in favor of the salutogenic intervention group. It includes two RCTs and two follow-ups with the control group(s), all with salutogenic elements in the interventions. The strongest salutogenic intervention seems to be Nammontri et al. (2013). It had the SOC as the primary outcome, it had the best design with adequate sample size, and it observed significant effects at two weeks and three months after the intervention. Recabarren et al. (2019) also has a strong design and good salutogenic content, but a much smaller sample and the significant effect are measured just after the intervention. The other two studies (Bronikowski and Bronikowska, 2009; Davidson et al., 2012) have weaker designs, salutogenic content, and effect. All the three latter had the SOC as a secondary outcome.

Occupational Health/Unemployed People

An RCT (Valtonen et al., 2015) among 234 occupational healthcare clients with depression with the SOC as a primary outcome consisted of a group intervention ($n = 134$) emphasizing the interaction between body and mind of 6 months and 31 active days. It consisted of four courses, the first two

to understand the depression symptoms, and the third and fourth were focused on rehabilitation. It aimed at increasing the self-knowledge of depressive symptoms (SRRs), teach more effective coping with stressors (A and L), and provide peer and social support (SSRs). Thus it fulfilled three of the five salutogenic criteria. It found a significant improvement of the SOC in both the intervention and control group 6 months and one year after the intervention. However, there was no significant difference in the mean SOC scores between the groups at these follow-ups.

Another RCT (Viding et al., 2015) among 36 women with burnout with the SOC as a secondary outcome consisted of an intervention hosted by four healthcare centers and included a mixture of different cultural activities (a so-called Culture Palette): interactive theater, movie, vocal improvisation and drawing, dance, mindfulness training, and a musical show (GRRs). The intervention was based on the idea that cultural activities can enrich and enhance memory (L), stimulate connections among brain networks, and enable to accelerate learning (A) and differentiate feelings of meaning and context (SRRs and GRRs). It found no significant differences between the intervention and the control group after three and six months.

A controlled clinical trial of Kähönen et al. (2012) among employees suffering from severe burnout symptoms consisted of interventions of 16 separate days, over 9 months, with the SOC as the primary outcome. There were two intervention groups: one "psycho-dramatic" (n = 25) and one "action-based" (n = 24) and control group (n = 28). A common issue in both group methods was to investigate the balance between work, social life (including family life), and personal hobbies (A). Another common issue was to investigate participants' values, beliefs, attitudes, and patterns of behavior (WPA), especially those exposed to conflicts in their work (L). The "psycho-dramatic" method was based on a free discussion in several steps. In the beginning, group confidence and group cohesion were built up (SRRs). Cards and figures were used to help the group members express their feelings and ideas (GRRs). Drawing, music, and writing (GRRs) were used to investigate and express the group members' inner worlds. Muscle relaxation and exercises using the imagination (GRRs) were used in the last session of the day. During the intervention, every participant could be the protagonist of the day, that is, to use the whole group and coordinators to investigate through psychodrama something of crucial importance to him−/herself (A). Thus, it fulfilled four of the five salutogenic criteria. It found a significant increase in the SOC in favor of the intervention groups nine months after the intervention.

Another controlled clinical trial of Merakou et al. (2019), with the SOC as the primary outcome, among unemployed individuals with anxiety disorders, consisted of an intervention of a Progressive Muscle Relaxation (PMR) program (GRRs) and counseling services (SRRs). The participants were divided into four subgroups of six to eight people attending a two-month training course. The training (L) included four weekly sessions (45 min) facilitated by a professional PMR trainer. Participants were asked to practice at home (A). Thus it fulfilled three of the five criteria. Both groups received counseling services once a week during the entire period. It found a significant increase in the SOC after eight weeks in the intervention group (n = 30) and no significant changes in the control group (n = 20).

A follow-up study of Vastamäki et al. (2009) among 74 unemployed individuals, with the SOC as the primary outcome, consisted of a 6-month intervention program that provided support in the job-search process and personal life situations. The program combined three kinds of activities: labor market activities (i.e., vocational training and subsidized employment), personal guidance, and networking (SSRs) with other organizations providing support for the unemployed. After the start-up period, individual needs were assessed as a basis for further guidance processes, and different services were provided according to diverse needs (WPA). Through networking, healthcare services and financial support could also be provided (SSRs). At the beginning of the intervention, all participants took part in group counseling (L), which lasted two months. Participants' job-searching skills and activity (A) were improved, and their coping skills were strengthened to boost the job-search process and to make the process less stressful. It fulfilled four of the five criteria. It found a significant increase in the SOC over a 6-month period.

Another follow-up study (Gunnarsson and Bjorklund, 2013), with the SOC as a secondary outcome, among 35 persons with different mental health challenges consisted of an intervention of 5 sessions that included creative activities and occupational storytelling and was called "The Three Team Method" (TTM). The TTM implied that the clients draw and paint trees symbolizing various periods in their life (A). The pictures were then used as a starting point to tell their life story (L and WPA) to enhance their well-being and management of their everyday life (GRRs/SRRs). It showed a significant change in the SOC at three years' follow-up.

There are a total of six studies under this section of which all (Gunnarsson and Bjorklund, 2013; Kähönen et al., 2012; Merakou et al., 2019; Valtonen et al., 2015; Vastamäki et al., 2009; Viding et al., 2015) have SOC as a primary outcome except Gunnarsson and Bjorklund (2013) and Viding et al. (2015) that had the SOC as a secondary outcome. The strongest salutogenic interventions seem to be the controlled clinical trial of Kähönen et al. (2012) and the follow-up of Vastamäki et al. (2009) that also affected follow-up at nine months and six months, respectively. However, they included small sample sizes and had rather weaker designs. The follow-up study of Gunnarson and Bjørklund

(2013) included a rather strong salutogenic intervention and revealed significant change in SOC at three years' follow-up. However, this study applied a weak design and had a rather small sample size.

Health Professionals

An RCT consisted of medical personnel with burnout (Brooks et al., 2010) with the SOC as a secondary outcome. The intervention consisted of music and imagery experiences, 60–75 minutes a session per week, where the participants were guided through body relaxation and directed imagery experiences while listening to music (SRRs). Based on the needs of the participants, the research assistants selected pre-scripted directed imagery experiences. These directed music-guided imagery experiences typically included the participant interacting or relaxing in a nature scene (A and L). The intervention fulfilled three of the five criteria. The study showed that the experiment group ($n = 24$) and control group ($n = 23$) had no significant differences in the SOC after six weeks (before to after intervention).

A small clinical controlled trial of Sarid, Berger, Eckshtein, and Segal-Engelchin (2012) had the SOC as a primary outcome. The participants were nurses with occupational stress. The cognitive-behavioral intervention that was used in this study was based on a variety of cognitive-behavioral principles and techniques and not on a particular theory, thereby allowing them to choose the strategies that were most effective for them (A). Four-hour meetings took place once a week for 16 weeks. Behavioral interventions included teaching and practicing breathing techniques and progressive muscle training. Participants were taught to question their self-defeating thoughts by examining evidence, practicing the strategies to reduce psychophysiological aspects of stress, and rehearsing skills they acquired (L). Each meeting started with a theoretical presentation followed by the practice of and reflections on the relevant skills (GRRs). The intervention fulfilled three of the five criteria. There was a significant difference between intervention ($n = 20$) and control group ($n = 16$) in the SOC after four months (before to after intervention) in favor of the intervention group.

A pilot follow-up study among 38 nurses and midwives (Foureur et al., 2013) with the SOC as a secondary outcome, including a mindfulness-based program (GRRs) over eight-week daily practice (A and L) included knowledge of stress on the body, mind, emotion, and behavior (GRRs). Further, the content was daily meditation practice for 20 minutes, a repertoire of strategies for mindfulness on a day-to-day basis, and forming habits of daily mindfulness practice (L). The intervention fulfills three of the five salutogenic criteria. The study reveals significant positive strengthening of the SOC after eight weeks (before to after intervention).

This section consists of one RCT, one controlled clinical trial, and one follow-up. All the studies included relatively small samples and moderate salutogenic content (fulfilled three salutogenic criteria). Two of the studies (Foureur et al., 2013; Sarid et al., 2012) had positive development of the SOC before to after intervention. The study of Sarid et al. (2012) was the only one with the SOC as the primary outcome.

People with Disabilities, Psychosomatic, and Mental Health Problems

A three-armed RCT study among adults suffering from psychological stress (Arvidsdotter et al., 2015) with the SOC as secondary outcome consisted of two intervention groups: therapeutic acupuncture (TA) and integrative treatment (IT) ($n = 40$) and conventional treatment (CT). IT was a combination of a person-centered approach in a salutogenic dialogue and TA. The dialogue focused on the patients' understanding of meaning and resources to help them become aware of and mobilize their strengths and potential for managing their conditions (A, L, and WPA). The dialogue was exploratory and reflected on inner feelings, personal relationships, everyday activities (diet, exercise, relaxation, sleep habits) (L), and existential issues in an atmosphere that aimed to strengthen the therapeutic alliance (SRRs). It was performed once a week, 60 minutes per session, for 8 consecutive weeks. It fulfilled four of the five criteria for a salutogenic intervention. The results revealed significant improvements in the SOC in both intervention groups (most in the IT group) after eight weeks (before to after intervention) compared to CT.

An RCT (Forsberg et al., 2010) among persons with psychiatric disabilities with the SOC as a secondary outcome included a program for a healthy living, healthy diet, and physical activity. Each study circle comprised 5–13 participants, including between two to seven residents and three to seven staff members, and all circles had the same leader. They met twice a week for two hours for the duration of 12 months, once a week for diet sessions and once a week for physical activities (SRRs and L). The participants were encouraged to actively participate (A). The intervention fulfilled three of the five salutogenic criteria. The study revealed significant differences between the intervention ($n = 24$) and the control group ($n = 17$) in the SOC after 12 months (before to after intervention) in favor of the intervention group.

Another RCT (Langeland et al., 2006) among adults with mental health challenges with SOC as primary outcome consisted of a salutogenic group intervention program. The group intervention program targets people with various mental health problems who live at home but need support from the health system (see Langeland and Vinje 2013, 2021). The intervention was a talk-therapy group once a week, 16 times, each two hours, based on salutogenesis

(the five basic salutogenic principles and core concepts the SOC and GRRs). The main objective of the group intervention in this study was to increase participants' consciousness of their potential, their internal and external resistance resources (GRRs, SRRs), and their ability to use them (L) in everyday life (Cf. Langeland et al. (2007)). Active adaptation (A) and tailoring and person-centeredness (WPA) was key. The intervention thus fulfilled all five salutogenic criteria. It revealed significant improvement in the intervention ($n = 56$) group compared to the control ($n = 42$) group from before to after intervention. At 12 months' follow-up, there were still differences between the groups in favor of the intervention group. However, the differences were not significant.

Among people with psychosocial disabilities, Sancassiani et al. (2017) have performed an RCT with the SOC as a secondary outcome. The intervention was a psychosocial rehabilitative intervention focused on sailing (SRRs). It was a structured course to learn sailing in a crew lasting (A and L) three months; two lessons a week, each almost four hours. The intervention met three of the five salutogenic criteria. There were no significant differences between the intervention ($n = 23$) and control ($n = 28$) group after three months (before to after intervention).

A pilot RCT (Schrank et al., 2016) among people with psychosis, with the SOC as a secondary outcome, included an intervention that targeted four areas of development: increasing positive experiences, amplifying strengths, fostering positive relationships, and creating a more meaningful self-narrative (A, L, and SRRs). These areas were addressed using ten exercises adapted from standard positive psychotherapy (PPT): positive introductions, savoring, good things, identifying personal strengths, personal strength activity, and strength activity with significant other, forgiveness, gratitude, and positive responding (L). Sessions begin and close with music savoring exercise. In contrast to standard PPT, WELLFOCUS PPT has a reduced focus on literacy and didactics but instead includes more experiential and interactive components. All exercises and homework tasks were tailored to the individual to be specific, attainable, and personally meaningful (WPA). Participants received a phone call between sessions to support them with homework and reflect on what they have learnt. The intervention was assessed to fulfill four of the five salutogenic criteria. The results showed significant development of the SOC in the intervention group ($n = 47$) from before to after intervention compared to the control group ($n = 47$).

A follow-up (Højdahl et al., 2015) among 534 women in correctional settings with the SOC as primary outcome consisted of an intervention called the "VINN" program. The program has been described in detail elsewhere (Højdahl et al., 2013; Højdahl et al., 2014) and is built on the program about salutogenic talk therapy groups (Langeland et al., 2006; Langeland et al., 2007). Briefly, two facilitators and four to eight women meet for up to 15 three-hour sessions over 6–12 weeks. Combined with homework exercises, relaxation exercises, and group work, the women were encouraged to identify something meaningful that they can engage within their personal lives (A and L). In the groups, each woman's personal motivation for and commitment to change behavior (L and ST) was purposefully stimulated, within an atmosphere of acceptance and compassion (WPA). The intervention fulfilled all the salutogenic criteria. The results revealed significant improvements in the SOC from before to after intervention.

This section included six studies (five RCTs and one follow-up) of which two had strong salutogenic content (Højdahl et al., 2013, 2015; Langeland et al., 2006, 2007). Both revealed significant effects from before to after intervention on the SOC that was the primary outcome. Langeland's study had the strongest design of these two. The four other studies had the SOC as a secondary outcome. A total of two studies (Arvidsdotter et al., 2015; Schrank et al., 2016) also had a rather strong salutogenic intervention content. Both were RCTs and revealed effects on the SOC from before to after intervention. The RCTs of Forsberg et al. (2010) and Sancassiani et al. (2017) both had moderate salutogenic content in the intervention. While Forsberg et al. (2010) showed a significant effect on the SOC from before to after intervention, the study of Sancassiani et al. (2017) did not affect SOC.

People with Physical Problems and Hospital Patients

An RCT (Bringsvor et al., 2018) among persons with chronic obstructive pulmonary disease used the SOC as a secondary outcome. The self-management intervention, "Better living with chronic obstructive pulmonary disease," aimed to increase the participants' consciousness of their potential, their internal and external resources, and their abilities to use them, and thus to improve their self-management capabilities in the context of everyday living. The intervention was ongoing once a week (2 hours) over 11 weeks and treatment as usual along with the new intervention. A salutogenic orientation was incorporated into group conversations. This orientation included a focus on the SOC; understanding, manageability, and meaningfulness (L), and on emphasizing health as a continuum focusing on resources for health (GRRs), the person's history (WPA), the understanding of tension and strain as potentially health-promoting (ST), and active adaption (A), as described by Langeland et al. (2007). Motivational interviewing (MI), congruent with improvement in self-efficacy, enhanced activation for self-management, and a salutogenic approach was used as interaction styles. All salutogenic criteria seem to be fulfilled. The

intervention group ($n = 92$) had no significant changes in the SOC compared to the control group ($n = 90$) after 12 weeks.

Another RCT study (Graziano et al., 2014) among persons with multiple sclerosis, with the SOC as a secondary outcome, included intervention sessions held in a castle surrounded by a park (GRRs). The topics of the four sessions were as follows: identity change and redefinition following the diagnosis of multiple sclerosis (SRRs), life goals that gave people a sense of coherence before the diagnosis and life goals that might give a sense of coherence after the diagnosis (L), the definitions of new, realistic, and personally meaningful goals in life, strategies to reach goals and behavior evaluation (WPA); the promotion of self-efficacy over symptoms, the management of negative emotions related to the illness; positive, negative, and illusory thinking related to the illness; effective communication and the ability to ask for help (A) and also homework. Thus, a total of four of five of the salutogenic criteria seem to be fulfilled. The study found that the SOC increased in the intervention group ($n = 41$) compared with the control ($n = 41$) after six months from before to after intervention, though the differences were not significant.

Nøst, Steinsbekk, Bratas, and Gronning (2018) report on their RCT among adults with chronic pain with the SOC as a secondary outcome. It included an intervention group that was a group-based chronic pain self-management course with 2.5-h weekly sessions for six weeks comprising cognitive and behavioral strategies (SRRs) for pain management, movement exercises, group discussions, and sharing of experiences among participants (L). The course addressed central self-management skills such as goal setting, action planning, and problem-solving and focused on empowering the participants to play an active role in their healthcare (A). The course emphasized group discussions and sharing of experiences among participants. The salutogenic content fulfilled three of the five criteria. The study found no significant differences between the intervention ($n = 60$) and control ($n = 61$) group after 6 weeks (before to after intervention), 6 months, and 12 months.

An RCT (Jensen et al., 2016) among intensive care units survivors with the SOC as a secondary outcome included an intervention that was a nurse-led individualized intensive care units recovery program. The program was based on literature and theoretical approaches toward psychological recovery, including the salutogenic model, illness narratives, person-centered communication, and elements from guided self-determination and trauma-focused cognitive behavioral therapy (SRRs). The recovery program consisted of three consultations conducted by trained study nurses. The first consultation was conducted at the clinic with the patient and close relative at 1–3 months post-intensive care units. The dialogue focused on past and present as the patient was supported in constructing an illness narrative (A and L). A prerequisite for dialogue was the provision of patient photographs taken by intensive care units nurses during recovery. Second and third consultations at 5 months and 10 months post-intensive care units were conducted by telephone. Patients prepared by completing "Reflection sheets" indicating issues of importance to the individual (L). A total of three of the five were assessed to be fulfilled. The results revealed no significant changes between the intervention ($n = 136$) and control ($n = 196$) group in the SOC after 3 months and 12 months.

A cognitive behavioral therapy (CBT) program was investigated in an RCT (Malm et al., 2018) among atrial fibrillation (AF) patients where the SOC was a secondary outcome. The CBT program consisted of three 2.5-hour group sessions over nine weeks, with four to six AF patients, including spouses. In these sessions, participants were trained to be aware of their breathing, and heart rate variability biofeedback was demonstrated. In brief, patients in the first session tried to identify and stop unpleasant feelings and negative thoughts that led to cognitive distortions. Positive psychology (SRRs) was focused upon in the second session. In the final session, the patients were taught to work smarter rather than harder (L). Each subsequent session included at least a 15–20-minute mindfulness practice (SRRs) that targeted the different foci, for example, heart focus, and heart breathing guided by the therapist. This was followed by an inquiry about the participants' experiences during practice, as well as encouragement to practice at home daily (A and L). A total of three of the five Salutogenic criteria seems to be fulfilled. The study found that the SOC improved in the CBT group ($n = 56$) after the 12-month follow-up, compared to the TAU group ($n = 55$).

A controlled clinical trial (Dehnavi et al., 2019) among persons with MS and with the SOC as primary outcome included an intervention that was a 12-session unity-focused psychodrama therapy plan for six weeks. It consisted of a description of psychodrama and its techniques, unity-oriented psychology theory, rules, building confidence and training the participants to exercise talking skills, establishing a dialogue and presenting a problem (A), concentration exercises using nonverbal ways to express awareness of emotions, getting familiar with concepts of "unity in diversity" and "diversity in unity," getting familiar with the language of body and soul and the dialogue of soul and body in the form of psychodrama for unity-oriented connection to the universe (L and WPA), practicing death awareness for understanding the immortality of the soul, and emotional and mental linkage with the source of being (L). The intervention fulfills four of the five salutogenic criteria. The results revealed significant differences between the intervention ($n = 10$) and control ($n = 10$) group on the SOC two months after the completed intervention.

Another follow-up study with a control group (Hirsikangas et al., 2018) with the SOC as a secondary outcome included

frequent attenders (FA) to their general practitioners. They had different physical diseases. The intervention included the following: FAs individualized care plans, assessment of FAs care needs and resources, coordination of multi-professional services, and support of FAs in self-management. The intervention emphasized the continuity of care and building a confidential care relationship (A). It also included a patient-oriented education (L), active self-management support (A), and patient's capabilities (SRRs). FAs had an individual, customer-oriented plan in two years, and FAs visited with their matron concerning all of their health-related issues. A total of three of the five salutogenic criteria seems to be fulfilled. There was no significant differences between the intervention (n = 285) and control (n = 177) groups and the SOC decreased after two years.

Among persons with type II diabetes mellitus, with the SOC as the primary outcome, Odajima, Kawaharada, and Wada (2017) have performed a follow-up study with a control group. The intervention comprised four 30-minute group sessions and was delivered by experienced nurses. The specific types of support were as follows: The educational goal of the first session included (1) promoting mutual understanding among participants (A), (2) sharing feelings during care (A), and (3) understanding the meaning of enhancing the SOC (L). The educational content of the first session covered: (1) feeling burdened by the disease and treatment, (2) how patients have managed their diabetes to date, (3) what patients learned after diabetes diagnoses (L), and (4) SOC. A total of three of the five salutogenic criteria seems to be fulfilled. The results revealed significant improvement in the SOC in the intervention group (n = 21) compared to the control group (n = 19) after two weeks.

A prospective intervention study with a control group (Norrbrink Budh, Kowalski, and Lundeberg 2006) among patients with spinal cord injury and neuropathic pain consisted of a pain management program that had the SOC as a secondary outcome. It included 20 sessions over ten weeks and with educational sessions, behavioral therapy, relaxation, stretching, light exercise, and body awareness training (SRRs). The sessions included training in mindfulness, attention-diverting strategies, cognitive reappraisal, social skills training, the pacing of activities, homework assignments, goal setting, and meeting with a role model (A and L). A total of three of the five salutogenic criteria seems to be fulfilled. The SOC increased significantly in the intervention group (n = 38) compared to the control group (n = 11) at 12 months' follow-up.

A one-year follow-up study (Fagermoen et al., 2015) among 68 persons with morbid obesity with the SOC as primary outcome consisted of a patient education course over a period over 9–12 weeks that consisted of 40 hours. The intervention was grounded in cognitive behavior theory and emphasized the participants to discover resources and strengthening self-image (A, L, and SRRs). It included lifestyle changes, individual action plans, guided reflections, self-help groups, and physical activity (L, SRRs, and WPA). A total of four of the five salutogenic criteria seems to be fulfilled. The results revealed a significant improvement in the SOC after one year.

Another follow-up study (Langeland et al., 2013) among 254 adults with psoriasis with SOC as the primary outcome was a study on 3-week climate-therapy patient education (healthy lifestyles) and sun treatment. The program consisted of both sun treatment and education (SRRs). Patients received, on average, 80 hours of sun therapy during the stay. Sun exposure was scheduled for each individual per skin type and UV index. Patients were encouraged to bathe frequently in saltwater and to use moisturizing creams. A dermatologist, nurses, and physiotherapist monitored patients and provided individual and group-based education, guidance, and daily training (A and L). The teaching program contained information/dialogue about psoriasis pathogenesis, manifestations, comorbidity, quality of life, and treatment options. The importance of lifestyle choices was emphasized, with a particular focus on physical activity and healthy eating (SRRs). Discussions in smaller groups focused on finding ways to manage psoriasis in daily life. A total of three of the five salutogenic criteria seems to be fulfilled. The results showed positive development of the SOC from before to after the intervention and after three months.

This section included five RCTs, four controlled clinical trials, and two follow-up studies. One of the RCTs (Malm et al., 2018) had a significant effect on the SOC at 12 months follow-up. This study has the strongest design with a good sample size, has a relatively long-term significant effect, and includes a moderate salutogenic intervention. A total of three (Dehnavi et al., 2019; Norrbrink Budh et al., 2006; Odajima et al., 2017), of the four clinical controlled trials, had significant improvements in the SOC. However, these studies have a weaker design and small sample sizes, and the effect was measured from before to after intervention except from the study of Norrbrink Budh et al. (2006) that included a 12 months follow-up and Dehnavi et al. (2019) that had a two months follow-up. Both the follow-up studies (Fagermoen et al., 2015; Langeland et al., 2013) showed significant improvements in the SOC at 12 and 3-months of follow-up, respectively. The studies of Dehnavi et al. (2019) and Fagermoen et al. (2015) had the strongest salutogenic content.

Elderly People

An RCT (Arola et al., 2018) among 131 older immigrants with the SOC as a primary outcome included an intervention aimed at creating regular encounters where participants

support one another to make health-supporting decisions in daily life. It consisted of "senior meetings" with follow-up home visits. The meetings were organized by an interdisciplinary group of professionals, where each professional was responsible for one meeting and one follow-up home visit. A written booklet in the participants' native language supplied written information about health-related issues as a specific resistance resource (SSR). The topics and focus of the meetings were directed by the experiences and needs of the participants, such that the themes varied according to participants' preferences. This allows participants' active adaption (A). The interventions used a person-centered approach and focused on the person as an individual beyond any diagnoses or illnesses and thereby fulfill the criterion of the whole-person approach (WPA). Peer learning was adopted to support the awareness of health resources in daily life among participants. Social support, sharing of knowledge, and experiences about health further provided important resources (GRRs). Peer-learning and home visits created better opportunities for the individual to transfer knowledge in daily life. Thereby the intervention also fulfills the criterion of strengthening the SOC by learning processes (L). This program thus fulfills four of the five criteria of a salutogenic intervention.

The study found a significant change in the intervention group (n = 56) compared to the control group (n = 75) at six months and no significant differences between groups 12 months after the intervention.

A second RCT (Ericson et al., 2018) among healthy 32 women (ages 65–70 years) with the SOC as a primary outcome included resistance training (described in Strandberg et al. (2015)) in the intervention. It was conducted for 24 weeks. The exercises performed in the gym were squats, leg extensions, leg presses, seated rows and pulldowns, squat jumps, and core stability exercises. The intervention met two criteria of a salutogenic intervention: it provided access to physical activity and social support (GRRs) and it requested active participation (A). The results showed no significant difference between the intervention (n = 14) and control (n = 18) group on the SOC from before to after intervention.

Kekäläinen, Kokko, Sipila, and Walker (2018) report on their RCT among older adults with the SOC as a secondary outcome. The 9-month resistance training intervention consisted of different exercises for different muscle groups. In the first phase, all training groups attended supervised resistance training twice a week for three months. For the following six months, they continued training with different frequencies (1, 2, or 3 times per week). This intervention meets two criteria of salutogenic interventions. It provides active involvement of participants (A) and access to GRRs (physical well-being and activity, social contacts). The results revealed significant effects on the SOC in two of the three intervention groups (n = 26, 27, 28 respectively) compared to the control (n = 25) group from before intervention to after intervention.

Hourzad, Pouladi, Ostovar, and Ravanipour (2018) conducted an RCT among the elderly with chronic diseases using the SOC as a secondary outcome. The intervention, an empowerment self-management program, lasted eight weeks and aimed at improving participants' health, preventive behaviors, self-esteem, self-care behaviors, compliance with the long-term use of medication, the understanding of changes (in physical, mental, and social abilities), and the ability to manage stressful events. The intervention included five stages:

1. Self-awareness of changes, personal level of performance, and expectations: Participants evaluated the extent of changes in their physical, mental, and social abilities after retirement. They assessed the status of their performance, autonomy, adaptation to the existing conditions, and support resources, and they determined their expected level of performance after the intervention.
2. Goal setting: Participants defined a set of goals, the available supporting resources, and the possibilities for changing or modifying those resources toward the development of a set of strategies.
3. Planning: Based on the developed goals, a plan was drawn that incorporated the recommendations of the participants, available resources, and the program leader's expertise in an empowerment model. Stages 1–3 were conducted in two sessions of 45 minutes each.
4. Adjusting physical, psychological, and social structures: The participants were then requested to implement the defined strategies of their plan within six weeks during which the intervention team followed up their progress by phone on a weekly basis. Aims and strategies varied among participants and covered a wide range of topics, such as to learn how to receive timely information from the medical care system on various aspects of their disease, to learn new skills to compensate for their shortcomings, to learn how to handle available resources to maintain their health, to gain new empowerment skills (e.g., pottery, fishing, or other leisure activities), to preserve their role in the family, and to communicate effectively with those around them. In support of the implementation phase, the participants were advised to use the educational booklet and could freely call the intervention team by phone to clarify questions.
5. Evaluation: Program leaders conducted a follow-up evaluation over six weeks to ensure proper implementation of the proposed program and interventions. Participants who did execute less than 40% of the specified measures were excluded from the study program.

This intervention covers four criteria of salutogenic interventions, providing specific and general resistance resources (SRRs, GRRs), active involvement of participants (A), and a learning process (L). The intervention group (n = 29) revealed significant improvements in participants' SOC compared to the control group (n = 29) in routine care after eight weeks (before to after intervention).

An individually tailored, 12-week strength-power training program was investigated in an RCT (Pakkala et al., 2012) among 60- to 85-year-old people with hip fractures. The SOC was a primary outcome. The intervention consisted of resistance training for 12 weeks, conducted twice a week in a senior gym, and supervised by an experienced physiotherapist. Training intensity was adjusted individually and, when tolerated, increased progressively throughout the training period. The assessment was repeated in weeks 6–8 and training resistance adjusted accordingly. The assessment with the criteria for salutogenic interventions showed that two criteria were met: physical activity and individual support as GRRs and active participation in the intervention program (A). It found no significant differences between the intervention (n = 24) and control (n = 22) groups from before to after intervention.

An RCT (Sundsli et al., 2014) was conducted with 30 older home-living persons with the SOC as a secondary outcome. The intervention to improve self-care included a meeting with health professionals and additional five telephone talk sessions about self-care. The self-care talks captured topics such as practicing healthy habits, building self-esteem, focusing on the positive, communicating, and building meaning. It addressed GRRs (healthy habits, self-esteem, building meaning), fostered active participation (A), and induced a learning process (L). Accordingly, the intervention met three of the five salutogenic criteria. No significant differences between experiment (n = 15) and control (n = 15) groups after 19 weeks were found.

The Resource Enhancement and Activation Program (REAP) was investigated in an RCT (Tan et al., 2016) among older people in the community with the SOC as a primary outcome. The intervention included a 12-week (twice-weekly participation) program that was offered at community clubs and senior activity centers. REAP focuses on motivation, personal responsibilities, physical activity, and social and environmental impacts on health behavior. Through REAP, older people could review available external resources (e.g., public and health policies, neighborhood exercise facilities and groups, family and friends) and internal resources (e.g., values, assertiveness, self-efficacy skills). The rating with the salutogenic intervention criteria scored relatively high for this intervention since it addressed four salutogenic criteria: the person as a whole (WPA), fostered active involvement (A), facilitated a learning process (L) and it provided access to resources (GRRs, SRRs) such as motivation, personal responsibilities, physical activity, and social coherence. It promoted the understanding of external life challenges of older people (e.g., health, dependence care, and death) and the understanding of their personal beliefs, thoughts (e.g., new roles), and emotions (e.g., stress). The results showed significant differences between experiment (n = 32) and control (n = 32) groups from before intervention to after intervention.

The only intergenerational program related to the SOC (primary outcome) we found was reported in a follow-up study with a control group by Murayama et al. (2015). The intervention educated and engaged senior volunteers in picture book reading projects with preschool and school-aged children in educational settings. The rating based on the criteria showed access to GRRs (significant and meaningful contribution to society, social contacts, emotional and intellectual activation) and an active adaptation of participants (A). It found significant differences between the intervention (n = 26) and control (n = 24) groups in the SOC after nine months, one year, and two years after the intervention. However, the sample size was limited after two years (intervention group, n = 6, Control, n = 15).

Addressing self-management and following a similar proceeding as Hourzad et al. (2018), the intervention investigated by Musavinasab, Ravanipour, Pouladi, Motamed, and Barekat (2016) was addressed to a group of elderly with cardiovascular disease. The clinical trial conducted by the authors used the SOC as a primary outcome. The intervention (three to four months) consisted of five steps based on the self-management empowerment model. This included self-awareness of changes and an understanding of the levels of performance and expectations of themselves, the individuals, knowledge of changes in physical capacities in psychological and social capacities, the level of adaptation to the current situation, support resources, and the elderly's expectations of themselves (A, L and SRRs). Further, optimum goal setting, enhancing the autonomy to perform self-care behaviors, and improving the individual's understanding and knowledge of the changes in his/her physical, psychological, and social capacities (WPA) were given attention. The intervention fulfilled four of the five salutogenic criteria. The study revealed significant differences between the experimental group (n = 50) and control (n = 50) groups from before intervention to after intervention.

This section included seven RCTs and two controlled clinical trials. A total of four (Arola et al., 2018; Hourzad et al., 2018; Musavinasab et al., 2016; Tan et al., 2016) of the studies (three RCTs and one controlled clinical trial) fulfilled four of the five salutogenic criteria and all reported a significant effect on the SOC from before to after intervention. The controlled clinical trial (Murayama et al., 2015) fulfilled two

of the criteria and showed effect after two years. However, the sample size was limited after two years and the design was weaker. The RCTs of Kekäläinen et al. (2018), Ericson et al. (2018), and Pakkala et al. (2012) included all two salutogenic criteria, and Kekäläinen et al. (2018) revealed significant effect and the two other no significant effect from before to after intervention. The RCT of Sundsli et al. (2014) included three salutogenic criteria in the intervention and revealed no significant effect on the SOC.

Interventions on Other Topics

A follow-up study (Edwards, 2006) among 26 exercisers at health clubs, with the SOC as a secondary outcome. The intervention was physical exercise for two to six months. Regular exercise was defined as meeting the criterion of exercising for an average of 30 minutes a day at least three times a week. The following salutogenic criteria are fulfilled: the GRRs (physical activity), active adaptation (A), and learning (L). The result shows significant improvement in the SOC from before to after intervention.

A follow-up study (Heggdal and Lovaas, 2018) among 108 people with different long-term physical and mental illnesses with the SOC as primary outcome found no significant changes in the total SOC score in the whole sample. The intervention, the Bodyknowledging Program, consisted of seven sessions stretched over four months. Bodyknowledging can be defined as a fundamental process for the development of personal knowledge about one's own body, coping skills, health, and well-being. It was conducted in 3-hour group sessions involving eight to ten persons living with different kinds of long-term conditions or in a 1.5-hour individual format with the same content. The following salutogenic criteria seem included: SRRs, WPA, A and L.

This section, including two follow-up studies, shows two different kinds of studies. Edwards (2006) has a rather simple intervention with a small sample and a rather weak salutogenic content and revealed significant improvement in the SOC. The study of Heggdal and Lovaas (2018) includes a rather strong salutogenic content in the intervention. However, there was no significant improvement in the SOC.

Discussion

This scoping review has included 41 intervention studies with SOC as the primary or secondary outcome. We developed and agreed upon five criteria for assessing the extent of salutogenically oriented content in the interventions. In addition, we explored the development of the SOC in all intervention studies.

The Extent of Salutogenic Content in the Interventions of the Different Studies

The analysis of the salutogenic orientation in the interventions was justified by the assumption that a match between the content of the intervention and the desired outcome will improve the latter (Coster, 2013). The outcome must be sensitive and compatible with the intervention to catch the eventually change among participants. It is reasonable to think that whether the SOC might change depends on the quality of the intervention such as fulfilling the criteria for salutogenic interventions, sample, duration and intensity, and the match with the outcome SOC.

Most of the studies have implemented interventions that have multiple strategies, including many different variables and might be defined as complex interventions (Bleijenberg et al., 2018). Accordingly, the interventions, therefore, represent a broad causal concept, including several elements, aims, and intentions.

Further, most interventions provided several GRRs/SRRs, and there was a broad range of different resources for promoting the SOC: for example, group climate, high quality of social support, physical exercise, sailing, music, cultural activities, relaxation exercises, emotional regulation, increased knowledge and ability to use it, increased meaning in life, the consciousness of and use of internal and external resources, and improved action competence.

Also, the included interventions vary in their topics, target groups, and duration. The longest intervention period was 15 months (Bronikowski and Bronikowska, 2009) and the shortest intervention period was two weeks (Odajima et al., 2017).

All the interventions in the included studies fulfilled at least two of the five criteria to be defined as salutogenic (Cf. Table 20.2). However, only three studies fulfilled all five salutogenic criteria. These studies explicitly describe and include the basic philosophical assumptions, the main concepts, and crucial spheres to keep or promote meaning (Bringsvor et al., 2018; Højdahl et al., 2015; Langeland et al., 2006). All interventions included the criterion of active adaptation. Although many of them did not mention active adaption explicitly, active adaption was included due to all interventions requiring active adaptation for people to participate. Had we adopted the criterion more strictly, in the sense that participants have to be allowed to influence the content of the intervention, fewer interventions would fulfill the requested level of active adaptation. The key to active adaptation and learning is that all human beings have to actively adapt to inevitable stressful rich environment and seek for useful inputs that create negative entropy and thus might promote coping (Antonovsky, 1987). All the interventions had a more or less strong focus on GRRs and/or SRRs.

Almost all interventions fulfilled the criteria of learning (L). If the participants experienced load balance or appropriate challenges, learning is key. It has, however, been difficult to assess to what degree participants have experienced appropriate challenges. In all interventions, participants have an active role and adapt, but it is unclear whether they experience load balance or appropriate challenges or overload/underload. The number of dropouts in the different studies might indicate overload. However, to systematically assess dropouts is beyond the scope of this review.

A few studies (Bringsvor et al., 2018; Højdahl et al., 2015; Langeland et al., 2006) have explicitly applied the salutogenic view of stressors that includes that stressors and tension might be salutogenic (Cf. criteria 4), neutral, or pathogenic.

Change and Development of the SOC in Different Life Situations

The periods of follow-up measures in the studies reviewed vary remarkably (cf. Table 20.2). A total of 29 of the 41 included studies just include measurements before and after the intervention. The follow-up periods varied between 2 weeks and 15 months. Studies accordingly did not report long-term follow-up measurements. A total of 24 studies report significant improvement in the SOC from before to after intervention. Of these, eight are RCTs (Arola et al., 2018; Arvidsdotter et al., 2015; Forsberg et al., 2010; Hourzad et al., 2018) (Kekäläinen et al., 2018; Langeland et al., 2006; Malm et al., 2018; Nammontri et al., 2013), nine follow-up studies with control group or another intervention group (Bronikowski and Bronikowska, 2009; Dehnavi et al., 2019; Kähönen et al., 2012; Merakou et al., 2019; Murayama et al., 2015; Musavinasab et al., 2016; Norrbrink Budh et al., 2006; Odajima et al., 2017; Sarid et al., 2012), and seven follow-up studies without a control group (Edwards, 2006; Fagermoen et al., 2015; Foureur et al., 2013; Gunnarsson and Bjorklund, 2013; Højdahl et al., 2015; Langeland et al., 2013; Vastamäki et al., 2009).

Further, we have expected that studies that have defined the SOC as the primary outcome would have a higher degree of match between salutogenic content and positive development of the SOC (Coster, 2013). Of the 26 studies that revealed a positive development of the SOC, 14 had the SOC as the primary outcome and 12 had the SOC as a secondary outcome. This might mean that being a primary or secondary outcome does not matter. However, only five studies with the SOC as primary outcome did not find a positive development of the SOC. This issue has to be further explored in future research.

The present review focused on possible changes in the SOC due to interventions. The SOC is conceptualized as a relatively stable, though changeable orientation that – as a consequence of learning processes – generally improves during life. It may be temporarily weakened or strengthened by major live events. Therefore, the possibility of temporary fluctuation of the SOC has to be taken into account: "If one tries to run short-term interventions the result may be confounded by such interventions" (Lindström and Eriksson, 2010, p.46). This might be true for some of the intervention studies described above, especially the follow-up studies without a control group and with short-time follow-up measures. The most solid intervention studies in this review with follow-ups longer than six months are the RCT studies of Arola et al. (2018), Jensen et al. (2016), Langeland et al. (2006), and Malm et al. (2018). However, only the study of Malm et al. (2018) revealed a significant effect on the SOC at 12 months' follow-up. The study included a CBT intervention program that consisted of three 2.5-hour group sessions over nine weeks, with four to six AF patients, including spouses. However, the change in the SOC was rather small.

Further, it is important to clarify what is meant by a major strengthening of the SOC. Antonovsky claims that if a substantial number of people experience a given mode of therapy and improve their SOC score by five points on the average "this is not to be sneezed at" (Antonovsky, 1996a, p.176). Moreover, he also suggests that practitioners can arrange for SOC-enhancing experiences and he writes: "This would be true for any therapeutic mode that facilitates a long-lasting, consistent change in real-life experiences that people undergo" (Antonovsky, 1987, p.126). Many of the interventions in the present study revealed significant changes above four points from before to after intervention (cf. Table 20.2). However, only one of the studies with the long-term positive development of the SOC revealed changes above five points (Fagermoen et al., 2015). However, the study of Fagermoen et al. (2015) had no control group.

The Effect on Participants' SOC According to the Interventions' Salutogenic Orientation

RCT studies based on Antonovsky's basic salutogenic orientation, in which the SOC is defined as the primary outcome, shows significant improvement will support the assumption that salutogenesis has contributed to the effect. In salutogenic intervention studies, the process that may lead to change the dependent variable, SOC, might, for example, be explained as follows: Through empowering dialogues, based on the salutogenic principles including comprehensibility, manageability, and meaning, with focus on crucial life spheres, resistance resources, and appropriate challenges (balance between overload and underload), the participants may increase their awareness of their potential, their internal and external resources (increased imaginable competence and manageability), and their ability to use them. Thus, they might learn to use salutogenic coping mechanisms more

consciously and move toward more comfortable and creative inner adjustment and growth, productive use of emotional energy, more joy, generosity, and more reciprocal interaction with others. In this way, they may have developed their salutogenic capacity and, subsequently, their well-being.

Several recent in-depth studies have started to shed light on salutogenic processes demonstrating in detail how the activation of GRRs in everyday life contribute to strengthening the SOC (Langeland et al., 2016; Maass et al., 2017). For example, studies have found that incorporating sessions dedicated to self-examination and coping, such as through the use of narrative therapy may strengthen self-identity (Langeland and Vinje, 2013; Langeland et al., 2007). Further, studies show how professionals can improve the "Sense of Coherence" of the people they work with through the dimensions of the Sense *for* Coherence (Meier Magistretti et al., 2019; Meier Magistretti et al., 2016).

Some studies possibly are of special interest because they revealed positive development of the SOC six months or longer after the intervention was completed. The follow-up study of Fagermoen et al. (2015) revealed significant development of SOC 12 months after course completion. The intervention consisted of 40 hours for 9–12 weeks, with a sample of people suffering from morbid obesity. The intervention fulfilled four of the five salutogenic criteria. Further, the follow-up study of Gunnarsson and Bjorklund (2013), about adults with different psychiatric diagnoses, showed a significant positive change in the SOC three years after completed therapy and also included a strong salutogenic content (four criteria) in the intervention. In addition, a prospective intervention study with a control group of (Norrbrink Budh et al. 2006) among patients with spinal cord injury and neuropathic that included 20 sessions over 10 weeks, fulfilled 3 salutogenic criteria. The SOC increased significantly in the intervention group ($n = 38$) compared to the control group ($n = 11$) at 12 months of follow-up. However, the sample sizes were small and the significant difference was mainly due to the decrease of the SOC in the control group.

Furthermore, an RCT (Malm et al., 2018) among atrial fibrillation (AF) patients included a CBT intervention program consisting of three 2.5-hour group sessions over nine weeks. A total of three of the five salutogenic criteria seems to be fulfilled. The study found that the SOC significantly improved in the CBT group after the 12-month follow-up, compared to the TAU group. Murayama et al. (2015) follow-up study with a control group revealed significant differences between the intervention ($n = 26$) and control ($n = 24$) groups in the SOC after three months, one year, and two years after the intervention. However, the sample size was limited after two years (intervention group, $n = 6$, Control, $n = 15$). It fulfilled two of the salutogenic criteria.

The two RCT studies (Arola et al., 2018; Langeland et al., 2006) revealed a significant effect from before to after intervention that lasted for six months. The interventions in these studies had a strong salutogenic content fulfilling respectively four and five salutogenic criteria. However, at 12 months of follow-up, the positive change in the SOC was not significant any longer. It is important, though, to take into consideration the samples of older immigrants and people with long-term mental health challenges, respectively. It is reasonable to believe that these groups need follow-up interventions to keep and/or strengthen the improvement of the SOC.

Most of the interventions fulfill three of the five salutogenic criteria and preliminary we might suggest that it seems that there is not any strong relationship between the extent of salutogenic content and the effect on the SOC. However, we have based our assessment on what has been written about the interventions given and we do not know to what degree this has been implemented and how the participants have experienced the intervention.

Accordingly, we need more studies and knowledge on these issues by performing in-depth interviews among health professionals and participants.

Strengths and Limitations

Searches have been performed on different databases twice. To the best of our knowledge, all available English-language papers that fulfill the inclusion criteria have been included.

The present review has included articles in English. This means that papers with intervention studies with the SOC as an outcome in other languages such as German or Polish have been excluded.

Some methodological limitations need to be considered. The outcome of the SOC (cf. Table 20.2, last column) has been reported in different ways in the different studies. Most of the studies report the SOC-scale scores and p-values. However, others report only the change scores (difference) or CI or p-values. The degree of detail and accuracy of the descriptions of the interventions varied among the studies in this overview. Some interventions were explained in detail in a separate paper (cf. Table 20.2). It has also been challenging that the papers do not explicitly describe the content of the control group. Some describe it as treatment as usual and do not clarify what it is. Some do not comment on the control group. Besides, some RCTs and controlled clinical trials do not report whether the experiment group has received the intervention of the control group in addition to the new intervention.

We have assessed the different interventions according to our criteria for salutogenic interventions. To our best knowledge, only a few scholars (Álvarez et al., 2020; Polhuis et al., 2020) have tried to develop criteria, but we believe we have further elaborated existing criteria integrating the theory

and findings of Antonovsky (1987), Langeland et al. (2006, 2007), and Langeland and Vinje (2013).

Implications for Further Research

This scoping review reveals that we need to further unravel what salutogenic interventions entail and study their effectiveness and develop salutogenic interventions that at least fulfill the five salutogenic criteria. It is reasonable to think that more specific salutogenic interventions, including health promotion aims, are likely to make the SOC and other relevant salutogenic outcomes more sensitive for change.

Also, we need several longitudinal salutogenic intervention studies with larger samples size and stronger research designs such as RCTs to increase the knowledge about the SOC's ability to change in the long run.

Conclusion

This overview indicates that it is possible to improve the SOC in the whole life course among different groups. Health promotion professionals (Cf. Langeland et al., 2021) should therefore work person-centered and resource-oriented with a focus on the SOC in different challenging life situations and thus arrange for people to come into a positive interplay between different resistance resources and the SOC to improve health (especially mental health) and well-being.

This review also reveals that there is a dearth of longitudinal RCT studies, including salutogenic interventions in the life course with SOC as an outcome. Overall, the chapter indicates that it is possible to improve the SOC in different challenging life situations if pre- and post-intervention states are compared. However, we lack studies measuring long-term outcomes, and we don't know if the progress in strengthening the SOC is long-lasting. The interventions aiming to strengthen the SOC seem to comprehend at least three qualities: they facilitate access and use of GRRs and/or SRRs, they foster active adaptation of participants, and they induce a learning process. To strengthen the salutogenic content, it is important to also include the whole person approach (WPA) and that stressors and tension (ST) might be potentially health-promoting.

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Part IV

Salutogenesis Beyond Health

Salutogenesis beyond Health

21

Shifra Sagy

Aaron Antonovsky was my mentor in the long journey of writing my doctoral dissertation, which was the first to be written using the salutogenic paradigm framework. He was not only my academic advisor but also had a tremendous impact on my life. For me, the salutogenic model is not only a theoretical paradigm, whose genesis I witnessed and later on took an active part in its development. For me, this theory is the basis for a meaningful understanding of my life story, a story that has been embedded in the conflictual Jewish existence in Israel. Aaron and his salutogenic ideas have guided me in this difficult path too.

Aaron Antonovsky enriched us with a unique, challenging model, which had high levels of comprehensibility, manageability, and especially meaningfulness. When he passed away 25 years ago, I wondered whether, and perhaps how, the model would be developed after him. To witness today, the rich and active development of the model is deeply exciting. Thus, I am truly enthusiastic about taking part in this endeavor—the second edition of *The Handbook of Salutogenesis*—and especially pleased to edit this part dealing with new developments and creative advancements of the theory.

It was very tempting to continue Antonovsky's way by using his strict guidelines for salutogenic research. However, Aaron also taught me that "it is wise to see models, theories, constructs, hypotheses, and even ideas as heuristic devices, not only truths" (Antonovsky, 1996, p. 246). The chapters included in this part of the handbook represent good examples of following this advice.

In Chap. 22, my colleague Adi Mana and I ask how to broaden the salutogenic paradigm's scope into an interdisciplinary framework and include other social concepts in its research. As one example of such interdisciplinary research, we review some new studies in conflict areas investigating intergroup relations. By relating to such areas of research, we try to address not only the "classic" question—who copes successfully and stays healthy—but also other salutogenic questions such as "who expresses more openness to *the other*?"

In the 2017 edition of the *Handbook of Salutogenesis*, I suggested that these meaningful questions, stemming from our political and social reality, should be extensively discussed in the framework of salutogenesis. Indeed, since the 2017 edition of the handbook, there has been impressive advancement in this research direction, including the development of new concepts like the sense of national coherence.

The 2020 worldwide outbreak of the COVID-19 pandemic has shaken up lives and transformed perceptions about "normality." As of this writing, the pandemic is stimulating salutogenic-oriented interdisciplinary health research and social research—this chapter reviews some cutting-edge COVID-19 social studies *beyond* health.

In Chap. 23, Stephen Joseph and I propose integrating two paradigms—positive psychology and salutogenesis—and suggest a joint conceptual framework, which we term as "salutogenic positive psychology." Despite the differences between the two movements and their different theoretical roots, we believe that the integrative approach has greater utility in advancing psychological research on mental health and well-being.

The other three chapters in Part IV answer our call for interdisciplinary salutogenic-oriented research and discuss its possible application in three areas.

In Chap. 24, Maass, Kiland, Espnes, and Lillefjord thoroughly discuss the different possibilities of applying salutogenesis in politics and public policy. Politics is one of the upstream conditions that shape our individual lives as well as our society. Thus, asking about if and how salutogenesis can be applied to this field appears to be a most significant subject in Part IV of the handbook relating to salutogenesis beyond health. In all of his writing about his model, Antonovsky emphasized how politics and policies contribute to shaping individual and collective abilities to strengthen

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salutogenic resources. The authors of this chapter approach this issue from the opposite direction, asking, "how can salutogenesis contribute to outlining strategies and structural processes linked to politics and policy-making?" Their creative discussion succeeds in bringing the reader the utility of the salutogenic approach in addressing such issues.

In Chap. 25, Levasseur and Naud discuss some important aging factors that could increase the likelihood of a stronger SOC: aging at home, participation, and social support. In his last paper, Antonovsky (1996) highlighted an example of an intervention among older people, living in their homes, who refused to accept help. He suggested that if researchers had been guided by the salutogenic question of "how to strengthen the comprehensibility, manageability, and meaningfulness of elders," their intervention research could have been much more sophisticated and rich. Levasseur and Naud are addressing this call. In their chapter, they analyze how social support, active participation, mobility, and other factors can strengthen SOC in old age. They also bring some examples of individual and community programs that are already operating within this salutogenic orientation.

In Chap. 26, Golembiewski suggests adding another domain in our life to be viewed through the salutogenic lens: architectural design. In a creative and explorative discussion, the author analyzes detailed and concrete examples and offers ideas on how architecture can advance comprehensibility, manageability, and meaningfulness in our lives.

In Chap. 4 of this handbook, we wrote that Aaron taught us that the most meaningful advancement in scientific work is to ask good questions. I trust that our part of the handbook succeeds in relating to this challenge.

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Salutogenesis Beyond Health: Intergroup Relations and Conflict Studies

22

Shifra Sagy and Adi Mana

Introduction

Antonovsky's salutogenic model and its core concept "sense of coherence" (SOC) focus on the ability of individuals to cope with stressors in life and stay healthy. Accordingly, the relationship between SOC and health has received much attention and quite consistent results in research (see Chap. 9 of this book). However, since the paradigm of salutogenesis was introduced within the discipline of sociology of health, the relationships between salutogenesis and other social concepts have been mostly neglected. Unfortunately, until recently, the salutogenic model has almost never been broadened into an interdisciplinary framework. We believe that, at this stage of its development and its wide distribution in the scientific world, the salutogenic paradigm should broaden its scope. In proposing broadening the application of salutogenesis to interdisciplinary research, we may consider disciplines like social psychology, economics, geography, anthropology, or conflict studies. This chapter aims to raise new questions about applying the salutogenic paradigm to research in interdisciplinary fields and to review new studies that have already begun to do so.

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Dilemmas in Broadening Salutogenesis into an Interdisciplinary Framework

Broadening salutogenesis into an interdisciplinary framework raises several core dilemmas. First, we must deal with the questions: Does the salutogenic orientation enable us to deal with other concepts beyond the relationship with health? And if so, how? How can we ask salutogenic questions employing concepts embedded in other disciplines?

Let's start with the first question. In his writing about the development of SOC, Antonovsky wrote extensively about how one's life experiences can influence the strength of one's SOC (Antonovsky, 1987). Actually, in his dealing with this issue – *the origins of SOC* – Antonovsky expressed an interdisciplinary approach by relating to broad-ranging factors like culture, social forces, social position, gender, ethnicity, genetics, or even plain luck (Benz et al., 2014). Indeed, social factors have seldom been studied as predictors of SOC (e.g., Lam, 2007; Sagy & Antonovsky, 2000). Two aspects have mainly been studied: the experience of cultural integration vs discrimination due to being part of a minority group (Ying et al., 2001) and the experience of cultural stability vs instability (e.g., Antonovsky & Sagy, 1986).

Even though this body of research was mostly composed of correlational studies, which leave the direction of causality undetermined, in most of the studies, the suggested direction was that elements related to a variety of social factors should be considered as predictors of SOC.

However, while Antonovsky discussed the other direction of the equation, meaning how SOC can influence life situations, his answer was much less interdisciplinary. He clarified in his work that "a salutogenic orientation, no less than a pathologic one, defines health and disease only in terms of functioning and survival. All that it argues is that the stronger the SOC, the more likely the system, whether individual, family, or society, to function and survive" (Antonovsky, 1991, p. 8). What he meant was that SOC, whose development is influenced by social factors, cannot predict social concepts, which could have a positive or negative connotation.

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Moreover, Antonovsky viewed such social factors as loaded by moral-philosophical problems and as such not inherently within the context of salutogenesis (Antonovsky, 1991). This original conviction of his can partly explain the focus of salutogenic research over almost four decades on the SOC/health hypothesis and why it has not been broadened to include other interdisciplinary concepts as well.

By raising this question, once again, we assume that salutogenesis, 40 years later, is challenged by the call of interdisciplinarity. We believe that researchers can ask salutogenic questions in different areas, not only health and well-being, and perhaps find other salutogenic answers. When we employ an interdisciplinary approach, the salutogenic question would not only be "Who copes successfully and stays healthy?" (Antonovsky, 1987) but also, for example, "Who expresses more openness to the other?", "Who is a social activist who pursues justice in the world"? Or "Who is a peacemaker?" If we broaden the level of our questions, we can ask about salutogenic schools, neighborhoods, or other social institutions, which enhance not only health and wellness but also justice, peace, and reconciliation. The definitions of these concepts can vary over different contexts and cultures, but the question remains a salutogenic one.

Toward Exploring Salutogenic Questions in an Interdisciplinary Framework

Now we arrive at the second part of our review: How can we ask salutogenic questions in an interdisciplinary framework? Relating to this "how" question, we will review some studies, which have already attempted to do so. Previous studies found positive interactions between SOC and the relationships between members of the same community (e.g., for reviews, see Koelen & Eriksson, and Vaandrager & Kennedy in this handbook; Maass et al., 2014; Morton & Lurie, 2013; Teig et al., 2009). This evidence was explained by the well-known relationship between strong social connection or connectivity and enhanced sense of health and well-being (Vaandrager & Kennedy, 2017). However, this explanation brings us back to the SOC/health equation, and we are looking for other equations as well.

Thus, in our attempt to move beyond the SOC/health equation, we decided to explore other equations like SOC/social relations or SOC/political orientations. Several studies have attempted to examine the relationship between SOC and personal traits which could facilitate social relations with out-group members. Feldt et al. (2007) analyzed the relations between SOC and the five-factor model of personality. The results indicate that a person with a strong SOC shows modest positive associations with extraversion, openness, conscientiousness, and agreeableness. Another study (Pålsson et al., 1996) found negative correlations between SOC and the personality traits of avoidance, detachment, hostility, and aggression and positive correlations between SOC and empathy.

In political psychology, SOC was measured as a predictor of different political orientations. No correlations were found, for example, between SOC and attitude scales measuring patriotism, nationalism, and authoritarianism (Renner et al., 2004). However, political attitudes toward peace were found in correlation with strong SOC (Braun-Lewensohn et al., 2015) in a study of Israeli adolescents during a political, violent event, in the context of the Israeli-Palestinian conflict. Adolescents who had a strong SOC had a strong tendency to view the conflict as another challenge in life with which to cope and perceived the conflict as manageable and as meaningful. This study, however, was a one-time, cross-sectional study and its causal interpretation could also be different.

The findings related to the equations of SOC/social relations or SOC/political orientation are quite ambiguous. We trust that more studies should be carried out to support their promising results. The prominent direction revealed in this body of research is that a strong SOC is connected with tendencies associated with positive values, at least in Western society. Are these conclusions that Antonovsky tried to avoid? Perhaps yes. In his lecture in Prague in 1991, he warned of the danger of defining health so that it becomes "...a catchall for anything that you think is good. Health then becomes not a scientific concept, but confused with a set of answers to moral-philosophical problems...the distinction must be made" (Antonovsky, 1991 p.9). Of course, when we broaden salutogenesis to include concepts other than health, we cannot avoid these moral-philosophical questions about values and science. Thus, we have to deal with them while fully recognizing our limitations in making such a distinction.

Sense of Coherence: From the Individual to the Collective Concept

Since attitudes and behaviors toward the other are developed within one's social context, the relationship between SOC and intergroup relations should be explored not only from the individual perspective but also in the supra-system context (Sagy, 2014, 2017). The global perception of the world as coherent does not necessarily mean that people must perceive the entire group they belong to as comprehensible, manageable, and meaningful. Relating to this question Antonovsky suggested: "Quite conceivably, people might feel that they have little interest in national government or international politics, little competence in manual (or cognitive or aesthetic) skills, little concern for local volunteer groups or trade union activity, and so on, and yet have a strong SOC" (Antonovsky, 1984, p. 119).

Van Breda (2001), in his review, based on the concept of "circle of concern and influence" (Covey & Merrill, 2006), explained that people draw boundaries within the objective world – provided those things which fall within the boundaries are considered coherent – the person will have a strong SOC, irrespective of the coherence of things outside the boundaries. Things outside of the circle of concern can be of no importance to that individual. Within the circle of concern is a smaller circle, the "circle of influence," which refers to those things which concern that individual and over which that individual has some influence. By focusing on the area between the two circles (i.e., those things that concern one but over which one has no influence), one creates SOC-reducing experiences, since the situation is not manageable. By focusing on issues within the circle of influence, one is assured of life experiences that are coherent, and in so doing, one can (theoretically) expand the circle of influence. There are cases when a person may have a very small circle of concern and an even smaller circle of influence, yielding a life that is very limited in scope, although potentially high in SOC. This question of boundaries within the objective world brings us to our second branch of research that deals with the role of sense of coherence in intergroup relationships.

The idea that the SOC concept should be broadened to larger levels than individuals has been suggested and discussed by Sagy and Antonovsky (Antonovsky, 1992; Sagy, 1990; Sagy & Antonovsky, 1992). It is beyond the scope of this chapter, however, to include this extensive discussion. Here, we will review some studies that link the SOC of the collective to intergroup and social relations.

Sense of Community Coherence

The concept of sense of community coherence (SOCC) was developed as related to a specific in-group and not to the "global orientation of the world" as it is defined for individual SOC. It constitutes the three components of SOC: comprehensibility, manageability, and meaningfulness (Braun-Lewensohn & Sagy, 2011; Elfassi et al., 2016; Peled et al., 2013; Sagy, 1998; Telaku et al., 2020). Community comprehensibility relates to the perception that life in one's community is predictable, safe, and secure and that one's community is a place that is known and understood. Community manageability relates to the perception that one's community can assist its members, is available to them, and meets their demands and needs. Lastly, community meaningfulness relates to the perception that the community gives meaning to its members, provides challenges, and is worthy of investment and engagement.

Most of the research which investigated the concept of SOCC has focused on its relationship with well-being and mental health, meaning the SOC/health equation. For example, positive relations have been found between a strong sense of community coherence and the level of resilience to stressful events (bomb attacks, a fire disaster) (e.g., Braun-Lewensohn et al., 2013; Braun-Lewensohn & Sagy, 2011). SOCC was found as negatively related to unhealthy behaviors. Elfassi et al. (2016) found significant negative correlations between SOCC and the levels of risk behaviors among Israeli adolescents and claimed that SOCC is a significant protective factor that could be related to decreased involvement in risk behaviors.

Just recently, however, several studies have attempted other equations, seeking to connect salutogenesis and SOC to other social concepts like intergroup relations, openness toward the other, and readiness to reconcile (Mana et al., 2019; Sagy, 2014; Sagy, 2017; Srour, 2015; Telaku et al., 2020). These studies connect the salutogenic paradigm with interdisciplinary models and concepts like social identity (Tajfel, 1981), acculturation (Berry, 1990), conflict studies (Bar-Tal, 1998), or peace and reconciliation (Nadler, 2012). The interdisciplinary salutogenic questions in these studies are: How does a collective with a strong SOC perceive, feel, or behave toward the other? Is the tendency of a group to perceive its world as comprehensible, meaningful, and manageable related to greater openness to the other, or does it involve clinging to rigid in-group identity and less openness toward the other? Is an individual, a group, a collective, or a system with a stronger SOC more likely to live in peace/justice/good relations with their surroundings?

Most of these new studies examined the relationship between SOCC and intergroup relations. The relations between the conflicted groups were examined by the levels of adherence to in-group collective narratives as well as acceptance of the out-group collective narratives. Some of the studies found a relationship between SOCC and acculturation attitudes (Somech & Sagy, 2019; Telaku & Sagy, 2018). One of the studies was conducted among Palestinian Muslims and Christians in Israel (Mana et al., 2016).

The results revealed that strong sense of community coherence (SOCC) was correlated with higher levels of acceptance of the in-group collective narrative and with lower levels of acceptance of the out-group collective narratives. Sense of community coherence was also related to higher levels of a tendency to adopt a separation strategy between the two groups in conflict.

The explanations for all these studies relied on a wide range of models in social psychology which suggest that group members who believe that their own group and its products are superior to other groups are prone to behaviorally discriminate against other groups (e.g., Bizumic & Duckitt, 2009). This notion was well established in the work of Tajfel (1981) who analyzed three cognitive aspects of prejudice:

the process of categorization, which gives shape to intergroup attitudes, the process of assimilation of social values and norms which provides their content, and as a main cognitive aspect which relates to the way individuals react to specific intergroup situations.

Following Tajfel's paradigm, we can interpret the strong SOCC as enabling group members to deal with changes that occur in intergroup situations. In order to deal with these changes, an individual must make constant attributions that help him deal with the new situations in a manner that appears consistent to him and preserves his self-image and integrity. The individual needs to build a cognitive structure which provides him with a satisfactory explanation of the causes of changes.

However, an improved group position is often achieved by using the group's capacity to put another group at a disadvantage and derives largely from biased comparisons on salient dimensions that are favorable to the in-group and unfavorable to the out-group (Brown, 2000; Tajfel, 1981).

Several studies focused on SOCC in the context of inter-religious group relations and international group relations in different social contexts. One was carried out in the context of two religious communities in Israel: ultra-Orthodox and national religious Jews (Somech & Sagy, 2019).

The results of this study indicated the same tendency of connection with openness to the other, while the ultra-Orthodox community exhibited stronger SOCC than their counterparts, as well as a stronger connection of SOCC with separation tendencies. Mana et al. (2020) suggested a mediation model in which the relationships between SOCC and the identity strategies of separation and competition are mediated by the tendency to reject or accept in-group and out-group collective narratives, in the context of intra- and inter-religious conflicts.

They compared the intra-religious conflict between ultra-Orthodox Jews and national religious Jews and the inter-religious conflict between Muslim and Christian Arabs who are Israeli citizens and found that the mediation model was stronger among those groups with a high SOCC (ultra-Orthodox Jews and Muslim Arabs) compared to groups with low SOCC (Christian Arabs and national religious Jews).

Another study (Telaku et al., 2020) related to SOCC and intergroup relations in the context of post-armed conflict between Serbs and Albanians in Kosovo. This study suggested that another factor – subjective experience of interpersonal power – mediates the relationships between SOCC and openness to the other, as measured by perceptions of collective narratives of the out-group and the in-group. The model was confirmed among both Serb and Albanian participants.

This review indicates that sense of coherence at the community level is indeed a salutogenic and health-promoting factor that has a significant role in the ability of community members to cope with threatening situations on the collective level (SOC/health equation). At the same time, however, the studies suggest SOCC as a barrier for positive intergroup relationships in different kinds of conflicts: intractable or periodic, political, ethnic, or religious conflicts.

In all of these conflicts, it appears that SOCC leads the community members to adhere to their own collective narratives and to reject the collective narratives of the out-group and to adopt strategies of separation from the out-group members. Although this process was explored as a linear process, it seems that it could also be circular, and the tendency of the in-group members to prefer their own group members, and their own collective narratives, while rejecting the others, may contribute to their perception of their own community as more comprehensive, manageable, and meaningful. Unfortunately, it seems that this pattern has a long-lasting effect even when the armed conflict is over, like in Kosovo. However, the preliminary evidence revealed that this pattern could be affected by other mediating factors like the subjective experience of interpersonal power. It has also been found to be more effective among groups with stronger SOCC. Exploring individual and group differences that enable group members to act differently could promote new insights to "break this chain" of the contribution of strong SOCC as a barrier to the possibility of openness to the other group and readiness to reconcile in intergroup relationships.

Sense of National Coherence

A wider concept recently suggested by Sagy (2014) relates to the national level, the sense of national coherence (SONC). The salutogenic concept of SONC reflects an enduring tendency to perceive one's national group as comprehensible, meaningful, and manageable.

The main assumption of the researchers who examined this concept is that SONC can provide a deeper understanding of political conflict situations. As such, SONC could be a resource of wellness and health, but, at the same time, it could serve as a potential barrier for a peace process in a conflict area. The first studies related to SONC were conducted in the context of the Israeli-Palestinian intractable conflict (Mana et al., 2020; Sarid et al., in press; Sarid & Sagy, 2015).

The initial results indicate a strong negative correlation between strong SONC and levels of openness to the narrative of the other group. Moreover, levels of SONC among Israeli students before and after a violent period (the Gaza war) indicated an increase in the level of SONC and a significant decrease in willingness to reconcile. The negative correlation between those two variables was stronger after the Gaza war than before it.

The findings suggest that the escalation in the conflict and in violence has an impact on the perceptions of the national sense of coherence and could be a potential barrier to reconciliation. Mana et al. (2019) explored SONC and its relationship with openness to the Palestinian collective narrative among Israeli-Jewish adults. SONC was found to be negatively related to level of legitimization toward the Palestinian collective narratives. This finding replicated previous studies related to SOCC. Moreover, SONC was found to be related to right-wing voting patterns and to religious groupings (Mana et al., 2019).

Research on SONC has moved in different directions beyond the political sphere to educational initiatives. For example, in a work submitted for publication, Agbaria, Mana, Bar-Gera, and Sagy et al., investigated levels of SONC with the aim of explaining behavioral intentions toward driving among young Israeli Jews and Arabs. The findings indicate strong correlations between SONC, behavioral intentions, and readiness to take risks while driving, and to the perceptions of the police as representing justice, especially among the minority group of Arab adolescents in Israel. The results suggest some implications for educational interventions among youngsters before their driving experience.

Salutogenesis and the COVID-19 Pandemic: Sociopolitical Considerations

We are writing this chapter in the midst of the COVID-19 pandemic, which has shaken up lives worldwide and is having strong economic, social, and political impacts in many countries. Naturally, the pandemic has led researchers to ask pathogenic questions about its pathogenic origins and the potential damage. This chaotic global pandemic, however, was also an opportunity to explore salutogenic concepts like SOC and SONC and to understand their roles not only in promoting health but also beyond health, as potential factors in increasing some order out of the chaos. Mana and Sagy, jointly with the Global Working Group on Salutogenesis, conducted some international research (Mana, Bauer, et al., 2021; Hardy et al., 2021; Mana, Super et al., 2021; Mana & Sagy, 2020). The theoretical basis of the salutogenesis, and its fundamental philosophical postulate that the world is chaotic in its nature, was an appropriate basis for these studies.

We revealed the important role of the salutogenic concepts of SOC and SONC in predicting higher levels of mental health and lower levels of anxiety in all of the countries involved in our research from Europe, Israel, and the USA. Beyond this, we sought to understand the social-political situation that has been developed while the acute stressor of the pandemic has become chronic. SONC, for example, was found to be highly related to level of trust in governmental institutions.

This relationship was even stronger among people who voted for the current government (Mana & Sagy, 2020; Super et al., 2020). However, low SONC, as well as low trust in the leadership, was strongly connected to lower levels of mental health. Our preliminary findings reveal that levels of SONC also decreased as the pandemic moved from acute to chronic stress, and the political stability in many countries has been eroded.

These studies could deepen our understanding of the theoretical basis of the salutogenesis. Moreover, these current studies reveal the relationships between sense of coherence at the personal and the collective levels and their role not only in the SOC/health equation but also in social relationships and political processes in the context of the chronic stress, which introduces entropy into the global system.

In conclusion, while there is a broad consensus regarding the contribution of SOC to health and well-being, the role of SOC – both of the individual or the collective – in social relations has been mostly neglected. We maintain that one of the reasons for this neglect is the initial excitement of Antonovsky and his followers about studying the SOC/health connection. Times have changed and interdisciplinarity seems to be the challenge of our era. In this chapter, we have attempted to review the small body of research, which asks other salutogenic questions about the relationship of SOC at the individual and the collective levels to other interdisciplinary concepts.

We believe that more research is needed in order to gain a deeper understanding of these initial answers. Moreover, interdisciplinarity can also lead to employing other salutogenic concepts – rather than SOC – to give answers to salutogenic questions. So we suggest that salutogenic researchers in the future not only ask new salutogenic questions but also develop new salutogenic concepts in the attempt to broaden and deepen our understanding of the paradigm. We hope that this chapter succeeds in posing this new challenge.

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Positive Psychology and Its Relation to Salutogenesis

23

Stephen Joseph and Shifra Sagy

Introduction

The advent of contemporary positive psychology can be traced back to Martin E.P. Seligman's Presidential Address in 1999 to the American Psychological Association (APA). In that address he told his own story of changing direction. Following a moment of epiphany when gardening with his daughter Nikki, he realised that psychology had largely neglected the latter two of its three pre-World War II missions: curing mental illness, helping all people to lead more productive and fulfilling lives and identifying and nurturing high talent. With this realisation, Seligman resolved to use his APA presidency to initiate a shift in psychology's focus towards a more positive psychology (Seligman, 2004). This presidential initiative was catalysed through a series of meetings with both junior and senior scholars who would become the leading voices of the new positive psychology movement, and who began to map out what they saw as a positive psychology research agenda. This was followed by the hugely influential January 2000 special issue of the *American Psychologist* on positive psychology in which Seligman and Csikszentmihalyi (2000) wrote:

> The aim of positive psychology is to begin to catalyze a change in the focus of psychology from preoccupation only with repairing the worst things in life to also building positive qualities. (Seligman & Csikszentmihalyi, 2000, p. 5)

That special issue provided a broad vista of topics that were deemed to be covered under the positive psychology umbrella and included articles on happiness, individual development, subjective well-being, optimism, self-determination theory, adaptive mental mechanisms, emotions and health, wisdom, excellence, creativity, giftedness and positive youth development. From these beginnings over 20 years ago, positive psychology has flourished.

Positive Psychology and Salutogenesis

The positive psychology movement has produced new conceptual frameworks, instruments to measure human strengths and increased interest in topics such as optimism, hope, locus of control, creativity, self-esteem, emotional intelligence, empathy, humour and gratitude (Linley et al., 2006; Lopez & Snyder, 2003). Positive psychologists have also endeavoured to apply this new work in educational, health and workplace contexts (Joseph, 2015a). Moreover, community researchers and public policy planners have suggested transforming positive psychology from an individual level to a societal level as well (Pavot & Diener, 2004).

However, despite the feeling of innovation, it has also become clear that positive psychology has had a much longer past and might even be traced back to the origins of psychology itself, like William James' writings on 'healthy mindedness' (James, 1902). Positive psychology also shares a common heritage with parts of humanistic psychology and the writings of Abraham Maslow and Carl Rogers, in particular. These alternative beginnings to positive psychology are now well recognised (Robbins, 2015). However, much less well acknowledged in positive psychology is the heritage of the salutogenic paradigm first suggested by Antonovsky in his book *Health, Stress and Coping* (Antonovsky, 1979).

At first glance, it would seem that the relatively new field of positive psychology had much in common with the earlier approach of salutogenesis. Interestingly, however, the concept of salutogenesis has received relatively little attention

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within the positive psychology literature. For example, in the 2004 edition of *Positive Psychology in Practice* (Linley & Joseph, 2004), there was no reference to salutogenesis in the book's subject index. Likewise, in the textbook *A Primer in Positive Psychology* (Peterson, 2006), it is similarly not indexed. There are exceptions – such as in Csikszentmihalyi and Csikszentmihalyi's (2006) edited book *A Life Worth Living: Contributions to Positive Psychology* – where a reference to salutogenesis comes half way through the book in the chapter by Antonella Delle Fave of the University of Milan on subjective experience and quality of life (Delle Fave, 2006). Delle Fave briefly notes the salutogenic approach. So it is not that the concept of salutogenesis has been invisible to positive psychologists, but rather that it has not achieved prominence as a framework for theory and research. How can this lack of attention to the concept of salutogenesis be explained? Our answer might be that the salutogenic theory originated in a different discipline than psychology: in medical sociology and – although subsequent applications have been more widespread – the concept has never been fully embraced by psychologists. Nonetheless, there are clear conceptual similarities between Antonovsky's ideas and some of those developed by the positive psychologists (Lutz, 2009).

In this chapter, however, we attempt to reflect on the conceptualisation of positive psychology in light of Antonovsky's theory of salutogenesis. Furthermore, we consider how Antonovsky's core concept, the sense of coherence, provides a new framework for understanding the operation of positive psychology constructs.

Both positive psychology and the salutogenic paradigm challenged mainstream thought about the pathological focus of sociology in the 1970s and psychology in the 2000s, respectively, to consider the resources of healthy functioning. In this regard, both approaches seem to be adopting the same view. However, there was a difference between the two approaches. As clinical psychology had traditionally adopted diagnostic language and a focus on pathology, positive psychology turned its attention to the normal category and positive functioning, and by doing so implicitly condoned the dichotomy between the normal and the abnormal (Joseph & Linley, 2006). Antonovsky's salutogenesis paradigm, on the other hand, offered a new definition of the ease–dis-ease continuum in the medical discipline, thus dissolving the dichotomy between illness and wellness (Antonovsky, 1979).

The argument of positive psychology was that insufficient attention had been paid to the positive side of human experience. The weight of psychological research had been on pathological functioning. This led researchers to turn their attention to strengths of character, talents and abilities and what makes for a healthy and happy life. This new focus challenged the mainstream to shift its attention so that new research would be conducted alongside traditional research. As Folkman and Moskowitz (2003) said:

> …those who advocate the study of positive aspects of psychology do not intend that it replace concern with its negative aspects. What appears to be an overemphasis may instead be indicative of a catch-up phase for an area that has been underemphasised in recent years. (Folkman & Moskowitz, 2003, p. 121)

Such a position provided a clear vision for the investigation of the positive alongside the negative. Csikszentmihalyi (2003), referring to his and his collaborators' pioneering efforts, provided an argument for studying the positive relatively independently of the negative:

> Basically, we intended to do our best to legitimize the study of positive aspects of human experience in their own right—not just as tools for prevention, coping, health, or some other desirable outcome. We felt that as long as hope, courage, optimism, and joy are viewed simply as useful in reducing pathology, we will never go beyond the homeostatic point of repose and begin to understand those qualities that make life worth living in the first place. (Csikszentmihalyi, 2003, pp. 113–114)

Positive psychology has since developed into a distinct discipline in its own right. There have been new handbooks, textbooks and dedicated university-level courses in positive psychology. In addition, there are now biannual positive psychology conferences held by the *International Positive Psychology Association* and the *European Network for Positive Psychology*, together with a host of conference themes and sections dedicated to positive psychology. As such, the momentum of the positive psychology movement seems to be directed towards deliberately studying well-being in and of itself. Despite this, there are some who have expressed concern that to separate the positive aspects of human experience from the negative may be counterproductive (e.g. Pauwels, 2015).

What is potentially more valuable is to understand the relations between the positive and the negative, comprehending that the role of positive psychology should be to transform how we conceptualise human experience.

Indeed, the idea that human experience can be divided into positive and negative is problematic and the use of such terminology unhelpful. Some scholars have explicitly called for the integration of the positive and negative through the application of more humanistic ways of thinking (Joseph, 2015b). In this way, such a positive psychology could transform the agenda of mainstream psychology by looking for ways to dissolve the boundaries between the positive and the negative. In contrast, the danger of positive psychology now is that its existence serves to condone the separation of the positive and the negative. Thus, rather than serving as a transformational force, it maintains the status quo. Seen this way, it seems misleading to talk of positive psychology as challenging the mainstream pathological agenda of psychology. Moreover, by focusing on positive experiences only, it sends out a con-

tradictory message that the positive is separable from the negative, and while worth studying in its own right, the necessity remains for disciplines of psychology committed to the negative. Thus, ironically, positive psychology strengthens the dichotomy between the positive and the negative.

In light of the above discussion of how it is problematic to think of human experience as either positive or negative, it becomes clear then that the concept of salutogenesis offers an alternative basic theory and conceptual framework. In his proposal, Antonovsky (1979) claims that health and illness should be viewed not as a dichotomy but as a continuum. Human environments by their very nature are stressor-rich, whether microbiological, personal, economic, social or geopolitical. As such, the human being inhabits a world in which it is impossible to avoid stressors and the normal state of the human organism is one of entropy, disorder and disruption of homeostasis.

The basic philosophical assumption of the salutogenic theory is that, instead of perceiving the human system as one which is sound unless it is attacked by some pathogen, the human system is viewed as basically unsound, continuously attacked by disturbing processes and elements which cannot be prevented. This basic assumption is different than the basic philosophical premises of much positive psychology.

Salutogenesis challenges the dominant pathogenic paradigm, but in a different way than the positive psychology movement. Rather than thinking about people as either healthy or diseased, it opens the way for thinking about health and disease along a continuum that goes from 'health ease' to 'dis-ease'. In such an approach, no one is categorised as healthy or diseased. All people are somewhere between the imaginary poles of total wellness and total illness. Even the fully robust, energetic, symptom-free, richly functioning individual has the mark of mortality: he/she wears glasses, has moments of depression, comes down with flu and may also have as yet non-detectable malignant cells. Even the terminal patient's brain and emotions may be fully functional. The great majority of us are somewhere between the two poles. Priority in service is justly given to those at the sicker end of the continuum, but all persons become the focus for research and intervention. Wherever they are on the continuum, there is the possibility of further movement towards the healthy pole.

Moreover, assuming that stressors are ubiquitous, and that there is a continuum of ease–dis-ease, our focus shifts from asking how to eradicate this or that stressor to how to facilitate becoming healthier. Thus, salutogenesis offers a brand new challenge to positive psychology to rethink its stance in relation to the negative. It might suggest that positive psychology consider the implementation of its concepts at all points along the spectrum of dis-ease to well-being. To deepen this direction, we turn to Antonovsky's concept of sense of coherence (SOC).

Sense of Coherence and Positive Psychology

Positive psychologists may be more familiar with the SOC concept than with the broader salutogenic theory itself. However, many of them misunderstand it as a personality disposition or as a coping style. Actually, the concept of SOC has been developed as a concept on a higher level of abstraction, as a worldview. It provides us with a powerful concept to predict health (Eriksson & Lindström, 2011), but yet underutilised. What positive psychology still misses is a theoretical framework for understanding how the range of positive psychological variables, such as optimism, gratitude, forgiveness, curiosity and others, that are routinely studied as predictors of health and happiness exert their effect.

It has become apparent in positive psychology that although some concepts seem to be more generally thought of as 'positive' than others, whether or not any such factor is related to well-being depends on the context. To illustrate, a trait such as optimism is generally considered a psychological ingredient that contributes to well-being. It may be that optimistic people are better able to cope with stress, for example. So, in a stressful context, optimism plays a beneficial moderating role. But, in another context, it could be that optimism impedes well-being. For example, more optimistic people may adopt more reckless investment strategies. As such, it is likely that many psychological traits and processes are neither inherently positive nor negative, but only positive or negative in their effect with regard to specific circumstances.

On a different level of abstraction, SOC refers not to a special set of traits or coping strategies but rather to the mediational mechanism through which all other factors exert their influence on health and well-being. Personal and social resources can build comprehensibility, manageability and meaningfulness of any given situation, allowing us to cope with the ubiquitous stressors of life, thus promoting well-being in the never-ending struggle against entropy. On the other hand, those factors that make demands on comprehensibility, manageability and meaningfulness leave us vulnerable to the effects of entropy.

Regarding the development of SOC, Antonovsy (1987) suggested that at a certain age (30 years), people have developed a fairly consistent SOC, although recent studies suggest that unexpected traumatic events can challenge our SOC, requiring us to rebuild a new SOC in light of our experiences (Antonovsky & Sagy, 1986; Bental-Israeli & Sagy, 2010).

In the past two decades, positive psychology has fuelled interest in post-traumatic growth (Joseph, 2011). Post-traumatic growth is a wide-ranging concept, still in development, but to date three broad domains of positive change have been noted that best describe the ways people often report that they have been changed following trauma. Firstly, relationships are enhanced in some way. For exam-

ple, people describe that they come to value their friends and family more, feel an increased sense of compassion for others and a longing for more intimate relationships. Secondly, people change their views of themselves in some way, for example, that they have a greater sense of personal resiliency, wisdom and strength, perhaps coupled with a greater acceptance of their vulnerabilities and limitations. Thirdly, people describe changes in their life philosophy, for example, finding a fresh appreciation for each new day and re-evaluating their understanding of what really matters in life.

Positive changes are widely reported by people following trauma. Using psychometric measures and open-ended interviews, a large number of studies have shown that growth is commonly reported by survivors of various traumatic events, including transportation accidents (shipping disasters, plane crashes and car accidents), natural disasters (hurricanes and earthquakes), interpersonal experiences (combat, rape, sexual assault and child abuse), medical problems (cancer, heart attack, brain injury, spinal cord injury, HIV/AIDS, leukaemia, rheumatoid arthritis, multiple sclerosis and illness) and other life experiences (relationship breakdown, parental divorce, bereavement and immigration). Typically, 30–70% of survivors will say that they have experienced positive changes of one form or another (Joseph, 2011).

Moreover, research indicates that greater post-traumatic growth is associated with personality factors such as emotional stability, extraversion, openness to experience, optimism and self-esteem; ways of coping such as acceptance, positive reframing, seeking social support, turning to religion, problem solving; and social support factors (Joseph, 2011). Such a framework can be applied with the aim of understanding how positive psychological constructs may be beneficial, but the area where this framework seems most clearly applicable is in how people overcome and grow personally following adversity.

A Salutogenic Positive Psychology

The aim of this chapter is to promote bridge building between the paradigm of salutogenesis and the movement of positive psychology, and to suggest a joint conceptual framework of salutogenic positive psychology. We trust that despite the differences between the two paradigms, an integrative approach could contribute to deeper understanding of both approaches.

One contribution of the integrative approach relates to the role of sociological factors in explaining SOC development as well as other positive psychological concepts. In contrast to the common purely positive psychological view, Antonovsky (1991, 1993) attempted, within a systems theory framework, to analyse how *social structures* shape the strength of the SOC. He claimed that to disregard the power of history, the generational experiences of the macro-political events of war and depression, population shifts and revolutions are to disregard the context within which the strength of each of us is shaped. Indeed, early socialisation has been discussed in psychological theories, and experiences in the family have been considered as crucial. But these experiences are themselves shaped by the broader social structure which is usually ignored. Socioeconomic status and educational levels have been shown to be important factors in building strong SOC (Madarasova Geckova et al., 2010; Sagy & Antonovsky, 2000).

The implication of these analyses for salutogenically oriented clinicians could lead to interventions such as active participation in transforming environmental conditions. It certainly seems reasonable to hypothesise that one who sees life as comprehensible, manageable and meaningful is more likely to optimally exploit potential resistance resources. This approach can also help us to theoretically explain why some prevention programmes or health promotion plans tend to work well for some people but not as well for others (Sagy, 2014). Evidence from factor analysis suggests that SOC and well-being, although associated, are distinct constructs (Cilliers & Coetzee, 2003).

As such, we envisage that the relationship between well-being and commonly studied positive psychological constructs such as optimism, gratitude, forgiveness and hope is mediated by SOC. When this has been tested, the evidence is supportive (Lambert et al., 2009). But SOC is also influenced by life experiences and social systems, such that well-being is ultimately the product of trauma and other life events, positive psychology factors and the social structure. However, in each case, the relationship with well-being is mediated by SOC (see Fig. 23.1). Moreover, the possibility exists that each of these relationships is moderated by the other factors, such that, for example, positive psychological factors are only related to well-being in specific social structures or at particular levels of trauma.

Returning to the concept of posttraumatic growth, the salutogenic positive psychology framework could contribute especially well to the understanding of traumatic experience by the interaction of a variety of concepts related to personality, tendencies and strategies of coping together with sociological factors. These different factors could, for example, jointly predict post-traumatic growth, while the SOC could be the mediator/moderator in these interactions. For example, one line of investigation has been to study SOC in therapists who work traumatised clients, showing that those with higher SOC report more positive changes (Linley et al., 2005) and less compassion fatigue and burnout (Linley & Joseph, 2007).

From Fig. 23.1, one can hypothesise that trauma has a shattering effect on the person's SOC resulting in a process of breakdown of these foundational perceptions. It is though

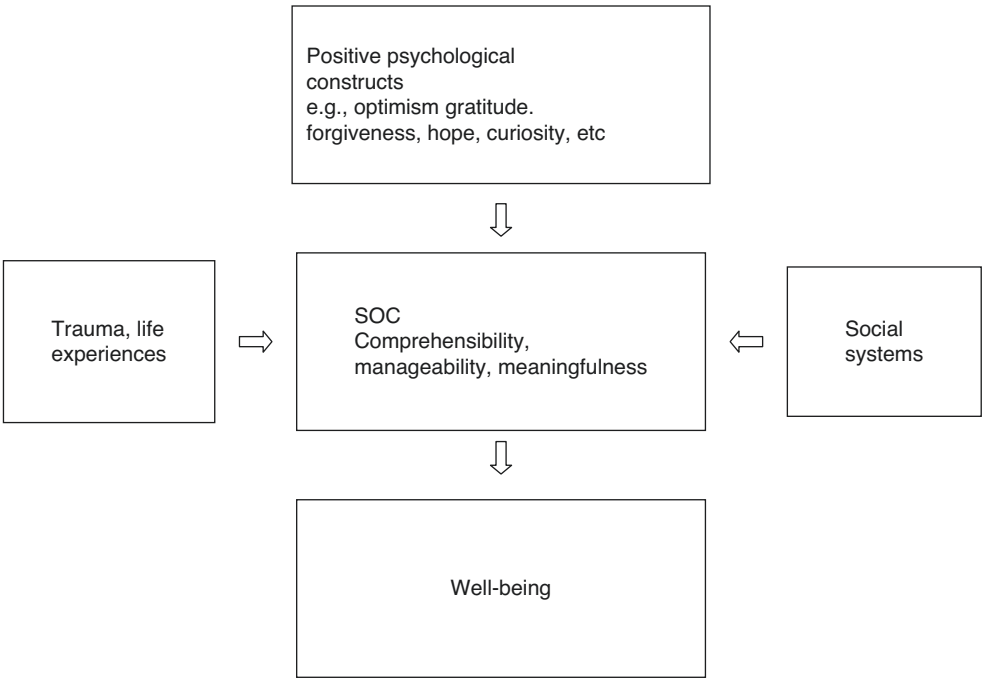

Fig. 23.1 The relationship between positive psychology constructs and well-being is hypothesised to be mediated by SOC

the influence of social systems external to the person and the development of positive qualities within the person that SOC can be re-established – but in ways that are accommodating of the changed circumstances. This process resulting in increased psychological well-being is post-traumatic growth.

Thus, we can view post-traumatic growth as a description of those positive changes that arise through the resolution and rebuilding of the person's SOC and the resultant post-traumatic distress that this process entails. The salutogenic positive psychology perspective allows us to develop an understanding of potential traumatic experiences which integrates post-traumatic distress and post-traumatic growth within a single conceptual framework. This new integrative perspective could also guide clinical practice to develop interventions which promote SOC amongst trauma survivors.

Our point is that SOC offers not so much an additional set of variables alongside those already studied by positive psychologists, but a larger theoretical framework within which to consider the operation of these variables. As others have also argued, SOC can be seen as an inclusive concept (Almedom, 2005).

Conclusion

It appears that despite their different theoretical roots, the integration of the two paradigms – salutogenesis and positive psychology – has stronger explanatory power in promoting health and well-being. We trust that positive psychologists will benefit from a deeper appreciation of the SOC construct in two ways: firstly, understanding how social structures shape the strength of SOC, and secondly, how SOC provides the cognitive mechanisms within the individual that mediates the relationship between positive psychology constructs such as hope, optimism, gratitude and well-being. Finally, there are two ways in which salutogenic researchers can benefit from positive psychology. Firstly, positive psychology offers a new and evidence-based means for putting salutogenesis into practice at both micro- and macro levels. However, the second and most important contribution of positive psychology is in reminding salutogenic researchers that their evaluation of outcomes related to SOC need not be pathological. We need to move beyond outcomes such as the absence of depression, reduction in hostility and the like, to include the presence of happiness, development of empathy and more. In this way, we begin to see greater convergence between the two disciplines and the emergence of salutogenic positive psychology.

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The Application of Salutogenesis in Politics and Public Policy-Making

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Introduction

Politics can loosely be defined as the process of making and executing collective decisions (Hague & Harrop, 2010, p. 442). Political decisions affect every part of our lives, from the distribution of rights and resources, how institutions are run and which goals we pursue as a society, to regulating even personal relationships and family bonds. Thus, politics is one of the upstream conditions that shape our society and set the direction and the pace for how society is developing.

Salutogenesis is concerned about the relationship between societal conditions and health. According to the salutogenic model, health is created and maintained through repeated experiences with societal conditions (Antonovsky, 1987). Health is described along a continuum, ranging from ill-health to perfect health. An individual's position on this scale is heavily influenced by life experiences, shaped by biological, individual, societal and cultural forces sensitive to politics and policy-making (Antonovsky, 1979, 1987). Within public health, there has been a growing consensus that health is political, and that health issues need to be brought into the political arena to advance population health (Bambra et al., 2005; Kickbusch, 2015; Mackenbach, 2014). This is linked to the health determinants depending on political action. Health is understood as a critical dimension of human rights and citizenship (Bambra et al., 2005). Improving the upstream conditions for health demands to address social determinants and how they are shaped and negotiated through political processes (Marmot, 2005).

Within the field of political science and public administration, politics is understood as a continuous struggle for power amongst competing interests (Kickbusch, 2015). This power struggle might occur between and within countries. Politics is also about handling challenges at a societal level. A recent example of the importance of tackling challenges can be found in the Covid-19 pandemic (the Corona crisis); a global, collective threat. The crisis sparked a wave of political reactions, ranging from implementing far-reaching measures limiting people's possibilities and movements to an unprecedented extent, to political leaders denying and even ridiculing the threat. Besides yielding quite different results for the spread of, and the death toll from, the disease, do these variations in political actions also illustrate how competing interests (such as keeping the economy going vs. protecting the population from catching the disease) can hugely influence the outcome of political processes?

In turn, processes, and their interplay with media representations, influence coping at an individual as well as at a community level. On the one hand, trust in authorities and sense of coherence (SOC) emerged as crucial coping resources which reduced the risk of developing mental illness during the Covid-19 pandemic across countries (Généreux, David, O'Sullivan, et al., 2020; Généreux, Roy, O'Sullivan, & Maltais, 2020). On the other hand, false beliefs, mistrust in authorities, stigma, perceived threat and financial loss raised probabilities of ill mental health (Généreux, Roy, David, et al., 2020).

Simultaneously, regardless of what kind of measures were taken (or not taken) in the respective countries, there was protest. Some people in Germany, for example, protested what they perceived as exaggerated measures that deprived them of human rights. Meanwhile, some people in Brazil and the USA asked for more measures to protect the general public and to prioritise health above economic interest. This illustrates the power struggles inherent in political processes: competing interests need to be considered, and solutions that

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are in accordance with one group's interests might be at odds with other groups. Historically, collective challenges often resulted in conflict and division of societies. However, human history, often told as a recollection of catastrophe and conflict, also holds narratives of growth and hope, which helped to prevail and even evolve societies as well as individuals (Bregman, 2020). Also during the Corona crisis, examples of collective challenges bringing out 'the good' in people could be found: spontaneous acts of kindness and solidarity became visible, from theatre-playing outside of nursing homes to the upspring of neighbourhood help collectives that assisted vulnerable neighbours with shopping and other chores.

Moreover, the implemented measures contributed to speed up developments like digitalisation. In other words, resolving one collective challenge can sometimes fuel a positive development in society. Overcoming and growing with challenges is in line with a salutogenic perspective, and at the heart of the salutogenic process (Antonovsky, 1987; Généreux, Roy, O'Sullivan, & Maltais, 2020; Namihira, 2019).

This chapter explores if and how salutogenesis can be applied to the field of politics and policy-making. We start by giving a short overview of the field of political science, politics and policies. We then clarify the position of salutogenesis on politics and unravel potential links before we explore how salutogenesis could contribute to understand and inform politics.

Politics and Policies

Politics, as defined above, is about making collective decisions and negotiate power. Public policy-making relates to the actions of the government and the processes of articulating and matching actors' goals and means into decisions or non-decisions to affect and influence members of a national state or sub-national jurisdiction. Thus, whilst politics refers to the decision-making process, does public policy contribute to translate and implement these decisions into the various domains of societal life.

Within traditional administration, the political context is characterised by bureaucratic structures, separate spheres between politics and administration and a logic of rational–technical processes in which public policy-making take place. Those who are involved tend to follow some general procedures (Holmberg & Rothstein, 2012): (1) agenda setting helping policy-makers decide which problems to address; (2) policy formation where solutions to problems are shaped and argued; (3) policy legitimation to move the policy through a formal decision-making (or legislative) process; (4) policy implementation turning policies into action; (5) policy evaluation to determine if the policies they create are effective in achieving their goals; (6) policies resulting in their maintenance, succession or termination due to policy-makers' shifting goals, values, beliefs or priorities.

Critique of the rational–technical logic has underlined that the combination of traditional bureaucracy and interest-group politics led to a 'muddling through' approach (Lindblom, 1979). This resulted in fragmented politics creating 'silos' or 'stovepipes' within organisations (Wilson, 1989). Today, most major public policy problems are 'wicked', that is they are inherently resistant to a clear definition and an agreed solution (Head & Alford, 2015). As public health problems become more wicked, cutting across administrative levels, sectors and units, political and administrative leaders are challenged.

Since the late 1980s, two public reform waves have influenced the political-administrative system in European governments: that of New Public Management (NPM) and post-New Public Management (post-NPM) (Christensen, 2012; Christensen & Lægreid, 2007, 2011). NPM ideas focused on improving efficiency, horizontally specialisation of the political-administrative apparatuses, marketisation, private-sector management style, explicit performance standards and strengthened output/outcome control (Hood, 1991, Christensen, 2012, p. 1). Along with the increased need for more 'evidence-based' public policy-making and administrative expertise, this resulted in fragmented knowledge and understanding about factors that might cause or influence complex societal problems. It became difficult to address significant issues comprehensively and challenging to grapple the input and involvement of a broader range of actors in society. Generally, NPM practices have been unsuitable in dealing with complex problems (Christensen & Lægreid, 2011; Head & Alford, 2015). As a response to the failure in handling wicked and complex problems, the rise of so-called post- New Public Management ideas in the early 2000s called for more holistic approaches, arguing for whole-of-government approaches and lately whole-of-society approaches (Christensen, 2012; Christensen & Lægreid, 2007). They seek to improve the horizontal coordination of governmental organisations and to enhance coordination between government and other actors; for example, citizens, civil society actors, voluntary and private actors.

Within the context of representative democracy, processes to strengthen participation and influence between elections might be regarded as disturbing for the public policy-making processes (Østerud 2004). Still, the post-NPM reforms imply the focus of government to have increasingly shifted to horizontal coordination and collaboration. The organisational forms of public administration have become increasingly complex and hybrid (Christensen, 2012). We argue that these post-NPM ideas emphasising involvement and collaboration provide a new angle for the application of a more upstream and salutogenic perspective in public policy-making.

As a result of increased complexity and fragmentation of NPM reforms, there is now a widespread focus on the need for more "collaboration" and "coordination" (Agger &

Sørensen, 2018; Christensen, 2012). A commonly held notion is that working across organisational, jurisdictional and political-administrative boundaries will enable more efficient and effective policy development, implementation and service delivery. These ideas address the importance to think broadly about major social problems and possible ways of addressing them. However, collaboration across sectors carries it's own challenges, often rooted in the (politically defined) responsibilities, diverging values, fragmented knowledge and struggles over resources. As such, Head and Alford (2015) argue for new models of leadership that better appreciate the distributed nature of information, interests and power and can address these problems in a coordinated manner.

One challenge emerging from the fragmentation of knowledge and responsibility is that policies are developed to address specific problems, solutions or sectors. Accordingly, policies developed within one sector may fail to address important aspects in other sectors and result in incoherent policies. Policy coherence can be described as 'the systematic promotion of mutually reinforcing policy actions across government departments and agencies creating synergies towards achieving the agreed objectives' (OECD, 2019). Besides aiming to harmonise policies between sectors, policy coherence also touches into matters of implementing policies and ensuring that stakeholders receive the appropriate competence, resources and motivation to translate policies into effective action (Nilsson et al., 2012). Thus, policy coherence emerges as an important aspect in politics and policy-making and can be described horizontally (between sectors) and vertically (across different government levels and from decision-makers to the general public). Experiences of coherent structures have been linked to the ability to make compromises, participating in adapting and creating appropriate resources, and even develop trust in society and its institutions (Habermas, 2016; Kickbusch & Szabo, 2014; Marmot & Allen, 2013). Trust in the state and its governance emerged, in turn, as an important coping resource during the early stages of the Corona pandemic (Genereux et al., 2020; Généreux, David, O'Sullivan, et al., 2020; Généreux, Roy, David, et al., 2020). Thus, providing populations with a coherent understanding of what is going on contributes to stabilising society. Additionally, recent research suggests that populations which display more trust in their civic and political leaders are better equipped to handle collective challenges (Généreux et al., 2020; Sagy, 2015; Sagy & Braun-Lewensohn, 2009).

Linking Salutogenesis and Public Policy-Making

Salutogenesis aims at being an umbrella for a wide range of positive health and well-being-related concepts such as resilience, coping and quality of life (Lindström & Eriksson, 2010). Strümpfer (1995) attempted to broaden the term, to also include a general ability to meet hardship. He suggested to 'fortigenesis' (the origin of strength) as a term to include matters and outcomes beyond the health sector. Whilst the term itself did not reach widespread attention in the scientific community, researchers concerned with salutogenesis have increasingly applied salutogenic perspectives on matters beyond the health sector.

According to Antonovsky, the answer to the question 'what makes people healthy?' is 'a strong sense of coherence (SOC)'. The SOC describes an individual's outlook on life, based on individual experiences with societal forces (Antonovsky, 1979, 1987). A strong SOC indicates that the world is perceived as comprehensible, manageable and meaningful. A strong SOC helps to identify and adequately apply resources and to cope with stressors and resolve challenges in a health-promoting manner (Antonovsky, 1987; Maass, 2018).

The SOC is developed through overcoming challenges and the internalisation of resources. Specific resistance resources (SRRs) can be applied to resolve specific challenges. SRR play an important role in individual health promotion. For example, resources to support young families during the first weeks of a new baby's life can be crucial for this specific experience, whilst such specialised resources would not be applicable to resolve a wide range of other challenges.

On the other hand, resources can be internalised and turned into 'generalised resistance resources' (GRR). GRR can be found at any level, from the individual to the societal level, and can be applied flexibly to achieve various outcomes. GRR thereby become part of the individual's SOC. The internalisation of resources is fuelled by 'significant life events', which challenge established coping strategies. Significant life events touch into comprehensibility, manageability and meaningfulness simultaneously (Antonovsky, 1987).

Societal and political matters are thereby intertwined with individual SOC: they facilitate and order our experiences, pose challenges and distribute resources; they define our rights and responsibilities and the social position that again shapes our experiences and expectations. Developing society in a salutogenic direction might benefit populations, individuals and society itself. However, according to Antonovsky, 'no society [yet] (…) managed to avoid structural limitations, or (…) to provide structural access to the goals it has propagated' (Antonovsky, 1979, p.88).

Salutogenesis describes how matters of politics and policies contribute to shaping individual's and group's ability to cope. But how can salutogenesis contribute to outline strategies and structure processes linked to politics and policy-making? According to the above, salutogenesis can be understood and applied unto public policy-making in two distinct ways: as a global orientation towards a positive out-

look on life, problem-solving and resource-focus; or as a distinct way to organise approaches in line with the more specific relationships between the 'upstream' conditions, resources and the three dimensions of SOC.

Salutogenesis as a Global Orientation Towards Positive Outcomes and Resources

Applying a salutogenic angle on politics and policy-making implies a focus on resources, possibilities and solutions. As outlined above, policies are often designed to resolve "wicked problems". Besides often leading to isolated and narrow measures, can this approach be described as problem-based. In a way, this mirrors the dominant approach in medicine, pathogenesis, which seeks to identify and isolate 'the cause of suffering' and then remove it. A salutogenic approach, on the other hand, challenges this starting point by posing the salutogenic question: "what makes people healthy?" As an equivalent in political science, one might ask, 'how can we tackle these challenges in a good way, by learning and growing?', or 'how can we create societies that bring out the good in people?'. This implies a focus on the questions 'what works?' and 'why and how does it work?', as starting points for developing policies.

Experiences from Various Settings

There are some examples of studies applying salutogenesis unto matters outside of the 'health' sector. For example, Kelly (2015) applies the salutogenic question unto the school context, turning the question from "why does it not work?" into "how can it work?", and proposes salutogenesis as a beneficial approach for framing new approaches for school leadership. Brolin et al. (2018) applied salutogenesis to develop a strength-based approach to health in a school. Students developed a narrative in which health was conceptualised as a collective, value-based asset, which implies that students are co-responsible for others' health outcomes. Students were more likely than teachers to include salutogenic factors and apply a value-based health discourse. This was also in contrast to the school health initiative, in which individualistic, pathogenic notions dominated. A similar finding was made by Dell' Olio, Vaandrager, & Koelen, (2018), who applied salutogenesis unto the specific context of students with disabilities and advocate changes in the academic services for these students. They found that the students were able to assess a number of both specific (such as institutional services and disease information) and generalised resistance resources (including social capital and awareness of one's strengths). Their findings suggest that policy-makers focus more on challenges and obstacles, whilst students themselves described some of these 'obstacles' as opportunities and even assets.

In salutogenesis, stressors and assets are described as 'two sides of the same coin'. Overcoming challenges is described as a salutary process (Antonovsky, 1979, 1987). A salutogenic orientation emphasises the importance of participatory approaches, the world views of stakeholders and target groups and applying empowering and enabling strategies. This turns the focus away from shortcomings which, in the long run, can contribute to further victimisation of vulnerable groups. Engaging in a positive process focused on strength and opportunities might in itself contribute to better health through a shift of focus and by experiences of mastery and learning along the way (Généreux, Roy, O'Sullivan, & Maltais, 2020). In the above examples, the desired outcome of the interventions is not at the level of individual health. Instead, the focus is on ways to organise the school environment to help students to cope with everyday challenges. They thereby illustrate the importance of organisation and policies to achieve a salutary process for collectives as well as individuals.

Similar findings from the work-sector support these notions. For example, Reid and Quayle (2008) apply a salutogenic perspective on occupational health and propose salutogenesis as a theoretical framework that could contribute to policy development and occupational assessments by bridging work-related and individual factors. Pijpker and colleagues (2019) investigated the role of learning with respect to SOC and GRR. They suggest promoting learning through both formal and informal ways as a mean to strengthen SOC through experiences from working life. Vaandrager and Koelen (2013) define a salutogenic workplace health as 'the ability of the workforce to participate and be productive in a sustained and meaningful way'. They describe a salutogenic organisation as an organisation that provides resources and offers coherent experiences. They advocate a salutogenic orientation to promote motivation and the experience of meaningfulness in the workforce, and to enable the organisation to focus on its strength and develop measures based on what works. Evidence suggests that users, in these cases, students and workers, apply a more salutogenic lens than do leaders and policy-makers, and emphasise structural and collective resources and outcomes above individual ones.

From 'Wicked Problems' to 'Healthy Societies'?

The above suggests that applying salutogenesis unto politics and policy-making implies to phrase positive goals, and emphasises the interplay between the individual and her supporting structures; society and societal institutions. A more consistent application of salutogenesis might benefit policy

development in more than one way. To focus on growth and possibilities might in itself contribute to find solutions rather than dwell on challenges. Working together towards common goals might contribute to greater enthusiasm and commitment than working to prevent negative development (Elliot, 1999). It contributes to make possible benefits visible, instead of fostering fear and anxiety about what is to come. For policy-makers and implementers, it represents an opportunity to overcome the role as a 'fire extinguisher' rushing from challenge to challenge and trying to fight each crisis isolated. Instead, focusing on salutogenic solutions and societies might facilitate the development of desirable future scenarios and encourage visionaries to strive for a salutogenic society.

Policy-makers and politicians experience to be confronted with ever-new problems which have to be dealt with here and now to satisfy potential voters. However, this position is unfavourable to address the complexity and wickedness in such societal problems. For example, social inequality can contribute to increased crime, unemployment, drug abuse, raise levels of social conflict, exclusion and discrimination and even result in political instability and distrust. Trying to fight each of these adverse outcomes separately might contribute to diverting attention and effort from the inequality which is at the bottom of all these 'wicked' problems (Marmot, & Wilkinson, R. (Eds.)., 2005; Marmot & Allen, 2013).

A salutogenic approach would address these problems with a strategy of cooperative society development. It might thereby apply processes and produce solutions that contribute to level out social inequality. The above examples indicate that users (students and employees) often have a more salutary focus than policy-makers. This supports notions of citizen involvement throughout the whole process of policy-making: identifying shared goals and achieve shared understandings about what is going on is a crucial condition for cooperation. Simultaneously, acknowledging the experiences and aspirations of especially minority groups might be an important first step towards identifying resources and develop strength (Rappaport, 1995).

Politics and Policy Coherence

In salutogenesis, the origin of health is described as 'a sense of coherence', which is developed based on coherent experiences with the societal structures. Thus, aiming at creating coherent structures emerges as an important aim in politics and policy-making. Two main challenges arise from policy- and politics-making processes: cooperation and coherence both horizontally (between sectors and actors) and vertically (top-to-bottom within each sector, from decision-makers over implementers to the public).

Horizontal Coherence: Collaboration and Cooperation

Horizontal coherence addresses issues that arise from multi-sectorial collaboration. Collaboration and cooperation across sectors and actors are described as an important mean in respect to negotiating politics: solutions have to be found across spatial domains. However, this goal is challenged by structural elements within NPM, such as the fragmentation of responsibilities, silo-thinking and rigid input/output regimes which crave for effectiveness within each sector (Christensen, 2012; Wilson, 1989).

Collaboration processes thereby often illustrate the root problems within politics: struggles and negotiations about power and influence. Competing interests are not only driven by population groups. Even within public government and administration, conflict of interests arise. In politics, this is expressed by the political parties which are distributed power through an election. They depend upon and are sensitive to changes in public opinion. Within public administration, conflict of interest arises from divergent understandings and knowledge, shortness of staff and funding and the input/output regime, which leads each sector to prioritise their specific goals above common aims. These challenges can easily be described as incoherence, according to Antonovsky's framework: a lack of comprehensibility due to fragmented knowledge, a lack of manageability due to under-funding and time pressure and a lack of meaningfulness if common goals are perceived less important than sector-specific aims. As effectiveness is measured within each sector, contributing to achievements that are measured in other sectors might even be perceived to be contra-productive: if you or your sector cannot make your contributions visible, you might get distributed less resoruces next time budgets are negotiated.

To what extent the approaches of post-NPM endorse solutions to these common problems remains unknown. Post-NPM approaches build on extensive collaboration and imply a certain degree of citizen involvement (Christensen, 2012; Østerud, 2004). Instead of delegating power to market actors, cooperation with the third sector and involvement of civil society actors are at the forefront. However, solely emphasising the need for more collaboration is not enough, and might even be counter-productive, if it is perceived as yet another aim to live up to, without being equipped with the means to do so. To take a whole-of-government or even whole-of-society-approach seriously, it seems important that the aims of the approach indeed are rooted, and acknowledged as valid, by the whole of government/society (Kickbusch & Szabo, 2014). Likewise, common goals should be accompanied by a sound distribution of responsibilities and resources.

All in all, these notions emphasise the importance of establishing shared understandings and common goals across sectors. Such goals need to be phrased and incorpo-

rated into common both common strategic plans to ensure that they are perceived as valid across sectors. On an international level, the sustainable development goals (SDG) represent such common goals (UN, 2017). However, such overarching goals can sometimes be unclear, and stakeholders might lack insights about how they can address them within their sector and from their position. Thus, overarching goals should be translated into the various sectors, to ensure that all stakeholders have the motivation and the means to work towards the overarching, common goal within their field of responsibility. To achieve horizontal coherence, it seems crucial to a) ensure a shared understanding about what is going on, as well as increase understanding about the roles and responsibilities the different stakeholders can take in this regard; b) ensure that all involved stakeholders have the means and resources to take their responsibility and contribute to the common goal; and c) ensure that all stakeholders have the motivation to engage in working towards common goals, that is, by translating these goals into the sector-specific strategic plans and make the contributions of each sector visible throughout the process. Keeping an eye on these factors throughout decision-making and implementation might proof a beneficial way to establish and maintain coherence throughout the political process. Preferably, both the common aims that are established and the means applied to achieve them should be rooted in the population, which, according to the above, often phrases more salutogenic aims than professionals (Dell' Olio, Vaandrager, & Koelen, 2018; Reid & Quayle, 2008). Thus, besides horizontal collaboration, user involvement and participatory approaches emerge as important tools to achieve vertical coherence in politics.

Vertical Policy Coherence: From a Decision to Implementation

Vertical coherence in politics is about making decisions and implementing them in a way which adds to comprehensibility, manageability and meaningfulness for the targeted population. Here, the importance of policies and implementation processes emerges: often, valid goals can be translated into measures which are contradictive, add to the burden or are perceived as incoherent by those that are meant to be supported (Nilsson et al., 2012).

If policies are perceived as posing challenges without addressing the means to resolve these challenges, or if they are perceived as meaningless – or even a threat to what is perceived as meaningful – this might result in distrust towards decision-makers and their representatives (Genereux et al., 2020; Habermas, 2016; Marmot & Allen, 2013). Consequently, distrust and incoherence can result in destabilised societies, with fragmented sub-groups, and high levels of polarisation and conflict (Yeo, & Green, M. N. (Eds.)., 2017). During the past decade, we have seen a rise in 'fake news', conspiracy theories, decreasing trust in politicians and increasing polarisation in society, which, in its most extreme outcome, even can foster terrorism and violence. Could the root cause of this be collective experiences of incoherence with the political structures?

The SOC is built through accumulated experiences with coherent, societal structures. However, not only personal but also collective experiences can influence our perceptions and expectations. These are passed down to us across generations and communicated through cultural and social institutions and channels such as stories, movies and the educational system. However, members of different social groups can make profoundly different experiences with the same societal structures (Antonovsky, 1987; Rappaport, 1995). Thus, how society works for you also depends on matters of identity, status and group-belonging.

This also implies that members of minority groups sometimes experience that their expectations, developed through popular culture and learned values, are not met in real-life encounters with the resource. A recent example of this can be found in the "Black Lives Matter (BLM)" – demonstrations against police violence in the USA. They clearly illustrate that one of society's most crucial assets – the institution enforcing law and order and protecting citizens – is experienced more like a risk and a threat by large proportions of the population (Peck, 2015). Other examples include expectations of 'freedom of religion', but being met with ridicule and hatred based on religious clothing (i.e. Slettholm & Stokke, 2015), or expecting equal opportunities, but then experience geographical, ethnical or gender-based injustice that deprives people of crucial opportunities (Michelsen et al., 2017). Maass et al. (2014) suggest that members of minority groups experience this also in less-prominent contexts. Members of minority groups often experience incoherence regarding policies and their implementation. Such incoherence is reinforced by victim blaming, which fails to acknowledge the structural causes of social injustice (Marmot, 2004; Pascoe & Smart Richman, 2009; Rappaport, 1995). Examples can be seen in attempts to discredit the victims of police violence sparking the recent BLM protests, to distribute them (part of the) blame for their fate (compare, i.e. Jangar, 2020).

Incoherent experiences are, according to salutogenesis, characterised by a lack of comprehensibility, manageability and/or meaningfulness. Incoherent experiences result from repeatedly hearing that what you know about the world is not valid, realising that you cannot obtain the means to achieve your valid aspirations, discovering that a re-distribution of resources does not accompany promises of a better future or realising that your life lacks meaningfulness. Besides posing a risk for health and wellbeing, this can lead to feelings of alienation and powerlessness. For cultural or value-based

groups, this can lead to diverging understandings, alienation and even open opposition to existing structures. A state of incoherence is in itself stressful, and individuals and groups will make efforts to re-establish coherence (Antonovsky, 1987).

Sharing experiences with your in-group can be a conscious-rising, empowering experience, which helps you to understand the structural components of your experience, and collectively seek solutions (Carr, 2003). The community emerges as an important coping resource in the face of disaster or conflict (Braun-Lewensohn et al., 2019; Braun-Lewensohn & Sagy, 2011; Braun-Lewensohn & Sagy, 2014; Généreux, David, O'Sullivan, et al., 2020; Généreux, Roy, David, et al., 2020; Généreux, Roy, O'Sullivan, & Maltais, 2020; Namihira, 2019). The community, and even national states, are crucial contexts for the experience of coherence in difficult times (Sagy et al., 2020; Sagy & Braun-Lewensohn, 2009; Sagy, 2015; Braun-Lewensohn et al., 2019; Ben David et al., 2017). Research in a European refugee camp suggests that individual and community SOC, together with time spent in the camp and appraisal of danger, explained more than half of the prevalence of anxiety (56%), depression (53%) and somatisation (58%) (Braun-Lewensohn et al., 2019).

On the other hand, individuals with a strong sense of community and national coherence (SOCC/SONC) are often also less open for out-group members, their experiences and interpretations (Mana et al., 2015; Mana et al., 2019; Ben David et al., 2017). A strong national sense of coherence affects willingness to reconcile and acceptance of out-group narratives negatively (Mana et al., 2019). Individuals with strong perceptions of community coherence are also found to be more supportive of separatist strategies and less supportive of integration strategies (Mana et al., 2015). This suggests that whilst the community can be an important coping resource, a strong emphasis on the community might worsen inter-group relations and contribute to shutting out other impulses and explanations. Thus, in-groups that contribute to re-establish coherence in a complex world can quickly develop into so-called echo chambers, in which one-sided information is endorsed, and challenging information is dismissed.

In this context, one might wonder if fake news and conspiracies are an expression of this quest for coherence. The struggle about 'the truth' has had a significant impact on political and social development in recent years and highlights the important role of the media concerning politics. Conspiracy theories are not a new phenomenon; however, in the last decade, they gained importance, partly because of social media. Social media are a crucial arena for people to come into touch with and can spread conspiracy theories to a greater audience. Moreover, due to the way social media work, beginning tendencies to get involved with conspiracies might be reinforced, as users are exposed to content similar to the content they engaged with earlier (Jones, 2016). However, also users themselves seek out information which reinforces, rather than challenges their beliefs. Especially consumers of right-wing populist news seem to have tendencies to shut out other impulses (Michelsen et al., 2017). In the long run, being exposed to one-sided information might result in a picture of the world that is only valid in socially confined spaces, where conflicting information is increasingly avoided or discredited (Jones, 2016). Achieved "coherence" would be built strictly on the in-groups world view, and new information has to be shut out or re-defined to fit the already established 'truth'.

Interestingly, Antonovsky describes a phenomenon he called 'fake' or 'rigid SOC'. A rigid SOC is characterised by high scores on all three dimensions but builds on a few specific strategies. Fake-SOC individuals display strong beliefs that they have found answers to 'everything', but these answers would continuously be challenged through everyday experiences involving the wider society (Antonovsky, 1987). Withdrawing into spaces that offer seemingly coherent explanations – such as so-called echo chambers on social media, distinct cultural sub-groups or even closed religious minorities – might seem beneficial in the short run. It can, however, damage SOC by spoiling for real comprehensiveness and flexible strategies (Antonovsky, 1987; Jones, 2016).

On a societal level, alternative explanations in various sub-groups can contribute to polarisation and distrust not only of officials but also other members of society (Mana et al., 2019; Mana et al., 2015; Ben David et al., 2017). To add to this notion, withdrawal into homogenous, deriving sub-groups often happens at the expense of a salutogenic lifestyle. Narratives from people that have been 'radicalised' indicate that the acceptance of the deviant world often is paired with a loss of relationships, of socially valued activities, and loss of meaningfulness. However, this influence might go both ways: accepting a 'new' explanation about society can lead to distrust and conflict in established relationships; or experiencing that relationships do not hold what they promised can lead to seeking acceptance and a new in-group elsewhere (Löf, 2018). Likewise, believing that the world is governed in secret by an all-powerful group of people (or reptiles) might damage for the experience of meaningfulness (after all, what's the point in trying if everything you do is orchestrated by 'the enemy'?). Simultaneously, gaining access to a group with information and a deeper understanding about 'what is really going on' might contribute to meaningfulness and purpose (after all, nothing better than being part of the exclusive groups battling the ultimate bad guys).

Increased political polarisation is a challenge for the development of a salutogenic society. For example, the importance of meaning-making dialogue to achieve shared

understandings has been pointed out (Maass et al., 2017). Sharing experiences with out-group members can help to generalise resources beyond personal experiences and thereby gain a more coherent picture of how society works for everyone (Maass, 2018). Somewhat disappointingly have social media not contributed to this kind of dialogue. On the contrary, Internet debates are more likely to reinforce prior held beliefs than challenging them, thereby adding to simplified pictures of society and increasing polarisation (Bolsover, 2020). Combined with diverging values amongst sub-groups, finding common ground and a set of common goals for collaboration might prove difficult.

Thus, increased polarisation might even spoil for involvement and participatory processes, which were established to increase vertical coherence in the first place. Involvement and broad participation have become popular, and often even mandatory tools in policy development (Christensen, 2012). Participatory approaches seem to be compatible with the guiding values of western society, such as democracy and equality. On the other hand, participatory approaches that aim at fulfilling obligations rather than fostering real involvement are common. Notions of 'inclusive processes' can be utilised to defend and validate measures that do not really benefit those in question (Buanes et al., 2004).

Moreover, well-off people are more inclined to grasp chances for involvement and are better at making themselves heard than more deprived groups. Thus, participatory processes can even contribute to social inequality by reinforcing the majorities' world view at the expense of minorities (Buanes et al., 2004). If policies are developed through seemingly inclusive approaches, but in reality, dismiss the experiences of deprived groups, incoherence between expectations towards and experiences with the political processes itself emerges. Such experiences can be generalised unto the society as such and contribute to distrust and contempt towards politicians and political decisions.

Concluding Remarks

All in all, the picture emerges that salutogenesis can contribute to politics and policy-making by providing a framework that allows to take a step back from immediate, and often pressing, problems and establish a focus on positive outcomes, learning processes and opportunities. Political processes are often characterised by being evidence-based, with a strong emphasis on results and outcomes. Political representatives are concerned with the (short-time) effects of interventions, the "outputs" of politics. On the other hand, applying salutogenic approaches demands long-term and visionary strategies to meet complex challenges. One major challenge in this respect is that knowledge about cause and effectiveness of such appraoches is scarce, and long-time consequences of policies are hard to measure. However, we argue that recent developments, characterised by post-NPM and whole-of-governance approaches, highlight the need for a salutogenic perspective within politics and policy development. A salutogenic society can in this context be described as a society which phrases positive goals rooted in shared understandings about challenges and desirable outcomes. This might equip individuals, groups and stakeholders with necessary resources to resolve challenges and take part in decision-making from every position in society. A salutogenic society facilitates coherent experiences amongst its members and equips them with the necessary skills and resources to become active agents in their own life.

Salutogenesis can contribute to unravel the various influences on the processes of politics and policy-making and help to establish and maintain policy coherence, both vertically and horizontally. The framework of comprehensibility, manageability and meaningfulness might contribute to coherent processes as well as outcomes. 'Comprehensibility' highlights the importance of shared understandings, consistent messages and opportunities for inter-group dialogue. 'Manageability' emphasises the importance of distribution and design of resources in line with responsibilities and burdens, including the rights and the means to pursue one's goals. 'Meaningfulness' implies to apply inclusive strategies and ensure involvement of stakeholders. For multi-sector collaboration processes, linking specific and overarching goals could add meaningfulness and increase motivation to engage in common efforts across sectors.

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The Application of Salutogenesis for Social Support and Participation: Toward Fostering Active and Engaged Aging at Home

25

Mélanie Levasseur and Daniel Naud

Introduction

The world population is growing older; one person in five was aged 60 or over in 2017. According to projections, this proportion will be one in four by 2050 (United Nations, 2017). The majority of older adults reports living with chronic illnesses. Almost half have or will have disabilities at one point during their aging (Turcotte and Schellenberg, 2007), limiting their mobility within their home and community. Maintaining or improving the aging populations' health and well-being is an important challenge that can be addressed by targeted interventions on health determinants. It is important to plan and implement innovative and cost-effective population health interventions tackling modifiable determinants of health, including social support, participation, and mobility. Because it aims to generate, maintain, and promote health, rather than solving illness and pathology issues, a salutogenic framework is promising for healthy and active aging at home. Social support and participation are important factors that help older adults cope with stressful events and everyday life challenges. This chapter defines social support and participation, in contrast to social isolation and loneliness. Policies and programs are discussed to demonstrate the contribution of interventions using a salutogenic framework. Finally, opportunities and challenges in planning and evaluating policies and programs are addressed.

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Salutogenesis and Older Adults

From a salutogenic perspective, a person's health can be represented as a point on a continuum, located between illness and healthiness, or health "ease and dis-ease", using Antonovksy's terminology (1993b). Moving in the healthy direction of this continuum requires a person to have a global understanding of their individual and contextual situation and possess the capacity to know and use the available resources to help them cope with adverse life events and still move forward (Eriksson, 2017). Such understanding of one's situation is the sense of coherence (SOC) and, according to Antonovsky (1993a), is a global orientation a person has to the world, allowing them to perceive it as comprehensible, manageable, and meaningful. In other words, it is about feeling confident that life events that may negatively or positively impact health and well-being are worthy of investment and engagement and that there are resources that can be used to cope with them. The latter are referred to as generalized resistance resources (GRRs), found at the personal (e.g., material resources, personality traits, knowledge, experiences) or the community level (e.g., social support, culture, religion; Horsburgh and Ferguson, 2000). Research showed that GRRs, including social support, were associated with older adults' SOC and their location on the health continuum (Wiesmann and Hannich, 2010). If GRRs are available, individuals developing a stronger SOC can maintain or improve their health.

As it stabilizes by the end of young adulthood, shaped by personal and work experiences, social class, gender, and culture, Antonovsky (1993b) nevertheless suggested that older adults might be limited in developing their SOC. Reporting that "*those of us who are less fortunate will increasingly see the world as incomprehensible, unmanageable and meaningless*" (Antonovsky, 1993b; p. 9), such belief is not particularly optimistic for older adults with a lower SOC. Too many adverse late-life events could even worsen such perspective, as they were associated with a decreased SOC (Lövheim et al., 2013). Still, subsequent research showed that the SOC

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could be maintained or even developed, even at a very late age (Koelen et al., 2017).

From a health promotion point of view, maintaining or developing the SOC is important because it was associated with better physical health in young-old and old-old Canadians (Forbes, 2001). Antonovsky also believed that the retirement from employment is such a unique and radical transition that the person cannot rely solely on preexisting GRRs, but has to change previous mechanisms to cope with new challenges (Sagy and Antonovsky, 1994). For the Israeli cohort studied by Sagy and Antonovsky (1994), family ties and informal interpersonal engagement became the most meaningful life domains post-retirement. Indeed, older adults still have access to GRRs to cope and shape meaning for possibly very impactful later life events, such as retirement, death of loved ones, and disabilities. The promotion of social relationships could thus positively influence the development of SOC, especially for life meaningfulness (Wiesmann and Hannich, 2010). Allowing a person to benefit from experiences, family ties, or close and supportive relationships would provide meaning to the challenges and contribute to an inner strength to cope with late-life challenges (Tan, 2015). Social support and participation can help older adults in this coping.

Social Support and Participation

Social support and participation are important factors of active and engaged aging associated with favorable health outcomes (Bowling, 2005), notably because it allows older adults to stay integrated with their community. **Social support** can be defined as "*the social resources that persons perceive to be available or that are provided to them by nonprofessionals in the context of both formal support groups and informal helping relationships*" (Cohen et al., 2001, p. 4). This definition distinguishes perceived support (the belief that support is available from members of one's network) and received support (mobilization and expression; Gottlieb and Bergen, 2010). Antonovsky (1979) highlighted that social support and network contribute to the person's sense of coherence because it influences how one views the world and how the environment is perceived as meaningful and comprehensible (Eriksson and Lindström, 2005). Social support was identified as a GRR because relationships of trust can provide the right resources to meet older adults' specific challenges (Bryant et al., 2001). While sometimes mentioning social ties, Antonovsky mostly addressed the role of family ties when transitioning between labor and retirement (Antonovsky et al., 1990; Sagy and Antonovsky, 1994). More recently, researchers investigated social relationships and their contribution to the SOC among older adults. For example, higher levels of social support in older adults were found associated with superior self-efficacy and problem-solving (Trouillet et al., 2009), which was linked to the manageability domain of the SOC by Antonovsky (1993a), helping a person cope with stressful life events. Although not exclusively in older adults, the strengthening of social support was also shown to contribute to improving or restoring the SOC for people with mental health problems (Langeland and Wahl, 2009). Social support contributes to a person's social integration and provides opportunities to assist others, improving self-esteem.

Additionally, different forms of social support were also found to be associated with health and well-being. Greater perceived social support was associated with better self-perceived health (Smith et al., 2013). Received support also influences older adults' self-esteem and community belonging (Krause, 2007). Still, it could revive conflicts with close ties or be interpreted as a threat to older adults' sense of independence and control, which is possibly detrimental to their health and well-being (Uchino, 2009). In addition to the number and quality of social ties, active involvement in community activities was shown to be linked to health and SOC.

Social participation can be defined as the "*person's involvement in social activities that provide interactions with others in society or the community*" (Levasseur, Richard, Gauvin, and Raymond, 2010, p. 2144). These social activities can be formal, such as volunteering or being engaged in a community organization, or informal, such as helping a neighbor, visiting friends, or attending a cultural event (Couton and Gaudet, 2008). Social participation is associated with many health-protective effects, notably fewer disabilities (Lund et al., 2010) and depressive symptoms (Glass et al., 2006), greater well-being (Gilmour, 2012), and self-perceived health (Lee et al., 2008), the preservation of cognitive functions (Glei et al., 2005), shorter hospital stays (Newall et al., 2014), and lower risk for all-cause mortality (Holt-Lunstad et al., 2015). Social participation fosters the development of relationships and engagement with others in the community, which were shown to be associated with the feeling of attachment to others (Grewal et al., 2006). When older adults have regular interactions with younger people, they report better self-reported health, plausibly because they feel more valued, included, and appreciated (Ronzi et al., 2018). When social activities enable the sharing of resources and expertise within a group, they are meaningful and contribute to providing purpose in the older person's life, which is a fundamental domain of SOC (Antonovsky, 1993b).

Social Isolation and Loneliness

Social support and participation, including their associations with positive health outcomes, are different than social isolation and loneliness. Older adults in a situation of **social**

isolation have fewer fulfilling social ties, social interactions of inferior quality, and a weaker sense of belonging and social engagement (Nicholson, 2009). Older adults are at higher risk of being isolated when living alone, having a low income, presenting poorer health or restricted mobility, and having no children or close family members (Keefe et al., 2006). Life events were also found to be associated with social isolation, such as the loss of a loved one, retirement, driving cessation, or relocation to a long-term care facility (Keefe et al., 2006). Although it was found to be associated with limited social support (Tomaka et al., 2006), fewer social interactions, and lower participation in social activities (Cornwell et al., 2009), the association of social isolation to adverse health outcomes differ from those of low social support and participation. Older adults in a situation of isolation often report more health-risk behaviors such as smoking and being physically inactive than those who are socially integrated (Cornwell et al., 2009). Social isolation has been associated with poorer self-rated physical and mental health (Cornwell et al., 2009), as well as a greater risk of dementia (Fratiglioni et al., 2000), cardiovascular disease in response to stress-related events (Grant et al., 2009), and suicide (Rapagnani, 2002). From a salutogenic and health promotion perspective, reducing social isolation can have different outcomes than fostering social participation, which is more likely to be regarded as a GRR, potentially contributing to the SOC (Ronzi et al., 2018).

Loneliness is a negative subjective state experienced when a person's social ties are not sufficiently fulfilling (Cornwell et al., 2009). Because some people may prefer to be alone without experiencing negative feelings, it is recommended not to study social isolation independently of loneliness. Loneliness was more common in older women than men and was associated with living alone or being widowed (Victor et al., 2006). However, men were less likely than women to report being lonely, plausibly because of the risk of stigmatization (Borys and Perlman, 1985). Compared to reduced social support, loneliness was more strongly associated with lower self-perceived mental health and the presence of depressive symptoms (Cornwell and Waite, 2009). As for social isolation, loneliness is associated with adopting multiple health-risk behaviors, such as physical inactivity and smoking (Shankar et al., 2011). Both social isolation and loneliness may contribute to adverse health effects through these health-risk behaviors.

In summary, higher social support and participation do not only diminish the risk of illnesses associated with social isolation and loneliness. Indeed, social support and participation have a distinct and positive contribution to the older adults' sense of coherence and health. Aging at home allows older adults to keep relationships built over the years within their community and facilitate the preservation of their SOC.

Environment and Salutogenesis for an Active and Engaged Aging at Home

Inspired by Antonovksy's salutogenesis and Lawton's ecological model of aging (Lawton and Nahemow, 1973), researchers showed that SOC, health, and well-being are associated with several characteristics of the local environment, which facilitate mobility and participation in community activities (Stokols, 1992; Wister, 2005). For example, safer environment, urban revitalization programs, accessible and safe public transportation, reduction of noise and air pollution, and availability of walking pathways influence the health and well-being of aging adults (Wister, 2005). According to the ecological model of aging (Lawton and Nahemow, 1973), the person, including his cognitive, physical, and mental competencies, interact with the environmental characteristics, facilitating or hindering these competencies. This interaction provokes an adaptive behavior and emotion (satisfaction if successful, stress otherwise). Lower competence increases the likelihood that the person's behavior will be dependent on the environmental factors and may not be able to operate within the environment without assistance (Lawton, 1990).

Environments that promote health can be developed or encouraged through **aging at home** strategies. Wished by most of them (Farber et al., 2011), strategies related to aging in place can help older adults remain in their homes, despite increasing difficulties (Fry, 2012; Iecovich, 2014). An aging at home strategy promotes important environmental characteristics such as physical accessibility, service proximity, security, recreational resources, housing, and transportation (Plouffe and Kalache, 2010), aimed at improving the mobility, health, and well-being of older inhabitants and their communities. The SOC may be stronger in older adults living in their homes than in communal-care facilities (Haak et al., 2011; Tan, 2015). Aging at home may provide a sense of security, help preserve memories, and provide better proximity to friends, neighbors, and kin (Rowles and Bernard, 2013). Aging at home contributes to all three domains of the SOC, that is, meaningfulness, comprehensibility, and manageability (Koelen et al., 2017). For example, attachment to a place might help individuals maintain a sense of control (Rowles, 1983), which is important for comprehensibility and manageability. Maintaining access to GRRs, such as social support and participation, increases the likelihood of a stronger SOC and health and well-being (Tan, 2015).

Aging at home is partly about providing access to GRRs, notably the retention of social support within the community (Iecovich, 2014), which helps older adults cope with stressful events and contribute to their SOC. To participate socially and maintain social network and support, older adults must be able to move within their community,

regardless of their physical disabilities. Understood as a cornerstone to the social integration of the persons into their community, **mobility** is defined as "*the ability to move oneself (e.g., by walking, by using assistive devices, or by using transportation) within community environments that expand from one's home, to the neighborhood, and regions beyond*" (Webber et al., 2010, p. 1). Older adults with reduced mobility reported lower participation in social activities (Rosso et al., 2013), which put them at a higher risk of social isolation. Limited mobility restricts the life space, that is, the "extent of travel into the environment, regardless of how one gets there" (Stalvey et al., 1999, p. 472). Mobility is affected by factors such as physical abilities, gender, culture, and income (Webber et al., 2010) and can deteriorate with driving cessation in areas with limited alternative transportation options (Marottoli et al., 2000). Also, an inferior SOC in older adults was found to increase the risk of reduced mobility (Avlund et al., 2003), suggesting the importance of providing equal access to GRRs within a community. Because the life space encompasses the potential GRRs that older adults can rely on, it has strong SOC and health implications.

Mobility is important in enabling social participation, especially for adults with a disability (Verdonschot et al., 2009). Accessibility in the physical neighborhood environment is also essential for older adults with a disability (Richards et al., 1999; Verbrugge et al., 1997) or frailty (Fairhall et al. 2011). In Canada, rural women that wished to participate more were more likely than rural men to be constrained by transportation problems (Naud et al., 2019), illustrating that mobility options are not equally distributed across the aging populations. In general, older adults in rural areas are more dependent on private car use or on informal support (Davis and Bartlett, 2008), which may be a limiting factor in their social participation within the community.

Older adults' SOC, relying notably on GRRs made available through their social support and participation, is thus associated with the local environment. By modifying factors that can foster social support and participation and decrease social isolation and loneliness, SOC, health, and well-being could be enhanced (Bowling, 2005). Moreover, because they are associated, interventions targeting one dimension could potentially affect others (Dickens et al., 2011). For example, social isolation is associated with reducing social support and participation (Hombrados-Mendieta et al., 2013). These interventions, provided with a relatively modest cost compared to health infrastructure and equipment, could reduce healthcare spending (Kaye et al., 2009). Thus, policies and programs should be planned, implemented, and evaluated to facilitate aging at home. Improving older adults' ability to identify and use the community's GRRs may also strengthen their sense of meaningfulness, manageability, and comprehensibility.

Aging in Place Policies and Programs Fostering Mobility and Social Support

Over the past decades, aging in place policies and programs addressing social support, participation, isolation, loneliness, and mobility have shown varying degrees of effectiveness. On the one hand, policies are defined as contextual interventions, coming from consensus-based negotiations between multiple actors, intended to be implemented into practices that create conditions in which the scope of options available in deciding what to do is reduced or altered (Ball, 1993). On the other hand, a program can arise from policies and an organized and planned effort to ameliorate social conditions (Rossi et al., 2018). Considering that the SOC is a disposition orientation that can be developed over time (Read et al., 2005), the following sections introduce examples of policies and programs that had an objective of increasing the levels of SOC in older adults by promoting social support, participation, and mobility, which facilitate aging at home.

Policies

Over the last three decades, health promotion policy frameworks were elaborated using an ecological model to facilitate social participation and reduce the risk of isolation. Evaluating policy trends, Lui et al. (2009) found that the current discourse on aging has redirected the major determinants from economic or welfare issues to matters of social inclusion, engagement, and community development, which are in line with salutogenesis. In their policy review, Eriksson and Lindström (2008) showed that before the 1980s, health promotion was mostly about reducing risk behaviors by health education. Although not explicitly addressing older adults, the seminal *Ottawa Charter for Health Promotion* (World Health Organization, 1986) aimed at providing individuals and communities more control over the health determinants (Eriksson and Lindström, 2008), notably by promoting supportive environments, community action, and leisure as a source of health and well-being. More extensive than the Charter, the WHO's *Active Aging Policy Framework* (World Health Organization, 2002) emphasized the process of active aging as a multidimensional key mechanism for healthy aging, aimed at "continuing participation in social, economic, cultural, spiritual and civic affairs, not just the ability to be physically active or to participate in the labor force" (p. 12). The framework promoted environments that contribute to increase older adults' autonomy, by alleviating environmental barriers (e.g., inaccessible transportation, discontinuous sidewalks, and heavy traffic) and increasing opportunities for resource acquisition, such as social participation. Most importantly, it recommended that decision-makers strengthen community initiatives, voluntarism, peer

mentoring and visiting, family caregivers, intergenerational programs, and outreach services. Finally, the framework introduced mobility as a key factor for a full participation in the community, regardless of the person's abilities and highlighting specifically the contextual differences between rural and urban environments (World Health Organization, 2002).

More recently, the guide *Global Age-Friendly Cities* (World Health Organization, 2007) proposed a framework to implement easily applicable age-friendly policies and programs at the national and regional levels, which was recognized by many governing bodies (Rémillard-Boilard, 2018). Defining mobility as a key factor for active aging, the framework highlights the importance of available and affordable transportation options. This is especially vital for older adults with a disability or frailty, allowing them to reach their chosen destinations and participate in community activities. Indeed, mobility allows older adults in the formal and informal life of their communities. Universal accessibility, affordability, and diversity of the activities are also highlighted in the framework. Simultaneously, the framework addressed the various reasons that could lead older adults to social isolation and recommends outreach programs to provide them with social connections with the community. The implementation of social programs may be facilitated and oriented by the models of governance suggested by policies (i.e., top-down or bottom-up) and emphasizing either the physical or the social environment (Lui et al., 2009).

Programs

Several health promotion programs aim to develop access and knowledge to resources, notably by facilitating social interactions and mobility for older adults living in their community. Although not necessarily developed from a salutogenic theory, the programs can plausibly enhance the SOC and, subsequently, older adults' health and well-being. The following paragraphs present: (1) three programs relying on passive social involvement; (2) five programs relying on active social involvement, and (3) two programs targeting the community rather than the individuals. These programs provide opportunities for social activities and build social support within the older adults' communities, aiming to maintain or improve health and well-being.

Some programs encourage older adults to gather outside the participants' homes but mostly in passive social gatherings, such as educational programs promoting healthy behaviors. Such programs may enhance SOC by improving the knowledge and use of local resources available to older adults. Still, these programs do not necessarily increase social participation or decrease social isolation. For example, Tan (2015) evaluated a Resource Enhancement and Activation Program, a self-care program facilitating aging at home or in the community, helping older adults develop resilience and use resources optimally to maintain health. The 12-week program involved 64 aging Singaporeans, who participated in 24 group activities about nutrition, physical activity, mental health, social capital, preventive health services, injury prevention, and environment, contributing to all three domains of the SOC (Tan et al., 2014). Following the program, the participants reported a better knowledge of available resources, developed new skills, and enjoyed sharing their experiences with others. Compared to a control group that did not receive an intervention, the participants improved their overall SOC, specifically in the comprehensibility and manageability domains, but did not differ in loneliness (Tan, 2015). In a sparse rural area in Galicia, Spain, older adults were recruited for 9 months to participate in three weekly mobility workshops: cognitive stimulation, craft with others, and exercise (Dumitrache et al., 2017). After the intervention, the participants considered they had more opportunities for leisure activities than before. Additionally, older participants showed lower risks of cognitive impairment, which contributed to a more positive perception of their quality of life and mental health (Dumitrache et al., 2017). The *University of Queensland Driver Retirement Initiative*, in Australia, held weekly meetings for 6 weeks with urban older adults that stopped driving (Liddle et al., 2014). The meetings involved information sharing, group discussion, speakers, practical exercises, and outings. Compared to a control group, the participants had more activities outside the home, regardless of their self-perceived health (Liddle et al., 2014). They also used alternative transportation options (e.g., walking, public transit, volunteer driver programs, and paratransit) more often than adults in the control group and were more satisfied with their transport situation. The participants to the meetings felt more confident of staying involved within their community and in meaningful activities without driving (Liddle et al., 2014), which demonstrates that informing and providing relevant practical mobility exercises can plausibly positively influence the manageability domain of SOC.

Other programs emphasize an active social involvement of older adults through social activities and workshops. While such programs are not aimed at increasing knowledge about available local GRRs, they help older participants build social support and increase their social participation, improving their sense of manageability and meaningfulness, two domains of the SOC. For example, the *Volunteer Friendly Visitor Program* in Ontario, Canada, peered voluntary undergraduate students with older adults in a situation of isolation, to socialize for about 3 hours every week (MacIntyre et al., 1999). Activities mutually chosen included short walks, talking or listening, assisting with care activities, reading aloud, and writing letters. Compared to a control group receiving no visitor, the program was shown to foster health promotion in many aspects, notably the participants' self-worth, social support, and life satisfaction increased. In the Canadian province of Quebec, the

Personalized citizen assistance for social participation peered a trained volunteer with an older adult with a disability for 6 months (Levasseur et al., 2016). The volunteer assisted the older adult with social and leisure activities self-reported as challenging to accomplish (such as walking inside or outside the home or playing games requiring cognitive abilities). Their participation in social and leisure activities was improved, in addition to their mobility, and they perceived fewer barriers in their social environment (Levasseur et al., 2016). The *Men's Shed* is a growing social activity intervention, providing a communal space for older men to meet, socialize, learn new skills, and participate in practical activities with other men (Milligan et al., 2016). In Winnipeg, Manitoba, a Men's Shed program housed in a seniors' center recruited older male participants to engage in activities such as woodcarving, cooking, game playing, or gardening (Reynolds et al., 2015). The program successfully increased the participants' social network, improved their mental health, and generated stronger bonds with other men. The Finnish initiative *Volunteering, Access to Outdoor Activities, and Well-being in Older People* assigned retired trained volunteers with older adults with severe difficulties accessing the outdoors independently (Rantanen et al., 2015). Together, they had weekly out-of-home activities (e.g., running errands or recreational activities) for 3 months. The intervention effectively improved the participants' satisfaction with their physical capacity, notably by identifying, facing, and solving barriers for outdoor activities, making the outdoors more accessible (Rantanen et al., 2015). Lastly, in a Japanese intergenerational program, older trained volunteers were recruited for reading picture books every week to children at school or kindergarten (Murayama et al., 2015). Such activities allow older adults to care for others by transferring knowledge and wisdom to a younger generation, positively affecting their meaningfulness. After the 3-month program and compared to a control group that did not engage in intergenerational activities, participants reported higher levels of their overall SOC and all three domains. Additionally, superior meaningfulness was found to mediate lower levels of depressive mood (Murayama et al., 2015).

Finally, some programs target the community rather than the individual. These programs provide older adults with new resources or increase their accessibility to improve their SOC. In a rural region in Quebec, Canada, a community development initiative combined with an action research program was instigated by local community partners (Clément et al., 2018). Public consultations were held to identify the needs of the community's older residents at risk of social isolation and define the most relevant initiatives. They developed the *Benevolent Community*, aimed at locating older adults in a situation of social isolation and assisting them in developing social connections. A website was created to provide information on social activities and services, and transportation opportunities were increased for older adults with disabilities and lacking transportation options (Levasseur et al., 2021). The American *Naturally occurring retirement communities (NORC) supportive services program* (Bedney et al., 2010) promotes age-friendly transformations of housing developments not planned for older adults (e.g., apartment buildings, condominiums, neighborhoods, small towns, or rural areas). In hundreds of housing developments across the United States, older residents, building managers, and community partners cooperated to create a network of services and volunteer opportunities that promote aging in place. For example, building managers and community partners coordinate the efforts of voluntary support systems, promote social support among older residents, and enhance the accessibility and affordability of existing services (Greenfield et al., 2013). Bedney et al. (2010) surveyed the residents of the NORC. They found that the majority of them talked to more people and increased their participation and social network than before their participation. The NORC program also increased older residents' engagement in out-of-home activities and used of community services. Asked to self-rate their health, almost three residents in four reported that they felt healthier than before their participation in the program (Bedney et al., 2010).

In summary, individual or community programs aimed at increasing access or knowledge to local GRRs, notably through mobility, social support, and participation, can positively impact older adults' SOC, health, and well-being. By improving older adults' capacities and knowledge of GRRs, these programs can help them cope more easily with challenges of the daily life within their community, which can be facilitated by a stronger SOC (Tan, 2015), but simultaneously also contributes to strengthening the SOC (Koelen et al., 2017). An active and socially integrated aging allows older adults, with or without disabilities, to continue to live in their community and gain benefits from their long-standing assets. Still, intervening on older adults and their communities requires researchers, community partners, and decision-makers to tackle several challenges.

Opportunities and Challenges Related to Planning and Evaluation

The current policy trend, which targets health promotion, social inclusion, and engagement within the community (Eriksson and Lindström, 2008; Lui et al., 2009), offers many opportunities to plan and implement salutogenic programs for older community dwellers. Challenges have nevertheless to be addressed, notably the scarcity of evaluated salutogenic programs aimed at older adults, the adaptation of health promotion interventions to their geographical context, and the elaboration of a more inclusive discourse about aging in place.

There is an abundance of recent studies interested in aging populations, using a salutogenic framework, which provides the theoretical grounds required to plan and evaluate such initiatives. Indeed, longitudinal studies have demonstrated

that older adults' SOC can be improved, even at later ages (Lövheim et al., 2013; Murayama et al., 2015). Such demonstration and potential replications are essential in justifying future interventions. Other studies have found associations between superior SOC and positive health outcomes in older adults (Borglin et al., 2006; Eriksson and Lindström, 2005; Koelen et al., 2017), but mostly cross-sectionally (Tan, 2015). Tan's (2015) synthesis of published salutogenic empirical evidence showed the scarcity of literature evaluating older community dwellers' interventions. Using the lenses of salutogenesis, such evaluations are important to provide measurements of the SOC and access to GRRs (Antonovsky, 1993a). Consequently, evaluations measuring the impacts of the intervention on health outcomes and well-being are also needed. Fortunately, there are promising community-based research protocols published (Levasseur et al., 2017; Seah et al., 2018), which could provide further evidence for the effectiveness of the salutogenic framework.

Programs well-tailored to their environmental context, for example, rural neighborhoods, could be effective for health promotion. Rural older dwellers may be further at risk of social isolation due to a lack of transportation options and resources (Keefe et al., 2006). Indeed, rural communities' declining resources reduce older rural community dwellers' access to GRRs because they are less mobile (Milne et al., 2007), which can limit their SOC's level and lower their capacity to cope with daily life activities and stressful events. The improvement of social support and the promotion of social participation for older adults living in a rural setting is particularly important because they can increase GRRs accessibility, health, and well-being. As evidence of policy and program effectiveness is still equivocal and fragmented, improved knowledge on adapted interventions may help facilitate aging in place strategies, especially in rural context (Milne et al., 2007). Unlike rural areas, suburban municipalities are not addressed in the World Health Organization's frameworks (World Health Organization, 2002, 2007), and very few ecological interventions were held in this setting (Lord and Luxembourg, 2007). As American suburbs have the most rapid growth in adults aged 65 and over, growing by 39% since 2000 (Igielnik and Brown, 2018), the lack of interventions for these areas could be a challenge in the following decade. Indeed, suburban areas have specific characteristics (e.g., high rates of car ownership, neighborhoods designed for families) that may be constraining to older adults' mobility without a driving license (Brook Lyndhurst Ltd, 2005). The private car's reliance increases the risk of mobility limitations and social isolation for older suburban dwellers (Stjernborg et al., 2015). Aging in place strategies should be promoted regardless of the living context.

Aging in place strategies were shown to be compatible with salutogenic and health promotion approaches, mainly by improving GRRs accessibility through social support and mobility options. A better comprehension of the person-environment interactions and the development of indices to predict potential mismatches (e.g., older adults with mobility limitations living in resource-scarce neighborhoods), notably in relation to social needs (Oswald et al., 2005), could provide further opportunities for health promotion interventions. However, aging at home strategies have been criticized as not well adapted for all aging populations, notably low-income and frail older homeowners (Golant, 2008). Discourses about aging and healthcare strategies should be more inclusive of older adults with limited abilities or lower socioeconomic status. Home maintenance in older adults may incur considerable financial costs and increase stress and risk of injuries (Coleman et al., 2016). There are promising avenues for effective communal-care facilities, such as the NORCs and the Green Houses program (Greenfield et al., 2013; Kane et al., 2007). Tan's (2015) review showed that older adults in communal-care facilities had a lower SOC than those living in the community. Because living in the community is not accessible to all, salutogenic interventions aimed at improving the SOC for older adults living in communal-care facilities should also be of interest to researchers.

Conclusion

The current health and aging policy context are favorable to applied salutogenic research, especially for older adults living in the community. Indeed, interventions targeting both the individuals and the communities can enhance the SOC of older adults by providing them opportunities for social interactions and increasing their life space with new mobility options. By increasing their SOC, which predicts health and well-being, older adults can cope more easily with daily life activities and adverse life events, such as retirement, deaths of loved ones, and disabilities. Better coping strategies can allow older adults to live longer at home, surrounded by their peers, and maintain meaningful activities. Opportunities to increase accessibility to GRRs through social interactions and mobility options are numerous. Still, challenges need to be addressed to provide evaluated and effective interventions, regardless of their abilities, environmental context, or culture. Researchers, decision-makers, and community partners can apply a salutogenic framework to policies and interventions by improving knowledge and access to social resources that help seniors cope with everyday life challenges.

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Salutogenic Architecture

26

Jan A. Golembiewski

Introduction

Following many years of effort of Alan Dilani and the International Academy of Design and Health (Dilani, 2006, 2008), the term 'salutogenic' has made inroads to hospital design, and it is creeping into the architectural design of aged care, schools, workplaces and correctional care – at least at first as a buzzword for marketing. The term was coined to describe Antonovsky's model for socio-environmental influences on health. However, in most designers' hyperbole it means little more than fuzzy intentions to create restorative environments by providing views that represent nature: whether it be vegetation (designed parkland, grassy areas, trees, etc.), views of the sky or even photographic representations of these things. The theory is thus often bleached of its full potential, like an apothecary that only stocks aspirin. The architectural design industry can take a great deal more from salutogenic theory than it currently does.

But to do so, it needs to dig deeper into the theory to be better informed about how their ideas and interventions are likely to be helpful on a case-by-case basis, and perhaps more importantly, to reach beyond the axiom of 'views of nature' and locate other ways to use the environment to improve health outcomes – especially in conditions where views into natural woodland just are not possible, are inappropriate or simply insufficient. The marketer's sense that salutogenic theory is a powerful tool for determining design impacts on health is well-placed; as Antonovsky suggested, salutogenesis might be the only comprehensive theory of health promotion (1996), and it is certainly one that can be used in diverse disciplines as this handbook attests. In short, it is something the architectural industry needs for the design process itself, not just for marketing spin.

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This chapter is about how we can bring salutogenic theory to (literally) concrete reality using architectural design. The following sections look at salutogenesis as a model – comparing it with other models of health-oriented architecture, then it looks at salutogenesis in general terms before looking at how it can be applied by addressing each of the Specific Resistance Resources (SRRs – more about them later).

Limitations of Previous Theories Linking Aesthetic Design and Health

Substantial evidence shows aesthetic design interventions can affect health. Several theories have been offered to explain these effects – but most of them are limited to the specific interests of the theorists. Examples include an evolutionary hypothesis to explain the restorative effects of nature (The Biophilia Hypothesis (BH) of Wilson, 1984); the influence of 'views of nature' (The Stress Reduction Theory (SRT) of Ulrich, 1991); the very similar Attention Restoration Theory (ART) of Kaplan and Kaplan (1989); and the Ecological Theory (ET) of Lawton and Nahemow (1973), which argued that there is a 'sweet spot' to be found in a trade-off between designing for comfort and designing for mental and physical challenges. In addition to these, architectural and urban layouts have been found to indirectly affect a person's biology. For instance, natural light-filled structures will influence sunlight-dependent Vitamin D, serotonin, melatonin and L-Dopa levels (Deguchi & Axelrod, 1972).

Of the bodies of research the designed environment on health, BH (Wilson, 1984), its architectural twin, SRT (Ulrich, 1991) and close relative, ART (Kaplan & Kaplan, 1982), have been the pre-eminent models for translating design to health – largely because these theories have been subject to half a century of study, and also because the first scientific health + design studies drew on these 'low-hanging fruit' as a theoretical premise. ART, SRT and BH involve designing closer relationships with naturalistic elements like views into vegetation and the presence of pet animals. BH

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makes this explicit, whereas the ART acknowledges all 'fascinating' environments for the way they allow people to rest their cognitive processes. In effect the way these theories are translated into means that most health design research is not actually about designing better buildings, but turning away from the environments we build, and towards the ones we plant – or better still, totally natural environments. Again, the question is, are BH and ART sufficient to explain the salutogenic effects we see in bio-oriented designs?

The BH, SRT, ART, Medical and salutogenic approaches are not mutually exclusive, but any health benefits we see from ART, SRT or BH approaches are better understood using the salutogenic framework than from within their paradigms, or even using the Medical paradigm, because of all these models, only the salutogenic theory has broad enough scope to encompass them all.

Overview of Salutogenic Theory and its Relevance to Architecture

While these theories are all important, they ignore the elephant in the room – that architecture can be psychologically manipulative, for better or for worse. Architecture does this by providing *a narrative context*. It continually tells *a story*, which affects people's behaviour, how they are treated by others and how they feel about themselves. The story further influences neural and endocrine systems through the biochemical correlates of these emotions (Sapolsky, 2017). It is evident then that architecture can directly influence health (Golembiewski, 2016), but how can architects plan for these effects? Antonovsky's salutogenic theory provides an accessible overarching logic for determining the health and well-being benefits of design (Golembiewski, 2012b), beyond the basics covered by Environmental Medicine[1,2] and without the need to understand any illnesses suffered by the environment's users. The theory does this by modelling how a person's milieu enables action in the ceaseless endeavour of the betterment of one's life and circumstances. The milieu is both social and physical – and this chapter is concerned by the latter. Does the environment enable physical actions? Does it provide clarity? Does it provide for emotional support? Or does the environment block action, frustrate plans and make people feel exasperated? These are the questions to be asked when assessing how 'salutogenic' a design is.

The salutogenic theory is not a model of disease, rather it is a model of health (Mittelmark & Bull, 2013). As a theory, it has a scope and perspective that other ways of understanding health lack (Antonovsky, 1996), yet it is not an alternative to Medicine[3] or Public Health interventions. Salutogenesis looks the opposite direction, towards a more vibrant sense of well-being; towards better and more robust health; health-promotion and recovery-orientation, rather than to the illnesses that threaten life. But salutogenesis is not the opposite of orthodox Medicine, rather it is complementary, in the true sense of the word. Because they are health-oriented, salutogenic interventions are largely general in nature and are therefore best used to support common-sense health initiatives. Salutogenic interventions work because they inform systems and environments design to speed the natural process of recovery, provide insight into social approaches to complex health problems and promote health before disease or infirmity ever takes hold. But this does not mean they are not powerful – a strong salutogenic disposition may mean survival against impossible odds, as witnessed by Frankl (1963), a psychiatrist and prisoner in the concentration camps of World War II.

Salutogenesis is a way of understanding the entire spectrum of wellness and illness, regardless of specificity and detail. The salutogenic theory does not only seek to improve health but to assist in all other human endeavours because that is the level on which it works. Thus, salutogenic interventions do not make people better, they make architectural and other interventions better, and in that way, salutogenic interventions help people to help themselves, to get the most out of their lives and to be their best selves. Salutogenic approaches, therefore, reach beyond Medicine, to maximise our endeavours, help us fulfil our desires and provide for our constantly evolving needs to improve our circumstances. This broad effort is understood as the basis for maintaining and supporting one's health (Golembiewski, 2013b).

Salutogenic theory explains how generalised factors affect well-being wherever we find ourselves on the health/illness spectra. As such, it is useful for managing indirect, complex, obscure or unknown factors of health such as our general motivations and frailties, including those that lead us to fall prone to illness.[4] Because salutogenic theory has this higher-level validity, it continues to make sense beyond the specific findings of experiments and singular design interventions (Strümpfer et al., 1998a, 1998b). Salutogenic theory provides a basis for informed decision making in the absence of specific knowledge or whenever circumstances are too complex to suggest easy solutions, such as design choices that must be made now for an unknown future. In short, salutogenesis is an excellent model to provide insight and inspire health professionals

[1]Environmental Medicine is a field of Public Health focusing on environmental toxicity and other specific risks to somatic health.

[2]Medicine, Medical and Health are capitalised to refer to the prevalent health paradigm, rather than to individual treatments, endpoints and goals.

[3]Antonovsky makes it clear that Salutogenic Theory does not advocate abandoning Medicine (1987, p.13).

[4]This kind of complexity typifies the way the physical environment affects health.

to provide intangible help in addition to just prescriptive treatments, and for non-health professionals (like architects and urban designers), Salutogenic theory helps recognise that they too can bring a health dimension to their work just by making spaces and places easier to negotiate and more human.

Relationships Between General Resistance Resources and Stressors

The theory of salutogenesis asserts that good social/emotional, psychological, and physical/somatic health is maintained through a dynamic ability to adapt to life's changing circumstances. The opposite is also true – challenges that are too great to overcome or adapt to exert an aetiological influence on illness. One 'succumbs to illness', when demands exceed one's capacity to cope with them (Antonovsky, 1972), that is when the salutogenic resources are not sufficient to support ones' needs and desires in the face of adversity and challenges. So, a germ on its own is insufficient to cause a disease – it needs to be cultured in an environment that lacks the capacity for resistance. Models that accept 'multiple causation' typically describe the specific influences that cause maladaptivity as 'stressors': but these must include everything from intensely joyous events to life's tragedies and banal concerns (Antonovsky, 1987). In effect, everything can be considered a stressor unless there is a model that can predict which stressors will cause failure and which will be successfully negotiated – or even be celebrated. The 'stress' concept, as it is widely accepted, is therefore useless except in post hoc reflection. The forces at work to improve adaptability, on the other hand, are specific enough to allow practical, buildable and highly bespoke solutions.

When applying salutogenesis to architecture, it is a useful conceit to picture GRRs and GRDs as opposing forces in a zero-sum equation. On the one hand, the combined support (the generalised resistance resources or GRRs) stack up (and must be stronger than) life's challenges, whatever they may be, which we can also imagine as deleterious forces (the generalised resistance deficits or GRDs[5]). Where GRRs are stronger, a person will be left with a robust, flexible and buoyant sense of coherence (SOC), which will maximise ones' resistance to illness, or (at the least) enable a prompt and full recovery. Where GRRs are low, adaptive failures will occur, and these lead to decline and even death.

[5]GRDs are not actually forces, much less deleterious ones called 'stressors' in most health promotion literature. Antonovsky observes that 'stressors' are 'omnipresent, …not necessarily pathological and may be salutary' in some instances (1987, p.12). They tend to be random and agnostic. The only danger is that there are absences of the resources needed to deal with them. The desert sun is an example. If you have photovoltaic panels, the same energy that can so easily kill can equally supply valuable power.

The GRRs fall into three domains, each of which relates to one of the dimensions in Antonovsky's description of the SOC in his 1987 book: '…the extent to which one has a pervasive, enduring though dynamic feeling of confidence that;

1. … one's environments… are structured, predictable and explicable;
2. The resources are available to meet … demands…; *and*
3. These demands are challenges, worthy of investment and engagement' (pp. 18–19).

The GRRs then, are those resources that enhance the cognitive domain – comprehensibility [1]; those that enhance the domain of action and physical resources – manageability [2]; and those that enhance the affective domain – meaningfulness [3]. The adverse forces, on the other hand, are any challenges to the resistance resources. In salutogenic theory, these are usually lumped together because they are ubiquitous, arising as they do from natural entropy and the relentless inevitability of eventual death. And much as we like to personify these negative forces as vindictive and aggressive, at least in his later work (1987 onwards), Antonovsky sees the GRDs simply as insufficiencies; as deficits that exert a continuous disintegrative force, allowing illnesses to overcome a person when the GRRs are too weak to support a robust and dynamic SOC (Antonovsky, 1996). But on occasion, the resource deficits can be very specific and vulnerable to specific antagonists, in which case the deficits are called the SRDs (the specific resource deficits) (Mittelmark et al., 2017). Scurvy, for instance, is caused by a lack of vitamin C. In this instance, no alternative resource will suffice. But at this level of specificity, the SRRs are inseparable from the treatments and preventions that fuel the Medical paradigm, so an important point can be made here: salutogenic interventions can be as specific as any medical intervention to address specific resistance deficits but are usually very generalised to fortify a person holistically.

When one is unable to adapt to circumstances and experiences, people cannot manage even the simplest tasks. This causes a 'breakdown' (Antonovsky, 1972: 64), and illness follows shortly thereafter. But with knowledge of the GRR/GRD (SRR/SRD) dynamics, a scaffold emerges that can be readily applied to tailor resources for just about all endeavours – including architectural and urban design. SOC-supportive design can help liberate the other GRRs to work together to enable resistance to disease and reduce the disintegrative forces that cause maladaptation in the first instance.

A useful way to illustrate salutogenesis is through metaphor (Fig. 26.1). A person regards adversity and challenges much as a knight who goes out daily to slay dragons. The knight finds meaning in fighting dragons (the meaningfulness salutogenic resource) – in protecting the society she loves so much, in the ribbon from her beaux that is tied to

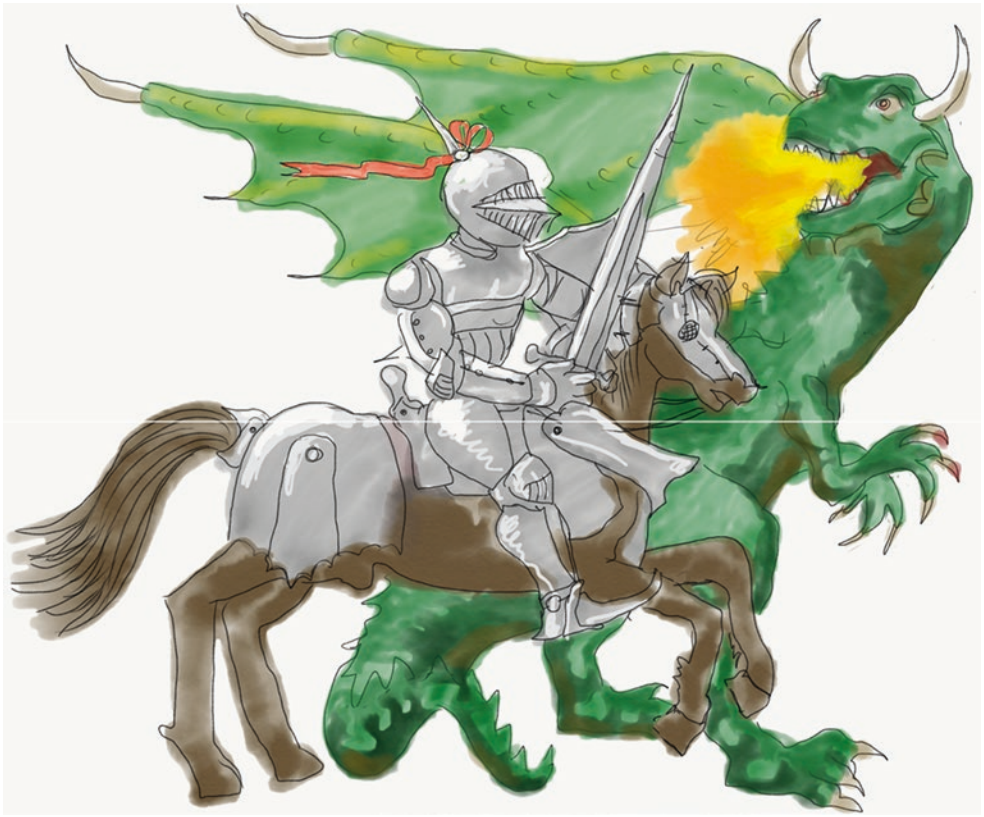

Fig. 26.1 A useful way to understand salutogenesis is through metaphor. (Illustration courtesy of the author by J Golembiewski)

her helmet, in the heroism of her actions. But the knight also needs to act, and protection and tools to do so: it is in her armour, shield and sword the knight finds her manageability resources. Finally, she also needs knowledge. The knight needs to know how dragons move and attack; she needs tactics, plans and skills – and knowledge about how to communicate to her horse. Here the knight finds comprehensibility resources. These resources are the specific resistance resources (SRRs) – collectively known as the generalised resistance resources (GRRs). Deficits in any of these resources (generalised resistance deficits – GRDs) are dangerous and potentially fatal – holes in her armour, insufficient knowledge about dragons, and most critically, a lack of desire to fight them in the first place, lead to severe losses and possibly even death. Success on the battlefield, on the other hand, is rewarded by life – the knight returns triumphant, to a hero's welcome. The overall feeling the knight has, that she will ultimately either fail or triumph, is called the sense of coherence (SOC). A strong SOC improves the chances of success and makes health more robust. A weak one makes the night more vulnerable to any surprise turns from the dragons. The dragon metaphor distinguishes between GRDs and stressors: the dragon is just as much a malign force as it is essential to the SOC of the knight. Without the dragon, the knight cannot battle and return victorious. The SOC then is dependent on both adversity and the capacity to resist it.

The Three SOC-Related Categories of Generalised Resistance Resources

'Comprehensibility' resources are those of the cognitive domain. These help to make sense of one's life narrative, one's context and current circumstances, and without this fundamental knowledge and associated skills, people have little capacity to make the most of life's circumstances or to negotiate its challenges (Golembiewski, 2012c). In essence, comprehensibility is a person's sense of 'agency'. The ability to negotiate most of circumstance is an essential resource; people feel terrible frustration when they just cannot get what they want because they do not know how or other reasons. Because of the dissonance a failure of comprehensibility might cause, an extreme failure is often patched with an untested or improvised epistemic scaffolding, precipitating delusional ideas and magical thinking (Keinan, 1994), the worst of which might present as symptoms or predictors of paranoia (Antonovsky, 1987) or even psychosis (Mason et al., 2004).

'Manageability' resources are of the domain of action and are thus about physical resources and real actions. These are personified by the words, *'I do.'* Manageability resources are those a person needs to act. Mostly this activity relates to day-to-day physical realities like staying warm, dry, clean, rested, nourished and other the maintenance requirements of their physical lives. Many manageability actions involve

critical processes such as cooking, cleaning and working. There is little question that these are basic concerns of architecture. But over the last few decades, concern for users' manageability has shifted to be more inclusive – to consider the needs of people with generic disabilities. Now manageability resources in architecture include requirements for *universal accessibility* – reachability, controllability, liveability comfort and staying safe – even for people who are deaf, blind or use wheelchairs.

In architecture, there is also a current trend to advance accessibility to the realm of *inclusive design*. Where universal accessibility aims to make the environment generically barrier-free for everyone but ends up making it easier for many users (with such things as the implementation of ramps for wheelchairs, strollers and skateboards), inclusive design attempts to *solve* accessibility problems for specific extreme cases, with the understanding that the solution will have side benefits for everyone (Clarkson et al., 2003) – for example, a designer might look at how buildings are used by people born with *amelia* (missing limbs). The architect might specify sound- or movement-activated light switches, which will provide the general benefits of making switches more sanitary and potentially even invisible. As advanced as it is, inclusive design is still largely concerned with enabling action and is, therefore, an approach to improve the manageability of architecture.

Manageability is mostly about doing things. And for the best part, this involves looking after one's self and others in your care. Failure to manage these tasks exemplify the traditional pathogenic definition of stress (Sapolsky, 2004), and total failure can easily lead to death.

'Meaningfulness': according to Antonovsky (1979) and Frankl (1963), meaningfulness is the principal reason for life. Meaningfulness resources are those of the emotional ('affective') domain. Meaningfulness provides the will to resist adversity, challenges, the entropic pull of illness and fears about death's inevitability. As such, it is (in so many ways) the most important of the salutogenic resources. Meaningfulness is also the most elusive because it is difficult to define and is intrinsically personal.

Meaningfulness is found in the intensity of personal connections, responsibilities and desires with the outside world: 'Profound ties to concrete, immediate others… and between an individual and his community are decisive resistance resources' (Antonovsky, 1972, p. 542). People find meaning in different social groupings, in different causes and concerns, and continually disagree wholeheartedly about how such concerns should be prioritised. Yet it is in these distinctions that people find the basis of a sense of identity and purpose (Frankl, 1963; Searles, 1966). Without meaningfulness, people find themselves utterly bereft of any desire to act and subsequently fall prey to somatic or mental illness (particularly the depressive signs and anhedonia) (Frankl, 1963; Searles, 1960, 1966), both of which can be fatal.

Aesthetics of the Built Environment Influencing Health

Salutogenesis is expressed in architecture through *affordances* – the opportunities that are structured into the environment that stimulate action; cause us to reflect on how we feel; or stimulate thought. Some of these affordances are aesthetic. They are thus 'regarded' as sensory information, rather than as things that directly manipulate us or vice versa. But this is a mistake. The idea that aesthetic concerns have an impact on health can be challenging because it could mean that where we thought about aesthetic decisions as ultimately empty opinions, these could prove to be therepeutic or deleterious.

For millennia humans have customised their accommodation as a resource to protect against danger, discomfort, wildlife, social threats and the deleterious effects of weather. Architecture's role in these protective purposes is fundamental. However, the supportive effect of architecture is not only physical but psychological too – if people cannot find respite from the pressures of life at home, the resulting compounding mental and emotional strain may be enough to cause debilitating mental illness, possibly even without an underlying biological or genetic dysfunction (Golembiewski, 2013a). But all shelter is not equal: even once we have achieved the basic need for shelter from the weather, the wild and other dangers, we continue to customise the environment on an aesthetic level (Fig. 26.2), in what appears to be an attempt to make the environment better on a psychological level. People have decorated their surroundings in all parts of the world since at least Neolithic times. Much of this effort is thought to be to create a sense of meaning and perhaps even to entreat gods to moderate circumstances that are otherwise beyond human control (Harari, 2015).

Perhaps because of these ancient origins, the correlation of aesthetics and health (and even on mortality) appears to be superstitious and occult and is thus not nearly as widely accepted as evidence suggests it should (Golembiewski, 2016). But the impact of aesthetics (such things as views and presence of potted plants) on health has been scientifically tested thousands of times, including dozens of studies against a null hypothesis (a statistical method used to demonstrate causality). In 2005, a systematic review located and analysed 30 peer-reviewed articles that showed this effect to be significant and reliable (Dijkstra et al., 2006), with findings that sometimes defy belief – for example, 30.8% faster recovery and 38% lower mortality were found when patients recovering in hospital were given sunlit rooms for psychiatric

Fig. 26.2 A 1400-year-old prayer niche in a cave in Göreme (Turkey) has been painstakingly carved and painted for apparently no functional purpose except to improve the space on a psychological level. (J. Golembiewski, Photograph courtesy of the author)

disorders (Beauchemin & Hays, 1996, 1998) (an effect size that cannot be reasonably traced to vitamin D deficiencies!)

From a salutogenic perspective, such findings are of immense importance: when people are healthy, they demonstrate a theoretical surplus of resistance resources, so for many people, aesthetic improvements are nice, but are not essential, unless they seek extraordinary levels of wellness. Maslow (1962) described these people as 'peakers' – the highly creative souls who maximise the human experience and thrive in a state of self-actualisation. These people have an insatiable desire for the greater states of well-being. But many people are not concerned for peak experience and are happy to get on being simply 'well' (Maslow, 1962) This means that many people who do not currently suffer from disease can too easily dismiss the impact of aesthetics. But when people are ill, they suffer in the balance between deterioration and recovery, so any genuine influences (whether for better or worse) are likely to reflect in their SOC, and because of that, their ability to recover. As an example, two cohorts of severe psychiatric patients (each n = 10) and 10 matched healthy controls were shown emotionally manipulative imagery whilst undergoing fMRI of their frontal lobes. When the observed inhibitory potential was subtracted from the activation caused by the images, the differences between the cohorts were extreme – especially when it came to negative images, where the psychiatric patients showed greater surplus excitation than the controls. The implication is that the healthy controls had the resources they required to process the negative images fully, and therefore barely noticed and change. Whereas the psychiatric patients did not have the resources to reprocess this information. The surplus triggered symptoms, therefore adding to the diagnosable criteria of disease, thereby making the patients only sicker (Golembiewski, 2012a).

When Antonovsky speaks of the outside world, he uses the term 'stimulus' to refer to the neurological effect the environment evokes (as observed in scientific studies like the one just mentioned). This way of referring to the environment typifies scientific attitudes, but the term denigrates the omnipresent and immersive quality of the environment, which is as fundamental to existence as the three dimensions of SOC. Certainly, the environment is replete with stimuli, but it is so much more than that because our bodies, minds and emotions simply cannot exist without context. The built environment is full of opportunities and restrictions – aesthetic ones (as above) and physical ones like fences and walls, and opportunities like pathways, bridges or windows. All of these determine the choices we make. Some are insignificant – for example, there is little phenomenological difference between a left or right turn, even though they are opposites. But many physical restrictions and opportunities are deliberately there to moderate our behaviour (Golembiewski, 2016). Consider the design of shops, for instance, where every detail is assessed on its capacity to improve sales (Turley & Milliman, 2000). The manipulative possibilities of the physical environment can be used to directly improve 'factors' which are thought to affect health outcomes also: cities around the world are compiling 'fit

city' design guidelines to encourage people to take the stairs and leave the car behind, and walk or cycle instead (City of New York, 2013; Jackson & Sinclair, 2012). Physical interventions like these are often assumed to be the most the built environment can do to improve health – if only because the therapeutic pathways between aesthetics and health outcomes are difficult to trace or predict. This is of course where salutogenesis is most useful. Salutogenesis groups supportive factors (GRRs, SRRs), and deficits (GRDs, SRDs), and when deficits outweigh resistance resources, people will fall sick in the way they are genetically, physiologically, biologically, mentally and socially most vulnerable.

When designing at an urban scale, models like the 'fit city' initiatives make axiomatic sense – with greater fitness, comes better health. And people mistakenly believe this to be the basis for the salutogenic effect (e.g. Mazuch, 2017). Although there is a relationship, it is not only because of increased fitness levels of residents. It is more because the 'fit city' architecture provides good things to do, positive choices and pleasant experiences, including exposure to urban green spaces, all of which support resistance resources. The 'fit city' choices have a broad psychological benefit to the whole community that far outweighs the physical fitness benefit that is conferred only to a few individuals. Perhaps the greatest generalised benefit is from having choices. The possibility of something healthy to do provides everyone with a sense of meaningfulness, regardless of whether the affordance is accepted and acted on. Of the impressive results reviewed by Dijkstra et al. (2006), none of the health improvements of persons in healthcare institutions was because the hospitals had more steps or longer corridors. Most salutogenic factors of causation are not directly somatic, but aesthetic – they are largely psychological rather than physical.

Promoting Manageability, Comprehensibility and Meaningfulness in Architecture

As pointed out early in this chapter, the traditional lens for understanding the impact of the built environment on health is focused on how well it provides basic functionality, shelter and whether it exposes users to toxins. The built environment is thus relevant to Medicine only in as much as it provides shelter, ease of cleaning and other basic functionality. This understanding has been somewhat updated to include views of nature to improve Medical outcomes, but still, it is a low bar. However, salutogenic architecture is not Medicine oriented; it is geared to support peoples' lives by helping them to cope with whatever life throws at them. It helps with manageability, comprehensibility and meaningfulness, and their collective synthesis: the sense of coherence (SOC). In other words, salutogenesis is a way of understanding the diverse ways a person can be helped through the natural process of recovery and development of positive health.

Manageability in Architecture

Perhaps one of the most obvious tests of the quality of architecture is manageability. Architecture is after all, the domain of the physical and tangible actions – and the built environment is nothing if not present in concrete reality. To understand what manageability is in architectural terms, we can look at the misery and impotence we feel when it is absent: the powerlessness we have when we cannot stop the weather (be it cold and penetrating rain, wind and snow or the opposite; unchecked heat and humidity) getting to us when we need something else – such as sleep or an environment where we can work. Poor design for manageability might be apparent in a building that requires you to bend over to reach things if you have arthritis, or again a chic home with white surfaces that never look or feel clean despite hours of effort.

In architecture, manageability resources are improved by:

- Functionality, 'fit-for-purpose' design
- Safety by design
- Barrier-free accessibility and design to enable action
- Person-centred design
- The design of positive affordances
- Forgiving design

Regarding *functionality and fit-for-purpose* design, the question is: does the design of your home/ workplace/school/ city/institutions enable you to *do* whatever it is that needs to be done or is the environment just a hindrance? Do not assume that the law or the good sense of architects have pre-empted these things for you. Do not expect that architects will ensure that a new home (which is surely a place to let go and relax) will be designed for that, and therefore fit-for-purpose. The responsibility for designing a building that actively fosters well-being can only be enforced by specific agreements to address this issue because fit-for-purpose design (bizarrely) is not considered a reasonable expectation of an architect (Cooke, 2001) – even if they are commissioned to design a family home, a school or hospital. On the other hand, that the design is *physically safe* is legally enforceable (and has been since the laws of Hammurabi of Babylon in 1792 BCE), and so too are specific access and egress provisions, especially for emergencies. But when armed with salutogenic theory to provide insight, manageability in architecture can mean so much more than just protection from the elements, safety and accessibility.

When talking about *accessibility and enabling action*, thoughtful consideration needs to be given to functionality and to the needs of anticipated users of the space over time.

The way salutogenesis looks to peoples' needs, and not only to the needs of any illness they may suffer ('the person needs care' vs 'the wound needs dressing'), makes the salutogenic paradigm intrinsically *person-centred*. Person-centred (and its industry-specific equivalents: patient-centred for healthcare; student-centred for education; customer-centred for retail, etc.) design pays attention to the details that make living life easier: door-handles that are easily manipulated and will not stress weak or arthritic limbs; a well-defined and distinctive front door for someone with Alzheimer's disease; low-contrast, low reflectivity interiors for ageing eyes, lecture halls that do not draw attention to late students, etc. Some features are more universal: Why design shelves above 150 cm (5′) for children, short males, most females or people who will one day grow old or might suffer a permanent or temporary disability?

These considerations improve the scope of manageability in design hugely. But manageability can be richer still. The most valuable tool designers can employ is *positive affordance design*. As mentioned earlier, we live an immersive experience of the world, and have an ecological relationship to it: the environment is not just 'stimulus'. We perceive the world around us through opportunities to act rather than through a rational cognitive process (Bargh, 1994; Gibson, 1979). These opportunities are called *affordances.* Mostly we sense affordances unconsciously. We walk down paths without thinking; 'Hey, how cool is it that this path is here, that it leads to where I want to go, and that the ground is stable and there's no poison ivy…' And yet we create paths like these all the time, and without them, we make entirely different choices. We sense affordances of all kinds – objects that inspire action, signs that tell us to do things and the calming aesthetic impacts of the natural environment (now there's where ART fits in!) (Golembiewski, 2013b). We are constantly presented with affordances, but the choice about whether to accept or deny the affordance is far more subject to our mood and outlook than most people can imagine. When we are feeling down or are ill, we are far less likely to notice positive things and far more likely to perceive negative ones (Golembiewski, 2012a). We are therefore more susceptible to make bad choices – that is, we are more likely to reject good choices and pick up on negative affordances than when we are healthy, happy and thriving (Golembiewski, 2014). But even when we are gloomy and in a space where we reject the best the world has to offer, having those good affordances present is nevertheless critical because the choice alone can make us feel better, *whether we accept them or not*.

Forgiving design improves manageability – a home that is designed to look great, even when it is a mess (Fig. 26.3); a building that is optimally positioned and ventilated to feel comfortable, even when the heating and air-conditioning are turned off (Brager & de Dear, 1998) (Fig. 26.4); an urban layout that is of a human scale, which enables you to walk to your destination (Zook & Ewing, 2010) (Fig. 26.5). All these affordances improve manageability.

Manageability is good and more manageability is better, but sometimes people find that decisions that are made to improve manageability can block the development of

Fig. 26.3 A home that is designed to look good, even when it is a mess. (J. Golembiewski, Photograph *courtesy of the author*)

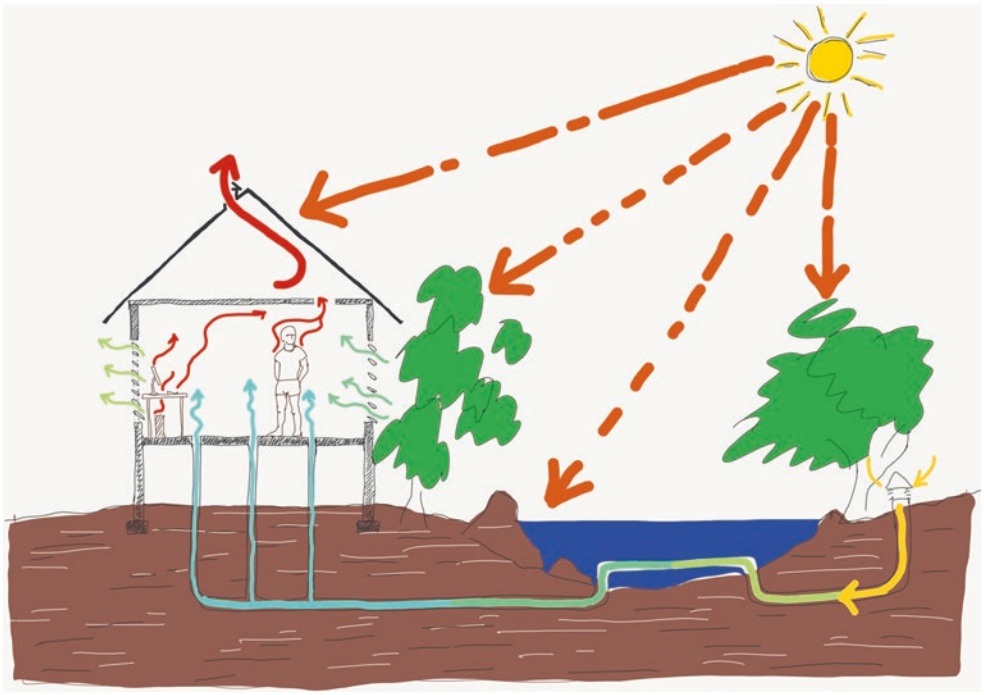

Fig. 26.4 A building that is optimally positioned and ventilated to feel comfortable, even when the heating and air-conditioning is turned off. (J. Golembiewski, Diagram *courtesy of the author*)

Fig. 26.5 An urban layout that is of a human scale, which enables you to walk to your destination – such cities are common in Europe. (Photograph of Ascoli Satriano courtesy of Giuseppe Valvano, under a CC Share-alike licence)

Fig. 26.6 During the Jewish festival of Sukkot, people sleep rough outdoors in improvised shacks to deny comforts for greater spiritual gains. (Photograph courtesy of ציון הלוי, under a CC Share-alike licence)

other more subtle salutogenic resources related to comprehensibility or meaningfulness, and therefore manageability may occasionally need to be sacrificed for other outcomes. A good example is diet. Someone may diet to reduce their body weight and to improve their self-image. Dieting is a deliberate restriction of manageability to improve comprehensibility because comprehensibility is about mental states (like self-image). Dieting may also be religious and therefore to improve meaningfulness. How this may apply to architecture is less obvious, but perhaps people may accept a smaller home to reduce their carbon-footprint or give part of their home over to others? There is a religious practice called Sukkah on the Jewish festival of Sukkot, where people sleep in a shack outside so they can feel the frailty of existence and acknowledge their dependence on the divine (Rubenstein, 1994) (Fig. 26.6). This is an architectural sacrifice of manageability for greater meaningfulness, although it is only temporary.

Comprehensibility in Architecture

Comprehensibility is the domain of the mind. It is 'the extent to which… the internal and external environments [make] cognitive sense… are orderable and explicable' (Antonovsky, 1987, pp. 16–17). An understanding of the rules, laws and the limits of the circumstances we find ourselves in gives us a foundation for improvement, should we wish to negotiate changes for our betterment. Comprehensibility, as it applies to the built environment, is therefore about a sense of agency: our capacity to understand, negotiate and customise the contexts we find ourselves in. It is about having the knowledge we need to get what we want out of life and to progress with certainty. Comprehensibility is structured into design through the following design values: readability, simplicity and predictability.

Of all these values, *predictability* is the most important. The brain is wired to feel uncomfortable with uncertainty, in a parallel way that the body is wired to react against hunger. If uncertainty is prolonged or significant, it will trigger the amygdalae, causing a fight/flight response, which in turn blocks frontal processes (which relate mostly to meaningfulness), the normal hormone and endocrine cycle is virtually abandoned while the brain secretes adrenocorticotropic hormones, glucocorticoids and beta-endorphin instead. This is good news if you are being chased by a bear because your blood pressure will increase to feed your muscles while you bolt. It also means the blood is more likely to clot just in case the bear gets a little taste. Various relevant psychological effects are also observed, including increased fear and paranoia. But unless you are genuinely being chased by a carnivore, these responses are more likely to kill you than uncertainty (Sapolsky, 2017). A lack of comprehensibility makes us feel like we are in a Kafkaesque trap: uncertainty is exhausting, frustrating and can feel like it will never end – in other words, it carries such a significant cognitive cost, many

people will make decisions that involve self-harm, rather than wait out uncertainty (Berns et al., 2006).

Predictability is enhanced in architecture and urban design by the other virtues – simplicity and readability. But the main risks to predictability in the built environment are not architectural (unless there is a risk of collapse), they are housing insecurity and unpredictability of a warm and welcome atmosphere. With unstable housing (bad rental agreements and risks of foreclosure) health (particularly Mental Health) outcomes are also at risk (Libman et al., 2012). The atmosphere in the city, at work or home, can also be subject to sudden change, especially in overcrowded situations where the actions of a few can radically affect the well-being of others (Ittelson, 1978), and the fear that this might happen can be more disruptive than the actions themselves (as demonstrated in the rat studies of Calhoun, 1952).

Simplicity aids a sense of predictability. It is the reason why Robert Browning's 'less is more' adage is so popular among architects (Browning, 1856- quoted by architect, Mies Van Der Rohe in 1947). Surprisingly, simplicity is not easy to achieve in architectural and urban design and is often the hallmark of experience. While simplicity is desirable because it carries a lower cognitive and somatic burden, it is also empowering because it renders the environment easily subservient to a person's needs. Wayfinding, for instance, is easy in a simple layout. In a simple layout, you can go from A to B without having to rely on signage or directions – the very typology, landmarks and locations of buildings, spaces or rooms will tell you their purpose. One can navigate a simple street layout or simple building layout easily, without frustration, getting lost or trying to remember tricky directions. Simple buildings are also flexible by nature. They lend themselves to customisation easily, which means they make good tools, helping people do whatever it is that needs doing, simply by getting out of their way.

Again, *readability* assists in *way-finding*. People should be able to tell from a distance what space, room or building is used for based purely on prior experience, memory or knowledge of familiar patterns (Albright, 2015). But we read more into our buildings than just purpose. We can also read the intentions that are embodied through design. We read the materials, the lighting and other details and make all kinds of assessments about who we are when we are in the space. 'Is the space for me or against me? Am I welcome here?' Architects and their clients should be certain that buildings are designed to give positive, generous and uplifting answers to questions like these.

The premise of inclusive design is that we should design for the minority who need special considerations, and the majority will benefit. For those people who suffer from confusion, hallucinations and paranoia, the importance of making sense of the environment cannot be underestimated (Woodbury & Woodbury, 1969). For this reason, it is important to provide familiar environments in all conditions where users are expected to relax, take respite and comfort (so that definitively excludes experiences which are designed to be extraordinary, such as rides in Disneyland). Familiarity will take on cultural hues, but familiar concepts, languages, objects, forms, materials, textures, typologies, emotions and expectations will all improve this sense provided that they are essentially regarded as positive (Golembiewski, 2010, 2013c). These things speak to authenticity in design, material choice and intent.

The authenticity of symbolism, intent and materiality speaks to the universal virtue of honesty, and again to predictability. On some level, honest design using natural materials, predictable typologies and other features of straight-forward design demands a reciprocal response from inhabitants and reflects on the behaviour of inhabitants also – as if the architecture calls us to ask, 'Is this place authentic, and does it demand an authentic response from me?' Although little formal research has been conducted to link this approach to health outcomes, this design property and its relationship with honesty and virtue has been long recognised by the Shakers of Maine, USA (Vincent, 2012).

Meaningfulness in Architecture

Constant action is required even to maintain homeostasis – you must breathe, eat, find shelter and so much more. This is because life is entropic: do nothing and you will die. Life is always an uphill battle. Even with constant attention and care, one will always have struggles and demons to fight, and a degree of failure is inevitable. At a point, the ultimate failure is assured because life itself is fatal. Having sufficient physical abilities and resources (manageability) helps, as does knowledge (comprehensibility) – but why would anyone even bother, except for an innate sense that life itself is worth it? This picture is depressing because what is being described here is what causes depression: find someone with no sense of meaning and they will be a portrait of the most distressing symptoms mood disorders. They will feel anhedonia (emotional flatness), avolition (disinterest in action) and may even present with alogia (where people stop bothering complete thoughts, validate assumptions and make sense).

The missing ingredient is meaningfulness: the thing that not only makes life worth living but can even turn hopeless adversity into joy. It is meaningfulness, the motivational power that drives us 'to get out of bed in the morning'. With a strong sense of meaningfulness, the salutogenic resource of affect (emotion) provides the capacity to turn ones' attention away from the uncertainties, negatives and difficulties of life and instead to focus instead on positive desires and what is otherwise good and purposeful.

Of all the salutogenic resources, meaningfulness is the most abstract. Indeed, the more abstract our concerns are, the more meaningful. Meaningfulness starts with concerns for 'the other' and expands into abstractions that are indistinguishable from fantasies; beliefs in non-physical entities, metaphysics and commitments to heroism that override any kind of logic (comprehensibility), our basic instincts for the preservation of life (manageability) and even our primal abhorrence of atrocities (Kruglanski et al., 2009) (Fig. 26.7). Meaningfulness is thus exemplified by heroic acts where concerns for the self are sacrificed for the greater good – the good, that is, of whatever it is that a person believes is worth living for. For most people, this means family and friends, the good of greater society, of culture, perhaps the well-being of the planet or ecosystem or even of metaphysical concerns built of myths, religious beliefs and quite possibly even delusions. (Why not? This level of abstraction is the zone of untethered imagination.) Against these haughty aspirations, the demands of the physical world (the domain of manageability) can all too easily sing like sirens, ready to dash the hero's boat on all-to-physical rocks: the demands that one focus on bills, leaks, dinner or sleep instead of ones' *magnum opus*.

The abstract nature of meaningfulness poses difficulties for architects who wish to foster it because architects are required to be concerned with concrete realities (literally). Where building materials, methods and compliance might preoccupy the architect, their clients' sense of meaningfulness is linked to symbolic and fleeting representations of personal narratives. In a sense, concrete concerns are for architects the equivalent of pathologies for Medicine. How and why should doctors focus on what patients' think and believe when there is an infection to treat? But just as Medicine is well advised to turn around and take an expanded salutogenic perspective, so too is architecture.

In architecture, meaningfulness resources are improved by:

- Design for the greater good
- Setting the stage for positive narratives
  (Often this means finding and eradicating meaninglessness-in-design)
- Embodying meaningful symbolic expressions
- Providing for meaningful engagement
- Design for positive choices

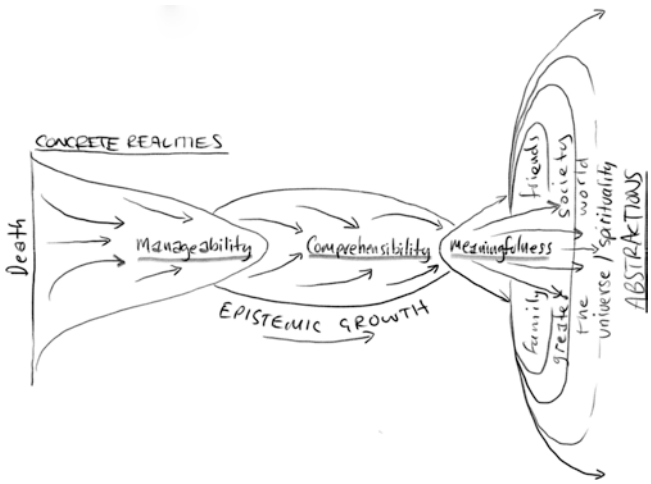

Fig. 26.7 Meaningfulness occurs most powerfully where concerns transcend self-interest and become more abstract – in connections, inspirations and metaphysical concerns. (Diagram J. Golembiewski, *courtesy of the author*)

Design for the Greater Good

What is good and bad depends on perspective – but as the dragon metaphor illustrates, salutogenesis is a broad enough theory to allow for contradictions. It does not matter what 'good' is, provided people feel it. The greater good (as it is addressed by architecture) traditionally means designing buildings that are harmonious with their surroundings (the decorousness and eurythmy of Vitruvius). More recently the fashion for expressing common 'good' has been in environmentally sensitive and low-carbon-impact design or civic-minded functionality.

Setting the Stage for Positive Narratives

Affect is processed using the limbic areas of the brain: the area of the brain that processes and deciphers narrative (Le Hunte & Golembiewski, 2014). Emotions and narratives are neurologically interwoven. When we feel, it is because our endocrine chemistry changes in response to the narratives we experience. And for this reason, the most direct way to design for meaningfulness and to elicit positive emotions is to create architecture using the language of storytelling: to design as if buildings, precincts, rooms and other spaces were stage-sets. By asking 'what does this "set" say to the user? And how does it deliver meaning?' architects can use the commonalities of language and culture to purposefully establish appropriate meaning. Similarly, the salutogenic architect can be surgical, addressing and designing for the SRDs that speak of undesirable narratives: the features of the built environment that say the wrong things and speak to meaninglessness as surely in real life as they do in a play: environments that are creepy or are difficult to negotiate are especially problematic – as are ones that use electronic surveillance, have disturbing acoustics, smells, textures or lighting in buildings and car-centric wastelands and dead-ends in urban design.

Embodying Meaningful Symbolic Expressions

Architectural stage sets can be designed with universal or near-universal symbols of the greater good, such as hope, growth and attainment. These symbols should be implicit, rather than applied. (A prison-like environment with the words 'hope, freedom and safety' emblazoned on the walls by an interior designer (it happens!) is more likely to cause frustration than a sense of release (Golembiewski, 2013d).) The same goes for inaccessible views of nature through impenetrable walls. But the quality of finish and construction on the other hand cannot be easily dismissed. There is no doubt that culturally some styles will fit better than others, especially in the domestic milieu, but *quality* transcends these differences because it says, 'we care about you' even beyond the mannerisms of style. Natural environments that are so cherished by advocates of ART, SRT and the BH serve a key role here. Good views generally are salutogenic, and more so if they reinforce our place as part of something bigger than ourselves like the natural environment. This effect is enormous. In a German city, people were cued to rate their subjective experience about 10 times/day over a week on a phone app. When asked, they rated subjective measures of wellness and happiness. This data was correlated to a map showing where the participants were, and how much greenery (a generic positive aesthetic affordance) was around them when they gave their ratings. Results showed that even a little greenery positively and robustly impacted on all health and happiness measures (Tost et al., 2019). The study was replicated with a neuroimaging study and a twist: Visible urban greenery made people feel on average 9–10 points better (on a 0–100 visual analogue scale), even when the subject was also exposed to salient emotionally aversive cues. Meanwhile, the greenery caused a significant *deactivation* of the dorsolateral prefrontal cortex (DLPFC) during this negative exposure, suggesting that negative social affordances were cancelled out by the green aesthetic experience. This makes sense – at least in as much as people care about the environment (and the recent wave of interest that catapulted Greta Thunberg to fame suggests that the green issue is more important to many people than religion.) And if there is validity in the ART, SRT and BH, then to at least a lesser extent, in everyone else also. So buildings that look out into nature or make an effort to reduce the carbon footprint (Fig. 26.8) naturally make people feel they are doing something meaningful for the environment and therefore improve meaningfulness.

Providing for Meaningful Engagement

Meaningfulness in architecture is improved whenever the design enables engagement in the things that create meaning and joy. The things we engage in are personal, and for this reason, meaningfulness is a shifting goalpost, changing with life-experience and circumstance. But humans are fundamentally alike. Humanity is at shared at familial, cultural, societal and even universal levels. If we consider the places people find meaning at these levels, then we can design spaces that afford those activities (without detracting from them) (Table 26.1).

Design for Positive Choices

Providing opportunities for engagement makes for good salutogenic interventions. But better still, is a *choice* of good things to get engaged in. A sense of abundance removes the pressures of poverty to make way for a sense of happiness (Cook, 2017), and there is no better way to impress a sense of abundance on people that by providing irresistible, positive choices. Over the history of mankind – or even of life itself, people have had few opportunities to sit back and make such choices, tethered as we tend to be by the demands of daily life whether it be filing tax returns to escape an audit from tax department trolls, or tilling fields to make sure there's stock for winter. If this sense of abundance and quality can be anchored by the architecture, there is little left for the architecture to do to create meaning. But the individual needs that are at the heart of meaningfulness are more important than choices alone: 'positive choices' do not always mean decadent indulgence - to some individuals the best choice may be to just 'be'. There is a salutary lesson in the myth of Prince Siddhartha, who rejected the trappings of the palace to sit naked under a mango tree to become the enlightened Buddha. Just as manageability sometimes needs to be sacrificed for comprehensibility of meaningfulness, so too the trappings of meaningfulness may need to be sacrificed for the thing itself – but that is no longer the domain of architecture.

Discussion

Since Dilani (2006) brought the concept of salutogenesis to healthcare design, he has led the International Academy for Design and Health to promote salutogenic theory in healthcare architecture throughout the world, even offering an annual prize for excellence in salutogenic architecture. As

Fig. 26.8 88 Angel, by Steele Associates Architects, is a stage-set that makes a clear statement about meaningfulness. This terrace of low-energy houses not only provides 'views of nature' it is buried by it and it also gives views away to neighbours and passers-by. It is also located near the heart of Sydney so it is the perfect place to establish social connections. (Photograph © Steele Associates Architects, courtesy of Steele Associates Architects)

Table 26.1 Some generic architectural solutions to encourage the discovery and maintenance of meaning in life

Area of engagement	Practical solutions
Interests: Creative, intellectual works, sports.	Studios, halls rooms and spaces designed for specific activities (that do not detract by being too noisy/too quiet, too difficult to keep clean etc. See manageability).
Animals	Design for pets. Is there sufficient space? Are there open areas? Are the surfaces going to limit the inconvenience of fur, feathers, poo and animal noises?
Family and friends	Good spaces for entertaining. Fun provisions for visitors (got a swimming pool?) Kitchens that are in the heart of the action, spaces for kids to play safely, etc..
Greater society	Good locations, urban living, good transport connections, appropriate typologies and decorous designs.
World	Views of nature, natural materials, low-carbon footprint.
Universe	Bespoke religious affordances and symbols, 'sacred' architectural forms.

a result, the concept has grown in popularity at least as a buzzword. The result is that salutogenesis is now a respected and encouraged design goal. The downside is that the term 'salutogenic' is overused by architects, most of whom do not know what it means. As a result, at times, the term can mean nothing more systematic than 'friendly-looking' or 'leafy'. This is not to criticise those designs – after all, 'nice looking' and 'leafy' are often the outcomes of more systematic salutogenic approaches, but there is so much more unexplored potential in the concept. There are now systematic methods to bring salutogenic principles in many areas of institutional design: healthcare design (Golembiewski, 2010, 2015) and emergency care (Golembiewski, 2012b) and aged care (Golembiewski, 2017a, 2017b) and dementia care (Chap. 48 of this volume). And when adopted appropriately, salutogenic architecture is invariably exemplary. Some of these projects reach beyond the accepted evidence basis for health-promoting design (generic factors like views of nature and allowances for natural daylight) and explore the realms of story-making, psychology, neuroscience and

endocrinology. It is now time for salutogenesis in design to be deployed outside of institutions, in workplaces, in urban designs and in people's own homes. But for this to happen, it is time to wrestle the term from the clutches of marketeers, and for solid salutogenic theory to become part of the architects' tool-bag.

Challenges for the Future

Salutogenic principles are a practical way to integrate the dynamics of health and experience with architecture. But for people in praxis, challenges abound: in most countries the procurement systems are conservative, and led by precedents and guidelines, and controlled by stakeholder groups who struggle to save capital, often with little regard for on-going healthcare costs. The decision-makers are usually poorly informed or simply do not believe in the capacity of aesthetics to influence health. To add to this, the pathogenic model of health is dominant in the healthcare sector, a field with enormous inertia, which will not reorient towards health promotion easily. As a result, stakeholders may place a greater stake in 'keeping it normal' than on real benefits of change. Belief in the value of functional efficiencies, traditional finishes and approaches are not changing fast. Although some groups (particularly in the private sector) are beginning to understand how salutogenic values can lift their game when faced with shrinking budgets, tight deadlines, constricted sites and profit-oriented project managers, the question is will they have the courage to go beyond generic 'views of nature' tropes?

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Part V

Salutogenesis in Health Promoting Settings: Organisations, Communities and Environments

Salutogenesis in Health Promoting Settings: A Synthesis Across Organizations, Communities, and Environments

27

Georg F. Bauer

Introduction

Settings are defined as "the place or social context in which people engage in daily activities in which environmental, organizational, and personal factors interact to affect health and well-being" (WHO, 1998). Such settings range from small-scale home/family to (international) organizations and large cities and thus differ in size, in their degree of formalized organization and their relationships to society.

The WHO Ottawa Charter for health promotion (1986) states that "health is created and lived by people within the settings of their *everyday life*; where they learn, work, play, and love" (emphasis added). Thus, this section focuses on how health is continuously promoted by everyday life in these settings and how health can be further enhanced through targeted interventions, leading to thriving settings and humans. This perspective is complementary to the section on healthcare settings that are explicitly in charge of dealing with health/disease. It is also complementary to the section on challenging social circumstances and environments that show how people can cope with and survive health-threatening situations.

In line with the salutogenic orientation, the WHO Ottawa Charter (1986), 35 years ago, clearly defined that health is a "…resource for everyday life …. A positive concept emphasizing social and personal resources, as well as physical capacities …. To reach a state of complete physical, mental, and social well-being." Surprisingly, later the WHO followed a more pathogenic orientation: "Healthy Settings, the settings-based approaches to health promotion, involve a holistic and multi-disciplinary method which integrates action across *risk factors*. The goal is to maximize *disease* prevention via a 'whole system' approach" (emphasis added) (WHO, 2015). The generic settings literature agrees upon several broader principles of the settings approach (Dooris, 2005, 2009; Paton et al., 2005; Poland et al., 2009; Shareck et al., 2013):

- Ecological model of health.
- Taking a whole systems approach considering reciprocal relationships within the system, between its subsystems, and its environment.
- Organizational development for change.
- Promoting participation as key process of interventions.

However, this generic literature makes no (Paton et al., 2005; Whitelaw et al., 2001) or only very brief general references to salutogenesis as a source of orientation for the settings approach (e.g., Dooris, 2005, 2009, 2013; Poland et al., 2009).

Application of Salutogenesis in the Chapters in Part V

The enclosed chapters review how salutogenesis has been applied to health promotion research and practice in a broad range of settings: organizations in general, schools, higher education, workplace, military settings, neighborhood/communities, cities, and restorative environments. Much of this setting-related literature is firmly rooted in general health promotion principles: interventions should be empowering, participatory, holistic, inter-sectorial, equitable, sustainable, and multi-strategy (Rootman, 2001).

However, in most cases, also this specific literature on single settings only loosely refers to salutogenesis. Some fields such as restorative environments or occupational health developed strong conceptual and empirical knowledge outside the salutogenic model—and the authors of the respective chapters show how these developments can be interpreted within the framework of salutogenesis. There is only limited research on specifying the sense of coherence

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and other elements of the salutogenic model (e.g., generalized resistance resources, salutary factors, ease−/dis-ease continuum) and their relationships for specific settings.

In contrast, research on designing interventions to promote salutogenesis actively is growing, for example, in the settings of neighborhoods, schools, worksites, or military settings. The following subsections identify key relationships between salutogenesis and settings emerging across these chapters.

Overall Conceptual Relationships between Everyday Settings and Salutogenesis

Most chapters agree that the general settings approach conceptually is in line with salutogenesis—as both imply not to target individuals and single risk factors or disease outcomes, but groups and upstream, environmental determinants of health and well-being. As everyday settings constitute key, influential life domains on the meso-level between the individual and the broader socioeconomic environment, the generalized resistance resources (GRRs) experienced in this context are expected to be a particularly strong source of the sense of coherence (SOC) of the members of the respective setting.

For the future, the settings approach could offer meaningful categories for classifying GRRs. GRRs can be specified by setting, for example, family, neighborhood, and work. Within a setting, subdimensions of GRRs can be identified based on key characteristics of the setting. Chap. 31 on work discriminates factual, task-related resources from relational, social resources. Chap. 33 on communities and neighborhoods distinguishes between settings as a place (natural and built environment), identity (sense of community), social entity (cohesion, social capital), and collective action (reactive-resilience; proactive-community action)—all meaningful categories of GRRs. Such clearly defined GRR categories would allow the study of their relative importance for developing the general SOC and a newer concept—a setting-specific SOC. The latter concept refers to the idea that each setting will vary regarding how comprehensible, manageable, and meaningful its members and customers perceive it. A person's setting-specific SOC will partly depend on her overall SOC. Her setting-specific SOC may also vary from setting to setting. For example, the setting-specific SOC may be quite strong in a person's educational setting and weaker in the same person's work setting. Following this line of reasoning, and inspired by previous developments like the family SOC, as an example we have developed and tested a work-related SOC scale (Bauer et al., 2015; Bauer & Jenny, 2007; Vogt et al., 2013).

Interrelationships between Settings from a Salutogenic Perspective

The idea of setting-specific GRRs and SOC raises the interesting research question of how they influence each other *across* settings and how they differentially contribute to developing the generic SOC, health, and well-being. Whereas most of the enclosed chapters treat the various everyday settings separately, some reflect on such relationships between life domains.

Maass et al. show that SOC is influenced by different life domains (Maass et al., 2014): the satisfaction with the quality of neighborhood resources was significantly related to non-workers' and low-earners' SOC—but not in employed persons. The authors conclude that deprived groups might benefit most from health promotion in neighborhoods—as they depend more on neighborhood quality. Research on restorative environments looks at the everyday variation of mostly ecological resources due to diverse person-environment interactions during the day—considering both short-term effects on functioning and long-term, accumulative health effects of these cross-domain dynamics. It finds that work-related demands brought home by a person can constrain her recovery experience at home.

Research on the interface of work and non-work is of particular interest. It builds on several overarching theories potentially relevant to a better understanding of how GRRs positively influence health within and across settings. Research on the work/non-work relationship has moved from an originally heavily pathogenic focus on work-life conflicts to the more positive work-life enhancement processes and work-life balance as a positive outcome (Greenhaus and Allen, 2011). From a salutogenic perspective, the experience of balance could be understood as due to the successful balancing of stressors and GRRs across the involved life domains. Other promising theories relevant to a better understanding of GRRs include conservation of resource theory (Hobfoll, 1989, 2001), the work-home resource model (Brummelhuis & Bakker, 2012), compensation theory, ecological systems theory, social identity theory, or spillover theory (Demerouti et al., 2012; Michel et al., 2009).

Dynamics of the Development, Depletion, and Restoration of GRRs and SOC

Antonovsky was especially interested in the long-term development of the SOC and the related role of GRRs. The chapters in Part V give insight into the challenges of making transitions to new life phases, shifts that might outpace the development of GRRs. Such transitions include entering the

educational system or the job market, founding a family, or reaching retirement.

Several chapters also address the dynamics between GRRs, the SOC, and health. Research on restorative environments examines the daily "dynamics of depletion and renewal of resources needed for the maintenance and promotion of health and well-being" (Chap. 35, in this volume). It offers several theories explaining the restorative processes, such as the psychophysiological stress recovery theory and attention restoration theory. According to this theory, an environment is restorative if it is "rich in fascinating features, is perceived as coherently ordered and of substantial scope, and is compatible with what the individual wants to do" (Chap. 35, in this volume). These characteristics seem to overlap considerably with the SOC dimensions. Von Lindern, Lymeus, and Hartig point out that this theory could be of value in examining the suggestions that a weak SOC is due to initially too few GRRs and/or persistent deficiency in restoring overused GRRs.

In the work setting, the effort-recovery theory looks at the day-to-day dynamics of recovery from work-related stress through cognitive-emotional detachment from work. The job demands resource model that allows to study the dynamics of job resources, for example, by disentangling stable and changing parts of job resources over time (Brauchli et al., 2013) or by looking into reciprocal relationships of gain and loss cycles between job resources and health outcomes.

Consider Positive Health Outcomes and a Path of Positive Health Development

Chap. 5, "Aaron Antonovsky's Development of Salutogenesis, 1979–1994" (Vinje et al., this volume), shows that Antonovsky wanted to move beyond categorical disease outcomes by introducing the ease–/dis-ease continuum. However, he refrained from defining positive health, partly to avoid the medicalization of health and its potential misuse by power holders.

Still, most of the Part V chapters on everyday settings claim that considering positive health outcomes is one of the key criteria for classifying research and practice as salutogenic. As mentioned above, also the WHO Ottawa Charter (1986) defined health positively as "social and personal resources, as well as physical capacities …. to reach a state of complete physical, mental and social well-being." At the same time, most authors in this section agree that concrete measures of positive health outcomes are urgently needed. Chap. 30 on school settings proposes well-being, quality of life, control, action competence, and the ability to play and dance as positive health measures. Linking interventions to positive instead of disease outcomes is also considered to better resonate with people's positive goals in their everyday settings—a prerequisite for developing ownership of the interventions.

Chap. 35 on restorative environments shows that restoration can be promoted by "allowing people to become *positively engaged with pleasantly interesting experiences* in the moment …" (emphasis added). Also, Chap. 31 on salutogenesis at work shows that the job demands resource model emphasizes a positive, motivational path from job resources to engagement as a positive outcome in its own right. The chapter illustrates how merging this logic with the generic health development model (Bauer et al., 2006) results in the job demands resource health model (Brauchli et al., 2015). This model suggests the simultaneous study of three parallel paths: job demands leading to disease outcomes (pathogenic path), job resources helping in coping with life stressors (original salutogenic coping path suggested by Antonovsky), and job resources leading directly to positive health outcomes (salutogenic path of positive health development).

Social Relationships in Settings: Group-Level SOC in Settings

Antonovsky's suggestion to conceptualize and measure the SOC on a group level has been repeated by several authors in Part V. As discussed in Chap. 5 in this book, Antonovsky proposed that SOC can be an emergent collective property in families, neighborhoods, and workgroups. He defined a group with a strong SOC as "a group whose individual members tend to perceive the collectivity as one that views the world as comprehensible, manageable, and meaningful…and … a high degree of consensus in these perceptions" (Antonovsky, 1987, p. 174). He suggested several preconditions for the emergence of group SOC: sustained collectivity, group consciousness, overriding centrality of the group in members' lives, interwoven self-identity, and social identity. As key mechanisms, he suggested that groups with a strong SOC tend to structure situations that strengthen individual members' SOC and activate their collective resources.

As settings are defined as social systems, and as social relationships play a central role in their functioning, the idea of a group SOC could reasonably apply to settings. However, one needs to ask if postulating and measuring a group SOC adds additional power or meaning for explaining health development. At the very least, the concept of group-level health development processes deserves more attention.

Inclusion and Equity Perspective

In Part V, several chapters point out that settings are spaces in which diverse groups can be present—facing quite diverse living situations. This implies considering *differences* in health development between groups in the same, shared setting with different cultural and socioeconomic backgrounds or life stages. At the same time, settings as shared social systems provide opportunities for *linkages between and inclusion* of such diverse groups, considering interdependencies across settings, for example, between working conditions, quality of family relationships, and quality of a neighborhood. Conceptually, such an inclusive perspective is promoted by the whole systems approach of settings as exemplified by whole schools or whole universities. From a salutogenesis perspective, this would imply studying differential, clustered opportunities for GRRs across various life domains and different levels of GRRs and setting-specific SOC for subgroups within settings.

Salutogenesis Guiding Coherent Interventions in Settings

Salutogenesis can guide interventions by pointing to GRRs, SOC, and positive health as key targets to be enhanced. At the same time, basic levels of GRRs and SOC are prerequisites to engage in the intervention process in the first place. Chap. 31 on work shows that a minimum level of job resources such as social support and recognition facilitates engaging in and benefitting from an intervention (Jenny et al., 2015). As pointed out in Chap. 35 on restorative environments, taking part in interventions by itself requires attention—for example, by acquiring new knowledge and skills. Thus, initially, interventions could be perceived as additional stressors and add to further depletion of attention resources.

Most chapters suggest participatory interventions to assure perceived relevance and ownership of the content of the intervention. To capture simultaneously potential negative and positive characteristics of the intervention process, one could ask participants about the intervention's comprehensibility, manageability, and meaningfulness. This intervention-related SOC has been applied in a large-scale stress intervention study in organizations and shown to be positively related to outcome expectancies of the intervention (Jenny et al., 2015). Bull et al. make a direct link between local development initiatives and SOC: "By mobilizing the capacity and assets of people and places, local development initiatives will make sense logically in the local context (comprehensibility), (…) practically realistic (manageability) and they will be motivating because they are meaningful, based on involvement in decision-making processes (meaningfulness)" (Bull et al., 2013, p. 171).

Further, most authors in Part V agree that linkages between the settings of interest and its broader, relevant environments need to be taken into account during interventions. These environments are sources of higher-order, upstream health determinants, and simultaneously contain external beneficiaries of health promotion interventions. Some chapters indicate that intervention success in one setting might depend on experiences in other settings. The case of community/neighborhoods shows that particularly people with lower-level jobs benefit from neighborhood interventions. Research on restorative environments, effort-recovery, and work-life balance suggests developing interventions to improve boundary crafting skills of people moving daily through their life domains to protect and restore key GRRs.

Conclusions for Future Research and Practice

The above synthesis demonstrates that applying salutogenesis to various settings and linking salutogenesis with other models established in these settings has the great potential to generate ideas on how to advance the general salutogenic model. First, it seems promising to study more the *temporal and spatial dynamics* of GRRs and SOC: short-term, daily changes, and relationships; relationships of GRRs and SOC across settings; changes of GRRs and SOC in life transitions. Second, *specifying the salutogenic* model for a specific setting allows one to select and study relationships among the elements of the salutogenic model that are particularly relevant to the setting's context. Third, the salutogenic model could guide interventions that by themselves are comprehensible, manageable, and meaningful, and thus directly strengthen the SOC. Fourth, everyday settings remind us that life is not only about surviving Antonovsky's "dangerous river of life." Instead, settings where people "learn, work, play, and love" are also about thriving. They is a key source of positive life experiences such as joy, growth, self-actualization, and flourishing—an emerging new research area that could lead to an expanded salutogenic model (Bauer et al., 2020).

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Applying Salutogenesis in Organisations

28

Georg F. Bauer and Gregor J. Jenny

Introduction

A health-promoting setting is 'the place or social context in which people engage in daily activities in which environmental, *organisational*, and personal factors interact to affect health and wellbeing' (WHO, 1998; emphasis ours). Several of the settings covered in Part V are more or less formalised organisations themselves, such as worksites, schools, universities and the military, whereas others are at least heavily influenced by organisations, such as cities, neighbourhoods or restorative environments. Thus, understanding how organisations influence health is crucial for promoting health in and through settings.

Organisations influence the health of society through three major paths: the health of their employees through working conditions, the health of their customers through the quality of their products or services and the population's health at large through their socio-ecological impact. This chapter focuses on the first path of *organisations' impact on employee health through working conditions*. It complements the chapter on salutogenic work by expanding the level of analysis to organisational characteristics. The chapter aims to be particularly applicable to for-profit organisations, in which it is exceptionally challenging to introduce a health agenda.

The chapter first introduces the key concept of organisational health development (OHD), as well as the changing economic and societal context with its implication for research and practice on OHD. Next, it reviews previous research on organisational health that is directly related to the salutogenic model or at least has a salutogenic orientation. Building on this background, the chapter presents our own OHD model that combines both a pathogenic and salutogenic path of health development. Further, the chapter shows how this OHD model is related to the salutogenic model and how it can guide salutogenic interventions in organisations. Finally, conclusions are drawn concerning future salutogenesis-based practice and research in organisations.

Introducing the Key Idea of Organisational Health Development

Fundamentally, this chapter relates to the EUHPID Health Development Model (Fig. 28.1; Bauer et al., 2006) as the underlying concept of *individual health development*. This model states that health is continuously developed through the interaction between individuals, their individual health determinants and their relevant living environments. This interaction can be characterised from a pathogenic perspective (*risk factors⇔ ill health*) and a salutogenic perspective (*resources ⇔ positive health*). Following this model, organisations can be considered a key living environment and thus a significant contributor to both pathogenic and salutogenic health development.

Accordingly, we defined *organisational health development* (*OHD*) as both the *ongoing* reproduction and the *targeted* improvement of health in organisations as social systems, based on the interaction (process dimensions) of individual and organisational capacities (structural dimensions) (Bauer & Jenny, 2012, p. 135). In other words, ongoing OHD relates to all processes within the social system – the organisation – that have a salutogenic or pathogenic impact on individual health, whereas targeted OHD relates to optimisation processes that are explicitly aimed at improving the ongoing reproduction of individual health (Jenny & Bauer, 2013).

In relation to the salutogenic model, a healthy organisation provides an environment that fosters job resources –

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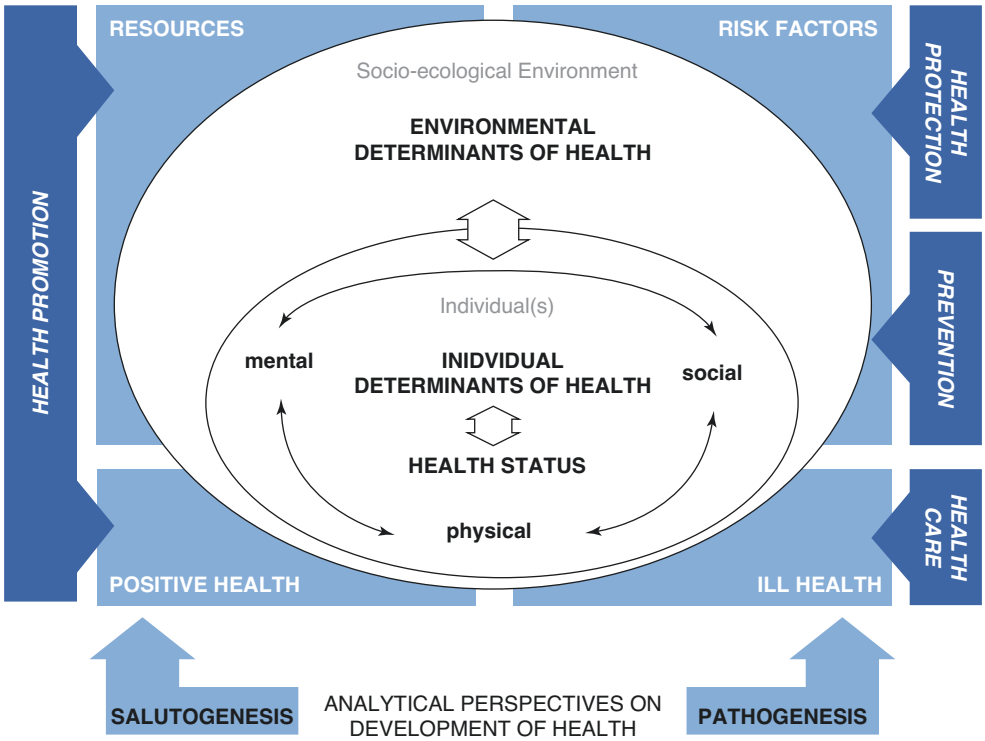

Fig. 28.1 EUHPID health development model (Bauer et al. (2006). Reprinted by permission of Oxford University Press. © The Author (2006). All rights reserved. For Permissions, please email: journals.permissions@oup.com. This figure is not covered by Creative Commons license of this publication)

which can be viewed as generalised resistance resources (GRRs) – that lead to coherent work experiences, a general sense of coherence (SOC) and positive health (see the JD-R Health Model in Chap. 31 on carly, it keeps job demands – or stressors – within an acceptable range and as such reduces the risk of ill health in its employees. In short, a *healthy or salutogenic organisation* is low in producing pathogenic processes, but high in producing salutogenic processes – for both its human members and the whole organisation as a complex social system that vitally pursues its purpose.

Context: The Growing Significance of Organisations for Health

In most contemporary societies, we live and work in highly organised contexts. Throughout our lives, we directly encounter many different organisations as students, employees, volunteers and customers or are indirectly exposed to environmental damages caused by organisations. Thus, the salutogenic quality of these encounters becomes an ever more important determinant of population health.

On a societal level, research shows that during working age, a large proportion of inequalities in health can be explained by inequalities in working conditions. At the same time, people in lower job positions have limited opportunities to change their job if it is detrimental to their health. Organisations are under pressure of global competition and need to continuously adapt to a changing economic environment. Such volatile organisations force employees to change jobs, their employer, or even their profession. This leads to weaker psychological contracts and less job security – the latter being a key resource for SOC, according to Antonovsky (1987a). The requirement of continuous flexibility is intensified by the digital transformation, which not only allows additional flexibility of working hours and working places but also demands continuous adaptations to new situations.

Job tasks and thus job characteristics have been shifting from primarily physical to psychosocial work processes. This implies new forms of 'exposures' to work-related threats and opportunities. At the same time, physical health and work ability are not sufficient prerequisites to fulfil such jobs. Instead, in a knowledge- and service-oriented economy, organisations expect their employees to display comprehensive biopsychosocial workability, agility, active work engagement and positive relations to customers.

These societal and organisational changes meet a changing workforce: increasingly well-educated employees demand more autonomy, self-defined flexibility, meaningful jobs supporting their self-fulfilment, opportunities for personal development and a good life domain balance. If these requirements are met, employees are more likely to remain in working life until retirement age – an urgent need in the face of an ageing society. This individual search for flexible and fulfilling work meets the increasing search for purpose-orientation by organisations as a whole, that is, these individual and organisational needs come together in the recently

emerging concept of purpose-driven organisations (Johnson et al., 2019).

Implications for Practice and Research

International health-promotion networks have been created for professional organisations providing public services – including health-promoting schools, universities, cities and hospitals. These networks share that they follow a whole-systems approach. In for-profit organisations, health issues are addressed in more limited ways by legally required minimum standards for occupational safety and health and via worksite health-promotion networks largely focusing on traditional lifestyle-related health issues and individual workers' productivity. Although approaches such as the NIOSH 'total worker health' or the WHO healthy workplace model (WHO, 2010) aim to promote more integrative, comprehensive OHD approaches, their dissemination is limited because they face fragmented structures within organisations – with diverse stakeholders and specialists such as safety specialists, ergonomists, occupational physicians, case managers, occupational psychologists and human resource managers – as well as traditional top-down power structures challenging participatory, empowering, employee-centred health-promotion approaches (Bauer & Hämmig, 2014).

At the same time, the VUCA context of organisations described above (i.e. their volatility, uncertainty, complexity, ambiguity) implies that the stable boundary conditions needed for static, legally required occupational health and safety systems and for more comprehensive approaches to workers' health are disappearing. As a reaction, organisations increasingly offer individual-level interventions focusing on health-related competencies and the self-responsibility of employees. As a complementary strategy, we could build the capacities of organisations to continuously self-observe and self-improve their impact on employees' health. This approach is at the core of this chapter and is expected to work well in unstable organisations with continuously changing workforce compositions. Developing such a capacity-building approach first requires a good understanding of how health continuously develops in organisations and what intervention approaches exist for targeted improvements.

Organisational Health Research Explicitly Related to Salutogenesis

Research on salutogenic health development in organisations has been focusing on the relationships between employee-level working conditions and SOC in employees. This research is summarised in Chap. 31 on salutogenesis in the workplace and in Chap. 9 on SOC in this volume. In contrast, little conceptual and empirical research has examined broader, organisational-level factors in the context of salutogenesis. Some research at least addresses specific aspects of organisations (e.g. climate, leadership) in relation to salutogenesis or selected elements of the salutogenic model (e.g. SOC) in relation to organisations.

Antonovsky himself assumed that the type of organisation influences the degree of recognition an employee receives and the meaningfulness of his/her job (Antonovsky, 1987a). Feldt et al. (2000) showed that a good organisational climate and working for an organisation providing job security were strongly correlated with a strong SoC, which, in turn, was associated with well-being. Muller and Rothmann (2009) found that employees with low vs high SOC scores differed in their perception of so-called helping and restraining factors in organisations. Two studies found correlations between various leadership dimensions (e.g. organisational climate, supervisory support and teamwork), cultural beliefs and SOC (Cilliers & Kossuth, 2002; Kossuth & Cilliers, 2002). Other leadership studies found that leaders with high versus low SOC scores reported a better understanding of diversity management (Cilliers, 2011), a more positive attitude towards gender in organisations (Mayer & van Zyl, 2013), and capacity for innovation management in organisations (Krafft, 2012). Eberz and Antoni (Eberz & Herbert Antoni, 2016) introduced a systemic salutogenic interaction model that suggests examining how work-related SOC, attitudes and behaviours of leaders and employees interact in an organisation. Graeser (2011) developed an organisation-based SOC scale 'to identify potential salutogenic factors of a university as an organisation and workplace'. Building on Antonovsky's development of a family SOC (Antonovsky & Sourani, 1988), she proposed a setting- or group-based SOC conceptualised as the 'interaction and transaction between the individual and the setting (e.g. family, community, organisation, school, university, workplaces, etc.)' (Graeser, 2011, p. 509). Following the dimensions of the general SOC, the university SOC scale assesses how far a university as a whole is perceived as comprehensible, manageable and meaningful. Cross-sectional analyses showed significant correlations with various disease symptoms in two university samples (Graeser, 2011).

Broader Organisational Health Research Aligned with the Salutogenic Orientation

Beyond this explicit salutogenic perspective, there exists much research on occupational and organisational health that considers organisational-level factors. During recent decades, this research has increasingly shifted away from a negative focus on stressors, stress, disorders and dysfunctioning to a positive focus on job and organisational-level

resources and positive (health) outcomes. Examples are 'positive occupational health psychology' focusing on the employee level, 'positive organisational behaviour' linking individual, short-term, state-like outcomes to organisational factors and 'positive organisational scholarship' emphasising organisational, longer term outcomes (Bakker & Derks, 2010; Bakker & Schaufeli, 2008; Cameron et al., 2003; Day & Randell, 2014; Gilbert & Kelloway, 2014; Luthans & Church, 2002; Nelson & Cooper, 2008).

This positive perspective has been considered to be part of a larger movement towards positive aspects in social sciences including fields like positive psychology, community psychology, organisational development, appreciative inquiry, pro-social and citizenship behaviour as well as corporate social responsibility as 'other traditions with a focus on positive phenomena' (Cameron et al., 2003, p. 7). This list also exemplifies that the positive turn is accompanied by a trend to look beyond individual-level health resources by including a broad range of social and organisational determinants of health (see also Bennett et al., 2002; Hofmann & Tetrick, 2003). Interestingly, this shift corresponds to Antonovsky's much earlier (1979, 1987b) concern to look beyond individual risk factors by addressing overarching GRRs on any level, from the individual to the society at large. It also aligns well with the salutogenic orientation introduced in Chap. 3 of this volume.

Previous Conceptualisations of Organisational Health

In the search for a comprehensive model covering both pathogenic and salutogenic health development processes within the organisational context, we previously conducted a broad review of the conceptual literature covering the field of organisational health (development) (Bauer & Jenny, 2012). We had structured this review into three aspects that are summarised here.

Organisational health 'outcomes': Based on 16 different earlier definitions of organisational health, Hofmann and Tetrick (2003) developed a two-dimensional integrative framework, distinguishing short- versus long-term health outcomes, as well as intrinsic versus extrinsic health goals. Referring to the literature of positive organisational behaviour and scholarship, Quick et al. (2007) introduced three superordinate categories of organisational health: leading a life of purpose, quality connections to others, positive self-regard and mastery. Based on this human-based conceptualisation, they suggest that an organisation itself can contribute to broader societal goals than pure effectiveness and economic performance. Similarly, sustainability (Hofmann & Tetrick, 2003) or corporate social responsibility (Zwetsloot et al., 2008) were suggested as broader organisational health outcomes. Jaffe (1995) proposed that a company can be healthy for its own livelihood, its stockholders, employees, suppliers, customers, the community and its ecological environment.

Organisational health 'determinants': Role clarification, balance between job demands and resources, social relationships and support as well as dealing with change have been identified as key determinants of both individual (Bond et al., 2006) and organisational health (Kerr et al., 2009). Cotton and Hart (2003, p. 122) identified the organisational climate – defined as 'leadership and managerial practices, as well as the organisational structure and processes…' – as key determinants of organisational health. Also others proposed positive leadership (Luthans & Church, 2002; Peiró & Rodríguez, 2008; Quick et al., 2007) and organisational culture and climate (Shoaf et al., 2004) as key factors. The integrative AMIGO model (Peiró, 2000; Peiró & Rodríguez, 2008) distinguishes hard (e.g. structure and technology) and soft facets of the healthy organisation (e.g. climate and management). The NHS (2009) review suggested interrelation, identity, autonomy and resilience as key components of organisational health (see also Kelloway & Day, 2005).

Organisational health in complex social systems: Several authors moved beyond a linear determinant-outcome logic by considering organisations as complex, social systems (Bennett et al., 2002; DeJoy & Wilson, 2003; Grawitch et al., 2006; NHS, 2009; Peiró & Rodríguez, 2008), where interactions, reciprocal relationships and self-referential downward and upward spirals (Fredrickson, 2003; Fredrickson & Dutton, 2008) are key for organisational health. Grawitch et al. (2006) proposed the 'Practices for the Achievement of Total Health (PATH)' model. This triangular model summarises the commonplace idea in the organisational health literature (cf. Hart & Cooper, 2001) that organisational health interventions simultaneously promote the well-being of employees and of the organisation and that these two outcomes reinforce each other (see also the HERO model, Salanova et al., 2012). Besides this idea of harmonious win-win situations between individual-level and organisational-level health, several authors acknowledged possible tensions between intrinsic (employee-oriented) and extrinsic (company-oriented or societal) health-related interests. Hofmann and Tetrick (2003) proposed the joint optimisation of competing goals by applying a balanced scorecard (Kaplan & Norton, 1996) as a 'strategic-level model for organisational health' (p. 18).

Emergence of the Organisational Health Development (OHD) Model Rooted in Salutogenesis

Parallel to the organisational level, on the employee level the Job Demands-Resources (JD-R) model (Bakker & Demerouti, 2007; Bakker & Demerouti, 2017) has been established to show how working conditions and health are both negatively and positively related. As described in detail in Chap. 31, 'Applying

Salutogenesis in the Workplace', this model implicitly incorporates both a pathogenic and salutogenic perspective. It distinguishes a health impairment process linking job demands to burnout from a parallel, motivational process linking job resources to work engagement. Also, the model includes cross-cutting relationships between these processes and postulates that they co-produce (organisational) performance as an outcome important to organisations.

To link the JD-R model explicitly to the salutogenic model, and to make it applicable beyond mental health to physical and social health dimensions, we combined it with the logic of the general health development model (Bauer et al., 2006; Fig. 28.1). This resulted in the *JD-R Health* model (Brauchli et al., 2015), which labels the health-impairment process as a 'pathogenic path' leading from job demands to negative health and the motivational process as a 'salutogenic path' leading more broadly from job resources to any positive health outcomes. Positive health is defined as *physical, mental and social fulfilment*, e.g. energetic fitness, joy and being embedded in positive relationships. As in the original JD-R model, we also assume cross-cutting relationships between the pathogenic and salutogenic path, and that they co-produce sustainable performance (see Fig. 28.2).

In order to add the management perspective to OHD, we complemented the above review on organisational health (Bauer & Jenny, 2012) with a review of the literature on generic models of organisations, organisational change and management systems (Jenny & Bauer, 2013). This resulted in a version of the OHD model that integrates the generic health development model (Bauer et al., 2006) with the New Management Model of St. Gallen (Rüegg-Stürm, 2003). The latter combines structuration theory (Giddens, 1984), a systemic viewpoint (Luhmann, 1984) and organisational ethics (Maak & Ulrich, 2007). This OHD model depicts a social system where organisational capacities interact with individual capacities, from which factual, task-related processes (i.e. business, management and supporting processes) and social, people-related processes (i.e. leadership, relation and discourse processes) emerge (for details, see Jenny & Bauer, 2013).

In a next step, we embedded the JD-R Health model into this version of the OHD model, resulting in the OHD model presented in Fig. 28.2. It depicts how the pathogenic and salutogenic processes result from an interaction between individual capacities (competency, motivation, identity) and organisational capacities (structure, strategy, culture) – which are influenced by their respective individual (e.g. family life) and organisational (e.g. shareholders) environments. Further, it shows that interventions – ranging from more superficial optimisation to deep renewal – can target both the more stable individual and organisational capacities (as health-relevant structures) and the more dynamic job demands/resources (as health-relevant processes). The OHD model has been applied in both OHD research and practical interventions (Bauer & Jenny, 2012; Jenny et al., 2011, 2014, 2020). It is in line with other propositions for salutogenic organisations and change put forward by a diverse group of international researchers (Bauer & Jenny, 2013b).

The OHD Model as a Specification and Expansion of the Salutogenic Model

The OHD model permits a well-structured, theory-based application and specification of the salutogenic model to the context of organisations. Firstly, in the context of organisations, individual-level GRRs are specified as the individual

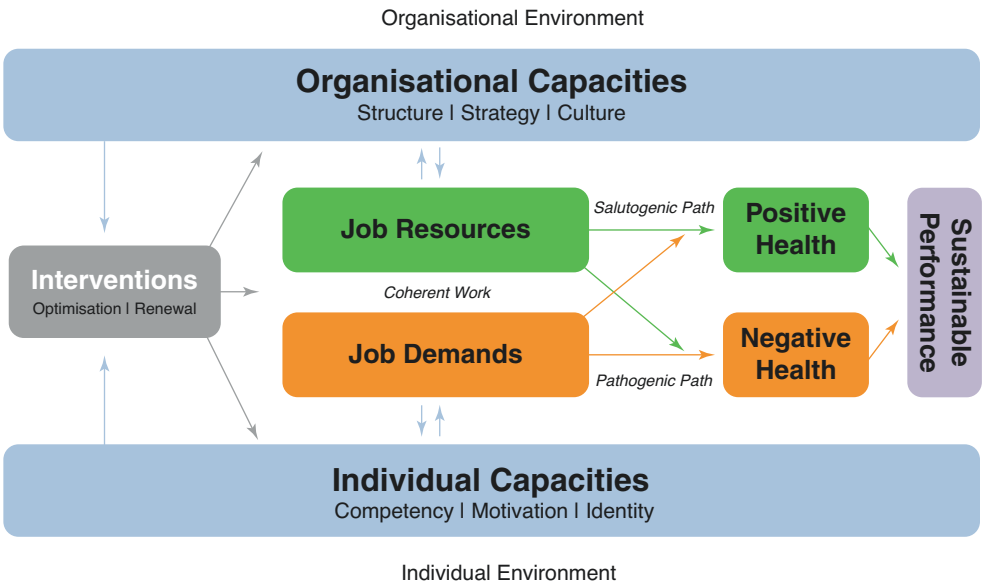

Fig. 28.2 Organisational health development (OHD) model. (Based on Bauer & Jenny, 2012)

capacities of work-related competencies, motivation and identity. Organisational-level GRRs are detailed as capacities within the structure, strategy and culture of the organisation. Secondly, these individual- and organisational-level capacities interact to co-produce the work-processes in an organisation; in salutogenic terms, these work-processes can impose job demands (work-related stressors) or job resources (work-related GRRs) on employees. The relationship between job demands and job resources will influence how coherent we experience our work (see the concept of work-related SOC in Chap. 31). All these relationships are influenced by and will influence the general SOC of employees, considered as an individual-level capacity of employees in the OHD model.

Besides these alignments with the original salutogenic model of Antonovsky (1979, 1987b), we also need to point out differences and expansions. We specify the term GRRs as job resources, individual capacities and organisational capacities as three levels of GRRs relevant in organisations. Further, we consider these resources not only as relevant for coping with and overcoming adversarial stressors (thus Antonovsky's original term 'resistance' resources) but also for pursuing own positive goals, personal growth and thus positive health development. Therefore, we omit the limiting term 'resistance' in relation to resources in our model.

Beyond the original single health continuum (ease/dis-ease), we suggest distinguishing two orthogonally continua of negative and of positive health. Antonovsky defined the ease end of his ease−/dis-ease continuum still in a negative way, that is, the absence of pain, functional limitation, acute or chronic prognosis and health-related action implications (Antonovsky, 1987b). Thus, his original ease/dis-ease continuum is contained in the negative health box of our OHD model. To cover both negative and positive health experience, our model newly adds the concept of a positive health continuum covering concepts like well-being, well-functioning, self-fulfilment or pursuing one's purpose in life. This also implies that we do not limit the salutogenic path to the original coping path linking high (resistance) resources to moving to the ease-end of the ease−/dis-ease continuum (i.e. being low in negative health). Instead, we add an additional 'thriving' path directly linking high resources to developing positive health.

State of Intervention Approaches to Improve Organisational Health

The international literature reveals many practices for improving organisational health and groups them into diverse, inductively derived categories (see Bauer & Jenny, 2012): For example, 'healthy workplace practices' addressing work-life balance, employee growth and development and employee involvement (Grawitch et al., 2006); 'approaches to organisational health' covering individual health promotion, job redesign and autonomous work groups (Shoaf et al., 2004); 'practitioner models' like health and productivity management, healthy culture planning and the healthy company (Bennett et al., 2002); 'leadership development' (Peiró & Rodríguez, 2008; Quick et al., 2007); or 'self-assessment/adaptability' (Bennett et al., 2002, p. 72).

To better compare diverse intervention approaches to improve organisational health, we propose categorising them in reference to approaches distinguished in the field of human resource management (see Bauer & Jenny, 2013a; Delery & Doty, 1996; Grawitch et al., 2006):

- *The universalistic approach:* Practices that are effective regardless of the setting to which they are applied.
- *The contingency approach:* The effectiveness of an organisational practice is dependent on its consistency with other organisational components such as structure and strategy.
- *The configurational approach:* The total system of organisational practices needs to be improved to achieve a profound impact.

These deductively defined categories distinguish different types of relationships between an intervention and the organisation in which it is implemented. We previously applied these three approaches to OHD interventions as follows (for details, see Bauer & Jenny, 2013a):

- *Universalistic OHD:* This approach aims for the fidelity of its own implementation and for reaching pre-defined outcomes. The intervention context (the organisation) is selected so that the intervention can be implemented with the least possible interference. The implementation process is pre-defined and standardised. The research objective is to produce evidence of the effectiveness of this standardised intervention.
- *Contingency OHD:* This approach focuses on the desired fit between a partly pre-defined intervention and the organisations in need of this intervention. Thus, the implementation process includes tailoring and fitting the content and process of the intervention to some degree to the context of the specific organisation in order to increase its acceptance and effectiveness. Research of this dynamic implementation process aims to understand under which conditions intervention outcomes can be achieved through multilevel (organisational) learning mechanisms.
- *Configurational OHD:* Finally, here the focus is the organisational 'figure' itself, that is, the system's configuration in terms of individual and organisational capacities that influence its members' health. The organisational context is not a mere boundary condition promoting, hin-

dering or shaping the intervention, but the *key target and actor* of change. Thus, the content and process of the intervention will only emerge from this context and be co-created and owned by the organisation itself. The external change agent increasingly builds the capacity of the organisation for continuous self-improvement. Research will focus on this process of capacity-building, its impact on ongoing OHD and on its effect on the organisation's ability to purposefully go through similar optimisation processes in the future.

Evidently, a configurational OHD approach initially also requires some contingency or fitting to the organisation involved to assure a successful contracting. The contingency approach leaves open how deep it intervenes into the structures and processes of an organisation. However, it only evolves into a configurational intervention once it purposefully builds the capacity of organisations for future self-improvements.

A compilation of (salutogenic) OHD interventions (Bauer & Jenny, 2013b) showed that the contingency approach – sometimes combined with a configurational approach – is most prevalent in the field. Here, the one-size-fits-all approach has been replaced by adaptive intervention designs applying variations of participatory problem-solving cycles (cf. Henning & Reeves, 2013; Ipsen & Andersen, 2013; Nielsen et al., 2013). These interventions emphasise the need for aligning (von Thiele Schwarz & Hasson, 2013) or fitting (Randall & Nielsen, 2012; Nielsen et al., 2014) the intervention to the respective organisation where it is implemented. Such non-standardised interventions generate challenges for their evaluation, as both the process and context need to be thoroughly evaluated to understand under what circumstances the interventions are effective for what sub-groups (see also Karanika-Murray & Biron, 2013). Although capacity-building for future problem solving is not the primary aim of the contingency approach, evaluations should still assess the degree of capacity-building achieved to consider the potential for maintaining long-term, sustainable intervention effects.

OHD Model Guiding Capacity-Building in Practice

The current state of OHD interventions raises the question of how a configurational, capacity-building approach for OHD can be designed as this approach is expected to have the most profound and long-lasting impact on organisational health. We previously described in detail how we built on the OHD model to develop a capacity-building approach with a broad range of companies in the production, health care and other service sectors and how it can be practically implemented (see Bauer et al., 2014; Hoffmann et al., 2014, Bauer and Jenny). Here, we shortly summarise the key elements.

The OHD model shows that interventions should build up the individual and organisational capacities that influence the job demands and job resources of their employees. Promising ways to obtain the initial buy-in of organisations for such an OHD intervention might be linking the promotion of positive health to the broader corporate agendas of sustainable workability, keeping the ageing workforce engaged, promoting agility and innovativeness of the organisation, being perceived as an attractive employer as well as the desire to show social responsibility and sustainability. Based on an initial, qualitative analysis of the organisational capacities (structure, strategy and culture) and employees' capacities (competency, motivation and identity) as the organisation's initial configuration, external OHD experts develop an intervention architecture together with internal project managers. This intervention architecture defines which intervention elements such as surveys or workshops are implemented with whom in which sequential order. The architecture also considers previous experience and routines with (health-oriented) optimisation processes in the organisation.

As line managers are seen as key change agents within organisations, they typically take part in a workshop where they learn to see and talk about OHD from their perspective and within the logic of their organisation. During joint action planning, they self-experience how to improve their own job demands and resources and are empowered to work with their team on these issues. In team workshops moderated by the line managers themselves, teams follow the format of a solution-oriented 'future workshop' to improve their shared job demands and resources. Participants in these workshops create lists of measures that are targeted at the individual, leader, group/team or organisational levels – thus also influencing individual and organisational capacities. Finally, in refresher sessions, the implementation progress is monitored, and the participants reflect upon their experiences (for details, see Bauer & Jenny, 2018).

Throughout this process, the OHD model serves as a common mind map and group action theory for all stakeholders, generating a common language, compatible perspectives and mutual action. It supports systemic, multilevel thinking, enabling company members to see their blind spots, helps to reflect on how the organisation impacts their health and raises awareness about the interaction between the organisation and its individual members. Meanwhile, we developed a fully virtual coaching tool for leaders containing all needed instruments including a simplified version of the OHD model as a mind map to go through such capacity-building process with their teams (Grimm et al., 2020).

Capacity-Building for OHD: Relationship to the Salutogenic Model

Above, we showed that the OHD model is a specification and expansion of the salutogenic model for the context of organisations. We also showed that interventions following this model will build up individual and organisational capacities as key structural resources that will influence both job resources and job demands (stressors) of employees. Thus, this intervention approach directly influences resources and stressors as two key elements of the salutogenic model.

Regarding the third key element of the salutogenic model, the general SOC, Antonovsky (1987a, 1987b) postulated that its three dimensions are built up through specific life experiences: consistency in life will strengthen comprehensibility, an under–/over-load balance will strengthen manageability and participation in socially valued decision-making will strengthen the meaningfulness component of SOC. The capacity-building for OHD strengthens such life experiences as follows:

- *Under–/over-load balance/manageability:* Building up individual, organisational and job-related resources combined with the targeted reduction of job demands (stressors) directly influences the load balance of employees and thus the perceived manageability of their working life and life in general. As the OHD approach also builds up the capacity to continuously improve the ratio between job demands and resources, it is expected to have a long-lasting impact on the load balance.
- *Consistency/comprehensibility:* Using the OHD model throughout the intervention as a shared frame of reference increases the likelihood that the intervention process itself is perceived as more comprehensible. Also involving leaders and employees in interpreting, prioritising and acting upon their situation-specific key job demands and resources raises the consistency and comprehensibility of the content of the intervention.
- *Participation/meaningfulness:* The just mentioned involvement of leaders and teams in each stage of the OHD intervention assures high participation, ownership and thus meaningfulness of the intervention. Also, the balanced goal of not only reducing stress and negative health outcomes but also enhancing resources to assure thriving at work makes the intervention more meaningful than one-sided, psychosocial risk management approaches. Finally, the OHD model communicates a shared responsibility of both employers and employees to improve the interaction between individual and organisational capacities in their organisation. This implies a shared responsibility and ownership, and thus meaningful, active roles in OHD.

Conclusions for Future Research and Practice

Specifying and expanding the general salutogenic model for organisations facilitates the study of both pathogenic and salutogenic health development processes in this context. Such a model-driven approach allows the classification of resources into the more dynamic job resources related to work processes and into individual- and organisational-level capacities as the more stable resources. This clear classification system will allow the systematic, time-sensitive comparative study of the relative influence of both types of resources on work-related SOC, general SOC as well as negative and positive health outcomes.

Regarding intervention research, the OHD model can provide a common group action theory for both researchers and practitioners in this area, facilitating the development of a well-structured, cumulative evidence base and evidence-based practice. Regarding outcome research, the OHD research model suggests the conducting of a step-wise analysis from changes in job demands and job resources to changes in negative and positive health outcomes, finally leading to changing performance (Jenny et al., 2014). Moreover, the model suggests the assessment of changes of individual and organisational capacities as indicators of more figurational and thus sustainable changes.

Field research regarding capacity-building for OHD in organisations as complex systems will require study designs ‘fit for purpose’ (Cox et al., 2007), for example, by retrospectively assigning employees to intervention and control groups based on the analysis of who could be reached by an organisation-wide intervention or based on their assessment of the intervention’s impact (Jenny et al., 2014; Randall et al., 2005). In addition, it could be advisable to focus such intervention research on teams as smaller, more feasible subunits of analysis and change in organisations (Ipsen et al., 2015; Bauer & Jenny, 2018). In both cases, a mixed-methods approach will allow researchers to systematically collect and analyse the context, process and outcomes of such comprehensive interventions (Biron & Karanika-Murray, 2014; Fridrich et al., 2015).

Future Challenges

One key challenge for promoting salutogenic organisations is the ongoing digital transformation of our economies and societies. New digital technologies will trigger profound changes in organisations, of their products and services, of the way they organise and partly automise work, etc. Digitalisation will also influence how we ourselves will craft our work and private life. On the one hand, all these changes pose pathogenic threats, such as job loss, fragmented jobs,

being isolated at work or being continuously controlled by big data. On the other hand, they offer salutogenic opportunities for building more self-determined, socially inclusive, equitable societies. Here the OHD model can provide a framework to various stakeholders to reflect upon and purposefully influence the digital transformation in a more health-promoting way.

Another great challenge ahead will be to reflect upon and redefine the role of organisations in society in a profound way. Currently, large parts of society seem to accept that organisations – particularly for-profit corporations – are independent, hardly regulated entities that have the primary purpose of generating profits and that are little accountable to society at large. However, as societies provide stable environments and pre-conditions for the thriving of organisations, they are entitled to demand that organisations directly contribute to the larger aims of society and their members. The concepts of healthy organisations and OHD would require that organisations at least regularly assess and improve both pathogenic and salutogenic processes for the benefit of their members and their larger environment. However, only involving its members and customers in addressing the more fundamental question of why the organisation exists will lead to more purpose-driven, thriving organisations and more sustainable societies in the future.

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Applying Salutogenesis in Schools

29

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Introduction

The chapter addresses the health of children and young people in the school setting with a special focus on experiences from Health Promoting Schools (HPS) and selected health promotion projects in schools. On the basis of brief definitions of the salutogenic orientation and the health promoting school model, comparisons will be conducted with regard to key concepts and principles of the two approaches to children's health.

A brief literature overview on the use of salutogenic concepts in relation to schools and health promoting schools is presented and discussed. One focus of interest is to compare the use of salutogenic concepts to the use of overlapping concepts, such as self-efficacy, resilience, and health literacy, and to briefly explore the distribution of the use of salutogenic concepts in the different European countries. Next, the main findings indicating links between schools and young people's sense of coherence are presented.

A number of projects using the HPS approach are described as examples of major interventions in the field, and the evidence on health and behavioural outcomes is summarised. The focus is on models and components with a clear overlap to the salutogenic orientation.

The main conclusion is that the salutogenic orientation has the potential to enlighten and stimulate HPS development and that intervention studies based on the HPS approach have the potential to enrich the intervention dimension of a salutogenic approach in schools. The chapter ends with recommendations for the further development of the salutogenic orientation viewed from a school health promotion perspective. Overall key conclusions from the chapter include the following:

- The key concepts of salutogenesis are not explicitly used in the field of HPS, although several HPS concepts are closely related to the salutogenic orientation, such as empowerment, action competence, democracy, equity, participation, and the multidimensional notion of health.
- HPS and health promotion projects in schools will benefit from a more coherent and systematic theoretical and philosophical basis—and salutogenesis has the potential to fill out parts of this gap.
- Findings and observations from the field of school health promotion have the potential to improve and strengthen the intervention and practice base of salutogenesis in relation to the school setting.

Salutogenesis and the Sense of Coherence

In the following, we briefly present how salutogenesis and the salutogenic orientation might be used as an umbrella and as a philosophical underpinning of the HPS movement. First, we introduce our understanding of the salutogenic orientation within the context of health promoting schools. Next, we present the relevant key concepts for HPS, including the whole school approach to health, a multidimensional health concept, and participation and democracy as basic principles for a health promoting school.

In this chapter, we understand salutogenesis as an overarching *theory*, leading to a salutogenic *orientation*. Key to this is the concept sense of coherence, which is an orientation to life, helping the person to live and cope with life and facilitating the development of the person towards health.

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According to Antonovsky (1987, 1996), the salutogenic orientation can be described by the following three components:

1. To focus on all people in the system (and not only on people at risk).
2. To address and promote salutary factors (and not only remove risks).
3. To focus on the whole person (and not only on a specific disease).

Further, Antonovsky (1987) defined the core notion of the sense of coherence by the following three dimensions:

1. Meaningfulness: a belief that things in life are interesting, motivating, and a source of satisfaction (motivational).
2. Comprehensibility: a belief that the challenge is understood and that you can understand events in your life (cognitive).
3. Manageability: a belief that resources to act are available and that things are manageable and within your control (behavioural).

Finally, these components and dimensions are united in the concept of generalised resistance resources, which are all the resources that help a person (or a collective) to avoid or tackle a range of psychosocial stressors.

During the presentation of the scope and context of HPS, we draw on—and refer to—these key concepts and dimensions of salutogenesis when relevant.

A Health Promoting School

In this section, we use the overall definition of a Health Promoting School (HPS) used in the recent Cochrane review (Langford et al., 2014). According to this review, HPS embraces the following three areas:

1. *Formal health curriculum*: Health education topics are given specific time allocation within the formal school curriculum to help students develop the knowledge, attitudes, skills, and competencies needed for healthy choices.
2. *Ethos and environment of the school*: Health and well-being of students and staff are promoted through the hidden or informal curriculum, which encompasses the values and attitudes promoted within the school and the physical and social environment and setting of the school.
3. *Engagement with families or communities or both*: Schools seek to engage with families, outside agencies, and the broader community to recognise the importance of these other spheres of influence on children's attitudes and behaviours.

In addition to this, the Cochrane review also presents a so-called logic model—or a programme theory (Pawson & Tilley, 1997)—to illustrate the mechanisms for how an HPS might influence health and educational outcomes (Fig. 29.1).

Health promotion in a school setting is a broad and innovative concept rooted in the Ottawa Charter (WHO, 1986). The principles and action areas in the Ottawa Charter, such as building healthy policy, creating supportive environments, and empowerment of individuals, relate clearly to the salutogenic orientation (Eriksson & Lindström, 2008).

Based on these principles, there is a clear distinction between HPS and the more traditional health education in schools, mainly focused on presenting health knowledge (often exclusively related to risk factors) to pupils. An HPS is based on a so-called *Whole School Approach* where health education and teaching are combined with school policies, the physical and social school environment, and the surrounding community, including parents and health services. Furthermore, the focus is on promoting health rather than preventing a specific disease.

This approach combines a commitment to improving the health and well-being of children and young people and to making schools a better place to learn and work. Furthermore, it also encompasses the health and well-being of school staff. Therefore, health promotion in schools needs to be linked to the core task of a school (which is education) and to its inherent values, such as inclusion, democracy, participation and influence, critical health literacy, and action competence in relation to health.

An HPS approach demands an intersectoral strategy. The Odense Statement, resulting from the fourth European conference on health promoting schools, calls for strengthening links between the education and health sector and all stakeholders (https://www.schoolsforhealth.org/resources/conference-statements). Furthermore, it focuses on taking a lead in school development and school improvement through a health promoting school approach.

Similarly, the Global School Health Statement from the first Global School Health Symposium in Pattaya in 2013 calls for a dialogue to better understand education, and more specifically, that the health sector seeks integration within the educational system (http://www.wholechildeducation.org/about/globalschoolhealthstatement). The statement also recommends focusing on the growth and development of the whole child rather than directing attention and resources only towards specific diseases or behaviours. Disease intervention is, of course, important but needs to be embedded in overall health and development, or salutogenic framework, refocusing attention on a setting-based approach.

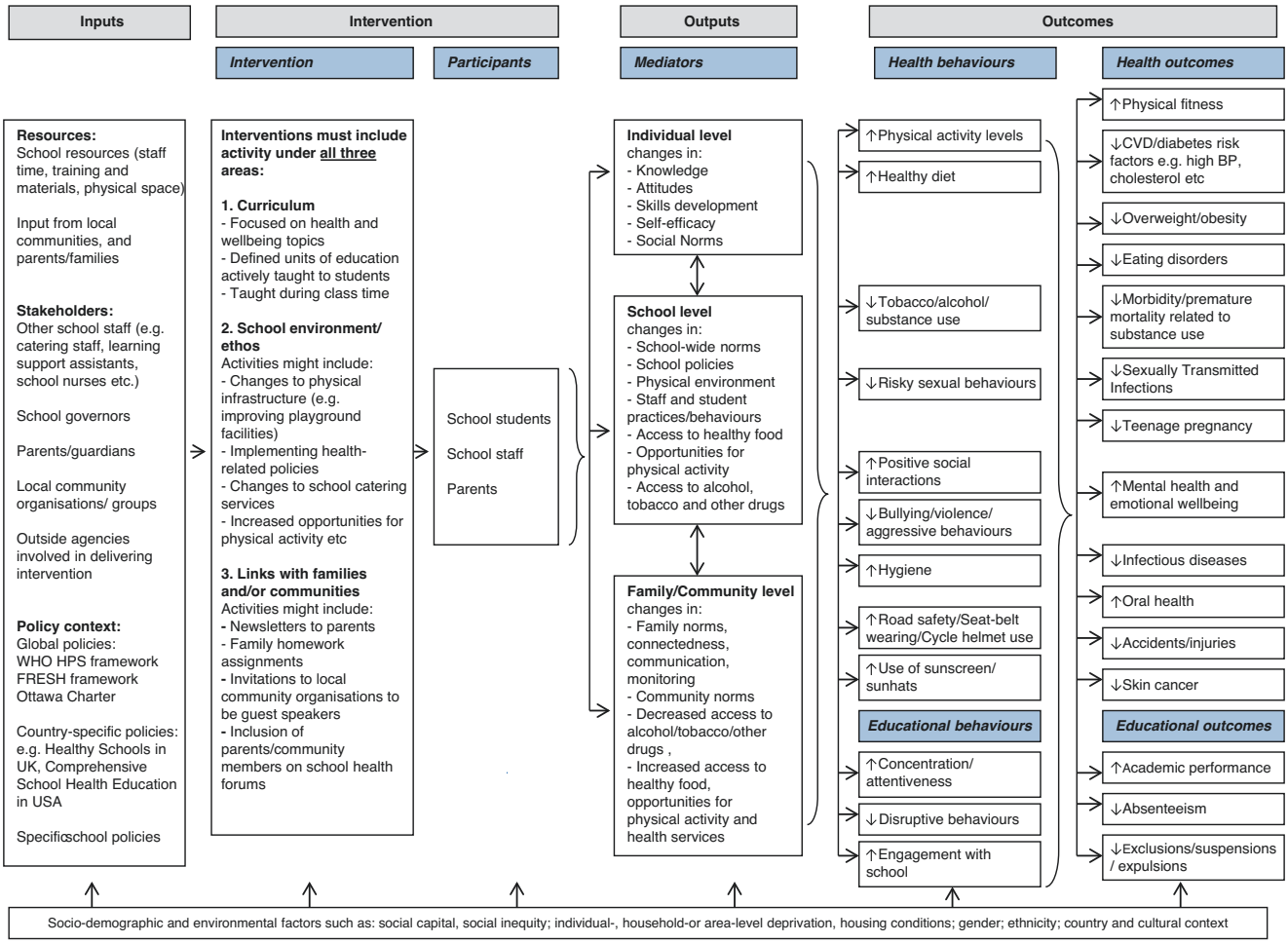


Fig. 29.1 Logic model for the impact of HPS on health and learning outcomes (Reprinted with permission from Langford et al., (2014). Copyright © 2014 The Cochrane Collaboration. Published by John Wiley & Sons, Ltd. All Rights Reserved)

The latest statement from the fifth HPS conference in Moscow in 2019 mentions the notion of salutogenesis explicitly:

> '*We welcome new and established concepts and approaches within school-based health promotion, such as health literacy, salutogenesis, action competence, and life skills, which should complement each other and be integrated in the holistic framework of the Health Promoting School approach'.* (Dadaczynski et al., 2019)

As a new dimension, the statement recommends using a resource-oriented approach when addressing Noncommunicable Diseases (NCDs), namely that.

> '*… a resource-oriented intervention approach (as described in the SHE* [Schools for Health in Europe] *values and pillars) be taken to tackle NCDs rather than a traditional top-down and disease-oriented approach, which normally dominates interventions related to risk factors …* and *… young people be viewed as part of the solution and not only as part of the problem of NCDs – we need to work with young people as powerful agents of healthy change and not as victims and recipients of risk factors'.*

Finally, the Health 2020 policy adopted in 2012 by all WHO European member states declares that integrative policies should be developed that engage all sectors in our societies in addressing the determinants of health. Health 2020 also puts a strong emphasis on reducing health inequalities. Children from poorer backgrounds are more likely to experience poor parenting, receive inadequate support in schools and health services, live in hazardous environments, and live shorter and less healthy lives as adults. Education policies and schools can help address these inequalities. The WHO EURO H2020 sectoral brief on education and early development (2014) states very clearly how education can make a difference in health. Creating better synergy between health and education sectors implies improving education outcomes to create healthy adults.

Based on the concepts and models presented, it is evident that an HPS approach is closely linked to salutogenesis and its core dimensions. Focus is on the whole school community, a resource-oriented approach, the whole child, and improving children's competencies and skills to act to promote their health. The values and principles will be further discussed under the description of the European Health Promoting School initiative later in this chapter, making the links to the salutogenic orientation even more explicit.

Salutogenesis and Schools

This section summarises the literature on salutogenesis and schools—independent of health promotion interventions. In the first part, we present a brief overview of how frequent the salutogenic concepts have been used in the literature related to schools and health promoting schools. Among other things, we compare it with overlapping concepts (such as self-efficacy, resilience, etc.), and we also explore the distribution of salutogenic concepts in the different European countries and various disciplines. Further, we introduce the main findings indicating links between schools and young people's sense of coherence. Although there is only limited research exploring the links between salutogenesis and applying HPS approaches, we present and discuss the findings from these studies.

Lindström and Eriksson (2010) define salutogenesis as an umbrella concept, underneath which concepts and theories gather that contribute to our understanding of how health is maintained, strengthened, or set at risk. Salutogenesis, therefore, does not only relate to the explicit measurement and the application of sense of coherence but is a much broader framework, touching on concepts like empowerment, self-efficacy, quality of life, resilience, well-being, action competence, and several other concepts. While it is universally agreed that all those constructs relate to salutogenic dimensions and make valuable contributions in describing, explaining, analysing, and promoting health, some researchers also claim that Antonovsky's salutogenic theory is still the best explored and with the broadest evidence base (e.g. Lindström, 2010).

In an often-cited quote, Antonovsky argues that the sense of coherence would build up from experiences in childhood and adolescence and would first gain stability in early adulthood or as he puts it:

> The adolescent, at the very best, can only have gained a tentative strong sense of coherence, which may be useful for a short-range prediction about coping with stressors and health status (Antonovsky, 1987, p. 107).

The notion of sense of coherence resulting from the developmental process during childhood and adolescence indicates that the concept is seen as an outcome of individual life experiences, learning processes, and environmental influences and not primarily as a resource and determinant of positive health. Any developmental stage of sense of coherence that a child has reached can also be seen as a resource for coping with the challenges that the child is facing at this stage. But it seems that the time factor in developmental processes is not trivial since both—the child and the child-specific environment—change simultaneously over 20 years and more. Therefore, the level of sense of coherence reached at any time may inevitably lag behind the levels of experienced challenges, as long as the developmental process has not come to a certain point of preliminary optimum.

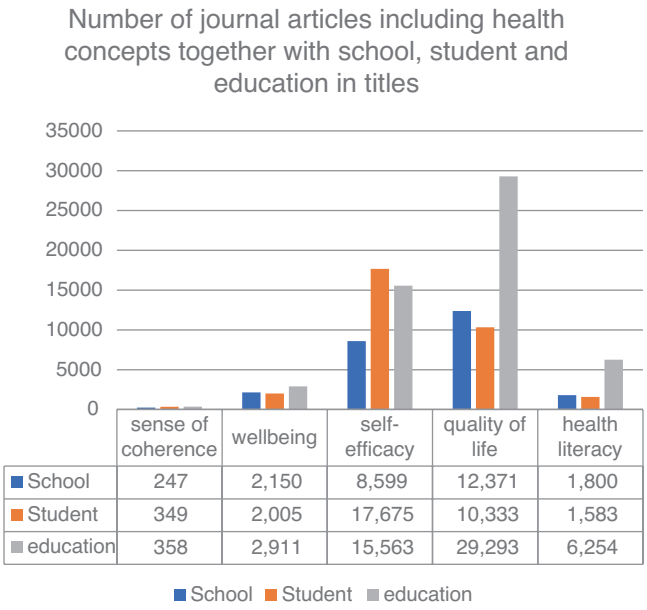
The mechanisms described in salutogenesis to translate growing challenges into a growing sense of coherence, although with a time lag and only under the condition of coping success, are the generalised action and resistance resources. As they grow and convey positive coping experiences, children develop a general feeling of comprehensibility and manageability of demands and a sense of meaningfulness regarding life and the mastering of challenges. Seen from this perspective, childhood and adolescence are seen as crucial life phases, crucial for developing the personal sense of coherence optimum and the individual health biography.

This is the point where HPS could re-orient services. If sense of coherence is the mental fundament that supports all other life skills, then HPS and education as a whole should primarily provide opportunities for acquiring generalised resistance resources. This is slightly different from the current orientation towards well-being that many HPS schools have declared their guiding philosophy.

It must be mentioned that there is still some ambiguity regarding the stability of sense of coherence over time in young as well as among adult populations. Currently, there are only a few longitudinal studies that indicate such stability. However, the methodologies and results of these studies are subject to several limitations, such as selecting target populations, the definition of follow-up periods, the use of different sense of coherence-questionnaires, and the fact that most of these studies have been conducted in Scandinavian countries.

To get an idea about the popularity of salutogenesis in the literature on schools and HPS, we conducted a brief literature search in the Web of Science database (in October 2019), looking for studies that prominently focus on the sense of coherence and salutogenesis. For comparison, we selected four additional popular concepts from the salutogenic umbrella (Lindström & Eriksson, 2010): well-being, self-efficacy, quality of life, and health literacy.

The search was conducted as a simple title search of all the terms mentioned above (and commonly known synonyms) combined with the following keywords: school, stu-



	sense of coherence	wellbeing	self-efficacy	quality of life	health literacy
School	247	2,150	8,599	12,371	1,800
Student	349	2,005	17,675	10,333	1,583
education	358	2,911	15,563	29,293	6,254

Fig. 29.2 Number of studies that use sense of coherence, well-being, self-efficacy, quality of life, and health literacy in a school setting (school, student, and education). Studies are counted for each keyword

dent, and education, which operationalised the relevant context for our purpose. Studies with more than one keyword in the title were counted for each; hence, the number of studies cannot be added. We do not claim completeness for our research strategy. Still, we argue that the restriction to the title is a valid indicator for the overall use of the concepts in the specific study and, therefore, in the relevant international literature.

From Fig. 29.2, it can be concluded that sense of coherence is still rarely used in studies related to the school setting. Only 954 publications were identified with sense of coherence in the title, but 7.066 for well-being, 41.837 for self-efficacy, 51.997 for quality of life, and 9.637 for health literacy.

Relations between School, Sense of Coherence, and Young People's Health

In this section, we summarise the limited amount of studies that have analysed relations between school, sense of coherence, and health among children and adolescents. Some studies treat sense of coherence as a determinant (an independent variable), whereas other studies look at sense of coherence as an outcome of, for example, educational interventions (dependent variable).

Most studies that investigate the relationship between adolescence and sense of coherence do not look at specific life experiences of children and adolescents, be it in the family, in the school, or leisure activities. They use the generalised resistance resources in the phase of adolescence as causal determinants for the development of the sense of coherence in adulthood. Antonovsky (1987, 1996) defines generalised resistance resources as the biological, material, and psychosocial conditions of an individual in its inner and outer environment, for example, the health status, cognitive abilities, level of parental support, parents' education level, and parental socioeconomic status.

Feldt et al. (2005) investigated child-centred parenting, parental socioeconomic status, school success in adolescence, and career orientation in adulthood as determinants of adult SOC. They gathered data at ages 14, 27, 36, and 42. They found that only parental child-centredness and career orientation have a direct, as well as an indirect (via education and stability of career line), relationship with adult sense of coherence (Feldt et al., 2005, p. 305). As for the stability of sense of coherence in adulthood, Hakanen, Feldt, and Leskinen (2007, p. 612) found that stability after age 30 depended strongly on its level at younger ages. Higher initial levels are more likely to be stable, and the early level of sense of coherence is influenced by the level of generalised resistance resources in adolescence.

Both studies demonstrate that adolescence and the family as bundles of generalised resistance resources are highly relevant for the development of the sense of coherence, and this seems to be true even more for early adolescence up to age 15 than for later phases. Hokinen et al. (2008) investigated the stability of sense of coherence during adolescence. They found that the change in the sense of coherence between the age of 15 and 18 years was not significant (Hokinen et al., 2008, p. 89). This suggests that the development of the sense of coherence is stronger before the age of 15 than after, and also—contrary to an assumption of the theory—that the stability of sense of coherence did not depend on its initial level.

García-Moya et al. (2013) analysed data from the international Health Behaviour among School-aged Children (HBSC), a cross-national questionnaire survey conducted every four years in up to 44 countries and regions across Europe and North America (Currie et al., 2010). They observed that a supportive school environment (classmate and teacher support) was related to the level of students' SOC. School-related stress and sense of coherence also showed a strong correlation, but the direction stayed unclear since the study used self-report data. By relating to the model of Salutogenesis, García-Moya et al. (2013) solved the problem in two directions: They interpret sense of coherence as an outcome of a supportive school environment and as a determinant in relation to the experience of stress. They concluded that:

> 'a supportive school environment also tended to reduce the likelihood of perceiving school demands as stressful, not only by reinforcing sense of coherence, but also through a direct effect on the perception of school-related stress'.

In this view, sense of coherence is seen as an internal mediator of internal effects from external environmental factors (negative ones like demands and positive ones like support) by amplifying the positives. Still, sense of coherence (in particular the components comprehensibility and manageability) and the concept of adaptation in stress theory are so close that their mutual relation and direction of causes are difficult to tease apart based on self-reported data.

Also based on HBSC-data, Torsheim et al. (2001) found a substantial increase in perceived stress between the grades 5 and 9, but only a slight increase in sense of coherence at the same ages. They also use sense of coherence as a determinant. They argue that, in the course of the school career, the academic demands increase faster and more threatening implying that adolescents are not able to fully develop an adolescent sense of coherence at the same pace. The experience of stress might, therefore, be viewed as a result of a time lag in the development of SOC. In other words, according to Torsheim et al. (2001), the development of sense of coherence cannot keep up with the various challenges and demands an adolescent is facing in the course of growing up.

To summarise, studies with a developmental psychology approach tend to use sense of coherence as an outcome of developmental processes, but predominantly look into the family as the primarily relevant setting for children and adolescents. Studies in the area of the school setting, on the other hand, tend to use sense of coherence as a determinant and therefore fail to investigate the school as a highly relevant social system for the development of a strong, protective SOC.

Therefore, the scarce research results do not allow for a conclusion of the role of sense of coherence in childhood and adolescence. This is where we see the most urgent need for research: intervention studies in the school setting that can clarify pathways leading to high or low sense of coherence levels and that provide indications and guidelines for changes in the school setting to optimise the development of students' SOC. The national and international networks of HPS provide perfect platforms for natural experiments for this purpose.

Health Promoting Schools and a Salutogenic Orientation

As stated earlier, there are many similarities between the HPS approach and the salutogenic orientation. In this section, a few major interventions related to the HPS approach are presented and discussed with a specific focus on the salutogenic orientation.

The European Network of Health Promoting Schools, now called the Schools for Health in Europe (SHE) network, is structured around its 45 member states in the European region (http://www.schools-for-health.eu). In 2013, a survey was conducted among the national coordinators of the SHE network in Europe to gain an overview of current health promoting school policies in the then 43 member countries. Nearly two in three countries (62%) have a formal health promoting school policy, in most cases as part of their education policies, followed by inclusion in their public health policies, or a combination of education and health policies.

Based on the 2013 survey, a minimum of 34,000 schools in the European region is registered as health promoting schools. These include preschools, primary schools, secondary schools, and other school types. It must be kept in mind that the diversity of the different education systems among countries in the European region is huge. There are differences in starting age and programme duration, different models for compulsory education, and educational standards and goals. Also, each country has its standards and indicators for being a health promoting school. Despite this diversity, all SHE member countries share principles and core values concerning health promoting schools.

SHE has had a strong link to research, which among others has led to the development of new concepts and models of health promotion in schools—concepts, which are closely related to the salutogenic orientation.

In the SHE network (2013), a health promoting school is defined as '*a school that implements a structured and systematic plan for the health and well-being of all pupils and of teaching and non-teaching staff*'. This is characterised as a whole school approach which consists of the following six components:

- Healthy school policies are clearly defined documents or in accepted practice that is designed to promote health and well-being.
- School physical environment includes the buildings, grounds, and school surroundings.
- School social environment relates to the quality of the relationships among and between school community members.
- Individual health skills and action competencies can be promoted through the curriculum such as through school health education and through activities that develop knowledge and skills which enables students to build competencies and take action related to health, well-being, and educational attainment.
- Community links between the school and the students' families and the school and key groups/individuals in the surrounding community.
- Health services are the local and regional school health services or school-linked services that are responsible for the students' health care and health promotion by providing direct student services.

The whole school approach used in the SHE network, therefore, rests on several core values (equity, sustainability,

inclusion, empowerment, action competence, and democracy) and a set of pillars (whole school approach to health, participation, school quality, evidence base, the involvement of schools and communities).

The Whole School, Whole Community, Whole Child Model

Another recent example of an intervention and a conceptual development in this area is the 'Whole School, Whole Community, Whole Child' model (http://www.ascd.org/programs/learning-and-health/wscc-model.aspx). In the late 1980s, the coordinated school health (CSH) model was introduced by the American CDC (Centers for Disease Control and Prevention). This model demonstrated how a comprehensive approach to school health could be shaped. The CSH model was widely accepted and supported by many health and education organisations. But it can also be argued that educators viewed the model as primarily a health initiative focusing on health outcomes only. Therefore, acceptance across the education sector at the school level was somehow limited.

In 2014, Association for Supervision and Curriculum Development (ASCD), a leading worldwide education development organisation together with CDC (n.d.), developed a new model for school health that combines the CSH model with the whole child initiative from ASCD to strengthen a collaborative approach to learning and health. Their 'Whole School, Whole Community, Whole Child' model (Fig. 29.3) demonstrates how education and health together support the development of children—cognitive, physical, social, and emotional. It is described as an ecological model, integrating the current whole-school approach with a whole-child approach to education (http://www.ascd.org/whole-child.aspx) and the influences of the local community.

Shape Up as a Salutogenic Health Promotion Project

Another intervention founded on the principles of pupil participation and a whole school approach is the EU-funded SHAPE UP project, focusing on overweight and obesity in children and young people (Simovska & Jensen, 2010). Although the fundamental premise of Shape Up was that healthier eating and regular physical activity are keys to preventing childhood obesity and promoting the health and well-being of children and young people, the project was built on a salutogenic approach.

The starting point was that promoting healthy diet and physical activity is influenced in more efficient and sustainable ways by addressing their determinants on a school, family, community, and broader societal level, rather than solely on an individual behaviour level. Furthermore, health was framed in the project as a positive concept: play and dance instead of physical activity, food, meals, and eating instead of nutrition, etc. Therefore, a key to Shape Up was the involvement of children and young people themselves through their schools in investigating the social determinants of health and formulating positive and visionary proposals for action to address them.

Within the SHAPE UP project, the IVAC approach—Investigation, Vision, Action and Change—(Jensen, 1997, 2004) was used as a guiding framework to support children in taking concrete actions to improve the determinants behind their health. In practice, this typically meant improving the quality of food on offer in school, enhancing opportunities for physical activity in the school and community settings, and increasing parents' understanding of health issues. Because of the relationship between schools and the local promoting group, young people could see their ideas turned into action, and the individual development promoted by the programme could be supported by changes in policy and infrastructure at a local level.

The Shape Up project did not focus on tackling inequality per se. Still, the project demonstrates that children and young people can initiate processes that improve determinants in their local environment and thereby promote the health of *all* children (including vulnerable young people).

In another project, the IVAC approach used in the SHAPE UP project was proven effective in an area in Northern Spain (Llargues et al., 2011). The outcomes that were successfully achieved included children's BMI, showing that a participatory and action-oriented approach, building on a positive health concept, also might lead to successful preventive outcomes.

Relations Between HPS and Young People's Health and Learning

When children grow up, their family and homes are key determinants of their health and well-being. When they enter the education system, their schools, peers, and communities in which they live also become important in determining their health. So education is another key determinant to their health. Children starting their education in early life, such as preschool or kindergarten, are more likely to do well at school, get better-paid employment, and have better health in adulthood. Education is a key tool to help reducing inequality in income in our globalised economy, which is also recognised in the recent publication by economist Thomas Piketty on capital in the twenty-first century.

The 2013 factsheet of the SHE network provides an overview of the evidence of school health promotion (2013).

Fig. 29.3 The Whole School, Whole Community, Whole Child (WSCC) model, developed by CDC and ASCD (CDC, n.d.)

Most of the HPS evidence traditionally comes from health topic research (on healthy eating, physical activity, and tobacco use), rather than from research looking at whole-school approaches or looking at initiatives focusing on health more holistically. The overall conclusion from topic-based research is that programmes that can be classified as a health promoting school or whole-school approach deliver most evidence on improving health behaviours. This is especially true for mental health programmes in schools. Successful mental health initiatives are well designed and based on theory and practice, have links between school, community and parents, and school environment, and focus on relationships among students, teachers, and parents (2013).

Results are varied and demonstrate improvements in achievement tests and social and emotional skills and decreases in classroom misbehaviour, anxiety, and depression. There are also demonstrated benefits concerning the reduction of aggressive behaviour, school drop-out rates and building a sense of community in the school. Similar positive links have been shown on other topics with a whole school approach, specifically in the area of promoting healthy eating and physical activity. It is stated that mental health should be a feature of all school health promotion initiatives.

The 2014 Cochrane review on the WHO health promoting school framework, based on cluster randomised control trials, concludes that there is some evidence that school-based intervention building on an HPS framework is effective at improving several health outcomes in children and young people. It found evidence of significant, positive effects on body mass index (BMI), physical activity, physical fitness, fruit and vegetable intake, tobacco use, and being bullied. It also stated that it had not been demonstrated that the HPS framework could have an impact on other outcomes, such as mental health or attainment. The most important limitation of this review is that the many studies that are not designed as randomised control trials were not included.

Other reviews, such as the Stewart-Brown, 2006 review, commissioned by WHO EURO, use a wider lens to evaluate what worked well and what are prominent features of a whole school approach (Stewart-Brown, 2006). The review

was a systematic review of robust, systematic reviews of the impact of school health promotion initiatives on some aspects of health or well-being. It did, therefore, not only include randomised controlled trials. It concludes that the school health promotion programmes that were effective in changing young people's health or health-related behaviour were more likely to be complex, multifactorial and involve activity in more than one domain (curriculum, school environment, and community).

A paper from the International Union for Health Promotion and Education (IUHPE) shows that activities in schools on improving health and well-being are a product of interaction between school management and educational practices (St Leger et al., 2010). A supportive educational climate will motivate children and young people to be effective learners and at the same time, lead to better health and well-being.

It can also be concluded that interventions that take a whole school approach and target all students have a higher impact, everything else being equal. Furthermore, a positive health concept—as explicitly spelt out in SHE and Shape Up—improves the likelihood for improving students' ownership and therefore, also for facilitating sustainable healthy changes.

Discussion and Conclusions

One of the obvious observations is that the salutogenic orientation, including key concepts such as sense of coherence, is rarely used explicitly in the field of school health promotion and HPS. Nevertheless, the different HPS interventions presented in this chapter demonstrate clear and obvious overlaps to the salutogenic orientation. Therefore, we only partly agree with Sagy that only a small number of holistic programmes have been developed all over the world, which are salutogenic oriented (Sagy, 2014). In other words, the HPS movement includes many different examples of interventions which could be labelled salutogenic, although they are described by terms from other scientific directions and areas.

Within the SHE approach and related models, there is a clear focus on *all people* in the school system, and the aims are to improve salutary factors and not only remove risks. Both characteristics are well and explicitly reflected in the 'whole school approach' that is underpinning SHE, WSCC, the SHAPE UP project, etc.

Furthermore, all projects described in this section are dealing with the whole child instead of only addressing disease and risks dimensions, in other words, the focus is on a salutogenic (and not a pathogenic) approach.

Key concepts related to the notion of health are well-being, quality of life, being in control, competence to take action, play and dance (and not physical activity) as well as food, meals, and school canteens (and not nutrition pyramids and fatty acids). This positive way of phrasing health is a precondition for reaching another key principle in the HPS approach: students' active participation and involvement which creates internationalisation and ownership and therefore also the potentials for sustainable healthy change. The principle of participation is, therefore, also consistent with Antonovsky's underlining of *participation in socially valued decision-making* as a prerequisite for developing a strong sense of coherence (Antonovsky, 1996, p. 15).

We, therefore, agree with Morgan (2014) that we need to strengthen the focus of involving individuals and local communities in the salutogenic practice as *the more health programmes are developed with and by local people the more likely they are to be successful and sustainable* (Morgan, 2014, p. 4).

Finally, there are also substantial overlaps and links between HPS concepts like empowerment, action competence, and self-efficacy and the salutogenic concepts sense of coherence and Generalised Resistance Resources. The metaphor suggested by Antonovsky (1996) and further developed by Eriksson and Lindström (2008) on the river of health is a good illustration for visualising overlaps between these concepts. Where curative medicine is devoted to helping people who are drowning and preventive medicine is helping people not to fall into the river, the salutogenic approach is focusing on enabling people to swim. Empowerment, action competence, and similar concepts from the HPS area do have the same potential and roles: to enable people to swim—as single individuals and together.

There is a need for more research which uses a wide range of methods. Also, more systems research, which attempts to assess the synergic interactions which can occur the complex reality of a school, is needed. Good practice is also part of the evidence, and the SHE network strongly advocates disseminating good practice studies results. The goal of embedding good practice in education systems is not yet accomplished. The potential of schools in improving health and reducing health inequalities needs to be better utilised and underpinned with research.

From the interventions and cases presented, it is clear that there is a substantial link between HPS and whole-school approaches and the salutogenic orientation. The emerging evidence for the effects of such approaches could be used to anchor and document the effects of a salutogenic approach in schools. One important focus area for future research could be to clarify the role of sense of coherence in an HPS, which could perhaps be viewed as an intermediary and mediating factor between participatory whole-school approaches and behavioural and health outcomes.

What the HPS development is currently lacking is a clear and commonly agreed overall theory, which is where the salutogenic area could help to embed and anchor school

health promotion and HPS. On this basis, we conclude that salutogenesis can contribute with a theoretical fundament for HPS and related approaches.

On the other hand, the intervention models and the appearing evidence of the effectiveness of an HPS approach described in this chapter can be used to strengthen the action-orientation and intervention dimension of the salutogenic theory. In other words, the HPS might help to operationalise and describe the salutary factors in the salutogenic theory, which can be viewed as the current weakest link in the salutogenic orientation.

Future Challenges

There is a need to develop, test, and implement intervention studies in the school setting that can clarify pathways leading to high or low sense of coherence levels and that provide indications and guidelines for changes in the school setting to optimise the development of students' SOC. The national and international networks of HPS provide perfect platforms for natural experiments for this purpose.

The role of sense of coherence as a possible mediator between a participatory and action-oriented HPS and behavioural and health outcomes need to be explored, mapped out, and clarified. In this regard, the sense of coherence can be viewed as a determinant as well as an outcome in the HPS-setting and as a dependent as well as an independent variable in future research.

Relations between the sense of coherence and typical HPS concepts (e.g. empowerment, health literacy, self-efficacy, and action competence) should be explored and mapped out. The focus should be on theoretical underpinnings, measurements, relations to health outcomes, and internal synergies.

Salutogenic approaches and models need to strengthen the community or collective dimensions since no one is in control of her/his health as a single, isolated individual. HPS models and concepts like empowerment and action competence do have the potentials to emphasise and strengthen key elements in the intervention part of the salutogenic orientation such as connectedness, collective action, and social capital as key social-level generalised resistance resources.

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Applying Salutogenesis in Higher Education

30

Mark Dooris, Sharon Doherty, and Judy Orme

Introduction

Universities are important organisations for health promotion – not only as contexts and vehicles for enhancing well-being, but also as partners in multisectoral health improvement and as contributors to citizenship development and societal change (Dooris et al., 2012). In the UK alone, there are 168 higher education providers with almost 2.4 million students and 440,000 staff (Higher Education Statistics Agency, 2020a, 2020b), whilst worldwide, it is estimated that by 2040, there will be 594 million university students, an increase of nearly 500 million since the turn of the millennium (ICEF Monitor, 2018). This points to the substantial global potential offered by universities as settings in which and through which to promote public health.

Over centuries, there have been contrasting accounts regarding the general role of higher education in societies, which can be summarised as follows (Epigeum Ltd., 2012):

1. Universities as communities of learning and personal development (the 'liberal' theory)
2. Universities as sources of expertise and vocational identity (the 'professional formation' theory)
3. Universities as creators of and test-beds for the evaluation and application of new knowledge (the 'research engine' theory, linked to the 'business and industry services' theory)
4. Universities as important contributors to society and societal change (the 'civic and community engagement' theory)

Reflecting on these divergent understandings, it can be argued that most universities now function in ways that seek a balance between these strands of thinking – even whilst there is arguably a worrying trend towards a more instrumental and utilitarian perspective, with their core purpose being viewed in terms of contribution to economic growth and 'production' of graduates able to 'get a good job' (McGowan, 2015).

Whilst universities have historically been viewed as elitist organisations, there has been an increased concern over recent years to widen access and strengthen diversity, alongside the opening up of an increasingly competitive higher education 'marketplace'. For example, the UK's focus on 'widening participation' has resulted in the profile of students becoming increasingly diverse – with more mature students, part-time students and students from a wider range of socioeconomic backgrounds, many of whom are the first in their family to attend a university (House of Commons, 2018).

The role of higher education as an instrument of societal change has long been acknowledged, and Brennan et al. (2004) suggest that universities achieve this not only through producing highly skilled graduates and economically motivated research outputs but also through helping to build new institutions of civil society and encouraging new cultural values. In the context of the 'widening participation' agenda, it has been argued that: 'by encouraging students from all backgrounds to come to university, universities can do more than almost any other institution to improve social mobility and justice' (Schwartz, 2003), whilst the broader impact on local and regional communities is widely recognised in terms

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of employment, knowledge exchange, the built environment and social/community development (Centre for Urban and Regional Development Studies, 1994). More widely, the growing movement for 'civic universities' recognises that higher education institutions are key 'anchor institutions' and 'hugely important to the economic, social, cultural and environmental wellbeing of the places in which they are located' (UPP Foundation, 2019, p.4) and calls for strengthened and connections between universities and their localities.

Promoting Health and Well-Being in the University Setting: An Overview

For many years, universities have provided a key setting for the implementation of interventions on various health issues, leading to student-focused guidance on drugs, alcohol, mental health and other key themes (e.g. Crouch et al., 2006; Grant et al., 2002; Polymerou, 2007; Universities UK, 2000). Until relatively recently, these themes have tended to be constructed as 'problems' relating to risk-taking behaviour and ill-health, a focus mirrored by the traditional focus on reducing staff illness and sick leave caused by stress and other issues.

Aligned to Antonovsky's focus on health maintenance processes, there have, however, been encouraging signs of the higher education sector shifting away from a reductionist illness-oriented approach: This has been signalled, firstly, by increased use of the language of well-being and resilience (Marshall & Morris, 2011; Shutler-Jones, 2011; Steuer & Marcs, 2008) and, secondly, by a growing interest in moving beyond single topics and population subgroups to embrace a more strategic and comprehensive 'whole university' approach that embraces students, employees and the wider community (Dooris & Doherty, 2009; Orme & Dooris, 2010).

This 'Health Promoting University' approach endorses the Ottawa Charter (WHO, 1986) in its assertion that 'Health is created and lived by people within the settings of their everyday life; where they learn, work, play and love'. It is located within the field of settings-based health promotion, which Kickbusch (1996) has argued is salutogenic in orientation – 'shifting the focus from the deficit model of disease to the health potentials inherent in the social and institutional settings of everyday life'.

Importantly, the Health Promoting Universities approach is customised to the higher education context in recognition that universities have their own distinctive ethos and culture. Echoing the earlier discussion concerning the purpose of higher education, Dooris et al. (2012) have proposed that this whole system perspective needs to consider the multiple roles of universities – as centres of learning and development; as foci for creativity and innovation; as places where students undergo life transition and where citizenship is developed via future shaping of students and staff; as workplaces and businesses; and as resources for and influential partners within local, regional, national and global communities.

The vision and aspirations for this whole system approach are encapsulated in the influential Okanagan Charter (2015: 2), the culmination and collective outcome of the 2015 International Conference held in Canada:

'Health Promoting Universities and Colleges transform the health and sustainability of our current and future societies, strengthen communities and contribute to the wellbeing of people, places and the planet. Health-promoting universities and colleges infuse health into everyday operations, business practices and academic mandates. By doing so, health-promoting universities and colleges enhance the success of our institutions; create campus cultures of compassion, wellbeing, equity and social justice; improve the health of the people who live, learn, work, play and love on our campuses; and strengthen the ecological, social and economic sustainability of our communities and wider society'.

Reflecting its whole system focus, the Charter goes on to issue two calls to action – to embed health into all aspects of a university's culture, across its administration, operations and academic mandates; and to lead health promotion action and collaboration locally and globally. The first involves weaving health into the institution's various policies so that they support the flourishing of people, campuses, communities and the planet; creating environments that support health, well-being, sustainability and resilience; fostering thriving, empowered, connected and resilient campus communities; supporting personal development to enable students and staff to thrive and achieve their full potential; and creating or reorienting services to enhance health and well-being, optimise human and ecosystem potential and promote a supportive organisational culture. The second focuses on enhancing research for health promotion; positioning the university as a leader and advocate for local and global action; and integrating health, well-being and sustainability in and across multiple disciplines, so that students gain a critical understanding and become fired up as change agents and global citizens in families, communities, workplaces and society as a whole.

The approach focuses not only on tackling the very real health problems experienced by students and staff but also on enabling university communities to thrive. Whilst not explicit in its use of salutogenic terminology, this can be readily understood to address the question, 'how can movement towards the health pole of the health-ease/dis-ease continuum be facilitated?' The application of the Okanagan Charter to health promotion practice in higher education within Aotearoa New Zealand has been discussed by Waterworth and Thorpe (2017). In doing so, they highlight

the importance of a salutogenic orientation, noting how this can be supported by focusing on assets and strengths, incorporating multiple stakeholder voices and prioritising indigenous knowledge and perspectives.

A focus on human flourishing in the university context inevitably highlights those factors that enable people to make sense of their lives and is concerned with people experiencing a strong 'sense of coherence', which Antonovsky (1987) suggested predicted positive health outcomes. A 'sense of coherence' is a global orientation that expresses the extent to which one has a pervasive, enduring feeling of confidence that the stimuli deriving from one's internal and external environments in the course of living are structured, predictable and explicable (comprehensibility), that the resources are available to one to meet the demands posed by these stimuli (manageability), and that these demands are challenges worthy of investment and engagement (meaningfulness). The relationship between sense of coherence and health is understood to be mediated by what Antonovsky calls 'resistance resources', which can be both generalised and specific.

Interpreted in this way, by encouraging and enabling higher education institutions to adopt a whole system approach to creating environments and cultures that actively support health, well-being and community connectedness, the Health Promoting Universities approach plays a central role in making generalised and specific resistance resources available to students, staff and other stakeholders, thereby enabling a strengthened sense of coherence. An example of the former might be an explicit commitment to health-promoting campus design whilst an example of the latter might be the provision of targeted student and staff counselling services.

Conceptualising Health Promoting Universities: A Salutogenic Whole System Approach

In 1995, the Faculty of Public Health Medicine (1995) published a special issue of its newsletter, which argued that 'initiatives in universities have emerged more or less in parallel with projects on the health-promoting workplace, school and hospital, but—without the benefit of any national or international infrastructure—they are only just beginning to generate a momentum of research and development' (Beattie, 1995, p. 2). Around the same time, two English universities – Lancaster and Central Lancashire – established Health Promoting University programmes and collaborated with WHO Europe in writing the first guidance publication on Health Promoting Universities (Tsouros et al., 1998). In parallel, a German Working Group was established in 1995, evolving into the German Network of Health Promoting Universities (Stock et al., 2010).

Over the past two decades, there has been a growing body of conceptual research on the healthy settings approach and its application to the higher education sector. Dooris (1998, 1999, 2001) draws on the early experience of developing and implementing the University of Central Lancashire's Health Promoting University initiative to describe and discuss the framing of a whole system approach and the successes and challenges. The work explicitly seeks to apply a settings approach, which is clearly rooted in salutogenic theory (Kickbusch, 1996). His 'social ecosystem' model (Dooris, 2001) identified inputs, processes and outputs and illustrated how the concept and approach of Health Promoting Universities offers a means of investing in the health and well-being of students and staff. It is argued that this can be done by balancing a traditional pathogenic focus on addressing health needs and problems with a salutogenic focus on harnessing a university's strengths, assets and potentials in order to support the well-being and flourishing of students, staff and the wider community.

More recently, this systems-based approach has been explored further (Dooris, 2006). It highlights opportunities for universities to increase understanding of health, well-being and sustainability and of their underpinning social, political, economic, cultural and environmental determinants. Furthermore, it illustrates how universities play a key role in shaping the development of knowledge, values and priorities amongst students and staff and how they have the power to shape their current and future influence within, outside and beyond the university.

Antonovsky (1996) asked what a community can do to strengthen its 'sense of coherence' – its comprehensibility, manageability and meaningfulness? The UK Healthy Universities Network has subsequently agreed on a model to elucidate its vision which aligns with Antonovsky's idea of a sense of coherence (see Fig. 30.1), that is a way of making sense of the world and a major factor in determining how well a person manages stress and stays healthy. Dealing particularly with the concept of meaningfulness, which Antonovsky believes to be the most important, Fig. 30.1, can help to generate a sense of meaning around a healthy university for staff, students and wider communities which helps to explain the important components in predicting positive health outcomes.

The model is underpinned by health promotion principles such as equity, partnership, participation, empowerment and holism (Rootman et al., 2001), and concerned with the achievement of deliverables and impacts. Whilst there are no universally agreed indicators of impact, frameworks developed to facilitate self-review and implementation (Asean University Network-Health Promotion Network, 2017; UK Healthy Universities Network, undated; Dooris, Farrier, et al., 2018) anticipate changes across a range of organisational functions. Potential examples are higher quality health

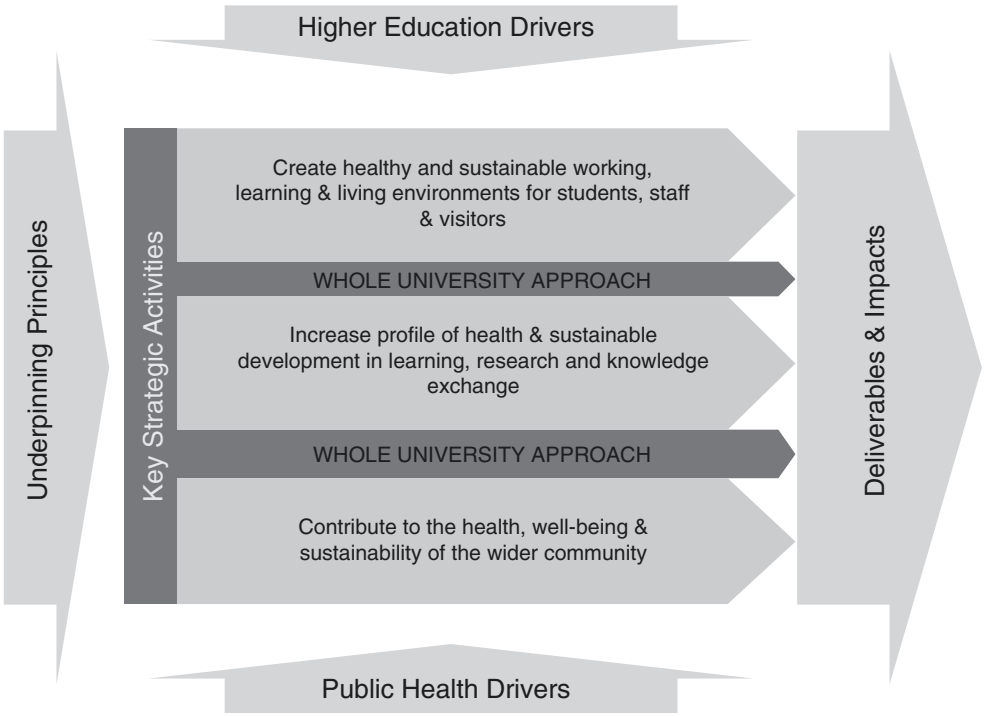

Fig. 30.1 Healthy Universities – A model for conceptualising and applying the healthy settings approach to higher education. (Source: Dooris et al. (2010))

and welfare services; healthy and sustainable food procurement processes and catering services; increased personal responsibility for health among students and staff; and strengthened institution-level commitment to practise corporate social and environmental responsibility.

Central to it is a whole university approach, which involves working within and across three key strategic areas of activity – with the following aims:

- Creating healthy and sustainable learning, working and living environments (e.g. campus and building design, work-life balance policy and supportive management culture)
- Integrating health and sustainability within the mainstream activities of the university (e.g. health as multidisciplinary cross-cutting themes in curricula, research and knowledge exchange)
- Contributing to the health, well-being and sustainability of local, regional, national and global communities (e.g. health and sustainability impact assessment, locally embedded research, volunteering and outreach)

A whole university approach is also understood to be underpinned by health promotion values and to involve the following complementary strategies (Dooris, 2004, 2009):

- Anticipating and responding to higher education and public health drivers
- Securing 'top–down' leadership whilst also engaging 'bottom–up' stakeholder engagement and participation
- Combining long-term organisation development and change with high-visibility project work
- Balancing a pathogenic focus on addressing needs and problems with a salutogenic focus on harnessing a university's strengths, assets and potentials in order to support the well-being and flourishing of students, staff and the wider community

Focusing on the conceptualisation of a whole university approach, Dooris et al. (2019) report on an international study that explored vice-chancellors' and network members' understanding of and commitment to Health Promoting Universities. Through thematic analysis, several key themes emerged regarding the whole university approach, illustrated in Fig. 30.2: building a broad understanding and framing of health; developing a supportive ethos and culture; embedding health into the university and joining up areas of work; focusing on the whole population; and facing challenges and seizing opportunities. A concern to enhance positive well-being and harness assets and capabilities was explicit within this emerging model.

If practised in this 'whole system' way, the Health Promoting Universities approach offers opportunities to deliver important contributions to health, well-being and overall business performance and productivity. Furthermore, Health Promoting Universities can make an important contribution to intersectoral health promotion through sensitising students (and staff) across multiple disciplines to a range of health issues and 'future shaping' them as they clarify values, grow intellectually and develop capabilities that can enhance current and future citizenship within families, com-

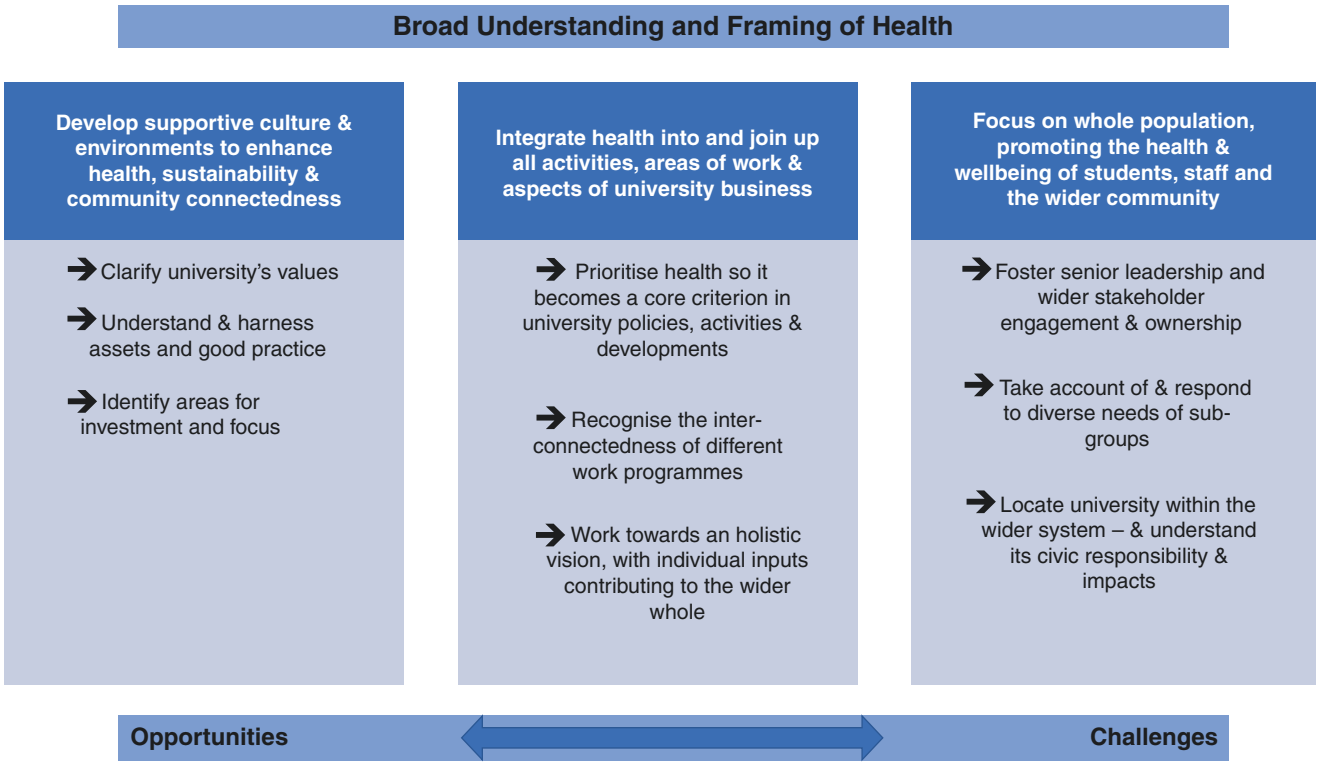

Fig. 30.2 A whole university/whole system approach to health, well-being and sustainability (Adapted from Dooris, Powell, & Farrier, 2018. This figure has been developed with use of the publication 'Healthy Universities: Whole University Leadership for Health, Wellbeing and Sustainability' which is owned by Advance HE. © 2018 Advance HE. All rights reserved)

munities, workplaces and society as a whole (Dooris et al., 2010; Dooris, Farrier, et al., 2018).

Empirical Research on Health Promoting Universities

Beyond the conceptual research detailed above, academic literature focused on Health Promoting Universities has largely described project delivery or reported on specific research studies relating to particular aspects of health promotion practice as summarised below. Whilst few publications report on research or programme implementation that has explicitly used salutogenesis or its component constructs as a framework, many have been framed within the broad theoretical contexts discussed above - emphasising how universities can provide supportive environments and resources; foster the development of personal strengths and empowerment; and encourage a focus on positive well-being.

Dooris (1998, 2001) reports on an evaluation of the first two years of the University of Central Lancashire's Healthy University initiative, concluding that there is value in locating health promotion interventions within a holistic framework which considers the university setting as an organisational whole and appreciates that it is influenced by broader contexts and determinants. This is echoed in a Royal College of Psychiatrists (2011) report on the mental health of students, which states:

> The 'Healthy Universities' initiative has adopted an ambitious rationale in relation to student health. The university or college is seen not only as a place of education but also as a resource for promoting health and well-being in students, staff and the wider community … The 'Healthy Universities' systemic and holistic approach is commended and should be adopted as widely as possible.

Xiangyang et al. (2003) report on the development of health-promoting universities across Beijing, acknowledging the importance of a shift in focus from treating illness to prevention and health promotion, highlighting the centrality of creating health-supportive environments and concluding that the university community can benefit greatly from implementing health promotion campaigns based on the principles of the Ottawa Charter. Meier et al. (2006) discuss the contribution of health discussion groups to health promotion at the University of Bielefeld, concluding that they offer a valuable means of increasing students' participation and empowerment and of influencing strategic decision-making. An earlier study at the same university examined students' health-related behaviours (Stock et al., 2001) and, whilst framed in terms of 'health needs', highlighted the importance of also focusing on health potentials and personal resources.

Coffey and Coufopoulos (2010) report on students undertaking a health needs assessment at Liverpool Hope University. Whilst the focus on needs would seem to locate the work outside of salutogenesis, the approach reflects a belief that a health promotion curriculum should itself enable people to increase control over and improve their health. Knight and La Placa (2013) report on a pilot Healthy University initiative at Greenwich University. Using a settings approach that sees the organisation as a key determinant of its members' health and well-being, this has prioritised the allocation of resources to activities that will create sustainable health-enhancing processes.

A number of relatively recent studies do articulate the centrality of the salutogenic perspective more explicitly. Reporting on a two-year feasibility project concerned with the establishment of University of Brighton as a Health Promoting University, Davies and Hall (2011) highlight the connections with core agendas such as recruitment, retention and productivity and suggest that the process can be a valuable mechanism for harnessing and adding value to existing good practice. Emphasising the importance of applying Ottawa Charter principles such as building healthy policy and creating supportive environments, the report explicitly references salutogenesis. Similarly, in exploring the application of a whole system approach to food within the university context, Doherty et al. (2011) locate their discussion within the Healthy Universities framework, which they argue has an explicitly salutogenic orientation.

One doctoral study examined two UK case studies, one 'exemplar' and one 'contrary', and found that the university adopting an explicit commitment to the Health Promoting Universities approach displayed features associated with a salutogenic organisation, with people feeling respected, supported and valued (Newton et al., 2016). Furthermore, these characteristics were viewed by senior leaders to be part of, rather than separate from, core business. The authors concluded that 'although it is not possible to evidence a causal relationship between the adoption of a healthy university approach and a salutogenic organisational culture, the contrasting case studies do suggest that such benefits may well be catalysed or reinforced by an intentional and explicit commitment to health and wellbeing' (p.63).

Innstrand and Christensen (2018) report on ARK, a holistic and systematic Norwegian health promotion intervention programme underpinned by the Health Promoting Universities settings approach and adapted for staff working in higher education. It concludes that the programme's key strengths derive in part from its salutogenic perspective focusing on strengthening positive health assets and potentials. Reporting on research examining the relationship between personal, university, home and community influences on the mental health status of Australia's university students, Usher (2019, p.149) concludes that: 'A dedicated and strategic commitment to embedding university policies aimed at heightening students' health and wellbeing sustainably…provides the perfect springboard for coordinated action to develop college campuses which can be considered health-promoting or salutogenic'.

Research Relating to Salutogenesis and Universities

As large organisations within which people learn, work, interact and live, universities inevitably impact on the health of their communities with institutional policy and practice, management styles, communication systems, decision-making processes and service design and provision all influencing well-being and quality of life (Abercrombie et al., 1998). Taking a whole university approach to health and well-being in universities ensures that staff, as well as student health and well-being, is an important consideration.

A focus on employee health has been strongly linked to performance and productivity, with the suggestion that universities need healthy and well-motivated workers if they are to deliver high-quality services (Health and Safety Executive, 2006, p. 1). Within a university workplace context, there are relatively few research papers that touch on salutogenic theory, exploring individual-level sense of coherence, and its relationship to stress and mental well-being in university staff (Bezuidenhout & Cilliers, 2011; Kinman, 2008). There are many different groupings of staff within universities, but it is academics who feature most prominently in the literature in terms of stress and burnout. Kinchin (2019) focuses on the health of the system rather than the physical or mental health of individuals working there and introduces the concept of pedagogic health. Having identified the deficit model of pedagogic frailty, which stems from the idea that the professional environment can create tensions that impede the development of teaching practice, he suggests that salutogenesis, in contrast, pays more attention to the management of tension and utilising assets that contribute to wellness. This can thus be seen to offer links with the ideas of pedagogic health as a continuum between the extremes of pedagogic frailty and pedagogic resilience. In conclusion, Kinchin (2019) argues that before waiting for academics to experience difficulties through frailty within their teaching, moving to the proactive promotion of greater pedagogic health literacy across the campus is likely to have a more positive outcome for the institutional community.

In considering universities as a setting for health, it is relevant to revisit Antonovsky's (1987) assertion that sense of coherence as a health-promoting resource is developed and strengthened mainly in the years before a person is 30. Although Eriksson and Mittelmark (2017) reflect that this assumption is not supported by more recent empirical

research, which suggests that sense of coherence develops over the full life course, it remains that higher education is an important setting for researching and building an understanding of sense of coherence and for implementing interventions and programmes able to support its development. This is particularly pertinent in view of the fact that many university students belong to this age group and face a range of challenges in adapting to an unfamiliar environment and managing new academic and social demands (Chu et al., 2016). More widely, Hochwalder and Saied (Hockwälder & Saied, 2018) reflect that university students are at a significant stage during their study and how well they manage this time can also link to their future professional and personal life. They argue that the SOC scale could be used to identify students' levels of SOC and then for universities to make efforts to support students in increasing it over their time with them. It is, therefore, not surprising that a larger number of studies have been undertaken exploring students' sense of coherence and its relationship to health behaviours, physical and/or mental health and quality of life.

Kuuppelomäki and Utriainen (2003) examined sense of coherence and its associations with smoking, drinking and physical exercise among students at a Finnish polytechnic, finding a positive correlation with physical activity but no association with smoking and drinking. Von Bothmer and Fridlund (2004) investigated students' self-rated health in relation to sense of coherence in a small Swedish university. They concluded that mean score for sense of coherence was similar for female and male students, but that a positive association between self-rated health and sense of coherence only existed for women. Research conducted in two universities in Poland explored the relationship between students' sense of coherence and health-related behaviour in 521 students, concluding that sense of coherence had a significant positive correlation with the intensity of pro-health behaviours (Binkowska-Bury & Januszewicz, 2010). Reporting on a study conducted in four Indian colleges, Suraj and Singh (2011) reported a positive correlation between health-promoting lifestyle profile scores and sense of coherence, whilst Rakizadeh and Hafezi (2015) conducted a study of 459 students at one university in Iran and found significant strong positive relationships between the three sense of coherence components and all domains in WHO's 26 item Quality of Life questionnaire. In a study undertaken among Chinese international undergraduate nursing students at an Australian university, He et al. (2011) found a significant negative correlation between acculturative stress and sense of coherence, concluding that there is a need for universities to offer appropriate support to overseas students.

Whilst these research papers provide insights into the experiences of staff and students at universities, most are not conceptualised or framed in relation to 'Health Promoting Universities' and neither engage with nor reflect an understanding of ecological whole system thinking. There are, however, a few exceptions:

- Peker et al. (2011) reported on a study that examined the relationship between generalised resistance resources and sense of coherence among 566 dental students at Istanbul University. Informed by a commitment to Health Promoting Universities, empowerment and salutogenic theory, they found that a strong sense of coherence was significantly positively correlated with lower stress levels, higher social support levels, better self-rated health and a range of pro-health behaviours.
- Heiman (2004) reported on a study conducted in Israel, exploring the concept of the sense of coherence in relation to social support, coping styles and the stress experiences of university students. Whilst not contextualising the research within a healthy settings framework, she concludes that it would be valuable to focus on students and their interaction with the environment, using the concepts of stress, coping and social support as inseparable characteristics of a systems model.
- Graeser (2011), explicitly locating her research to settings-related theory, developed a University Sense of Coherence scale (combining the subcomponents of comprehensibility, manageability and meaningfulness) and conducted two studies with employees at a German university. The findings showed clear correlations between the organisational-level setting-based Sense of Coherence and health. Reflecting on these findings, she argued that cultural dimensions are the basis for an organisation-based Sense of Coherence, which plays a valuable role in shifting the focus from the individual to the organisation. She concluded that an organisation-based sense of coherence works in a dynamic way with individuals in that community. This research links well with the whole system perspective of Health Promoting Universities, acknowledging the importance of a university's ethos and culture and discussing how individuals interact with and feel part of it. This leads to learning in conditions conducive to mental health across an organisation.

Promoting Health and Well-Being in the University Setting: Emerging Challenges and Responses

The Health Promoting Universities movement, informed as it is by the settings perspective and salutogenic orientation (Kickbusch, 1996), faces a number of emerging challenges. Two of these are outlined below, which, though illustrated with reference to the UK experience, have global resonance.

First, the UK higher education sector's commitment to widening participation and the resulting diversification of the

student profile (House of Commons, 2018) have, not surprisingly, coincided with (Thorley, 2017):

- Increasing levels of mental illness, mental distress and low well-being among students in higher education, as the student population comes to resemble more closely the country's demographic and socioeconomic profile
- Growing demand for student counselling, disability and well-being services

This has contributed to a high-profile media narrative of a 'student mental health crisis', fuelled in particular by an increase in student suicides (Dandridge, 2018); this trend has served as a catalyst for expansion and strengthening of university provision of advisory and therapeutic services that can respond to the full range of health, social and welfare needs presented by this broadened student population. Such responses are important to ensure that universities fulfil their duty of care and avoid negative impacts on student experience, retention and achievement. At the same time, there has been a growing appreciation that the student population comprises a range of 'communities' within which people are creating their own social networks as well as being offered opportunities to engage, participate and access services.

This increase in reported mental health problems has, on the one hand, served to heighten awareness of health as a key strategic and operational priority for universities and rapidly shift it up the institutional agenda. However, it has, on the other hand, catalysed a narrowing of focus away from the salutogenic Health Promoting Universities approach. As Dooris et al. (2019, p10) observe: 'whilst this represents an important opportunity to secure health as a sectoral priority, it also threatens to divert attention and resources from holistic and joined-up approaches by focusing primarily on treatment and service provision rather than wider prevention and health promotion and viewing "mental" health as somehow separate from other dimensions of wellbeing'.

Within the UK, whilst many universities are currently focusing resources onto tackling mental health problems with prioritisation of service delivery and early intervention, there has at the same time been strong advocacy for a more strategic and comprehensive response. Encouragingly, informed by the Okanagan Charter (2015) and Healthy Universities framework (Dooris et al., 2010), high-profile organisations such as Universities UK and Student Minds have called for whole-organisation and whole-system approaches (Universities UK, 2015). Key developments supporting this include the Stepchange: Mentally Healthy Universities Framework (Universities UK, 2020), which articulates a vision for UK universities to be 'places that promote mental health and well-being, enabling all students and all staff to thrive and succeed to their best potential', and the University Mental Health Charter (Hughes & Spanner, 2019).

Second, the growing commitment to embedding health and well-being within the mainstream business of higher education has developed in tandem with the expectation that higher education will act sustainably in all that it does (International Sustainable Campus Network, 2018). Conceptually, sustainable development and health promotion both look beyond lifestyle influences, highlighting the intersection of environmental, social and economic determinants. With the publication of the 2030 agenda for sustainable development (United Nations, 2015), there has been a convergence of agendas: Climate change is no longer only seen as a sustainability issue, but also acknowledged to be the greatest twenty-first-century global public health threat (Costello et al., 2009); nature and green space are understood to be fundamental resources for good health as well as for a balanced ecosystem (van den Bogerd et al., 2018)); and influential commentators are calling for a new 'ecological public health' which highlights the essential connections between health, sustainability, equity and justice and recognises that human health ultimately depends on the health of ecosystems (Lang & Rayner, 2012).

This convergence of agendas and dual expectation within higher education provides the perfect springboard to encourage a process of coordinated action to develop healthy, sustainable, low-carbon campuses that protect and promote the well-being of people, places and the planet, through taking steps to integrate good practice in key areas such as active travel, sustainable food and curriculum design (Orme & Barna, 2010; Orme & Dooris, 2010). However, such coordination can itself be challenging, as individuals, organisations and networks hold onto siloed ways of working in terms of existing systems and capacity (Dooris, 2013; Poland & Dooris, 2010). Furthermore, it can also mitigate against adopting an explicitly salutogenic focus. In the same way that those working in health promotion seeking to promote health within a context dominated by a medical model focused on disease and pathogenesis, so those working in sustainable development operate within a system that tends to focus on how best to limit or mitigate detrimental impacts. In bridging silos and connecting agendas, it is helpful to appreciate the strong resonance between the salutogenic perspective and the emerging focus on 'regenerative' and 'restorative' sustainability (Brown, 2016; Robinson & Cole, 2015). In both, a recurring challenge is to acknowledge and address the very real problems facing us – whether obesity, mental health, climate change or resource depletion – whilst asserting the potential not only to limit negative influence but also achieve net positive impacts and enhance human and planetary well-being.

Discussion

When considering the implications for salutogenesis policy, practice and research relating to the university setting, it is valuable to explore developments and opportunities at three levels.

First, at international and national levels, the interest in the whole system Health Promoting Universities approach reflects the success of other programmes using a settings approach, such as Health Promoting Schools and Health Promoting Further Education. School-focused evidence reviews support a whole school approach, suggesting that effective programmes are likely to be complex, multifactorial and involve activity in more than one domain (Stewart-Brown, 2006; St Leger et al., 2010) whilst a review focused on further education concluded that 'while it is not possible to state with certainty that multi-component, whole-settings approaches are more successful in college and university settings than one-off activities, the evidence points in this direction' (Warwick et al., 2008: 27). Echoing these findings, a study focused on higher education concluded that 'embedding a "whole system" commitment to health into university structures/processes results in positive outcomes for students, staff and the organisation as a whole' (Newton, 2014).

Reflecting this growing interest, national networks have articulated ambitions and frameworks that are clearly salutogenic in focus. For example, the 'Quality Criteria for Health Promoting Universities' issued by the German Network of Health Promoting Universities (2010) state that 'A Health Promoting University is based on the concept of salutogenesis and focuses on the conditions and resources necessary for health'. Internationally, the Okanagan Charter (2015) – whilst not using salutogenic terminology – is explicit in its focus on enabling university communities to thrive and encouraging them to generate thriving, empowered, connected and resilient campus communities supported by a culture of well-being and contributing to community and planetary health.

Second, at the university level, there is evidence of a growing interest in implementing such a whole university approach, encompassing a concern to ensure promotive and protective factors for health, well-being and human flourishing. The availability of generalised and specific resistance resources (Mittelmark et al., 2017) is particularly important in enabling a strengthening sense of coherence for students, staff and other stakeholders in a university setting. Although these resources are discussed in relation to schools, we feel the concept can also be applied to Health Promoting Universities. Generalised resistance resources – evident through a university prioritising environments that are supportive for effective and productive learning, working and living – contribute in a general way to the development of a sense of coherence of many students and staff. Specific resistance resources – for example, counselling provision and advisory services targeted at specific groups of students or staff – would be present in a university but, unless particularly salient to individual students or staff, are unlikely to be widely used. However, a strong sense of coherence is understood to facilitate the uptake and use of particular specific resistance resources when they are needed.

It is clear, then, that there is scope for exploring further the concept of resistance resources in relation to universities and that developing a more nuanced understanding could be highly beneficial for all who live, learn, work, play and love on our campuses. Although generally not engaging directly with the language of salutogenesis, it is possible to discern examples that resonate. In the UK, for example, universities and their students' unions have responded to the student engagement, experience and mental health agendas by putting in place what can be understood as a combination of generalised and specific resistance resources. Student charters have been used to articulate intentions to create an appropriate learning culture and support students to reach their full potential (Department for Business, Innovation and Skills, 2011); student-led clubs and societies have been established spanning a range of interests and activities; and targeted services for students and staff have been set up in response to identified and perceived needs.

In guiding practice and research within an often large and complex setting such as a university, it is important to consider a number of connected questions: What are the likely mediators of these community effects? How can staff and students be supported to develop their sense of belonging? How can the institution as a whole provide a supportive context that can strengthen sense of place and sense of self? (Kickbusch, 1996).

Third, it is important to consider the interface between people within the university and the university as a context. In this respect, universities are complex, in that they involve students, staff and external stakeholders, and are located within wider communities. The Health Promoting Universities approach includes opportunities for individuals to be given a voice and shape policy, services, information and projects and can usefully explore how people interact and find meaning within the setting, appreciating that these interactions have the capacity to either support or impact negatively on well-being. Whilst it is important to acknowledge the reality of continuing health 'problems', illnesses and needs, the Health Promoting University approach must continue to assert its salutogenic focus, creating supportive environments and enabling its community to thrive and flourish.

It is fundamental that this multilevel approach to salutogenic policy and practice in universities is supported by a focus on salutogenic research. There is currently a lack of salutogenic research that focuses on health creation and

maintenance and looks at the underpinning processes in higher education settings that are health-enhancing and strengthen 'sense of coherence' (i.e. comprehensibility, manageability and meaningfulness). This requires researchers to consider felt and expressed improvements in health and well-being within the context of a whole system orientation and to explore what a salutogenic orientation can do for the core business of universities. This would also contribute to the development of evaluative research and the strengthening of the evidence base for Health Promoting Universities.

Conclusion and Challenges for the Future

Looking to the future, the Health Promoting Universities approach offers enormous potential to support the creation and maintenance of health and flourishing of students, staff and the wider community. There are, though, challenges to face.

First, higher education as a sector does not exist primarily to promote health. In seeking to embed a commitment to health, it is therefore imperative that we are able to demonstrate and illustrate how investment in well-being can contribute to the delivery of core business goals.

Second, the language of 'health' still tends to be closely aligned with negative concepts of illness and disease. It will therefore be necessary to engage with 'pathogenic' perspectives and the very real problems facing universities as they seek to address both human and planetary health but to shift the orientation towards salutogenic and regenerative perspectives. Through exploring how health can be a resource to support core university business, it is possible to make a case for harnessing and strengthening positive assets and potentials – even if not explicitly using salutogenic language.

Third, many determinants of both illness and health and human potential are located outside of universities. This highlights the importance of strengthening the advocacy role of universities to call for action and become a powerful force for positive change, helping to create conditions that support well-being within universities, their local communities and society as a whole. It is evident that universities play an important role in training staff and educating students in ways that increase understanding of the determinants of health and health equity and unleash multisectoral innovation, creativity and passion for well-being, sustainability and social justice.

Within these contextual constraints, a student's sense of coherence is shaped by many aspects of experience evolving from comprehensibility, manageability and meaningfulness. Supporting the development of a student's sense of coherence in a university setting is therefore particularly challenging. Chu et al. (2016) highlight that a university is an environment with many new demands, including academic, social and career challenges. How these factors are experienced by students at an individual, group and community level will impact on the development of a sense of coherence. A number of studies have undertaken measurements of students' sense of coherence within university settings. These include those that indicate a strengthening of sense of coherence linked to the intensity of pro-health behaviours (Binkowska-Bury & Januszewicz, 2010), positive correlations with lower stress levels, higher social support levels and better self-related health and pro-health behaviours (Peker et al., 2011) and a higher level of acculturative stress among international students (He et al., 2011).

Discussing sectoral developments within higher education in the UK, Steuer and Marcs (2008) critique a perceived overemphasis on economic development, which they see as fuelling individual competitiveness. In response, they advocate a transformative approach to quality in higher education that serves the dual purpose of enhancing both personal and collective well-being – prioritising features such as enjoyment and fulfilment, autonomy and reciprocity, connectedness and belonging, and empowerment and ability to effect change. Such an approach offers a potential way forward for strengthening comprehensibility, manageability and meaningfulness within the university setting.

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Applying Salutogenesis in the Workplace

31

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Introduction

In the early twentieth century, Kurt Lewin questioned the role of work and occupational psychology in view of the increasing division of labor (Taylorism), socialism, and a standpoint of a just society. He noted that one's work and occupation is a two-faced matter: a *means for living* or a *purpose in life*, something *demanding* or equally *fulfilling*. This leaves us with the apparent choice of either *working less and more comfortably* or *making work rich and decent* (Lewin 1920, pp. 11–12). Referring to this early narrative of the working lives of human beings in modern times, Schallberger (2006) summarized that "the role of work in wellbeing and health can only be understood when we describe work simultaneously as a possible source of negative (e.g., work stress) and positive (e.g., pleasure in work) emotional states" (p. 96).

Both the detrimental and the health-promoting consequences of working processes were also subjects of Antonovsky's writing on salutogenesis and sense of coherence at work (1987a): "A distinction must be made between the elimination of stressors and the development of health-enhancing job characteristics" (p. 165). Viewing stressors as entropic—leading to disorder in humans and social systems—sense of coherence "represents the forces of negative entropy […] preventing initial tension from being transformed into stress" (pp. 156–157). Given his view that sense of coherence is to a large extent static after an individual reaches adulthood, priority should be on young people's working conditions, which is also a reminder of how destructive unemployment is for this cohort. However, also for older workers, sense of coherence "can be modified, detrimentally or beneficially, by the nature of the working environment" (p. 165). Studies have shown this volatility of sense of coherence and the influences of the work environment on its manifestation (Feldt et al., 2000; Togari et al., 2007). Antonovsky elaborated on work characteristics that potentially are related to sense of coherence, offering a dense description of a workplace where individuals experience meaningfulness, manageability, and comprehensibility. This idea has subsequently been picked up by many others (cf. Bringsén et al., 2012; Hanson, 2007; Idan et al., 2013; Nilsson et al., 2012; Udris, 2006; Vaandrager & Koelen, 2013).

This chapter presents models, measures, and intervention approaches that relate to the double nature of work and its salutogenic quality. Hereby, the view of Antonovsky is enhanced insofar that health-promoting, salutogenic job characteristics are not solely understood as mitigating the pathogenic effects of stressors at work but have a distinct effect on positive health outcomes. In the following sections, Antonovsky's original model is first specified and simplified for the context of work. Next, Antonovsky's line of thinking is related to frameworks researching job resources and demands. After a review of the prevalence of salutogenic measures in worksite health promotion, the point of making salutogenesis more visible in work-related research and practice is elaborated. This is illustrated with a practical

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example of a survey-feedback process promoting salutogenic work.

General Resistance Resources and Sense of Coherence in the Context of Work

"[…] *the strength of the sense of coherence* […] *can be modified, detrimentally or beneficially, by the nature of the current working environment*" (Antonovsky, 1987a, p. 165). Given the fact that most people spend a big part of their waking hours at work, working conditions are important determinants of their sense of coherence and, therefore, also of a person's, a family's, and even a community's health. In order to be salutogenic, work needs to be comprehensible, manageable, and meaningful: Antonovsky (1987a, p. 157ff.) emphasized consistency, underload-overload balance, and opportunities to participate in decision-making as important life—and work—experiences, supporting the perception of comprehensibility, manageability, and meaningfulness, thus building up the sense of coherence of employees.

Based on Antonovsky's writing on health-promoting factors at work (1987a), his original model of salutogenesis is specified and simplified for the context of work (Fig. 31.1): Job resources are part of the generalized resistance resources that allow for *coherent work experiences*, which help build up the sense of coherence of employees. Sense of coherence then influences the ways in which an individual perceives, appraises, and copes with stressors in working life, or the so-called *job demands*, and the tension they induce. An employee with a high sense of coherence might, for instance, perceive and appraise the demands of his/her work environment as challenging rather than threatening. Furthermore, that employee will feel confident that resources are available to cope with the demands, and he/she will also be more likely to select an appropriate coping strategy. Successful coping will determine an individual's position on the health continuum. Experiences of successful coping can also help build up future sense of coherence. Finally, good health is a requirement for building and maintaining generalized resistance resources and job resources, respectively, just as stressors can diminish generalized resistance resources. Such reciprocal mechanisms—depicted as dotted lines in Fig. 31.1—have also found empirical support in research on gain and loss spirals (cf. Hakanen et al., 2008; Salanova et al., 2011).

Cultural Context

Working processes emerge within organizations as social systems (Bauer & Jenny, 2012; Jenny & Bauer, 2013), which themselves emerge within and interact with societal, political, ecological, and cultural environments and systems. As elaborated later, Antonovsky demanded "social-historical awareness" (1987a, p. 159) when researching occupational stress and the role of meaningfulness at work. On the one hand, it seems clear that meaningfulness will have very different antecedents and connotations between occupational, hierarchical, and regional groups. For example, Western European economies have heavily shifted from production to service provider industries. Intuitively, one would not tend to study Asian sweatshop laborers and European bank managers with the same concept and identical measures of meaningfulness at work.

On the other hand, local and global structures and cultures are interwoven more strongly than ever, connected through trade, international corporations, transport, travel, and communication. Furthermore, universal human needs, such as autonomy, competence, and belongingness, have been postulated (Deci & Ryan, 1985), which makes a point for defining global criteria for salutogenic work and shared conceptions of meaningfulness at work (see "Meaningfulness and work").

Similarly, sense of coherence has been studied across various cultural backgrounds, also in regard to work. This also matches the generic, psychosocial focus of generalized resistance resources, sense of coherence, and of the perception, appraisal, and coping with stressors. There are global approaches to work and health at the institutional level; the World Health Organization (WHO) has produced a "Declaration on Workers Health" (WHO, 2006), a "Global Plan of Action" for workers' health (WHO, 2007, 2013), and

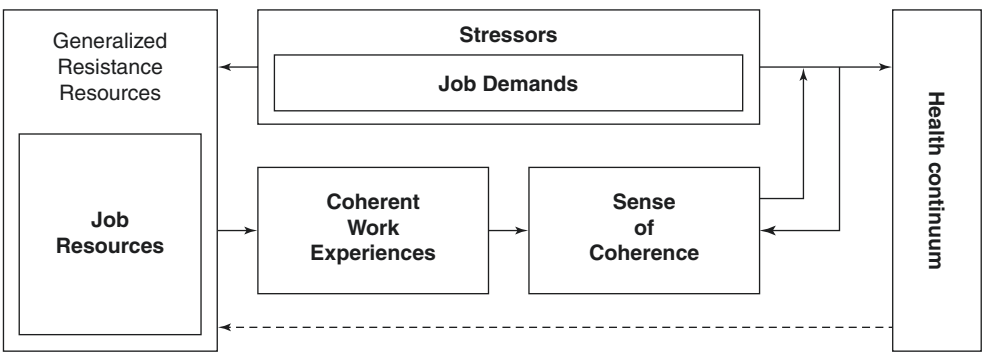

Fig. 31.1 Simplified specification of Antonovsky's original model of salutogenesis for the context of work (1987a)

a "Global Framework for Healthy Workplaces" (WHO, 2010). Similarly, the International Labour Organization (ILO) lists youth employment and social security protection as two global key issues and calls for job creation in general, "[…] as work is the way out of poverty for poor households and…*the expansion of productive and decent employment* [emphasis ours] is the way economies grow and diversify"[1] (ILO, 2014).

Practice Context

There is considerable differentiation among experts with regard to work, safety, and health. Without going into detail, practice taps into the fields of occupational health and safety, occupational medicine, workplace health promotion, human resources management, ergonomics, organizational change and development, coaching, social services, etc. Bridging the logic and approaches of these disciplines is needed to assure that companies and their employees can benefit from this profound knowledge base (Bauer & Hämmig, 2014). Some of these practices stress the importance of building and strengthening resources for employee health, well-being, and productivity, implicitly or explicitly indicating a salutogenic perspective. In regard to workplace health promotion (WHP), for example, the European Network for Workplace Health Promotion (ENWHP) incorporates salutogenic thinking in its Luxembourg Declaration from 1997 (ENWHP, 2005): It postulates *comprehensiveness* as an important principle of WHP and demands that WHP "[…] combines the strategy of risk reduction with the strategy of the *development of protection factors and health potentials* [emphasis ours]." Such resource-oriented capacity building extends from the individual's personal resources and health to the system(s) he/she interacts with (cf. Hoffmann et al., 2014).

Research on the Role of Sense of Coherence at Work

The aforementioned multitude of experts in the field of work and health is mirrored by a multitude of research disciplines (Bauer & Hämmig, 2014). As the introductory quote by Lewin indicated, psychology has a long tradition in researching work, health, and well-being outcomes, from which among others, the subdiscipline of "occupational health psychology" has emerged (Adkins, 1999). Similarly, sociology—the discipline Antonovsky was engaged in—has its stakes in this field of research. Sciences such as occupational medicine and ergonomics have gathered in-depth evidence on the physical side of human beings and their material environments.

Again, some of these disciplines incorporate a—mostly implicit—salutogenic perspective and conduct research on resources and positive health and well-being outcomes (cf. Bakker & Derks, 2010, on "Positive Occupational Health Psychology"). Hereby, levels of analysis reach from the micro (*occupational health*) and meso (*organizational health*) to the macro (*public health*) levels (Bauer & Hämmig, 2014).

Many studies have empirically explored the effect of sense of coherence in the context of work, testing its direct, moderating, and mediating effects. For example, Albertsen et al. (2001) found direct effects of sense of coherence on stress symptoms in a large sample of more than 2000 Danish employees with diverse professional backgrounds. This is in line with previous results by Feldt (1997), who found that sense of coherence was related directly to less psychosomatic symptoms and emotional exhaustion in a sample of nearly 1000 technical designers. She also reported a moderating effect, that is, that people with a high sense of coherence were better protected from the negative effects of unfavorable working conditions.

A mediating effect was found in a longitudinal study by Feldt et al. (2000), who showed that a good organizational climate and job security strongly correlated with a high sense of coherence, which in turn was associated strongly with well-being. Albertsen et al. (2001) also reported a mediating effect of sense of coherence on the relationship between an unfavorable working environment and symptoms of stress. For a list of studies researching sense of coherence with regard to work, we refer to Mayer and Krause (2011) and the chapter by Eriksson in this book. Based on this solid base of evidence, it can be concluded that sense of coherence: (a) is *influenced* by various aspects of work and organization, (b) *influences* work-related outcomes, such as burnout and stress symptoms, and (c) *moderates* the effects of unfavorable working conditions on health outcomes.

Job Demands, Control, and Support—A Salutogenic Pathway

The Luxembourg Declaration on Workplace Health Promotion in the European Union (ENWHP, 2005), one of the most important documents giving guidelines on research and practice in workplace health promotion, underlines the need to create work that balances workers' job demands, job control (decision latitude), and support from colleagues and supervisors. This is the main focus of the well-known job demand-control-support (DCS) model by Karasek and Theorell (1990). The model has two main hypotheses. The *strain hypothesis* predicts that jobs with high mental job

[1]

demands and low control or social support lead to mental strain and thereby mental and physical illness among workers. The second, and much less investigated, hypothesis is the *active learning hypothesis*. This hypothesis could be regarded as a *salutogenic pathway* and predicts that high mental job demands in combination with a high degree of control and support will lead to increased learning, motivation, and a feeling of mastery.

This increased learning and feeling of mastery will, according to Karasek and Theorell (1990), inhibit perceptions of work-related strain and associated health problems and will thus mediate the effect of work factors on strain and health. When Karasek and Theorell (1990, p. 101) described the inhibiting effect of learning and mastery on strain and diseases, they actually referred to Antonovsky's (1987b) sense of coherence concept as a related concept that fits with the mastery orientation of the DCS model. Most studies more or less confirm the strain hypothesis of the DCS model (Van der Doef & Maes, 1999), but the proposed mediating effects that learning and mastery may have on the relationships between demands, control and support, and health and disease have almost not been investigated.

A study among a general working population in Norway (Torp et al., 2013) first investigated whether psychological job demands, personal control, and social support affect the negative health measure of depression differently than the positive measure of work engagement. The study showed that high control and social support were associated with a low score on depression and a high score on engagement. Demands correlated positively with depression but showed no significant association with engagement.

Second, the study hypothesized that the positive measure of engagement could have the same effect as the learning and mastery variables in the DCS model and that this variable could mediate the effect of psychosocial work factors on depression. In accordance with other studies (Peterson et al., 2008; Upadyaya, & Vartiainen,, & Salmela-Aro, K., 2016; Innstrand et al., 2012), the results showed that workers reporting high engagement reported fewer symptoms of depression, and the mediation analyses indicated that engagement partially mediated the effects of work control and support on the level of depression. Other studies have shown similar mediation effects on other outcomes, such as organizational commitment (Hakanen et al., 2006), organizational citizenship behavior (Saks, 2006), and exchanging information or concerns at the workplace (Voogt et al., 2019).

The Job Demands-Resources (JD-R) Model Viewed Through the Lens of Salutogenesis

The above study applied the DCS model to postulate a salutogenic pathway, where work engagement mediates the direct impact of job control and support on symptoms of depression. The study also showed the direct relationship between job control and support with work engagement as a positive outcome. In this section, the Job Demands-Resources (JD-R) model is used to elaborate this expanded salutogenic effect of job resources on positive health outcomes. The JD-R model—originally a model developed to explain burnout—broadens the DCS model by looking at job resources beyond control and support and particularly by emphasizing the positive pathway between job resources and work engagement.

The JD-R model classifies job characteristics into two categories. *Job resources* are positively valued physical, social, or organizational aspects of the job that are functional in achieving work goals, reducing job demands, or stimulating personal growth and development (Schaufeli & Taris, 2014). *Job demands* are negatively valued physical, social, or organizational aspects of the job that require sustained physical or psychological effort and are therefore associated with certain physiological and psychological costs. Similar to the DCS model, the JD-R model describes two distinct processes (Bakker & Demerouti, 2007; Bakker & Demerouti, 2017): a *positive, motivational process* and a *negative, health-impairing process*.

The health impairment process explains the exhausting impact of chronic job demands (e.g., work overload or time pressures) on burnout, whereas the motivational process shows how job resources (e.g., social support or autonomy) have a motivating potential and lead to high work engagement. There is much empirical support for these two processes and their impact on burnout and engagement, as well as on organizational outcomes (Van den Broeck et al., 2013). In addition, the model postulates crosslinks and interactions, where job resources may buffer the health impairment process (cf. Bakker et al., 2005) and job demands may influence the motivational process (cf. Bakker et al., 2007).

Adding Salutogenesis: The JD-R Health Model

The JD-R model has empirically shown that resources stimulate personal growth and development. Humans draw on resources not only to be resilient with regard to potentially harmful situations and events, but to strengthen their standing in life and work, and to achieve their goals. Research has also shown that work engagement is related to various general well-being outcomes (Hakanen & Schaufeli, 2012; see above too).

Viewing the JD-R model through the lens of salutogenesis, the health impairment process could be labeled as a "pathogenic path" leading to ill health and the motivational process as a "salutogenic path" leading to positive health (see Fig. 31.2). This dual pathway or analytical perspective

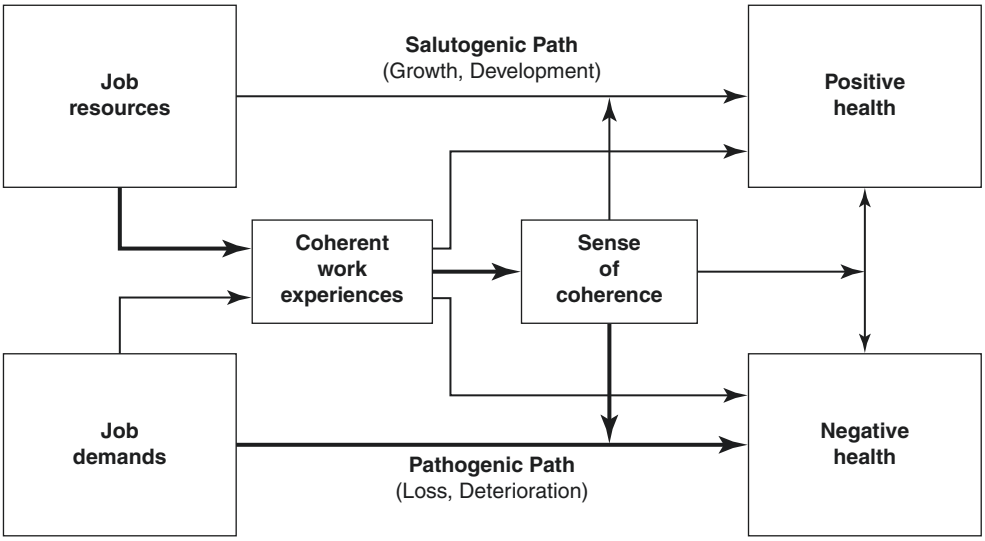

Fig. 31.2 JD-R Health Model including coherence as mediating and/or moderating factor (**bold** = original salutogenic path) (Bauer and Jenny; Adapted from Brauchli et al. (2015). Some modifications to the figure were made. https://doi.org/10.1155/2015/959621, licensed under the terms of the Creative Commons Attribution License (https://creativecommons.org/licenses/by/3.0/))

has been postulated by the EUHPID model (Bauer et al., 2006), splitting the ease-disease health continuum conceptualized by Antonovsky into two orthogonal factors of positive and negative health. As research on mental health and illness has shown (cf. Keyes, 2007), positive and negative health statuses share common variance, yet can be perceived as two interrelated but independent factors. From this combination of models, first the broader organizational health development (OHD) model (Bauer & Jenny, 2012) and later the JD-R Health Model emerged (Brauchli et al., 2015).

The *pathogenic path* of the JD-R Health Model describes a process in which job demands lead to loss and deterioration, resulting in negative health. *Negative health* is defined in this model as *impaired physical, mental, and social reproduction*, an outcome traditionally linked to medical classification systems. Examples are musculoskeletal disorders, anxiety states, depressive moods, and social alienation and exclusion. The *salutogenic path* describes a process in which job resources lead to growth and development and thus to positive health. *Positive health* is defined as *physical, mental, and social fulfillment*. Examples are energetic fitness, joy and happiness, and being embedded in harmonious relationships—for details of positive well-being concepts, see for example the works of Carol Ryff (2018) and Martin Seligman (2011), and the section in this chapter on meaningfulness and work.

The Dynamics of Job Resources

The postulated salutogenic path leading from job resources to positive health requires an understanding of the dynamics of job resources. As discussed above, besides dealing with job demands, job resources are functional in achieving work goals and stimulating personal growth, learning, and development, thus triggering an extrinsic and/or intrinsic motivational process (cf. Schaufeli & Taris, 2014, for a summary and corresponding theories). Further, research has examined gain cycles, showing that job resources not only lead to work engagement over time, but that work engagement also enhances future job resources (Hakanen et al., 2008; Salanova et al., 2011).

The stability and change of job resources and demands have also been studied, showing that compared to job demands, job resources are more stable (Brauchli et al., 2013). This could be due to the fact that job demands are often strongly dependent on factors in an organization's environment (such as economic turmoil, market demands, the labor market), whereas job resources are mainly built and stabilized within an organization. Therefore, interventions building job resources may have more sustainable effects than interventions reducing job demands.

The Role of Sense of Coherence in the Salutogenic and Pathogenic Pathways

As suggested by Antonovsky and visualized in Fig. 31.1 for the work context, job resources can, through coherent work experiences and sense of coherence, buffer the effects of job demands on negative health. This path is marked in bold in Fig. 31.2. Research shows that job resources and job demands influence the perception of a coherent work situation (Bauer et al., 2015; Vogt et al., 2013; see below), which again may influence the general sense of coherence of employees and therefore their health status. A longitudinal study showed that job resources were related to coherence at work, which again was related to general sense of coherence—and vice versa (Broetje et al., 2019).

Research also shows that coherent work experiences partially mediate the relationship between job resources and

engagement as indicator of positive health, as well as between job demands and exhaustion as indicator of negative health (Vogt et al., 2013). These results suggest that coherent work experiences seem to play a role in both of the otherwise distinct positive and negative pathways. The mechanisms of influence need to be further explored and tested for differential effects: It could be hypothesized that experiencing meaningfulness at work is more relevant for the salutogenic path, whereas experiencing comprehensibility and manageability is more relevant for the pathogenic path.

Finally, as mentioned above, general sense of coherence buffers the effects of job demands on negative health outcomes by influencing the perception of, appraisal of, and coping with job demands. Similarly, sense of coherence could influence the salutogenic path: A first longitudinal study in this regard did not find any moderating effects of sense of coherence on the relationship between job resources and work engagement but showed that job resources predicted sense of coherence, and that sense of coherence predicted work engagement (Vogt et al., 2016). Furthermore, sense of coherence also predicted job resources, suggesting a reciprocal relationship between job resources and sense of coherence (see also Broetje et al., 2019).

Work-SoC: Measuring Coherent Work Experiences

As shown in Figs. 31.1 and 31.2, a coherent work experience is a relevant factor influencing both the general sense of coherence of employees and also their appraisal and handling of job resources and job demands. One way of measuring coherent work experiences was proposed by Bauer and Jenny (2007) with the concept of Work-Related Sense of Coherence (Work-SoC). *Work-SOC is defined as the perceived comprehensibility, manageability, and meaningfulness of an individual's current work situation* (Bauer et al., 2015; Vogt et al., 2013). The conceptualization of Work-SOC assumes that this perception of comprehensibility, manageability, and meaningfulness is influenced by the interaction between individual characteristics and the characteristics of the working environment (Vogt et al., 2013).

"Comprehensibility" describes the extent to which a work situation is perceived as structured, consistent, and clear, "manageability" describes the extent to which an employee perceives that adequate resources are available to cope with the demands in the workplace, and "meaningfulness" describes the extent to which a situation at work is seen as worthy of commitment and involvement. Based on the German edition of Antonovsky's book "Unravelling the Mysteries of Health" (1987b), adjectives were extracted from his description of sense of coherence and matching counterparts were added. This procedure led to a nine-item questionnaire, which has been translated into Norwegian, Finnish, French, Italian, Spanish, Dutch, Japanese, Chinese, and English (see Fig. 31.3). It has been applied in studies investigating burnout and engagement in call centers (Van der Westhuizen & Bezuidenhout, 2017) or organizational commitment of nursing home employees (Grødal et al., 2019) and is also being applied in several ongoing intervention studies.

A first validation study (Bauer et al., 2015), with over 1000 employees from heterogeneous companies, showed that the nine-item questionnaire has a good internal consistency (Cronbach alpha = 0.83) and identified a three-factor structure of the scale with the subdimensions of comprehensibility, manageability, and meaningfulness, with alphas ranging from 0.72 to 0.84. A second study using a large dataset of over 3000 employees could show that Work-SOC is influenced by the job resources and job demands of the current work situation (Vogt et al., 2013). The study also showed

How do you personally find your current job and work situation in general?

1r	manageable	○	○	○	○	○	○	○	unmanageable
2	meaningless	○	○	○	○	○	○	○	meaningful
3r	structured	○	○	○	○	○	○	○	unstructured
4r	easy to influence	○	○	○	○	○	○	○	impossible to influence
5	insignificant	○	○	○	○	○	○	○	significant
6r	clear	○	○	○	○	○	○	○	unclear
7r	controllable	○	○	○	○	○	○	○	uncontrollable
8	unrewarding	○	○	○	○	○	○	○	rewarding
9r	predictable	○	○	○	○	○	○	○	unpredictable

Fig. 31.3 English version of the Work-SOC scale (Reprinted from Vogt K., et al. (2013). https://doi.org/10.4102/sajip.v39i1.1111, licensed under the terms of the Creative Commons Attribution License (https://creativecommons.org/licenses/by/4.0/))

that Work-SOC acts as a partial mediator of the relationship between job resources and work engagement and between job demands and exhaustion, as discussed above. Furthermore, multiple group analyses showed that the scale structure is invariant across genders, different age groups, level of education, job position, and time at the job, providing evidence for its robustness. Accordingly, observed changes in Work-SOC, for example, after interventions, can be attributed to actual changes in the values of Work-SOC and not to changes in the structure or measurement of the construct. From this, it is concluded that the Work-SOC scale can be used as a practical instrument for assessing the salutogenic quality of work and can make it visible in a simple and reliable way. Further validation studies yielded similar results, whereby they also showed that the factors of comprehensibility and manageability are not always easy to discriminate (Grødal et al., 2018; Van der Westhuizen & Ramasodi, 2016).

Meaningfulness and Work

While comprehensibility and manageability are concepts that the rational mind can readily access, the concept of meaningfulness is more difficult to grasp. Yet meaningfulness is an integral part of most definitions of human well-being, for example, the PERMA model by Seligman (2011) or the construct of psychological well-being by Ryff (2018). There is a range of scholars who have elaborated on "meaning" in-depth: On the wording itself, the multiple facets it comprises, and how it "plays out" within a human's work and life experiences (Bailey, Lips-Wiersma, et al., 2019; Bailey, Yeoman, et al., 2019; Baumeister et al., 2013; Huta & Waterman, 2014; King et al., 2016; Lips-Wiersma & Wright, 2012; Newman et al., 2014; Park, 2010; Schnell, 2018a, 2018b; Steger et al., 2012; Wrzesniewski et al., 2013). It is argued—implicitly or explicitly—that pursuing a meaningful life, perceiving a purpose and an answer to the question "why," and making sense of what happens in life is fundamental to human existence (Iwasaki, 2017). This force of searching for meaning, experiencing meaning, and holding on to meaning is also described below in the section on "self-tuning." One of the most extensive reviews of meaningfulness in the context of work can be found in Rosso et al. (2010). They describe six psychological and social mechanisms that drive perceptions of meaning of work: authenticity, self-efficacy, self-esteem, purpose, belongingness, transcendence, and cultural and interpersonal sense-making. These key mechanisms are mapped into a 2x2-matrix with the axes "agency-communion" and "self-others" (see also Lips-Wiersma & Wright, 2012). The resulting four categories are labelled and summarized as following (Rosso et al., 2010, p. 115):

- *Individuation* (agency toward self, i.e., "actions that define and distinguish the self as valuable and worthy")
- *Contribution* (agency toward others, i.e., "actions perceived as significant and/or done in service of something greater than the self")
- *Self-connection* (communion toward self, i.e., "actions that bring individuals closer into alignment with the way they see themselves")
- *Unification* (communion toward others, i.e., "actions that bring individuals into harmony with other beings or principles")

The concept of meaning has not only been limited to the individual human experience, but also to social systems like business corporations, where the purpose and value drivenness of organizations have been discussed (Hollensbe et al., 2014). In a very general sense, we can say that meaning develops in interaction of the self with others—people, social systems, material and natural environments—from which we spin "webs of significance" (Geertz, 2000). This can be viewed as a dynamic process of balancing the *reality of the self and circumstances* with the *self-creative inspiration* of "[being] capable of reflecting on ourselves and responding in the light of an overarching purpose or vision of what our life is about" (Lips-Wiersma & Wright, 2012, p. 661). As will be shown in the next two sections, humans are active crafters and meaning-makers of their work and life. As argued by McAdams (2015), we are authors of our personality, writing a story of who we were, who we are, and who we will become (also referred to as "narrative identity"). As he pointedly writes (p. 8), we are not left alone in writing our story: "(…) we get plenty of editorial assistance, as well as resistance, from the social, ideological, and cultural world around us."

Job Crafting: From Reacting to Acting

Nowadays, people are more and more actively shaping their situation and striving for improvement (Gravador and Teng-Calleja, 2018) rather than reacting passively to the forces of the situation. Employees can (pro)actively adjust their work environment through job crafting (Bakker et al., 2012). It refers to "the physical and cognitive changes individuals make in the task or relational boundaries of their work" (p. 179) with the (implicit) aim of aligning their work with their own preferences, motives, and passions to create meaning and make their lives more coherent (Wrzesniewski & Dutton, 2001). Even in rather simple routine jobs, employees can exert some influence on what constitutes the essence of their job. Job crafting helps people to find meaning in their work by reframing the purpose of their tasks (Wrzesniewski & Dutton, 2001). Employees craft their job by *increasing their structural and social resources* at work, actively seek-

ing challenges, and reducing their demands (Tims & Bakker, 2010a, 2010b; Tims et al., 2012): When seeking resources, employees ask their colleagues for feedback or advice on how to accomplish certain tasks, for example. When looking for challenges, employees can start a new project or go the extra mile for a customer. When reducing demands, employees can try to make their work less demanding by avoiding bureaucracy (Demerouti, 2014). Finally, people craft their job by changing the way they think about their job: For example, an internet service provider changes the mental framework of his or her work from being about sales to being about connecting those who would otherwise be left behind in the digital revolution. Thereby the meaning of the work changes, as does the identity of the employee (Wrzesniewski & Dutton, 2001). All these activities result in a considerable boost of resources, of meaning, and well-being that contributes to living a salutogenic life.

Self-Tuning: Promoting and Protecting a Meaningful Work-Life

Antonovsky did not dwell on health promotion in different work settings, but left it to future researchers and practitioners to translate his ideas into specific work-life contexts. The concept of self-tuning has evolved from an in-depth, qualitative exploration of the nature of job engagement among thriving Norwegian community health nurses, and investigates how job engagement may be maintained and promoted (Vinje, 2007; Vinje & Mittelmark, 2006). The concept has been further explored among Ugandan nurses (Bakibinga et al., 2012) and in the work-life of nurses and other healthcare workers in municipal health services in Norway (Vinje & Ausland, 2013). Although Antonovsky (1987a) stressed the need for the right load balance to manage well at work, meaningfulness seems to be the key issue in his argument. This is the case in the above-mentioned research: The concept of "meaning" in and of life seems essential in healthcare workers' experience of job engagement, and it helps develop the job engagement construct, in which the search for meaning, the experience of meaning, and holding onto meaning has the force of a drive (Vinje, 2007). The self-tuning model of self-care (Fig. 31.4), therefore, depicts job engagement as part of a bigger picture involving two different processes: a salutogenic one and a pathogenic one.

Although "calling" is a highly secular phenomenon for the Norwegian participants in these studies (Vinje, 2007) and a decidedly religious one for the Ugandan participants (Bakibinga et al., 2012), this research reveals that nurses have high levels of ethical standards and a sense of calling as a core aspect in their lives. The ability to listen to and act upon a calling helps an individual prioritize and choose when it comes to work. Thus, the motivational factor in job engagement is a *sense of calling* and the *calling/vocation match*. Research indicates that to promote job engagement, acknowledgment of the importance of values and possible value conflicts between the person, the profession, and the workplace is vital, both before a choice of profession is made and on a continuing basis during one's working life (Vinje & Mittelmark, 2008). The calling/vocation match brought forth from introspection, sensibility, and reflection stimulates job

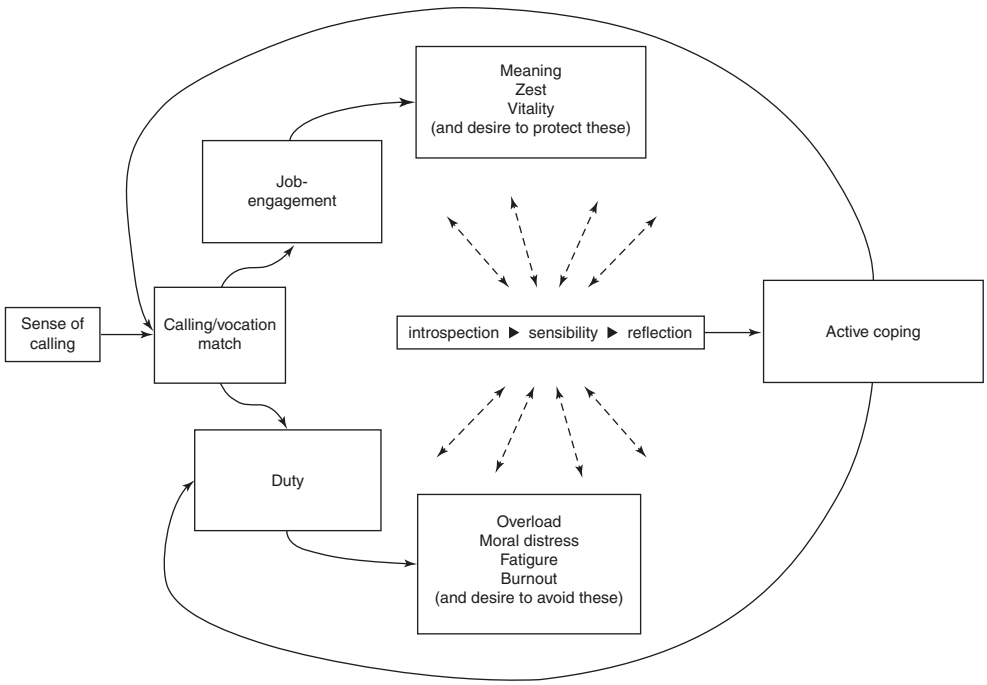

Fig. 31.4 The self-tuning model of self-care (First published in: Deflecting the path to burnout among community health nurses: How the effective practice of self-tuning renews job engagement, H. F. Vinje & M. B. Mittelmark, International Journal of Mental Health Promotion, copyright © 2006 The Clifford Beers Foundation, reprinted by permission of Taylor & Francis Ltd, http://www.tandfonline.com on behalf of The Clifford Beers Foundation. The model has been slightly revised by the authors since this publication. All rights reserved)

engagement and produces a working situation that for the most part feels deeply gratifying and *meaningful* to the individual, resulting in *zest for work* and *vitality*. A *wish to protect* these experiences of work-related well-being enhances this salutogenic process.

Research demonstrates that job engagement may contribute to exhaustion and burnout, not only health and well-being (Vinje & Mittelmark, 2007). The thriving nurses had experienced stress bringing them close to burnout, yet they had all regained enthusiastic engagement in nursing by the time of participation in the study. The results revealed a pathogenic process in which job engagement played a double-edged role that brought nurses to the brink of burnout. High job engagement (which followed from the nurses' sense of calling and the calling/vocation match) contributed to a strong sense of duty and heavy self-demand regarding their own and others' levels of performance. The need to experience and hold onto meaning tended to overshadow the importance of manageability of one's professional responsibilities. The study indicated that *moral distress*, *overload*, and *fatigue* leading to *near-burnout* may be intensified by a high level of job engagement and frustration about not living up to one's high ethical standards. Thus, job engagement appears to play a paradoxical role in nurse burnout, expressed through a pathogenic process leading to poor functioning, but also to *a desire to avoid* these detrimental experiences (Vinje & Mittelmark, 2007). This brings us to the mediating process in the self-tuning model: the actual self-tuning practice.

Self-tuning is *a sensing/reacting process* with the purpose of finding, protecting, and regaining meaning, zest, and vitality in a person's work-life. Studies from Norway and Uganda show that the actual active coping strategies, such as "striving to be a realistic idealist," "engaging in meaningful activities alongside nursing," "ensuring a place for silence and withdrawn peace," and "solving emotional problems," might differ between the cultures. But the studies also demonstrated that introspection, sensibility, and reflection are independent of setting. Self-tuning is adaptive in that it can result in changes leading to regaining job engagement. The nurses' abiding existential curiosity about the surrounding world and about the self resulted in stimulation of self-monitoring and self-tuning in their search for coherence—a sense of coherence that resonates with their personal values and into the lived expression of them through valued work (Vinje, 2007). Relative constant *introspection* takes place in the form of sensibility. *Sensibility* is a pre-reflective, preverbal ability. It is moments of passive receptiveness of signals from self and others; these are captured, accepted, and made the object of *reflection* regardless of whether they point toward improvement or deterioration (Nortvedt & Grimen, 2004; Vinje & Mittelmark, 2006). To avoid burnout and to enhance job engagement, the nurses worked to lower the too rigorous standards they had set for themselves and for others (*arrow from active coping to duty*), and/or they changed jobs or modified their working conditions (*arrow from active coping to calling/vocation match*).

Eagerness to preserve a meaningful working life aligns with Antonovsky's (1987a) advice concerning the probable negative effects on health from frustrated personal potential. He claims that one's skills, abilities, interests, and potential must have a *channel for expression in the given cultural and social setting* one lives in, hence bringing attention to society's influence on the experience of having a valued job. If job engagement and work-related well-being is a goal, one cannot, according to Antonovsky, deal "[…] *objectively with immediate job conditions and subjectively with the ways in which those conditions are perceived, with complete disregard for the historical and broader social structure within which the job is embedded*" (1987a, p. 159). This underlines the importance of understanding and finding one's place and role in the social and cultural structure with respect to creating meaningful life experiences.

In many ways, it seems safe to claim that the self-tuning process is designed to promote, protect, and enhance a meaningful work-life. In everything participants in the aforementioned studies say about what drives them toward their line of work, it is finding meaning in the sense of being useful and in helping patients and clients find contentment and have a good quality of life that is most prominent. They are all genuinely concerned and highly committed to their field. High service quality is of utmost importance, and they strive to ensure that the service to patients and clients will be useful (Vinje & Ausland, 2013, p. 895): "[…] *zest for work is being able to give* […] *being allowed to exist for others.*" Antonovsky (1987a) argued that one can draw strength from a truly culturally valued enterprise.

In exploiting the enterprise's meaning, one can find the energy to endure difficult working conditions, at least for a period of time. However, he emphasizes that if the organization in which one invests one's energy is not well regarded, it is likely that the immediate working conditions will overshadow the larger picture. The research presented here broadens this view, as the results demonstrate the importance of a match between personally held, professionally embedded, *and* organizational claimed values in order to experience meaningfulness and a sense of usefulness (Vinje & Ausland, 2013; Vinje & Mittelmark, 2008). If the practice of self-tuning helps in ensuring a match between these three sets of values, one seems to be more robust in the face of societal depreciation.

Teaching practice has informed recent research and illustrates that combining self-tuning individually and in groups in workplaces generates a sense of a broadened scope of action and thus facilitates active coping for the workers (Vinje & Ausland, 2013). The self-tuning process results in the healthcare workers expressing work-related well-being

characterized both by the feeling and the evaluation of being in a good work situation, as well as the wish to offer their resources to the workplace. The practice of self-tuning may be referred to as "*salutogenic capacity building*," that is, a competency at the individual and/or group level with the potential to reinforce sense of coherence and promote well-being at work (Vinje & Ausland, 2013). Thus, the assumption is made that self-tuning exemplifies mechanisms needed *to ensure* coherent work experiences and *to translate* them into sense of coherence (see Fig. 31.1). Intervention studies are needed to generate evidence of this causal mechanism.

Pathogenic and Salutogenic Health Measures in the Context of Workplace Health Promotion

Since workers' health is closely related to enterprise and national productivity, work is also important for the living conditions of societies and thereby also for the health of the general population. How work-related health is defined and measured in health and safety practice, and research will inevitably affect the focus of health and safety policy at both enterprise and national levels. Mittelmark and Bull (2013) hold that health promotion practice and research should accept a wide range of both pathogenic and salutogenic health measures. Nevertheless, the salutogenesis research summarized by Eriksson and Lindström (2005) shows that most studies have defined health in a traditional pathogenic way and, to a far lesser extent, have made use of positive health concepts.

In the realm of occupational health, Torp and Vinje (2014) investigated how workplace health promotion studies defined and measured health. In their scoping review, they included 63 health promotion intervention research studies performed and published by Nordic researchers from 1986 until 2014. Based on a qualitative content analysis of the studies' descriptions of the used health outcomes, six categories of health-related measures were identified; health behavior, disease and injury, absenteeism, work ability, general health, and positive health. The *health behavior* category included mainly lifestyle measures, such as healthy eating, physical activity, and non-smoking, that is, health-related behaviors that were mostly detached from the core activities of the enterprise (the production of goods and services).

The *disease and injury* category included traditional health measures defined as the absence of disease or injury.

Examples are mental disorders, musculoskeletal pain, allergies, psychological strain, and accidents. The *absenteeism* category included general absenteeism, sick leave (prescribed and not prescribed by a physician), and disability retirement. *Work ability* may seem to be a positive health measure, but most studies defined work ability in terms of reduced ability to work because of symptoms related to disease in addition to more positive factors. The *general health* category included, for instance, single-item questions such as "In general, how would you describe your health?" and multi-item measures of health-related quality of life such as the well-known SF-36 instrument (Stewart et al., 1992). Like the work ability measures, the health-related quality of life indices used questions related both to health problems and to positive indicators of health. The measures included in the *positive health* category were related to well-being or other explicitly positive health conditions such as multi-item measures of self-esteem, coping, work engagement, and job satisfaction. Except for the measures included in the work ability category, most measures in the other categories were general and not work-related measures of health.

Overall, one can say that approximately three-quarters of the measures used in the workplace health promotion studies were categorized as pathogenic measures (health behavior, disease and injury, and absenteeism), one-eighth as salutogenic measures (positive health), and another eighth including both salutogenic and pathogenic aspects (work ability and general health).

These results are similar to results within the field of occupational health psychology in which Schaufeli and Salanova (2007) have documented that publications on negative states, such as depression and anxiety, exceed publications on positive states, such as happiness and life satisfaction, by a ratio of 16:1. Thus, it seems obvious that pathogenic thinking still prevails within psychology and health promotion, and that promoting salutogenic thinking within the realm of occupational health is highly needed.

Making Salutogenesis Visible

Individual-level interventions most commonly strengthen psychosocial resources with regard to appraisal of and coping with job demands, which corresponds to Antonovsky's view of generalized resistance resources and sense of coherence as important factors in dealing with stressors and stressor-induced tension. In line with positive psychology in general (cf. Fredrickson, 2001; Seligman & Csikszentmihalyi, 2000) and positive occupational health psychology (cf. Bakker & Derks, 2010), individual-level interventions strengthen the awareness and competency of proactively building a resourceful environment and applying one's strengths and virtues to enhance positive well-being and health—see for example the self-tuning approach in this chapter (Vinje, 2007), the values in action (VIA) (Harzer & Ruch, 2012; Peterson & Seligman, 2004), job crafting (Tims & Bakker, 2010a, 2010b; Wrzesniewski & Dutton, 2001), psychological capital development (Luthans et al., 2006), mindfulness training (Hülsheger et al., 2013), and positive

psychology at work in general (Bono et al., 2013; Mills et al., 2013).

Such approaches are ideally combined with participatory optimization processes, where teams, units, or entire companies engage in the collective endeavor of reducing job demands and enhancing job resources (Bauer & Jenny, 2013). A core element of both individual and participatory optimization processes is analysis, that is, a process of measuring, comparing, and—most elementary—of creating visibility of personal resources, job demands and resources, and health and well-being. Analysis is not only a technical precondition of optimization (Inauen et al., 2012) but the beginning of *a narrative of work and health*, within both the individual and the system. At this point of the intervention, the change agent triggers *the story of salutogenesis, making salutogenesis visible* and *part of communication routines*. The following example shows how a survey-feedback process can foster salutogenic thinking in organizations by putting a strong focus on job resources and positive outcomes.

The ARK Intervention Programme: A Salutogenic Focus in Academic Institutions

The work environment and climate survey for higher education institutions, called the ARK Intervention Programme (Innstrand & Christensen, 2018), was initiated by the four largest universities in Norway and was developed in cooperation with the Centre for Health Promotion Research at the Norwegian University of Science and Technology. The aim of the project was to develop a work environment and climate survey specifically for employees in higher education institutions and to promote workplace health by the use of survey-feedback processes. The universities and university colleges in the Nordic countries can use ARK to get necessary support and training (technical, pedagogical, and practical) in conducting the survey and the feedback processes at their own cost.

The institutions taking part must commit to the following issues: (a) The survey-feedback processes should be well anchored in the top and local management levels and in the unions; (b) The institutions must commit to following up on the results and improving the working conditions agreed upon as a result of the survey and other processes at the workplaces; and (c) All of the quantitative data collected by the questionnaire used in the ARK Intervention Programme should be collected in the national research database, HUNT (Helseundersøkelsen i Nord-Trøndelag, 2014) and be available for researchers interested in the work environment and health promotion in higher education institutions.

The survey-feedback processes were inspired by Bechard's (1969) recommendations on organizational development. They contain five phases: (1) preparation and anchoring (discussions between the head of department and safety representatives, preparation and training, information to employees); (2) screening (electronic surveys, feedback of results to management and safety representatives as well as to all employees by trained personnel, group discussions regarding demands and resources, and possible job condition improvements, with the head of department summarizing and explaining further processes); (3) development of actions and follow-up (the head of department is responsible for involving employees in developing realistic, concrete, and important interventions); (4) implementation of actions (and follow-up by the management); and (5) evaluation (at every stage through the process). The five phases should be reconducted after 2–3 years.

The questionnaire (named Kiwest 1 & 2) (Innstrand et al., 2015) used in the electronic survey in the screening phase was developed from other validated instruments and was adjusted according to the needs of higher education institutions. It was strongly inspired by the JD-R model (Bakker & Demerouti, 2007) as all work environment measures were divided into job demands and resources and as it included a particular focus on work engagement (Schaufeli & Bakker, 2010) and also a work-related sense of coherence (Vogt et al., 2013). Recently, the ARK Intervention Programme has been further developed (ARK and survey Kiwest 3) (Undebakke, 2019) in which the specific JD-R Model and burnout and engagement are not as much focused as in the earlier version, but the focus on job resources and the motivational pathway is still strong. The institutions are encouraged to find their own way of dealing with the results of the questionnaire data.

In feedback meetings, employees are briefed about differences between positive (salutogenic) and negative (pathogenic) health. This presentation is given before the results of the survey are presented and is meant to encourage employees to discuss the importance of not only risk factors and prevention of disease but also job resources and positive outcomes, such as motivation and productivity. Thus, the intention of the survey-feedback process is to encourage the employees and the heads of departments to take an active stance on whether they mainly want to prioritize a salutogenic process or a "pathogenic" risk-prevention process.

The ARK Intervention Programme has received considerable interest since it was launched in the summer of 2013, and in 2019, almost all universities in Norway and more than 30,000 university employees have participated in the program. Also, universities in Sweden have participated and implemented work environment and organizational development processes as a result of their participation in the ARK Intervention Programme. The strengths of ARK are that it utilizes a clear theoretical model, it has a salutogenic perspective focusing on strengthening positive health assets and potential, and it establishes a safe and structured communi-

cation channel in the work environment and an awareness of psychosocial work factors (Innstrand & Christensen, 2018).

Discussion

This chapter has shown that promoting and sustaining salutogenic work will comprise practices at the individual, group, and organizational levels. On the individual level, practices like self-tuning and job crafting are encouraged to aim at an active and profound involvement with oneself and one's work environment. Such practices focus on personal strengths, resources, values, and calling to one's profession, as well as the skills to experience and reflect upon them. Similarly, collective-level practices in groups or organizations point to the capacity for self-monitoring and self-optimization with a focus on (job) resources and positive outcomes, supported by corresponding indicators, tools, labels, and methods of change.

From a professional perspective—be it human resource managers, workplace health promoters, occupational health and safety specialists, or consultants, trainers, and coaches—these practices need to gain strategic weight to compete and prevail within corporate politics and routines. Salutogenesis practice faces the challenge of connecting to the logic of management without betraying the ideal and vision of self-fulfilling individuals finding meaning, zest, and vitality at work. From this chapter, the implication can be drawn that the JD-R model has the potential to serve as such a connecting element. Furthermore, self-monitoring tools with an explicit focus on job resources and positive outcomes have been developed on this basis. The concept and scale of Work-SOC could be used to broadly introduce salutogenic thinking and acting to worksites. These individual and collective monitoring, tuning, and optimization practices could be blended into one coherent practice and then be aligned with organizational logics. As boundaries between working life and other life domains increasingly blur, such salutogenic intervention approaches will need to consider the interface between working life and private life in the future.

Research on salutogenic work strives to understand the underlying mechanism of (positive) health development at work. This chapter has reported examples of quantitative and qualitative studies exploring salutogenic pathways at work for both the individual and the collective, and it also reflected on the social context wherein the construction of meaning and value occurs. In general, the JD-R model has proven to be very helpful for corresponding theory development and generating new hypotheses to be tested, particularly regarding positive health development. Some measures have been presented, but it remains clear that the field lacks indicators and instruments for measuring positive health, which might be due to the lack of a concise definition of this phenomena to be measured (cf. Bringsén et al., 2009; Keyes, 2007; Seligman, 2008). Here, researchers face the challenging task of developing a coherent concept of positive health in order to show how work affects it. Similarly, the concept of meaningfulness (at work and in/of life), its relationship to positive health, and its role in health development need to be further detailed through interdisciplinary reviews and both quantitative and qualitative research (see above).

The concept of Work-SOC also raises interesting research questions, for example, whether the first evidence of the causal and reciprocal relationship between Work-SOC and general sense of coherence can be empirically replicated, and what roles job demands, job resources, and other personal resources play in this process. Intervention and evaluation research will parallel these developments to further prove causality and to strengthen the evidence base and arguments for salutogenic practice, as described above. A compilation of intervention approaches with a salutogenic orientation has been presented by Bauer and Jenny (2013). Finally, research on the work-nonwork interface provides a rich source of models explaining how health develops in relation to different life roles, including working life (cf. Allen, 2012; Geurts & Demerouti, 2003). For now, this large body of research has not been linked with the concept of salutogenesis.

Challenges for the Future

Making work rich and decent—to recapitulate Lewin's words cited at the beginning of this chapter—seems more of an imperative than a choice. The challenge lies in aligning the involved systems with their competing objectives and possibly contradictory logics: the individual as a bio-psycho-social system with a self-preserving and self-enhancing drive, private companies as complex social systems with market-based and resource-oriented strategies, politics as a system of stakeholders and lobbyists with law-making powers, and society in general as an overarching construction transporting shared values and norms for individual and collective sense-making, identity-building, and guidance through a complex world. A salutogenic paradigm with regard to work will have to consider diffusion of innovation techniques on the macro, meso, and micro levels, which inevitably demands the formation of networks and lobbyists.

As an example, researchers involved in organizational health intervention research formed the International Network for Sustainable Organizational Interventions (INSOI) to coordinate appearances at conferences and share their findings from research in the field. Such networks might also foster transdisciplinary research, comprising members from the many areas of psychology, sociology, public health,

and others (cf. Bauer & Hämmig, 2014), which could lead to a comprehensive concept of salutogenic work. However, the act of defining and measuring salutogenic work means creating a "difference which makes a difference" (Bateson, 1972), and it will take considerable effort to defend this difference-making against opposing forces that wish to leave positive health and self-development at work in the realm of unmarked phenomena, thus ensuring that it stays a non-binding and personal issue free from institutional or legislative requirements and consequences.

Finally, as noted in the self-tuning approach and remarked upon by Schallberger (2006), the interplay between the positive and negative paths of health development at work need to be researched to ensure that positive health development does not cause unforeseen negative side effects, for example, in the form of biased appraisals and prolonged endurance of excessive overload due to strong experiences of meaning at work.

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Salutogenesis and Mental Health Promotion in Military Settings

32

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Introduction

To some people, the concepts of "health promotion" and "military force" may seem contradictory on moral as well as practical grounds. How do war and salutogenesis go together? There are data on socially undesirable changes in value orientations and on moral injury as consequences of military service (see Schwartz et al., 2001; Zimmermann et al., 2016). However, there are also data on social and psychological *benefits* of military service. Military forces are human organizations, and as such salutogenesis is a relevant issue in them. This was recognized by the Department of Health and Well-being of the Israeli Defense Forces (hence IDF), which is a body within the IDF Medical Corps. The work I do there is intended to *reduce* moral and mental injuries and *strengthen* humane and social values among military personnel, especially combat soldiers who face the most difficult mental challenges. Given this reasoning, I believe that military settings are fruitful domains for salutogenic thought and practice.

Hence, this chapter centers on salutogenic work in the IDF and a few other countries, in the context of mental health promotion. I will open with a personal account of how I found myself engaging in salutogenic research within a military setting, and will touch upon some moral questions that this research arena brings up. I will then describe negative consequences of military service, as a background for discussing some salutogenically oriented programs intended to enhance mental fitness of soldiers, accompanied by empirical research findings. Finally, I will suggest some insights and recommendations for further applications of salutogenesis in military settings.

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How I Ended Up with Salutogenesis in Military Settings, and Some Moral Reflections on Their Relationship

> On October 18th, 1973, Yoram Eshet-Alkalai was lying on the ground in Egypt, with a big hole in his head after being hit by a shell. A doctor who insisted to treat him was told 'leave him, keep your medicines for those who can be saved'. When he woke up in the hospital, his body and mind were wounded, his left side paralyzed, his eyes blind and his consciousness confused. (Eshet-Alkalai, 2010, back cover).

I first met Yoram Eshet-Alkalai in 2004, more than 30 years after he was very badly wounded in the 1973 Yom Kippur War. Today he is full professor at the Open University of Israel. His left side is still paralyzed, and about a quarter of his brain is physically missing. I have worked with him daily for 12 years and recall a conversation about his recovery process. When you lose a part of your body like a leg or an arm, he explained, your brain understands what happened. When you lose part of your brain, and with it many basic cognitive functions, there is nothing that can fully grasp what had happened, how, and why. Yet, he said, I came to *comprehend* the challenges I was facing, I felt I had the personal, social, and medical *resources to cope* with these challenges, and I was motivated by the *meaning* I found in the investment of the hard work needed for recovering as well as possible under the given circumstances. In other words, I responded, you are talking about comprehensibility, manageability, and meaningfulness, comprising a strong sense of coherence!

I often tell the story of Yoram Eshet-Alkalai when I introduce the salutogenic model to various audiences, among them military mental health officers with whom I now meet as part of my work with the IDF. A few years ago, when I was invited for a job interview at the IDF Department of Health and Well-being, for a position of a civilian researcher, I was surprised to find out that the term "salutogenesis" was not only familiar, but that it was the theoretical premises of the new *mental fitness branch*, targeted toward mental *health*

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promotion. Moreover, I came to learn that the IDF Department of Health and Well-being activities are a combination of theoretically, methodologically, and ethically sound academic research, intervention program development, and clinical practice. The IDF Medical Corps are formally a medical institution, and thus, all academic research and publication processes are rigidly supervised by the Ministry of Health and a Helsinki committee. Therefore, I was glad to be appointed head of the research unit in the new mental fitness branch.

Nevertheless, this appointment was not unaccompanied by moral reflections. I feel obligated as a social scientist to touch upon the moral question embedded in any discussion of military service, especially if it is mandatory by law. On a broad, philosophical, or value-related level, there is the question of pacifism and whether or not international disputes or interreligious conflicts could be settled outside of the battlefield, and of whether or not, given human nature, history could have evolved without wars. Unlike most countries which have military forces, in its 73 years of independence, Israel has been in a continuous situation of war and armed conflict, including close to 10 major wars or armed confrontations with some or all of its neighboring countries or guerilla forces. Some of these were unanimously backed up by Israeli society, while others received strong resistance from within. On a more practical or concrete level, there are military units which are assigned to missions that involve daily moral or ethical considerations. A good Israeli example is that of soldiers who are stationed at barriers or roadblocks at points of entry from the West Bank and Gaza, where thousands of civilians pass through every day. These soldiers, while keeping alert, must most importantly be humane, or in the recent words of the unit's commander: "They must be good soldiers, but before that – they must be human beings." On such a mission, where emergency is the routine, burnout is common. The mental fitness branch is currently involved in mental training of these soldiers (mindfulness and other techniques which I will describe later), accompanied by research (including the measurement of sense of coherence, hence SOC), aimed at enhancing soldiers' ability to cope with the mental and moral challenges they experience. While the Israeli government's foreign policy may be a matter of debate, the IDF invests a great deal of effort (e.g., as part of basic training and again in officers' training) in emphasizing the importance of moral values and ethical conduct. This is most important at the individual level in the military, and is also the basis for the high level of trust that most Israelis share toward the IDF (regardless of political attitude toward the government).

Salutogenically speaking, enhancing SOC may have an important role in maintaining moral standards. When soldiers *understand* humane aspects of their missions, when they feel they have the psychological *resources* to carry them out, and when they find *meaning* in and beyond their specific missions, they will probably carry out the missions successfully and within moral limits. This is where several programs developed by the mental fitness branch fit in, and this is where I can live in peace with doing my small share for the advancement of mental health and moral standards in the military environment.

A Pathogenic Perspective: Impact of Military Service on Mental Distress

Military service is a stressful environment. It is characterized by a hierarchical chain of command, lack of privacy, partial loss of individual identity, involuntary assignments, unchosen comrades, physical efforts, mental challenges, uncertainty, coerced timetables, forced conformism, morally and ethically challenging circumstances, and—especially in combat units—life-threatening situations.

It is, therefore, well-documented that besides physical challenges, combat and combat-support soldiers are prone to mental difficulties, pathologies, and injuries (see, e.g., Armour & Ross, 2017). Perhaps the best-known phenomenon is combat stress reaction (CSR), which is expressed by acute behavioral disorganization that renders a soldier combat ineffective (Helmus & Glenn, 2005). CSR was first termed "shell shock" in World War I (Myers, 1915). It may occur in up to 30% of the soldiers during battle and is considered "a normal reaction to an abnormal situation." About 10–15% of those with CSR will exhibit acute stress reaction (ASR), lasting for 48 hours after the traumatic event, which untreated may result in acute stress disorder (ASD) and may transform within a month or two to posttraumatic stress disorder (PTSD). The international literature is overloaded with studies which document these phenomena among combat soldiers and there are scientific conferences devoted to combating PTSD (Hancock et al., 2018).

PTSD is not limited to military contexts. Automobile accidents, witnessing a sudden death, or any other life-threatening situation, to self or to a loved one, may result in PTSD (for a formal definition of PTSD, see American Psychiatric Association, 2013). However, a common finding is that PTSD rates and symptom severity are greater among soldiers and veterans when compared to the general population (e.g., Holder et al., 2018). Several researchers have discussed the long-term consequences of traumatic military experiences, in terms of the need for treatment (Solomon et al., 2005) or as a negative turning point in life (Maclean, 2013), although there is evidence for posttraumatic growth as well (see Forstmeier et al., 2009).

One of the most prevalent and interesting lines of research in this area in recent years is PTSD among soldiers who do not take part physically in combat but are nevertheless

exposed to potentially traumatic events. For example, remotely piloted aircraft (RPA) operators, who may be physically thousands of kilometers away from the battlefield, but play an active role in the events, and view them live in high definition on their television screens. Chappelle et al. (2012) and Watkins-Nance (2015) found that rates of clinical distress and PTSD were higher among RPA operators in comparison to non-RPA airmen. Similarly, operational burnout and posttraumatic stress symptomatology were found in combat-support personnel who are the "eyes and ears of the battlefield" such as distributed common ground system intelligence exploitation operators in the United States (see Prince et al., 2012) and observation systems operators in Israel (Ohayon et al., 2018).

Other mental difficulties which are frequent in military populations, not necessarily linked to or occurring during battle, are adjustment disorders (e.g., P. Casey, 2018; Kamrowska & Florkowski, 2008), depression (e.g., Schaller et al., 2014; Shen et al., 2012), and suicidal thoughts or behaviors (e.g., Chu et al., 2018).

A Salutogenic Perspective: The Relationship Between Military Service and Mental Health

In some countries, military service is mandatory. In others, it is voluntary. In both cases, the demands of the service are a great mental challenge for one's well-being and require resistance resources which will help to cope with this challenge and retain one's own mental health. By the term "mental health," I will adopt the World Health Organization's general definition (with a military parallel in parentheses), as "a state of wellbeing in which every person (soldier) realizes their own potential, can cope with the normal stresses of life (military life), can work productively and fruitfully, and is able to contribute to their community (military unit)" (Australian Government, Department of Defence, 2017).

Despite the health challenges and difficulties that soldiers face, there are various mechanisms by which military service can come to represent a positive turning point or improve the health of the men and women who serve. For instance, the service encourages members to exercise and be physically active. Service may also improve health by providing members with food that is healthier than that eaten by civilians (Mission: Readiness, 2010, as cited in MacLean, 2013). In many eras, veterans have also had access to government funding to increase their educational attainment. Spiro et al. (2016) mentioned several long-term benefits of military service which lead to health and well-being in later life: autonomy, emotional maturity, resilience, mastery, and leadership skills. In Israel, where military service is mandatory and most military personnel are 18–22 years old, those who for some reason have been exempted from service are at a social disadvantage. Most often, the first question people ask each other when they first meet at social events is "where did you serve?" Having been in military service operates as a criterion for inclusion in several social contexts and acts as a salutary factor in adult life.

Before describing specific health-promoting activities of the mental fitness branch, I will define the term "mental fitness"and briefly distinguish it from the more widely used concept of resilience.

Mental Fitness Versus Resilience

Conceptually, the construct of mental fitness is similar to physical fitness: it is something that can be learned, trained for, and preserved by exercise (see Bolier et al., 2013 and Robinson, 2014 for similar conceptualizations). It is multifaceted in the sense of having a reservoir of various resistance resources and can be measured at a personal as well as a group level. We define mental fitness as:

> a *learned* and *conservable competency* which is a product of the *social*, *emotional*, *cognitive*, and *physiological* capacities of a *person* or a *group* to cope successfully with mental challenges (Avishai Antonovsky et al., 2017).

Enhancing mental fitness is therefore the process of building up mental strength in order to withstand and cope well with mental challenges. However, the existence of mental fitness is not only relevant to coping with mental challenges or adversities. In line with the WHO's definition of mental health cited earlier, mental fitness is a competency which helps to strengthen mental health more broadly. In the military context, the concepts of realizing one's own potential, working productively, and contributing to the community are realized through operational efficiency and carrying out missions successfully.

This is different from resilience. Resilience, although intuitively understood, seems to be an elusive concept. As Windle (2011, p. 152) argued, "the complexities of defining what appears to be the relatively simple concept of resilience are widely recognized, especially within the behavioural sciences." She added that "This creates considerable challenges when developing an operational definition of resilience; definitional variation leads to inconsistencies relating to the nature of potential risk and protective processes, and in the estimates of prevalence." According to Windle, resilience is considered a psychological trait and it seems that the one characteristic of resilience which is agreed upon is its meaning of being able to "bounce back" in the face of adversity. As Zamorski (2008, p. 7) stated, "Psychological resilience in the military context is defined as the 'sum total of psychological processes that permit individuals to maintain or return to previous levels of wellbeing and functioning in

response to adversity'." Hence, an operational definition of resilience must include the existence of an adversity from which bouncing back can be measured, just as PTSD can be diagnosed only if a traumatic event has actually occurred. Mental fitness, on the other hand, is not considered a trait (and therefore can be trained for), is not narrowed to a unidimensional psychological construct, and can be operationalized without the need for an actual adversity to occur.

The Mental Fitness Branch in the IDF and Its Salutogenic Interventions

In line with the prevalence of PTSD, suicidal behavior, adjustment disorders, and other psychopathological states related to military experience, the mental health guidelines and programs in the IDF and in other military services have traditionally focused on treatment and prevention of psychopathology and suicide. For example, a suicide prevention project in the IDF has led to a substantial decrease in suicide rates over the last decade (Lubin et al., 2018). The need for a special body of mental health professionals in the IDF (as part of the medical corps) stems from the fact that military service in Israel is mandatory. Therefore, the IDF recruits 18-year-olds with a wide range of physical and mental disabilities (excluding extreme cases) and has the responsibility to supply any needed medical treatment (actually, the IDF is their medical insurance).

Until 2017, the mental health department (to be later renamed the Department of Health and Well-being) in the IDF medical corps consisted of two branches: (a) an administrative branch, in charge of recruitment, placement, and academic training of mental health officers, most of whom are social workers, the rest being psychologists and psychiatrists, and (b) a clinical branch, in charge of screening, diagnosis, treatment, and prevention. However, in recent years, there have been growing awareness and accumulating evidence of the importance of *enhancing* the general population of military personnel's mental health. This led to the establishment of a third branch—the mental fitness branch—in 2017.

The goals of the mental fitness branch are health promotion research and practice. Specifically, the branch aims to: (a) improve operational efficiency by enhancing soldiers' mental fitness and resistance to stress-related psychopathology, and (b) promote research, development, and implementation of evidence-based, scientifically and technologically advanced, training applications and techniques. When I explain the need for the new branch, I often say "One doesn't wait for a stress fracture to occur before going to the orthopedist, so why should one wait for mental adjustment problems to develop and only then see a mental health officer?" In contrast to the clinical branch that is *re*-active and based on the pathogenic medical model, the mental fitness branch is *pro*-active and its work is salutogenically oriented.

In accordance with these goals of the mental fitness branch, there are ongoing health-promoting training and research activities. In general, there are two categories of mental fitness enhancement activities in the IDF: (a) training techniques for combat soldiers, (b) mental preparation of first responders and exposed populations.

Training Techniques for Combat Soldiers

Mental fitness is a competency that could and should be part of every soldier's toolbox, whether he or she belongs to a special combat unit or is a clerk working from 9 to 5. However, the military has set a list of priorities, in which combat soldiers come first. Therefore, given that the mental fitness branch is relatively new, the implementation of mental fitness enhancement techniques is centered around combat soldiers and field units. Here are some of them:

Mental efforts scale During basic training, physical efforts are usually scaled in a graduated, ascending order. This means, for example, that hikes get longer, and weights become heavier, as time passes. But is this the same for mental efforts? Is walking 20 kilometers necessarily more mentally demanding than walking 15 kilometers? Is not having watches or cell phones all day, thus not being able to tell the time, easier or harder to cope with mentally than having to find your way alone on a dark night navigation mission? Scaling the mental demands concerned with various activities is not as easily and objectively measured as scaling physical demands. Hence, the mental fitness branch has been conducting survey research in various units, to learn about soldiers' degree of subjective mental stress they experience in performing duties or in other situations during basic training (such as the feeling of loneliness or keeping time), and their self-efficacy with regard to the performance of each mission. According to the soldiers' ratings, a graduated mental efforts scale is built, and activities are planned according to it, as much as possible. Of course, perhaps the most mentally demanding stage is adjusting to being in the military, and that cannot be postponed to the end of training. But the *degree of uncertainty* (how long is tomorrow's hike, how much sleep will we have tonight, what time is it, etc.), which was found to be one of the most important factors influencing soldiers' mental state, can be varied and controlled by careful planning of the order of various components of basic training. Studies (e.g., Ohayon et al., 2018) have revealed that when soldiers feel they understand the mission and can predict what will happen, when they perceive resources needed to complete the mission as available, and when they understand the importance and feel motivated regarding the mission, they will perform significantly better compared to those with feelings of uncertainty and confusion, lack of resources, and a low level of motivation. In other words, the

mental fitness branch is working toward enhancing mental fitness by strengthening soldiers' comprehensibility, manageability, and meaningfulness, or—in general—their SOC.

Inner strength training at the beginning of military service Beginning basic training is perhaps the most mentally challenging moment of military service. Only yesterday you decided for yourself when to go to sleep and when to wake up, when and what to eat, when to speak, and when to stay silent. Suddenly, you lose control; you do not know the physical and social surroundings; you lose sense of time; you are tired, you miss home, you are not used to the food. And on and on. No wonder your dominant feelings are tiredness, worry, longing for home, despair, frustration, and low self-efficacy. In short, you feel miserable, you want out of here. But there is another way to look at things; if only a soldier could change his or her point of view, adopt a positive thought pattern, he or she will make it through basic training more easily, with less potential of having adjustment problems, depression, or suicidal thoughts. The "inner strength" project is aimed at teaching soldiers to deploy their character strengths, such as hope, thankfulness, optimism, and curiosity, as a mood repair mechanism (Lavi et al., 2014). In salutogenic terms, soldiers are taught an orientation to military life which can elevate their sense of manageability in specific situations. For this to happen, soldiers are given an explanation about a specific character strength and are then shown a series of computer animations, describing common daily situations encountered in basic training: loss of privacy, a buddy being late for replacement in guard duty, having difficulty cleaning one's weapon, having to wake up for guard duty, feeling lonely, and more. For each scenario, the soldier is asked to choose one out of four possible reactions which best expresses a specific character strength. The soldier then receives feedback. For example, in a scenario depicting a soldier standing alone, looking sadly at a group of other soldiers who seem to be having a good time, he or she can choose between four reactions: (a) "I don't know anyone here, I'll forever be lonely", (b) "It may take a few more days, but I'll slowly make my way and find friends here", (c) "I'm a social animal, I'll walk over to them and they will immediately see I'm king", and (d) "If this is what it's like now, there's no way I can get through 3 years of service." After choosing reaction a, c, or d, the computer program responds (in audio) with "This is a possible reaction, but please think of another one which could better express the 'hope' character strength" (note that reaction c is "overstrong" and usually unrealistic). If the soldier's response is b, the program responds with "Very good, the reaction you chose indeed expresses hope, which is one of your character strengths."

Over time (several scenarios and multiple sessions), the soldier learns to recognize the most appropriate response expressing a specific strength in various situations. Soldiers reported that these exercises were good and helped them get by when they faced difficulties during basic training.

Attention bias modification training for patrols or during combat When a soldier is patrolling in a hostile urban environment, his or her attention is naturally drawn to familiar, or emotionally charged, stimuli—a crying baby, a barking dog, the smell of a bakery, someone hanging clothes on a balcony, an old man crossing the street, etc. At the same time, the soldier misses the sniper lurking in the window above. This attentional profile of threat avoidance has been linked to an increased probability of PTSD (Wald et al., 2016). Attention bias modification training, a computerized cognitive intervention protocol, is used with combat soldiers under the assumption that biasing attention toward threat would "minimize risk associated with threat avoidance… [and would] facilitate protective forms of threat processing during combat by countering maladaptive threat-avoidance patterns" (p. 2628). Wald and his colleagues reported a randomized control trial study done in an Israeli infantry brigade, during which there was a high-intensity combat deployment. It was found that operational efficiency was higher, and the rate of PTSD symptomatology was lower, in the group that received attention bias modification training, compared to placebo and no-treatment groups. Detailed information about the training technique can be found in Wald et al.'s paper. Although somewhat unconsciously, this increases the manageability component of SOC. Recently, the mental fitness branch has begun implementing this kind of training among operation room staffs and similar units whose duty is to identify threats and react quickly, although seated by computer monitors and not in the battlefield itself.

Magen program applied during combat "Magen" in Hebrew means shield. This is a training protocol developed in the IDF for providing psychological first aid on the battlefield, known by the acronym YaHaLOM (in Hebrew, it stands for (a) connect, (b) emphasize commitment, (c) ask fact-based questions, (d) confirm the sequence of events, and (e) give orders for specific action) (Svetlitzky et al., 2019). It is implemented in all combat and combat-support units. The importance of the protocol lies in its *immediacy* of treatment, its *lack of perception of psychopathology* (avoiding being treated by a mental health officer as a sign of illness), and its expression as *social support*. Theoretically, the protocol is based on the concepts of SOC (Aaron Antonovsky, 1979), self-efficacy (Bandura, 1997), hardiness (Kobasa, 1979) (all three expressing salutogenic ideas), and neuropsychology (Farchi et al., 2018) (reflecting the relationship between the

limbic system and the prefrontal cortex during stressful events). Recently, the protocol was adopted by the Walter Reed Army Institute of Research (WRAIR) in the United States, adjusted for the US armed forces and named iCOVER (see Adler et al., 2019, who provided a detailed description of the protocol and of the American pilot study). An 11-minute video (in English) depicting the protocol can be found on WRAIR's YouTube channel. https://www.youtube.com/watch?v=t84_QvbnIT0.

Decompression treks for preparing to leave military service Enlistment into military service, especially when it is mandatory, is a stressful experience, accompanied by potential adjustment difficulties. This stage of military service has been given much attention, as exemplified in the inner strength project and the building of mental effort scales described earlier. In recent years, the IDF has come to understand that the end of service, following a few years of military life, is stressogenic as well. Being discharged means having to regain control over one's life. "What do I do now? How do I make a living? Where do I live? How do I find a job? What is medical insurance?"—these are practical questions soldiers have to deal with toward the end of their service. No less important is looking back at the service period and resolving issues like "What have I learned? What have I gained and lost? What do I take with me and what do I leave behind? What unresolved conflicts have I experienced?" The IDF mental fitness branch has therefore devised a program called "Back to the future." This is a 5-day "decompression trek" intended mainly to process the experience of military service, taking place a few weeks before discharge. It involves short and easygoing hikes, outdoor activities, and psycho-educational sessions, led by mental health officers and organizational consultants. In small groups, soldiers discuss topics like "what to keep and what to let go" and learn about different coping strategies based on the BASIC-Ph model of coping (Lahad & Laykin, 2015). In addition to its social and mental value, the decompression trek expresses the military's gratitude toward the soldiers for their service and conveys the message "we are here for you" following your service as well, in your civilian life. In this context, soldiers are given information about the combat stress reaction unit in the IDF Department of Health and Well-being, which treats people with PTSD and other mental difficulties stemming from their prior military service. After several decompression treks led by the mental fitness branch since summer 2018, it can be said that it meets (and exceeds) expectations of the soldiers as well as military authorities. The mental fitness branch has been collecting data during each trek about soldiers' SOC, and follow-up measurements are planned. At this point, it is too early to evaluate the long-term contribution of the treks, and whether or not it is moderated by SOC. However, these 21-year-old soldiers have often expressed their gratitude by saying the trek had contributed to their comprehension of what they had gone through and where they are headed to, had given them tools which would help them re-adjust to civilian life, and had increased their sense of meaning connected with their military service. Data from hundreds of soldiers show that consistently, post-trek SOC scores are higher than pre-trek SOC scores; but it is still needed to measure SOC at later points and compare it to that of soldiers who have not been on compression treks, after controlling for several possible confounding variables.

Mental Preparation of First Responders and Exposed Populations

Facing potentially traumatic events is not restricted to combat soldiers. There are several roles in the military in which soldiers are exposed to situations where secondary trauma may occur. In essence, secondary trauma resembles PTSD, acquired through exposure to persons who have undergone the effects of trauma (Baird & Kracen, 2006; see Kerig, 2019 and Whitt-Woosley & Sprang, 2018 for a further discussion of secondary trauma). Soldiers who are paramedics, nurses, firefighters, military police investigators, and mental health officers, to mention a few, are exposed to difficult sights on a daily basis. These roles are not restricted to the military, and occur in many civilian circumstances as well (e.g., automobile accidents, natural disasters, and terrorist attacks; see a separate chapter in this Handbook on salutogenesis and the mental health of first responders). The IDF mental fitness branch is doing ongoing work with several military units in preparing and conducting workshops for enhancing mental fitness in the face of stressful situations that accompany daily work. Here, too, mental efforts scales are developed based on empirical examinations of the stress and self-efficacy connected with several activities which characterize different professional jobs. For example, in the investigations department of the military police, a "stress rating" was given to events and situations like interrogating family members of a suspect, handling body parts, interviewing sexual assault victims, lack of sleep, facing the anger of bereaved parents, and more. Workshops are later designed to address these contents and to help prepare for such adversities, with emphasis on what was found as most stressful.

Enhancing Mental Fitness in the Military of the United States, Australia, and Germany

The enhancement of mental fitness is not limited to the IDF and has not begun in the IDF (although, as aforementioned, there are programs such as iCOVER which has originated in the IDF and adopted by the United States). In other countries, it is usually called resilience, and perhaps, this reflects

a conceptual difference (explained earlier) between the IDF mental fitness branch and similar bodies in other countries. However, in the military context, theoretical and conceptual issues are of secondary importance. The starting point for most military studies and mental health training programs is the need to improve operational efficiency and reduce harm. Therefore, "whatever works is good." There are several studies and programs around the world which seem to be doing the work, and I will shortly touch upon some of them, reflecting on their salutogenic nature.

The United States Armed Forces have introduced a "comprehensive soldier fitness program… to enhance psychological resilience among all members of the Army community." (G. W. Casey, 2011, p. 1). The program has four components: (a) an online self-assessment tool to identify personal resiliency strengths, (b) online self-help modules tailored to the self-assessment results, (c) training of master resilience trainers (see Reivich et al., 2011 for a detailed description), and (d) mandatory resilience training at army leader schools. The program is strength based. Rather than being treatment centered, it is focused on promoting mental health. In the words of the United States Army Chief of Staff, it is designed "so our soldiers can 'be' better *before* deploying to combat so they will not have to 'get' better *after* they return." (G. W. Casey, 2011, p.1). This resembles the salutogenic orientation of the IDF mental fitness branch. Considering the aforementioned distinction between mental fitness and resilience, it seems that the use of the term "resilience" in the description of the American program is misleading; after all, the program's name is "comprehensive soldier fitness."

The United States military forces have additional, small-scale, programs in which positive psychology principles are applied. For example, in a study on resilience among naval recruits (Challburg & Brown, 2016), it was found that an intervention called "appreciative guided conversations," using positive, experience-based questions, brought an increase in recruit self-reported resilience. The methodology of this intervention is based on the idea of appreciative inquiry (Verleysen et al., 2014).

In the Australian government as well, the Department of Defence has put much work into developing mental health programs. The importance of this work was recognized especially following the return of veterans from Iraq and Afghanistan (Cohn et al., 2011), where Australian forces have been involved since 2001. For achieving the goal of maintaining and improving mental health, the Australian military aims to act in three main areas: leaders at all organizational levels must take responsibility for mental health issues; people need to take care of their own mental health and well-being with the same care as their physical health; and mental health care should be available where needed (Australian Government, Department of Defence, 2017). Accordingly, there have been several resilience-focused initiatives in the Australian Defence Forces, based on the transactional model of stress and coping (Lazarus & Folkman, 1984). For example,

> The core resilience training program, referred to as BattleSMART (Self- Management and Resilience Training), aims to develop both arousal reduction techniques (i.e., the Self-Management component) and adaptive cognitive and behavioural coping strategies. Through the use of evidence-based cognitive-behavioural techniques, personnel are taught to identify adaptive from maladaptive responses to stressful situations and adjust their responses as necessary. (Crane et al., 2011, pp. 1-2)

Another intervention done in the Australian army was a cognitive behavioral therapy (CBT) program for soldiers in basic training, designed to reinforce adaptive coping strategies (Cohn & Pakenham, 2008). Although grounded on different theoretical premises—attribution theory (Weiner, 1985) and learned helplessness theory (Abramson et al., 1978)—this program resembles the IDF "inner strength" program described earlier and seems to be salutogenically oriented.

In the German Armed Forces (Bundeswehr), there is mandatory psychological training for soldiers before deployment, although this does not seem to be enough (Wesemann et al., 2016). One out of five soldiers returning from deployment in Afghanistan has suffered some sort of psychiatric disorder (Wittchen et al., 2013, in Wesemann et al., 2016). Therefore, a sophisticated computer-based, interactive training platform called CHARLY (Chaos Driven Situations Management Retrieval System) has been devised to enhance resilience and reduce negative attitudes toward mental disorders. It does so successfully, according to Wesemann et al. (2016), by extending soldiers' coping strategies using stressful deployment scenarios. This, too, has similarities with the IDF's inner strength program.

Empirical Research on SOC and Mental Health in Military Settings

The programs I have described earlier, in the IDF as well as in other military forces, were designed to enhance mental fitness (or resilience, or coping strategies, or psychological strength, etc.). SOC was not mentioned in the program descriptions, but it is clear that in many of them, there is an attempt to increase soldiers' feelings of comprehensibility, manageability, and meaningfulness.

Besides programs and interventions, there have been numerous *empirical studies* in the military which have explicitly measured SOC and its correlates. Some of these studies were pathogenically oriented, that is, they examined SOC as a predictor of pathology. For example, in a study among a few thousand Finnish boys who attended obligatory military call-up, Ristkari et al. (2006) found that SOC mea-

sured at call-up was negatively correlated with follow-up measurements of anxiety, depression, antisocial personality, and substance use disorders. Mehlum (1998) studied hundreds of Norwegian conscripts in basic training and found SOC to be a good predictor of suicidal ideation. Likewise, in a Greek sample of over 1,000 male conscripts (military service is compulsory for men in Greece), Giotakos (2003) found a strong negative correlation between SOC scores and suicidal ideation. In a recent meta-analytic study, comprising 47 independent samples of people over age 18, a strong correlation (−0.41) was found between SOC and PTSD symptom severity (Schäfer et al., 2019). Although this meta-analysis was not specific to military populations, the centrality of PTSD in military mental health research renders the study of SOC as a predictor of PTSD symptomatology in the military most important.

In a more salutogenic orientation, Giurcă et al. (2017) studied factors that may contribute to mental health adjustment and maintenance among Romanian combat and combat-support personnel who were anticipating deployment to war zones in Afghanistan. They found that the most resilient soldiers, who used efficient and adaptive coping strategies, had the strongest SOC.

Looking at the family context, for countries that send troops to other parts of the world for long periods of time, the functioning and well-being of soldiers' families become an important concern. Several studies have been done to explore the effects of the separation between army personnel and their spouse or children on various mental health variables. Here, I will only mention one study in which personal and sociodemographic factors affected the well-being of wives of American personnel on deployment in Iraq (Everson et al., 2013). They found that SOC had an ameliorating effect: women with a stronger SOC showed more contentment with their lives than women with a weaker SOC.

Hochman-Portughies (2018) found that personal SOC of combat soldiers in basic training, as well as their commanders' sense of community coherence, predicted soldiers' coping strategies and well-being. The importance of this study lies in the finding that commanders' SOC is most relevant to the well-being of their soldiers. This finding supports the salutogenic model's emphasis on social support as a salutary factor (Aaron Antonovsky, 1979, 1987). Indeed, in a salutogenically oriented and unusual retrospective study of 103 former German child soldiers of World War II (mean age at the time of the study was 78), recognition as a survivor by significant others and SOC were significant predictors of posttraumatic growth (Forstmeier et al., 2009).

The IDF mental fitness branch has also begun to conduct studies that focus on the relationship between soldiers' SOC and their well-being. When I first joined the mental fitness branch, I was asked to help a young officer write a report about a study he had done in a population of observation systems operators (hence OSOs). OSOs are stationed along the borders, and their job is to detect and monitor movement along the border by means of cameras and other technologies. They need to decide, at times in a matter of seconds, whether or not an observed movement should be considered suspicious, and whether or not to send troops to the site. This is an intense and very responsible job, and OSOs try very hard to go through a shift with no false negatives (not sending troops when they should have) or false positives (sending troops when it was unnecessary). In the study, data were collected using psychological adjustment and well-being questionnaires, as well as focus groups. OSOs were asked what, in their eyes, contributes to their well-being and their operational functioning. There were three general categories of answers: (a) we perform better the more we understand what is expected from us, (b) we perform better the more resources we feel we have that are relevant to the mission, and (c) we perform better and feel well when we find meaning in our job. When I read the draft handed to me by the officer, I said "That's SOC!". He did not know what I was talking about, but when the paper was published (Ohayon et al., 2018), the Discussion section was written in terms of the salutogenic model.

Since then, the mental fitness branch has not only been the initiator of SOC studies in the military; there have been numerous requests from several units to conduct SOC studies with the mental fitness branch. Some examples (unpublished yet) are: (a) SOC as a predictor of success in advanced training in an infantry brigade, (b) SOC of combat versus combat-support women soldiers, (c) SOC as a predictor of suicidal behavior, (d) SOC as a predictor of visits to the doctor during basic training, (e) SOC as a predictor of empathy and burnout in roadblock units, and (f) predictors of well-being and operational functioning among OSOs (a replication of Ohayon et al., 2018, this time directly measuring SOC).

The Growing Awareness of SOC in the IDF

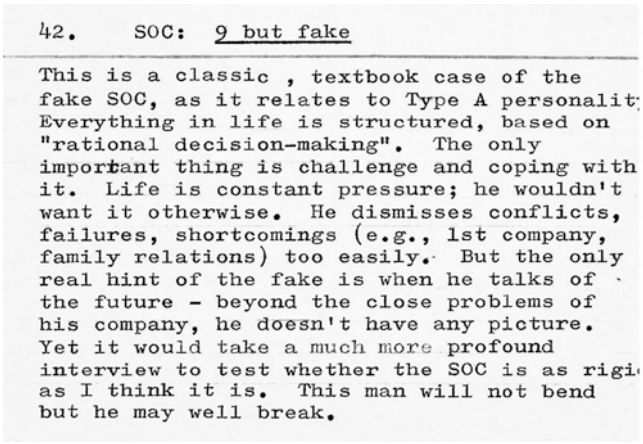
As can be seen, SOC plays a double role in the IDF mental fitness branch. One is SOC as a target, which—when reached—will in turn help to increase operational efficiency and decrease chances for mental difficulties. Enhancing soldier's mental fitness through strengthening their SOC by specifically addressing the issues of comprehensibility, manageability, and meaningfulness seems like a promising path to take and is already partly evident in the several intervention programs described earlier, which have counterparts in other countries. For example, the "inner strength" project described earlier supplies soldiers with a toolbox of resources to cope with stressful situations during basic training and thus increases their feeling of manageability. Another recent

example comes from the COVID-19 crisis: The mental fitness branch was asked to provide principles and guidelines for military and civilian medical personnel and army commanders, regarding the maintenance of their own well-being as well as the well-being of patients and soldiers. The three basic principles that were emphasized were: (a) reducing uncertainty and knowing what to expect (as best as could be predicted), (b) the importance of social support as a coping mechanism, and (c) finding meaning in their jobs and importance in their contribution to combatting the pandemic.

The second role is SOC as a predictor in studies of performance and well-being. The aforementioned studies are already on the go (middle of 2021), and more are in line. One that has already been completed was conducted during the COVID-19 pandemic in April 2020. We examined SOC as a predictor of well-being, burnout, state anxiety, and sense of threat among Israeli Home Front Command reserve soldiers who were assigned to assist in a medical emergency call center (Avishai Antonovsky et al., 2021; Danon et al., 2020). SOC was found as a strong predictor of the aforementioned variables (and stronger than self-efficacy).

In addition, the mental health department has a 3-year study program for mental health officers; the salutogenic model is already part of the curriculum, and students are encouraged to conduct small-scale studies using the measurement of SOC.

To recapitulate, it is of utmost importance to understand that the IDF Department of Health and Well-being is engaged in *health promotion*, not only in treatment and prevention. Of course, promoting health should eventually also prevent disease and the need for its treatment, but the focus is on helping all people swim upstream, not only on pinpointing people at risk and preventing their fall into the River. This understanding has spread from the department's headquarters into the whole mental health system in the IDF and has been disseminated into several units. In the American military, the Chief of Staff has publicly recognized the need for mental health enhancement (G. W. Casey, 2011). That ensures two parallel processes of raising the awareness to mental health promotion in the military: bottom-up and top-down. Along the line, attention should be given to soldiers who say, "I am mentally strong, I don't need *you* to teach me. I am tough. I love challenges and I'm completely fit for tackling them, for the sake of myself, my unit and my country." This expresses what Aaron Antonovsky has termed "fake SOC", that is, an overly confident attempt to present oneself as having a strong SOC while there are signs that point differently. On a small, 43-year-old card, with typewritten comments on one of the interviews which were the foundation for the SOC-29 (orientation to life scale), Aaron Antonovsky wrote: "This is a classic. A textbook of fake SOC… The only important thing is challenge… Life is constant pressure [and] he wouldn't want it otherwise… But… beyond the close problems of his company, he doesn't have any picture… This man will not bend but he may well break." (See Fig. 32.1).


42. SOC: 9 but fake

This is a classic , textbook case of the fake SOC, as it relates to Type A personalit Everything in life is structured, based on "rational decision-making". The only important thing is challenge and coping with it. Life is constant pressure; he wouldn't want it otherwise. He dismisses conflicts, failures, shortcomings (e.g., 1st company, family relations) too easily. But the only real hint of the fake is when he talks of the future - beyond the close problems of his company, he doesn't have any picture. Yet it would take a much more profound interview to test whether the SOC is as rigi as I think it is. This man will not bend but he may well break.

Fig. 32.1 Card typed by Aaron Antonovsky summarizing interview #42. The interviewee was evaluated as having a strong (9 out of 10), but probably fake, SOC

Some Insights and Recommendations

Considering all the physical, emotional, and mental difficulties posed by military service, how do most recruits make it through? After 40 years of salutogenic research, the natural, almost instinctive, answer would be—"they have a strong SOC!" However, in the military, the situation is a bit complex and calls for some refinement of the straightforward answer. As I pointed out at the beginning of this chapter, military service is a unique and stressful environment, especially for new recruits and combat soldiers. There is not always time to explain everything, or to provide the tools, or to talk about meaning.

As I see it, the most important component of a strong SOC which would contribute to operational efficiency is manageability. If you do not have the resources, the job will not get done. In accordance with a large body of literature and based on empirical evidence collected by the mental fitness branch, the single most important resource acting as a salutary factor in enhancing mental fitness of soldiers and strengthening their SOC (and, in turn, preventing psychopathology and suicide) is *social support* (see Cohn et al., 2011; Crane et al., 2011; Layman et al., 2019; Lubin et al., 2018). When asked "what helped you make it to the end of the 30-kilometer hike?" the answer is usually "my buddies" (and sometimes—"my supportive commander"). This finding is in line with results of non-military studies, such as an evaluation study of a program for further education for students with mental health problems (Morrison & Clift, 2006). Consequently, preparatory programs and interventions give

much weight to social support and techniques for boosting group cohesion.

Therefore, it is important to emphasize the importance of social support in officers' training, along with stressing the difficulty that goes with uncertainty. This analysis, in terms of the relative importance of SOC components, assumes that although SOC is the core theoretical concept in salutogenic theory and the central unit of measurement, it may be viewed as a multidimensional construct (Eriksson & Mittelmark, 2017) rather than a unidimensional one, like Aaron Antonovsky (1979, 1987) has first formulated it.

Besides strengthening SOC at a personal level, investing in group SOC would be worthwhile. Following the original conceptualization of SOC as a personal orientation to life, there have been theoretical and empirical derivatives such as sense of family coherence (Sagy & Aaron Antonovsky, 1992), sense of community coherence (Mana et al., 2016), and sense of national coherence (Mana et al., 2019). Considering the importance of group cohesion in the military, the IDF mental fitness branch has been measuring the sense of *unit* coherence by using a set of six questions (two belonging to each SOC component) asking about the military unit. For example, "How often does your unit have the feeling that there is little meaning in military operations?" As expected, moderate positive correlations exist between soldiers' personal and unit SOC. The idea of the collective (unit, battalion, brigade, etc.) facet of SOC, as well as the role of family social support, should be further explored in various military contexts.

Finally, it seems that military forces in different countries have been putting efforts into improving their personnel's mental health (even without theoretical familiarity with salutogenesis). Hence, I recommend strengthening contacts and cooperation between military forces. This cooperation already happens in conferences (e.g., the biannual Shoresh conference, which brings together the American and Israeli medical corps) and should take further practical steps in mutual research and practice. In particular, I would like to see more use of the term "mental fitness" instead of "resilience" where appropriate, and dissemination of salutogenic language. I believe teaching young commanders to think in practical terms of comprehensibility, manageability, and meaningfulness would be most beneficial to their soldiers' well-being.

Epilogue

Following a few years of work with the IDF, I can say with satisfaction that "salutogenesis" and "SOC" are familiar expressions not only among military mental health professionals but in many training facilities of combat, combat-support, and first responders' units as well. As I write these words, a large file with SOC questionnaire data is waiting in my computer to be analyzed. It is therefore time to complete this chapter and go back to salutogenic work.

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The Application of Salutogenesis in Communities and Neighborhoods

33

Lenneke Vaandrager and Lynne Kennedy

Introduction

Communities and neighborhoods have reemerged as important settings for health promotion; they are particularly effective for encouraging social processes which may shape our life-chances and lead to improved health and well-being (Biddle & Seymour, 2012); consequently, as Scriven and Hodgins (2012) note, of all the settings (cities, schools, workplaces, universities, etc.), communities are the least well defined. Indeed, within the health literature, they are frequently referred to in terms of place, identity, social entity, or collective action.

(a) *Community as a place —the natural, physical, and built environment*
Territorial or place community can be seen as where people have something in common, and this shared element is understood geographically. Another term for this is "locality." As such, community refers to physical characteristics in the green and built local environment *where* people live.

(b) *Community as individual and collective identity (sense of community)*
A second way of defining communities is as individual or collective identities. Communities are groups who share an interest or a common set of circumstances. It is based on notions of a common perception of collective needs and priorities, and an ability to assume collective responsibility for community decisions (Scriven & Hodgins, 2012). A concept is also referred to as "sense of community," a community psychology concept, referring to the *experience* rather than its structure or the physical attributes (Chavis & Wandersman, 1990). Mc Knight and Block (2010) argue that the most significant factors determining one's health are the extent to which people are positively connected to each other, the environment they inhabit, and the local economic opportunities. Or as Rutherford said, "Tend to the social and the individual will flourish" (Rutherford, 2008).

(c) *Community as social entity (cohesion, social capital)*
Neighborhood cohesion and social capital are central constructs when communities are defined as social entities. Neighborhood cohesion has been referred to in the literature as a measure of cognitive and structural capability, community attachment, and the effect of residential stability on individual and contextual effects on local friendship ties, collective attachment, and rates of local social participation (Buckner, 1988).

A socially cohesive neighborhood "hangs together" in such a way that component parts fit in and contribute toward a community's collective well-being, with minimal conflict between groups (Robinson, 2005). The British Government outlined its definition of community cohesion as follows: "Community Cohesion is what must happen in all communities to enable different groups of people to get on well together. A key contributor to community cohesion is integration which is what must happen to enable new residents and existing residents to adjust to one another" (Commission-on-Integration-and-Cohesion, 2007). This is particularly relevant in terms of ethnic, religious, social, and cultural affinity.

The second aspect of community as social entity, community social capital, is a salutary factor on a collective level and can be defined as "features of social organization such as networks, norms, and trust that facilitate coordination and

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cooperation for mutual benefit" (Frohlich & Potvin, 1999). This salutary factor is not the individual him/herself, but the structure surrounding individuals; social capital is a community level or ecological factor. The central premise of social capital is that social ties and networks, although rarely visible, are an incredibly powerful and valuable resource (Elliot et al., 2012).

(d) *Community as collective action (reactive-resilience; proactive community action)*

As collective action, there is a reactive form referred to as resilience and a proactive form referred to as community action. Community resilience refers to the ability of individuals, families, communities, and neighborhoods to cope with adversity and challenges (Morton & Lurie, 2013). The idea of resilience is central to a strength-based or assets approach to health.

It must be taken into account that residents have various ways of "participating," being active in community life that look beyond participation in formalized activities. Participation takes place in spaces, private and public, and in activities they find meaningful as ways of being engaged in and practicing community life (Larsen & Stock, 2011).

A more proactive view refers to community action. Community action means bringing people together to increase their voice in decisions that affect their lives, such as the way their living environment is planned or built. This collective action also changes the way people see themselves: not as individuals, struggling to be heard or acknowledged in some powerful relationship or another, whether this is "individual and the state," or "individual/group to individual/group," but part of a collective of shared interest and vision. Levels of social capital are shaped by the ability of specific communities to have a voice in the decision-making processes affecting them. Communities with less social capital are also perceived to have lower levels of mutual trust and reciprocity (Attwood et al., 2003), bringing with it its own set of issues or problems such as increased isolation, segregation, exclusion, or marginalization of particular groups living in the same community.

Community Intervention Approaches

Community intervention approaches hold widespread appeal in health promotion and as such many have originated in response to the guiding principles of the Ottawa Charter (WHO, 1986). As mentioned, empirical evidence of a salutogenic approach in practice is relatively scarce and thus reviews of the literature yield limited results; alternative examples of community intervention approaches, relevant to salutogenic approach, are likely to emerge in the future. For the purpose of this chapter, we have chosen locality development, an assets orientation, and community organizing as current examples of promising application in the field.

Locality Development

Locality development serves as a base for other organizing, and, in itself, is often aimed at community-wide issues that affect everyone: economic development, education, employment, etc. Its goal is the building of community capacity to deal with whatever needs or issues arise. It also shows itself in smaller community projects—neighborhood cleanups, the building of a community playground, etc.—that help to define and build a sense of community among diverse residents of a locality (http://ctb.ku.edu/en/table-of-contents/assessment/promotion-strategies/community-development/main).

Assets Orientation

An assets-based model of health fits well with salutogenesis since it emphasizes the positive capacity of communities to promote the health of their members (Kawachi, 2010). A health asset has been described as "…any factor or resource which enhances the ability of individuals, communities and populations to maintain and sustain health and well-being and to help to reduce health inequalities (see Box 33.1 for examples of assets). These assets can be social, financial, physical, environmental, or human resources, for example employment, education, and supportive social networks (Harrison et al., 2004). These assets can operate as protective and promoting factors to buffer against life's stresses" (Morgan & Ziglio, 2007, p. 18).

Box 33.1 Examples of Individual, Community and Organizational Health Assets. (Adapted from Morgan & Ziglio, 2007)

1. *At the individual level*: social competence, resilience, commitment to learning, positive values, self-esteem, and a sense of purpose
2. *At the community level*: family and friendship or supportive networks, intergenerational solidarity, community cohesion, religious tolerance, and harmony
3. *At the organizational or institutional level*: environmental resources necessary for promoting physical, mental, and social health, employment security, and opportunities for voluntary service, safe and pleasant housing, political democracy and participation opportunities, social justice, and enhancing equity

In an assets model, planners would ask how a particular community or setting can make best use of their resources (and maximize their assets) to help reduce health inequalities by impacting on the wider determinants of health, to build stronger local economies, to safeguard the environment, and to develop more cohesive communities.

Community Organizing

Many definitions exist but in essence community organizing is a process where people are motivated to come together, as a collective, to address something of mutual importance; it is a dynamic process, which in itself is transformative, with the goal of action, change, and empowerment. It is regarded as a way of strengthening communities, through the transfer of power from the state to local people through community action (Bunyan, 2013). Of particular interest to community organizing is social power. Those with the greatest resources have the greatest power, those with the most knowledge have more force to influence the public debate (Speer & Hughey, 1995). Community organizing is not about mobilizing people toward the interests or objectives of professionals in order, for example, to adopt normative behaviors, such as healthy lifestyle.

Communities as Complex Social Systems

In this chapter, communities and neighborhoods are considered as open complex adaptive systems. The system (community) is perceived as the entity above the individuals in it, with its own characteristics and dynamics. What happens in systems is unpredictable, system components interact and synergies can occur; thus, a linear approach does not apply. System components are systems themselves, and systems are part of other systems—for example, a family is a system itself, which forms part of a community, and the community forms part of the city—otherwise referred to as "nested system" or multilayered. The overall functioning of the system influences the health of individuals who are part of the components of the system (Wilson, 2009). The way that systems vary in the quality of living conditions, including the built, natural, and social environments, has clear implications for community health (Wilson, 2009).

Communities and neighborhoods are embedded in cities as larger social systems. The notion of individuals and of their health, as a complex system, is compatible with the more contemporary socioecological model of health, preferred by health promotion and public health professionals today. Individuals, families, communities, regions, and sociocultural and economic determinants of health are somewhat nested and *interact* with each other at each of these different levels as a complex and synergistic system, requiring a comprehensive system-wide response.

Link Between Healthy Communities and Salutogenesis Communities and Neighborhoods

The salutogenic model remains at the heart of this chapter and will now be explored in relation to community and neighborhood. This model is based on two fundamental concepts: generalized resistance resources (GRRs) and the sense of coherence (SOC). GRRs are resources found within an individual or in their environment that can be used to counter the stressors of everyday life and construct coherent lives experiences. The SOC is the ability to identify and use resources in a health-promoting manner. The approach of the salutogenic theory is to focus on the interaction between the individual, the community, and the environment. Relating the earlier described conceptualizations of community to the salutogenic model means that the locality, sense of community, cohesion, and social capital can be considered as GRRs and that collective action can be considered as the salutogenic mechanism of moving toward the health end of the continuum and building up GRRs. In everyday life, communities are continuously affected by daily hassles and stress which one has to deal with. Whether the outcome will be salutary depends on how communities are able to manage tension by using the resources at their disposal. In this chapter, we are specifically interested in the resources (and/or assets) inherent within the community and the associated processes enabling these resources to be accessed for the benefit of the community and its well-being. Community members share communal aspects that influence how they may interact with their surrounding context and stressors. These shared influences (sometimes referred to as collective SOC since it concerns a group rather than an individual) can enable populations to move toward the ease-end of the continuum (Antonovsky, 1996).

From a pathogenic perspective, urban neighborhoods with many disadvantages are called "*riskscapes*" (Wilson et al., 2008). We suggest the term "*resourcescapes*" with healthy and equitable planning and zoning in communities and access to resources (GRRs) such as homes with gardens, local employment opportunities, easy commuting distances, accessible and affordable grocery stores, recreational and cultural facilities, parks, open space, healthy schools, and medical facilities fit with the salutogenic framework. One way to facilitate stronger SOC is to help raise awareness of available and "untapped" resources, which may enable people to take greater control of their own situation or health and well-being. Several tools now exist to help people and communities themselves to explore the inherent assets.

Possible social assets/resources in the community include, for example, the presence of adult role models who are employed in meaningful and rewarding jobs (Kawachi, 2010) and the presence of informal social control (Sampson et al., 1997). This concept refers to the capacity of a community to regulate behaviors of its members according to collectively desired roles.

The above examples of resources can also help communities to be more resilient against social and environmental transitions such air pollution, urban decay, man-made and natural disasters, and climate change. As the next section illustrates, healthy communities have healthy physical characteristics, a strong sense of community, and a strong social capital. Through a shared interest and vision and profiting from assets available, community members actively organize themselves for better health and well-being.

The link between how people feel and circumstances of their own lives better equips them to survive adverse situations or circumstances (Foot & Hopkins, 2010). Little research however has been devoted to the variety of *mechanisms* that promote the development of a strong collective SOC (García-Moya et al., 2012). As Fone et al. (2006) demonstrate, the ability to conceptualize, define, operationalize, and measure the specific resources and pathways within the social environment that link the neighborhood of residence to health outcome is complex and reliant upon sophisticated multilevel analysis (Lee & Maheswaran, 2011). Not foregoing this type of approach, examining the role of community and neighborhood from a salutogenic and strength perspective requires us to unravel what is meant by a salutogenic pathway. But, as illustrated below, the difficulty in isolating key components within this pathway is in itself a challenge for researchers in this field and may well explain the paucity of research of an empirical nature into salutogenesis involving communities and neighborhood. Some may also ask if it is appropriate or possible, because to do so is to ignore the very complexity that characterizes such systems.

Current Literature on Salutogenesis, Community, and Neighborhood

In this part of the chapter, we explore the relevant literature on how communities influence the health of their members. We primarily consider etiological research that is explicitly related to the salutogenic orientation and/or to key concepts of salutogenesis. Secondarily, we consider research relevant to salutogenesis and show how this research is related to this concept. The literature is brought together under the organizing structure used throughout this chapter of neighborhood or community as: (a) a place, (b) connectedness (we combine sense of community, cohesion, and social capital), and (c) social action.

Community as a Place to Live

Many physical characteristics of communities play a role as a resource or asset. They include features like infrastructure and transportation (see Chap. 34 on cities), enough "space" for everyone, and contact to nature. Related to salutogenesis and the starting point that people and places are being produced in relation to each other, especially making sense of the everyday living environment, plays an important role. Without attempting to oversimplify the complexity, we will describe some of the examples we found.

Research from social work practice (Jack, 2010) concurs that children's mental well-being is associated with sense of place or place attachment which grows out of person–environment interaction. Our use of space has changed over time, we spend significantly more time watching TV or traveling in vehicles and the average child now spends up to 16 h a day in the home compared with recent decades when children played outside and walked, sometimes a fair distance, to school (Ziviani et al., 2004); children however favor a mix of the home and garden, nearby streets, local open spaces, parks, playgrounds, and sports fields (Jack, 2010). Opportunities for increased time outdoors and in safe or enjoyable neighborhoods are now recognized (Thompson et al., 2008) and encouraged, particularly in terms of the built environment and the planning process (Cleland et al., 2010).

Research from cultural geographers (Lager et al., 2013) showed that sense of belonging and well-being of elderly—despite the many changes in the neighborhood—is negotiated and practiced in everyday places and interactions. This shows that, in line with salutogenic theory, people and place do not develop independently. Rather than specific assets or resources, it seems more important that the elderly can age within a familiar and predictable environment.

Maass et al. (2014) analyzed data from a population study including the measurement of SOC and a number of neighborhood variables in a city in Norway and found that the overall satisfaction with the living area and social capital are related. SOC was the strongest correlate for health outcomes. However, they found differences between groups. Satisfaction with quality of neighborhood resources was significantly related to SOC in nonworkers and low-earners and health outcomes in women. The authors recommended that deprived groups might benefit most from health promotion in the neighborhood.

Green Spaces and Contact to Nature

Access to natural environments is associated with a positive assessment of neighborhood satisfaction and time spent on physical activity (Bjork et al., 2008). On the other hand, these types of health effects have only been found for larger

green spaces and not for smaller green spaces (Mitchell & Popham, 2008) and benefits that green space might offer seem easily eclipsed by other conditions such as car dependency (Richardson et al., 2012). Residents might also be more positive about green in their living surroundings if they are in general satisfied about where they live (Nielsen & Hansen, 2007), which suggests how important it is to acknowledge the interplay of different factors within the wider system. That is why van Dillen et al. (2011) and also Thompson and colleagues (2011) stress that it is worthwhile to further investigate the relationship between the quality of streetscape greenery, attractiveness of the neighborhood (or residential satisfaction) health, and well-being.

Compelling evidence exists for links between contact with green space and better mental health (Depledge et al., 2011), however as the literature suggests, access to green space is variable according to where you live. A survey from the Netherlands, involving 25,000 people, reported that those living within 1 km of green space were more likely to have a stronger perception of good health (Maas et al., 2006). The most deprived groups are seven times less likely to live in green areas, whereas adults in this poorest quintile, living near green space, benefit most (Mitchell & Popham, 2008). This is what Marmot refers to in his report as to "environmental injustice"—which he argues "the more deprived the community is, the worse the environments in which people live" (Marmot et al., 2010).

Connectedness

Communities that are more cohesive, characterized by strong social bonds and ties, have been shown to be more likely to maintain and sustain health even in the face of disadvantage (Harrison et al., 2004; Magis, 2010; Morgan & Ziglio, 2007). A meta-analysis of 148 studies investigating the association between social relationships and mortality indicated that individuals with adequate social relationships have a 50% greater likelihood of survival compared with those with poor or insufficient relationships (Holt-Lunstad et al., 2010). The authors hypothesized that this may function through a stress-buffering mechanism or behavioral modeling, within social networks. Although this study was not specifically related to communities, it still supports the importance of social ties for people.

As mentioned in the beginning of this chapter, social capital is central to salutogenic communities. Social capital is an asset of communities, *not* of individuals (Kawachi, 2010), and it is important to make a distinction between the bonding and bridging dimension of social capital (Szreter & Woolcock, 2004). Bonding social capital refers to trusting and cooperative relations between members of a group who are similar in terms of social identity (e.g., race and ethnicity), whereas bridging social capital refers to connections between individuals who are dissimilar with respect to their social identity (e.g., race, ethnicity, social class). Interestingly, bridging social capital is related to better well-being, whereas bonding ties often turn out to be detrimental to the health of residents (Almedom, 2005; Kawachi, 2010) due to the tendency to favor the formation of groups formed on exclusivity rather than inclusivity.

Nevertheless, there is evidence to suggest that people with stronger social networks tend to be stronger, healthier, and happier (Marmot et al., 2010). Critical to this is the social contact and social support that fosters greater self-confidence and reduces isolation in communities: "individuals need communities and communities need engaged citizens to survive" (Friedli & Parsonage, 2009, p. 15).

Indeed, Professor Marmot's review (Marmot et al., 2010) highlights the importance of strong social networks to people's health, by helping people to be more resilient and "bounce back" from adversity; his report presents strong evidence that social networks can help buffer against stressors of everyday life. In this, he also refers to the value of communities in terms of the social relationships as a resource for health and well-being: "it is not so much that social networks stop you getting ill, but they help you to recover when you do get ill" (Marmot et al., 2010).

Community as Social Action

Kawachi (2010) describes three principles to build collective action from an asset-based model of health: (1) invest in a number of activities rather than one, (2) pay attention to the type of social capital and especially invest in bridging social capital, and (3) make sure there is budget available. The benefits reach beyond the individual members and can therefore be seen as a government responsibility. This is critical if we are to avoid what some refer to as the misuse, or abuse, of adopting an assets-based approach, to shift culpability away from central or local government onto individuals and communities. Obviously, balance between the two is more realistic and as this section illustrates, helpful in empowering communities for better health and well-being.

According to Larsen and Stock (2011), constructing a collective identity (collective SOC?) in a neighborhood, based on hegemonic narratives of the neighborhood, of its history and development, can be particularly useful in strengthening community attachment. These authors (ibid., p. 20) stress that "residents have various ways of 'participating' in community life that look beyond participation in formalized activities. Participation takes place in spaces, private and public, and in activities they find meaningful as ways of being engaged in and practicing community life."

Current Research: Interventions

In this section, we outline examples of typical (programmatic) action areas: based on descriptive evidence presented above, including, where available, literature on the effectiveness of interventions, from research that explicitly relates to the salutogenic orientation.

Salutogenic interventions are not only about making sure resources are *available* to people and communities but also about creating opportunities to help people to *recognize* these resources exist in the first place so they can utilize them better. These types of interventions aim to improve the person–environment fit in the microsystem of communities. Fundamentally, resources therefore should be meaningful to the people concerned; as already suggested above, access to resources is variable. Moreover, meaningfulness associated with different resources is also highly subjective, varying between people and places. Thus, efforts to address inequalities in health, associated with place, must start from and be initiated by the people, members of the place, themselves.

Community as a Place

The number of initiatives of promoting health and well-being in natural environments is growing. We have selected a number of case studies/examples to illustrate this: (a) access to green space, (b) community gardens, (c) natural green playgrounds for children, and finally (d) day care on farms, for example, for young people who have difficulties to function effectively in mainstream society.

Supporting communities and environmental improvements to the natural or green spaces, built environment, and public spaces have been shown to positively influence mental health. For example, outdoor physical activity has been found to be particularly beneficial for people's well-being, with evidence that outdoor walking groups have a greater impact on participants' self-esteem and mood than the equivalent activity indoors (Bragg et al., 2013; Burls, 2007); access to green spaces has been associated with reduced inequalities in health (Friedli & Parsonage, 2009). On the other hand, landscape design will not affect a move toward the positive side of the health continuum if the green interventions are "too simplistic" since the relationship between green space and health is complex (Lee & Maheswaran, 2011). Moreover, the positive effects of place result from the interplay of salutogenic mechanisms. According to MIND, a mental health charity in the UK, the natural outdoors is a key factor in promoting mental health and well-being as part of building resilient communities (mind.org.uk). Their research identified benefits of being outdoors as a very strong theme, with people citing garden allotment (homegrown food) groups as particularly helpful because they combine a range of different elements that have a positive impact on their well-being, including physical activity, being in a social group and being outdoors.

Not only are green environments healthy in the sense of being outside, also the collaborative active involvement in the maintenance of natural areas can contribute to better health and well-being. For example, gardening promotes an active lifestyle (Van den Berg & Custers, 2011) and contributes to healthful eating, and children show more active and social type of play in a green outdoor environment than in a traditional playground. Besides the positive results of these initiatives, being involved in the development or maintenance of these types of initiatives can also be as rewarding, promote self-efficacy and esteem, thus promoting health.

An example of a salutary factor in a neighborhood is a community garden which encourages outdoor activities, physical activity, and meaningful engagement, socialization with neighbors as well as aesthetic enhancement. In a Swedish study, three perceived qualities of the green neighborhood environment with salutogenic potential were identified: historical remains (culture), silence such that sounds of nature can be heard (serene), and richness in animal and plant species (lush) (de Jong et al., 2012).

A recent study in Wales pointed out that community gardening provides community gardeners with various social, mental, and physical resources, which can make it easier for people to perceive their lives as meaningful, structured, and understandable. Social initiatives in natural environments can support learning experiences to move toward the ease-end of the health continuum (Esdonk, 2012). The Liverpool City Council (2012) is also one of the best-performing local authorities securing parks and green spaces. Besides many other economic, environmental, and health rationales, they also recognize advantages for communities and people. In their green infrastructure strategy, they write: "Parks are places to meet and celebrate with family and friends. They are inclusive and accessible. They are venues for community festivals, events and sporting activities. Parks are the scene of excitement, refreshment, relaxation, and solitude." In Liverpool, 35,512 people were brought together in parks in 2009/10. More than 30 parks have direct links to community and friend groups. Their voluntary involvement and decision-making directly improve community empowerment and well-being (Liverpool-City-Council, 2012).

Outdoor nature contact is also important for children. Research suggests they prefer and rank highly vegetation in neighborhood parks, playgrounds, and backyard gardens compared with other places (Lee & Maheswaran, 2011). In many cities in the Netherlands, municipalities have started to develop green playing fields in inner city areas as an alternative for schoolyards constructed of stone. Green playing grounds contain a greater diversity for playing and nurture the health and development of children (Dyment & Bell, 2008; Van den Berg & Van den Berg, 2011).

Some interventions are characterised by, and successful specifically because, of the focus on time spent outdoors in green or natural community settings, rich in natural resources, such as the care farm. One study, based on qualitative interviews with young socially excluded males, participating in 6-month intervention on "care farms" in The Netherlands, whereby farmers host young people in need of specific, typically social work intervention, revealed that a range of resources—at the individual, "household" (albeit temporary), organizational, or environmental level—could be linked to the personal development and an increased SOC of the young men. A diversity and richness of resources (and stressors!) created various opportunities for learning: making sense, interpreting, and giving meaning to resources and stressors (Schreuder et al., 2014). Interestingly, young people found, or rediscovered, a sense of meaningfulness, purpose, and structure through small, taken for granted, or everyday aspects such as connection with nature, animals, and people; employment, rules, reciprocity, and respect. This work offers insight into the benefits for some people with complex needs of reconnecting with nature, the environment, and basic social networks.

Place-Related Design Principles

Healthy communities are compact and well connected. Environmental health planners recommend what they call "mixed-use design" (Lee & Maheswaran, 2011). Mixed-use design refers to using the land for varied reasons such as residential, retail, and employment combined with "connectivity" characterized by short distances between places of interest. Based on a review of current evidence (Brown & Grant, 2007) recommend five possible salutogenic interventions central to a "healthy community" design:

1. Paying attention to the green design of roads and transport routes as they reduce stress in the people traveling along them. They describe the Dutch "woonerfs" (home zones) as examples which include lots of street trees, verge planting, and soft surfaces.
2. Providing a range of open spaces for people to use and to observe: parks, gardens, terraces, squares, verges, and river banks, not only in residential spaces but also in the surroundings of businesses.
3. Balancing soft surfaces and vegetative cover for local air hygiene and temperature control.
4. Providing trees for shade and shelter, visual interest, and nearby nature.
5. Build in health using nature as an integrated element of planning: "Nature is not merely an amenity, luxury, frill or decoration. The availability of nearby nature meets and essential human need."

Connected Communities

In terms of the evidence that healthy (strong) communities or neighborhoods contribute to health and well-being, Elliot et al. (2012) concluded that little or no evidence existed for interventions that transformed neighborhood relationships in ways that enhanced collective resources per se, but fairly strong evidence for interventions focused on affirmation of social identity, rather than transformative interventions focused on power, succeeds in forging strong social relationships between a group of people and is good for health (e.g., community gardens); particularly interventions bringing previously isolated individuals in contact with others who share a common experience (such as healthy aging) (Lezwijn et al., 2011).

Nash (2002) promotes a comprehensive approach with essential elements of social work functions such as linking, consensus-building, and community organizing. They also recommend this approach is informed by values of cultural competence and empowerment. Sharing neighborhood history evokes emotions of belonging (Larsen & Stock, 2011), while community gardening can help promote social identity through increased sense of belonging and reciprocity and mutuality (Hale et al., 2011; Saldivar-tanaka & Krasny, 2004; Teig et al., 2009; Wakefield et al., 2007).

An early childhood intervention program, KidsFirst in Canada, which aimed to enhance social capital and social cohesion at community level, managed to bring the community together through conducting broad and targeted community consultations, and developing partnerships. The program enabled vulnerable families to enhance connectedness among themselves, to link them to services, and to integrate them in the larger community (Shan et al., 2012). Investing in social connectedness is, however, not a panacea for health and sometimes can facilitate negative or perverse consequences (Kawachi, 2010) such as exclusion of outsiders, intolerance of diversity, and restrictions on individual freedoms.

Social Community Action

The ability of residents to organize and engage in collective action enables residents of communities to lobby for safety in the neighborhood (Baum et al., 2009), to rally against closure of (health) services (Mooney & Fyfe, 2006), or to manage informal care (Kawachi, 2010). Often this is facilitated by the presence of local organizations.

In the development of social or community action, "trust" plays a central role. The extent to which people are able to participate in the social, economic, and cultural life of their communities clearly depends on the level of trust between

community members. In situations where individuals are both empowered and experience a certain level of "trust," they are more likely to participate in action leading to changes in situations for the better (Ward & Meyer, 2009). This also helps explain the reported success of various autonomously organized urban initiatives (Kremer & Tonkens, 2006).

In the area of disaster management and based on salutogenic principles that communities can develop adaptive capacities to respond and recover from adverse events, O'Sullivan and colleagues (2015) developed a structured interview matrix which was an effective technique to enhance connectedness, common ground, collaborative action, and awareness of existing services and supports in each community.

Synergies Between Improving Place, Connectedness, and Community Action and the Wider Determinants of Health

Improving place, connectedness, and community action have been described as separate matters, but in fact there is strong synergy between the three and therefore it is questionable whether some of the studies reported here are categorized under the best heading.

An example of a wider community-based salutogenic approach is the Mersey Forest project in Liverpool, UK. The aim of this project is to get people involved in the design of their Greenspace, encouraging them to step outside and take ownership of the space. They help to maintain it, benefitting their health through the physical work, developing social skills (Maas et al., 2009) and improving mental health, and for some breaking the cycle of fear and isolation from living alone in a large city. This project has helped to grow food on community allotments and create new community gardens and orchards, sport facilities, and wildlife areas. A critical success factor of this project is not only the green environment but also the utilization of the opportunities (assets) different community groups bring together (Forestry-Commission-England, 2012) and the empowerment gained through the process of collective engagement or social action.

This interrelation of various determinants of health within communities also relates back to the point we made in the beginning of this chapter where we stressed that communities are complex social systems. In addition, health advancement is clearly also not only connected to the community level. An example of this interrelatedness and the role of more distal determinants is the fact that in egalitarian societies with strong safety nets and adequate provision of public goods, neighborhood contexts may be less salient for the health of residents in contrast to segregated and unequal societies as the USA (Kawachi, 2010).

Implications for Salutogenic Practice

In this section, it is important to clearly show what we can learn from this broad literature for advancing the field of salutogenesis—and how the field of community health could benefit from being more explicitly linked to salutogenesis.

Reducing traditional risk factors in neighborhoods remains a relevant and important objective for health promotion. It is equally, some argue, important to redress the balance between the traditional focus on risk and deficit and an assets model. This being the case, underpinning assets approach with salutogenic theory, so a better understanding of how the salutogenic model translates into community and neighborhood level health promotion policy and practice, is therefore required. Unraveling the complex relationship between SOC and GRRs—in the context of community and neighborhood—is an important first step.

Antonovosky originally articulated the need to appreciate the reciprocal or mutual requirement of his salutogenic model: both a strong sense of SOC and interaction with GRRs. Salutogenic research has illustrated this time after time, not least in research conducted in the community and neighborhood, where social connectivity is a clear example of a GRR.

In practical terms, we can conclude that from a salutogenic perspective, rich environments for learning and meaningful contexts seem to play an important role at the community level. As many salutogenic community interventions might be influenced by other broader structural factors, that is, poverty, unemployment, and economic crisis, investing in communities should be complemented by wider structural interventions (Szreter & Woolcock, 2004).

Implications for Salutogenic Research

We found that the available evidence explicitly based on salutogenic theory is limited. However, there are a number of disciplines which apply a similar frame of mind but do not link this to the theory of salutogenesis. We recommend people interested in this area to look into other disciplines than health promotion such as urban sociology, cultural geography, and social work. We found that there is a lot of thinking in the same direction (interaction between environment and how people think, perceive their environment).

Opportunities exist for a greater emphasis on salutogenic theory in all areas of social policy including housing, regeneration, youth and community work, young people and play,

community safety and policing, education, and employment.

There is an abundance of evidence of a relationship between strong social connection or connectivity and enhanced sense of health and well-being. How this plays out at the community level is more difficult to articulate. Research into communities where social capital and cultural capital are seen as GRRs is largely lacking (Lindström, 2012). More research is required that adopts a salutogenic lens for interpreting health and well-being within this context. Recent examples (Dunleavy et al., 2014; Schreuder et al., 2014) have attempted to use the theoretical framework of salutogenesis to identify potential GRRs and the underlying mechanisms of health development; although useful and, seemingly logical, one of the challenges of this approach is to stay critical about what we label as GRRs and SOC. A more inductive type of research is also needed to further examine when a resource becomes a GRR.

A salutogenic community approach/asset approach of creating rich, social, and physical environments for learning and meaningful contexts leads to improved outcomes in a range of domains, and it is difficult to capture them (and certainly only measuring SOC makes little sense). More work is needed to help develop appropriate indicators for both the assets approach and salutogenic theory and other strength-based approaches.

Effects of a salutogenic community approach might not be visible immediately but might take a long time. Health promotion is however used to meet this challenge. For decades now, we have had to educate researchers and policymakers from other fields or familiar with more traditional paradigms to recognize the relativist and distal nature of so many of the outcomes from health promotion practice. As already mentioned, the complexity of community systems confounds this further. We must therefore seek to develop a range of indicators to measure health and well-being at the community level; if we can break this down further into key concepts to be associated with salutogenic processes, then there will be progress. New research designs are also needed to capture effectiveness questions.

Challenges for the Future

To date, the majority of research into salutogenesis has been done from a quantitative perspective. This is understandable, given that Antonovsky's work focused around the SOC and subsequently the use of SOC scale in attempting to explain causal explanations between individual and particular health outcomes. This approach has some merit for researchers interested in enabling the promotion of health through communities, social networks, and social action. It is, however, most likely to result in the characterization of certain community types or behavior in terms of strong or weak SOC. Although extrapolations can be made, based on the evidence base for a relationship between SOC and health and well-being, this approach seems limited, largely due to our limited understanding of the precise mechanisms of "what creates SOC and salutogenic setting or place," such as a community (e.g., workplace, neighborhood). More research, particularly involving qualitative inquiry, is needed to explore the closeness of fit between existing theory and experience.

Cross-cultural comparisons of subjective experience are also warranted to test out existing ideas linking salutogenesis with community and neighborhood health in different settings. We need to be confident that the key terms and concepts we develop are relevant in any context. Finally, more evidence is needed, especially from other societal contexts, for example, in less developed countries.

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Applying Salutogenesis in Towns and Cities

34

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Introduction

This chapter casts light on how cities can facilitate good health through urban planning, design and organisation, and collaboration between multiple sectors. The way we organise cities is one aspect of the social determinants of health and can manifest or balance several aspects of social injustice. This chapter focuses on matters of planning and maintaining infrastructure, including transportation systems, green spaces and walkability, as well as matters of environmental justice across cities. Moreover, it is discussed how a Health in All Policies (HiAP) approach can be implemented at the city level, and in which ways the World Health Organization's (WHO's) Healthy City Network contributes to this work. We take a closer look at the evaluations of HiAP, as well as the Healthy Cities approach, and to what degree they facilitate long-lasting cross-sector collaboration. Last, it is discussed whether and how a salutogenic orientation can link places and environmental resources to health outcomes, and explore the implications of this approach for salutogenic practice and research.

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Key Concepts and Cultural, Practice and Research Contexts

The WHO focuses on creating settings that allow for the experience and development of good health: "Health is created and lived by people within the settings of their everyday life; where they learn, work, play and love" (WHO, 1986). Health and health equity in all local policies are the overarching theme, recognising that a population's health is largely determined by policies and actions beyond the health sector.

To create cities that allow inhabitants to lead active, healthy lives and to experience well-being and quality of life is right at the core of this goal. Planning processes tend to focus on enabling "active living" in the residential context of individuals. This includes enhancing possibilities for social participation and physical activity. The main objective is to "make people active participants in their own life, empowered, understanding what is important for health and (…) able to use the resources" (Lindström & Eriksson, 2011).

This chapter casts light on factors and processes within cities and urban planning that have been linked to favourable health outcomes. It includes research with a clear perspective towards the positive aspects of life (resources, health, well-being, quality of life). Cities are understood as complex systems or supersettings, where physical, social and organisational aspects all interact (Bloch et al., 2014). In this chapter, we apply a town planning perspective and focus on the aspects of the city setting that can be influenced directly: the physical environmental and organisational/public policy issues. In addition to health literature, we also include research from the fields of town planning and geography.

Salutogenesis and the Urban Environment

In line with a salutogenic orientation is the focus on the upstream conditions for experiencing good health and quality of life: including health in the planning processes of

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urban environments can improve living conditions along the whole social gradient of health (Lindström & Eriksson, 2011). The concept of healthy cities includes a variety of aspects linked to people's possibility of experiencing and developing good health in the urban environment.

Even though a growing body of research attempts to explore the relationships between urban living environment and health, and a number of voices have called for a guiding theory to systematise this knowledge, few studies explicitly apply the theory of salutogenesis.

In line with Antonovsky, health is created in an interplay between individuals and their supporting structures (Lindström, 2018). Thus, cities and living environments can promote health through contributing to the development of a strong sense of coherence (SOC) by facilitating for significant experiences, and through offering resources that enable individuals to protect and promote their own health (Maass et al., 2017; Maass, 2018).

As described earlier, cities are understood as complex systems or supersettings, which include a variety of smaller microsystems such as neighbourhoods, workplaces, schools, etc. The city itself is experienced based on what happens within and between these microsystems. Moreover, the microsystems and the more extensive system of the city in which they are embedded all include aspects of people, place, nature and the built environment, and the broader social and political context. Thus, in line with a supersetting approach, Public Health initiatives need to address determinants of health across and within these microsettings in an integrated manner (Bloch et al., 2014). To ensure that such efforts work together towards a common goal and provide inhabitants with potentially SOC-strengthening experiences, a major challenge is to create coherence within and between the various settings that together form the supersetting of the city (Maass, 2018).

Applying salutogenesis to the city context allows us to include resources at various levels of experience (such as street lights and sense of place), and link them to health outcomes through the concepts of generalised and specific resistance resources, and the sense of coherence. Bull and colleagues (2013) put it this way:

> By mobilising the capacity and assets of people and places, local development initiatives will make sense logically in the local context (comprehensibility), (…) practically realistic (manageability) and they will be motivating because they are meaningful, based on involvement in decision-making processes (meaningfulness) (p. 171).

Moreover, the individual experience of good health depends on the interplay between environmental resources and the individual's sense of coherence. A strong SOC enables individuals to identify and apply health-promoting resources, even in a resource-poor environment. On the other hand, environments which offer resources that are easy to recognise and apply adequately might facilitate for health-promoting behaviour independent from personal SOC. This also implies that merely placing resources into a context might primarily benefit people with a strong sense of coherence, and thereby could even widen the gap in health (Cohen et al., 2012).

However, high satisfaction with the quality of resources might contribute to balance out the drawbacks of a weaker sense of coherence (Maass et al., 2014). Thomspon and colleagues (Thompson et al., 2014) found that satisfaction with the quality of a nearby woodland affected the quality of life in a disadvantaged urban community. What is more, increasing the quality of this forest strengthened its relationship with quality of life, and a fivefold increase in visits to the woodland (Thompson et al., 2014). Focusing on developing resources that are perceived as adequate and high quality by deprived groups might, therefore, be a beneficial strategy to reduce inequality in health (Maass et al., 2014).

Thus, salutogenesis offers a theoretical framework that allows us to link environmental resources to health outcomes directly, and indirectly through their role in the development of a strong sense of coherence. This also implies a focus on experiences and processes involved in the establishment and maintenance of resources and how they might contribute to tackling health inequalities (Rönkkö, 2014).

This thought is right at the heart of the HiAP approach that emphasises a systematic focus on health, the health impacts of policy decisions and the development of public policies on a global, national and local level. Applying HiAP involves identifying health-related policies and developments across sectors, assessing the impact of decisions and advocating for positive change. The focus is on the broad social and environmental determinants of health, and the goal is to create healthy environments and achieve environmental and social justice. One of the core features of HiAP is to encourage collaboration and build long-lasting networks between sectors, decision-makers, stakeholders and the public, and reduce health inequalities through an environmental justice approach (Kruize et al., 2014; Olilla et al., 2013, Ståhl 2006).

Environmental Justice

Inequalities across and within cities are one aspect of social injustice in health (WHO, 2007, 2012a, 2112b). Health inequalities that are consequences of environmental inequalities are part of the so-called "environmental justice domain" (WHO, 2012b). Environmental justice consists of two dimensions: distributional and procedural justice (Kruize et al., 2014).

Distributional justice refers to the spatial distribution of environmental risks and resources. Most research in this

domain has focused on risk factors that are distributed unequally across cities and neighbourhoods. However, the neighbourhood context essentially also involves the availability of, and access to, health-relevant resources. For example, in neighbourhoods with lower socioeconomic status, there are fewer free facilities for physical activity than in high socioeconomic status neighbourhoods. In contrast, the number of paid facilities does not differ (Li et al., 2005).

Procedural justice refers to individuals' or communities' opportunities to take part in and influence decisions and planning processes, which, in turn, create the environmental conditions for daily living. Procedural justice might thereby not only benefit the involved individuals or groups in terms of well-being and empowerment, but it can also contribute to creating environments that fit the needs and wishes of inhabitants (Kruize et al., 2014). The Healthy City approach aims at reducing both distributional and procedural injustice within cities.

The Healthy City Network

The Healthy Cities project of the World Health Organization (WHO) was established in 1987 in the European Region as a strategy for implementing Health for All at the local levels of government (WHO, 2012a). The core aim of the project is to improve health by addressing the determinants of health and the principles of Health for All and sustainable development by providing governance and partner-based planning for health. The approach integrates the concepts of people and place and has clear intentions to promote health across the life-span, to improve social determinants of health and to improve conditions for daily life (WHO, 2007, 2012a, 2012b). This includes income and access to resources, training, people and places, transport, climate changes and sustainability, with individuals and communities being empowered. Places can be perceived as enabling by offering social, material and affective resources (Hand et al., 2012).

Context is important: something that can be a resource in one neighbourhood or for particular social groups might not work as such in another neighbourhood or for other social groups. For example, population density has been linked to both positive and negative health outcomes (Pearson et al., 2013).

Moreover, culture, gender and age might influence perceptions and use of resources (Angotti, 2013; Bai et al., 2013; Krenichyn, 2004). For example, children's active lifestyle seems to be dependent on an overall "activity-friendly" context, which includes fewer parking spaces (de Vries et al., 2007). Adolescents are attracted to proximate low-cost, well-maintained facilities that offer preferred activities (Ries et al., 2008). For older adults, proximate locations and accessibility to key resources were linked to social participation (Richard et al., 2013). The relative importance of the residential area and its resources differs across groups, and might partly be dependent on having access to other important societal arenas, like the workplace (Maass et al., 2014). Additionally, different factors promote health in healthy and in less-healthy people (Fuller et al., 2010). This highlights the importance of grounding interventions in the local setting, and draw on local resources and stakeholders, as advocated by the Healthy City Network (Barton & Grant, 2011).

Today, the Healthy City Network is recognised as a global public health movement both at the local level and within the WHO European Region. Healthy Cities give an explicit political commitment to improving their citizens' health. By offering a coherent set of enduring qualities, elements and goals, they acknowledge major health challenges and the economic, physical and social factors that influence these challenges. An important aspect of the WHO Healthy Cities project is that, in line with salutogenic thinking, it focuses on the community as a whole, with its strengths and barriers, rather than on single issues or diseases.

In their review of the Healthy Cities initiative, Barton and Grant (2011) identified 12 major topics through which cities can increase the health of their inhabitants, located on different levels of the city system. In this chapter, the focus will be on the topics of overall planning and urban form, transport and accessibility, green spaces, recreation and physical activity, infrastructure, urban design and environmental quality, and coordination and politics.

Infrastructure and Transport

Infrastructure influences health and well-being through the distribution of resources, opportunities for activity, and social meeting places that can facilitate social connectedness, possibilities for outdoor recreational activity and active travel (Lenzi et al., 2013; Shimura et al., 2012). Safe conditions for active travel can enhance physical activity (Fuller et al., 2010; Wen et al., 2009). Land-use mix has likewise been linked to physical activity, among other factors through the variety of destinations for walking (Gidlow et al., 2010; Millward et al., 2013). However, also matters of transportation are crucial: levels of satisfaction with a residential area are linked to travel time to important locations, rather than mere distance (Delmelle et al., 2013). Even here, group differences emerge. For minors, the elderly and the physically impaired, the availability and accessibility of transportation can have a major impact on the possibilities for independent living (Raerino et al., 2013). Even minor disabilities can heavily influence possibilities for active living and independence, and thus the need for proximate, accessible and inclusive infrastructure and available public transport (Levasseur et al., 2011; Norgate, 2012; Wen et al., 2009). Simultaneously,

these groups might experience different needs and challenges linked to transportation than the majority (Raerino et al., 2013). Planning and design of transportation systems and outdoor spaces in line with the principles of Universal Design can enhance the accessibility of resources for these groups, and promote active travelling for a wider population.

Active Travel

Active travelling, such as walking and biking for transport and leisure, is an important aspect of a healthy city. The "walkability" of a city district refers to its environmental and social aspects that influence walking. High walkability of a district has been shown to increase walking among its inhabitants. It has been linked to positive health outcomes, both directly and indirectly, through an increase in physical activity and social contacts (de Nazelle et al., 2011; Hankey et al., 2012; Leyden, 2003). Children who are allowed to walk on their own near where they live tend to play more outdoors, and environments which promote greater independent mobility increase physical activity in children (Kuo et al., 2009; Wen et al., 2009). For older people, frequent walking (and perceived accessibility to key resources) is positively associated with social participation (Richard et al., 2013). High walkability of a district can motivate increased physical activity among both healthy and less-healthy older adults (Fuller et al., 2010; Shimura et al., 2012).

Moreover, the perceived friendliness and pleasantness of a place—the aesthetics—can influence behaviour and social relations: for example, walking in the neighbourhood, stopping and chatting with your neighbour or letting your children go out and play. Aesthetics also play an important role in walking for recreation (Kaczynski, 2010). To improve visual appeal is one goal in "active living" urban planning (Faskunger, 2013).

However, the health benefits of walking are partly dependent on other factors, such as air pollution (Hankey et al., 2012). Again, aspects of environmental justice become visible in this context: the so-called "sweet spots"—characterised by high walkability and low air pollution—are almost exclusively situated in high socioeconomic status districts located near, but not at the city centre (Marshall et al., 2009).

Green Spaces, Recreation and Physical Activity

Proximity to green spaces, including everything from the surrounding landscape to urban parks and gardens, plays an important role in health promotion. Associations between distance to a green space and health, and health-related quality of life, are found repeatedly, independent of which measure of green space is applied (Mitchell et al., 2011; Stigsdotter et al., 2010). Kyttae et al. (2012) even found that green space was the only urban variable directly connected to children's perceived health. Relationships between green space and health are influenced by gender, ethnicity, socioeconomic status, living context, green space type and climate (Cohen et al., 2012; Lachowycz & Jones, 2013).

Matters of quality can become prominent in some settings or for some social groups (Bai et al., 2013). For example, women seemed to be more dependent on perceptions of safety and the presence of others for engaging in physical activity in their park (Krenichyn, 2004). For a disadvantaged urban community did increase in perceived quality result in more use of local woodland, simultaneously as it raised the woodlands' impact on quality of life (Thompson et al., 2014). Recently, green spaces with edible plants and possibilities for gardening have become increasingly popular and contribute to better health through physical activity, social contacts and a healthier diet (Stoltz & Schaffer, 2018).

Accessibility of green spaces is one aspect through which environmental injustice becomes visible across cities, with high socioeconomic status neighbourhoods usually being closer to and including more green spaces compared to poorer areas (Angotti, 2013; Moseley et al., 2013).

Additionally, there seem to be differences in the degree to which users perceive their proximate green spaces as matching their needs, with a special emphasis on cultural and age-dependent aspects (Angotti, 2013). Thus, mere physical proximity might not give a realistic picture of the accessibility of green spaces (Moseley et al., 2013).

In addition to facilitating physical activity, research suggests psychological benefits deriving directly from contact with nature: attention restoration, stress reduction and positive emotions (Lachowycz and Jones 2013, Abraham et al., 2010). Moreover, green spaces can enhance social well-being through social integration, social cohesion, participation and engagement within the context (Abraham et al., 2010; Jennings & Bamkole, 2019). In particular, access to waterways or coastal lines, "urban blue", seems to be linked to well-being, engagement in recreational activities, stress reduction and the development of a strong attachment to the place (Cox et al., 2006).

Sense of Place

Attachment and feelings of belonging to a place play an important role in the quality of life and positive identity (Nogueira, 2009; Tartaglia, 2013). "Sense of place" has become a popular public health construct, even if there is little empirical evidence on how to achieve it, and on it's role in health promotion (Frumkin, 2003). Sense of place has also

been labelled a motivator for physical activity, both among healthy and less-healthy older adults (Fuller et al., 2010). While some research suggests that sense of place is highest in high socioeconomic status neighbourhoods, associations between a sense of place and self-perceived mental health do not seem to be dependent on neighbourhood's socioeconomic level (Williams & Kitchen, 2012).

Links Between Environmental Resources, Place and Salutogenesis

As mentioned above, a number of resources in the city context have been linked to favourable health outcomes. Mostly, health benefits are explained by enhanced physical activity, social and local connectedness, and/or reduced health inequalities. There are few studies examining the links between city resources, sense of coherence and health outcomes. Emerging evidence suggests that the development of a strong sense of coherence might depend on processes linked to planning, establishment and maintenance, as well as perceived quality of resources (Bull et al., 2013, Maass et al., 2014). Thus, the city setting, with it's inherent resources and processes, provides inhabitants with a set of experiences that potentially affect SOC. Significant experiences, characterised by comprehensibility, manageability and meaningfulness, can contribute to the internalisation of resources and strengthen the SOC directly (Maass et al., 2017). Moreover, cities also offer specialised resources and can thereby also contribute to promoting health (Maass, 2018).

Research on Interventions

While a growing body of evidence links various characteristics of cities to positive health outcomes, planning, implementing and evaluating interventions in this area is challenging. As cities are supersettings with many interrelated factors, interventions might work in different ways than expected. A number of evaluations of HiAP, the Healthy City Network and related projects nevertheless give insight for integrating a positive health approach into city planning and administration (Ollila et al., 2013). Sustainable implementation of HiAP is dependent on strong leadership and advocacy, and political will to implement these strategies on a local as well as on a higher level of organisation. Yet, overdependence on local or individual knowledge of health determinants could lead to fragmented efforts and assessments, and limited understanding of the broader environmental and health impacts of particular projects (Dora et al., 2013).

Development and increased use of strategic environmental and health impact assessments on a variety of decisions and policies could be described as one important step towards implementing a HiAP approach (Winkler et al., 2013). Moreover, successful policy implementation was dependent on public support. Including democratic processes in decision-making could increase sustainability and long-term effects, and simultaneously ensure legitimacy (Marmot & Allen, 2013).

Evaluations of the Healthy City Network

Evaluations of the Healthy City Project across countries have used a variety of measurements and indicators, mainly reflecting the different starting points of cities in high- versus middle- and low-income countries. Whereas cities in low-income countries could still struggle with providing basic infrastructures like adequate waste disposal and access to clean water, were cities in richer countries able to focus on building networks and establishing intersectoral collaborations (Harpham et al., 2001). Overall, evaluations reveal that success is highly dependent on political and material support for the ideas and principles of the Healthy City (Donchin et al., 2006). Aronson et al. (2007) found that conflicting views regarding the importance of intervention on social and living conditions, versus intervention on individuals' lifestyle, were reduced through implementing a healthy cities approach. In contrast, Boonekamp et al. (1999) found that health programmes developed in the wake of the Healthy City Project still focused on personal and individual changes, rather than structural issues. Since then, Kegler et al. (2009) claimed that the Healthy City Project helped develop a broad-based coalition of residents and community sectors and facilitated community participation. In their evaluation of the project in developing countries, Harpham et al. (2001) found apparent differences as to the degree to which awareness could be raised, with two cities adopting a clear settings approach. They also found that the projects mobilised considerable resources and improved intersectoral collaboration.

The role of individual project ambassadors and coordinators and their capacity to facilitate engagement were examined in several evaluations (e.g. Donchin et al., 2006; Harpham et al., 2001). One of the major challenges identified was a lack of resources following the Project, as well as the need to develop overarching evaluation systems and theories to integrate knowledge and develop interventions based on evidence (Rychetnik et al., 2012, Pluemer et al., 2010). Another major challenge was to establish collaborations between different sectors that could last over time (Harpham et al., 2001; Pluemer et al., 2010). According to Rönkkö (2014), such multisectoral collaboration does often face challenges with communication and the establishment of shared understandings and goals, a lack of structures to sup-

port collaboration, and economic funding. However, the pressing need to establish such cooperation can be illustrated by describing some of the features and processes which are necessary to achieve high walkability.

Walkability: An Example of the Need for Cross-Sector Collaboration Over Time

Highly walkable city districts are characterised by high street connectivity, high density, traffic safety and varied land-use mix (Wilson et al., 2011, Cerini et al., 2006, Saelens et al., 2003). Factors that increase safety in terms of both traffic and crime, such as adequate street lights, broad and connected sidewalks and matters of overviewing the scenery, can be important determinants of walkability especially for seniors (Shimura et al., 2012, Wilson et al., 2011, Cerini et al., 2006, Li et al., 2005). Moreover, as most walks are made to non-home locations, a variety of destinations seem to facilitate walking. Access to recreational facilities, restaurants and bars, grocery stores and cultural sites within 1000 meters can create a "neighbourhood of opportunity" (Millward et al., 2013).

Among seniors, destinations that facilitate social interaction—restaurants, churches, etc.—and provide opportunities for incidental social contact were the strongest predictors of walking (Nathan et al., 2012). As orientation skills can decrease with age, the distinctiveness of places becomes crucial: landmarks and distinctive buildings seemed to be more important for orientation than signage (Philips et al., 2012). The urban living environment can also be used directly to facilitate engagement and physical activity in the residential context. For example, Ferney et al. (2009) found that giving detailed information about the neighbourhood and the local context increased walking more than did information on the benefits of walking, and the effect of the intervention lasted longer (Ferney et al., 2009). To achieve high walkability, it is not only crucial to include town planners and health workers, but also to incorporate thoughts about health and health promotion into regulation plans, stimulate cultural and commercial activity, and ensure good maintenance.

Procedural Environmental Justice and Inclusive Planning at the Local Level

Projects that include citizens in the planning and creation of areas and resources often find that the created places are used more frequently, and generate higher levels of satisfaction among their users, compared to top-down projects. This is consistent with the principle that projects and decisions gain legitimacy by applying democratic processes in their planning and implementation (Marmot & Allen, 2013). Participation in planning processes seems to improve well-being, increase social capital, expand social networks and promote empowerment for the involved individuals and communities (Semenza, 2003; Semenza et al., 2006; Semenza & March, 2009; Twiss et al., 2003).

Despite being resource-intensive, isolated programmes and interventions have little impact over time. What impact they have seems to be dependent on their ability to involve community partners and stakeholders and facilitate engagement among inhabitants, and offers possibilities for learning and skill-building (Claus et al., 2012; Twiss et al., 2003). Interventions highlight the importance of processes through which resources are developed. Power distributions on a larger scale influence procedural environmental justice: people with more resources usually have better access to the planning processes, as well as important societal information channels such as media. On the other hand, research suggests that participation in decision processes and active engagement with the context or resources might facilitate SOC-strengthening experiences (Maass et al., 2017). Developing local policies and procedures that include various groups in the decision-making processes is one important aspect of developing and implementing sustainable healthy policies (Marmot & Allen, 2013).

Taken together, evaluations of interventions in line with the Healthy City Network's principles highlight the importance of health-promoting processes on a broad level, rather than focusing on singular resources (Lindström, 2018, Angotti, 2013, Barton & Grant, 2011, Boonekamp et al., 1999):

- City governments should work with a wide range of stakeholders to build a political alliance for urban health.
- Attention to health inequalities within urban areas should be a key focus when planning the urban environment.
- This highlights the necessity of community representation in policymaking and planning.
- Action needs to be taken to create and maintain the urban advantage in health outcomes through changes to the urban environment. This provides a new focus on urban planning policies.
- Policymakers at national and urban levels would benefit from undertaking a complexity analysis to understand the many overlapping relations that affect urban health outcomes, rather than focus on isolated aspects and resources.
- Policymakers should be alert to the unintended consequences of their policies.
- Progress towards effective action on urban health will be best achieved through local experimentation on a range of projects. Such efforts should include practitioners and communities in active dialogue and mutual learning.
- A focus on developing health-promoting and empowering processes for the creation and maintenance of public

spaces emerges as a beneficial approach to the creation of healthy cities.

Discussion

In line with salutogenic thinking, a growing body of research is looking at how the design and maintenance of cities affect the positive side of health and well-being. Moreover, focus on the upstream indicators (planning processes, HiAP, looking at "the whole gradient" rather than focusing only on deprived groups/places) reflects a salutogenic way of focusing on improvement of the general conditions for active, healthy living. Health is experienced as a dynamic interplay between personal variables and contextual factors. Additionally, cities have to be understood as organic systems, where each part affects every other part. All this is reflected in the challenges faced by the Healthy City Network, particularly in the difficulties of developing universal strategies and methods to implement and evaluate the goals of the Network.

On a more specific level, a few studies have linked individual sense of coherence to the presence and quality of resources, as well as the degree of involvement in planning settings and implementing changes. These factors indicate that the city provides its inhabitants with a set of experiences that affect individual SOC. Thus, research suggests interactions between the perception and use of environmental resources, sense of coherence and health outcomes. The health-promoting and empowering effects of resources seem to be dependent on quality as well as matters of participatory planning and implementation. This highlights the importance of public policy, from a global to a local level: "Policy frameworks are used to construct the coherence needed to form healthy societies" (Lindström and Eriksson, 2011). Additionally, resources can be found at different levels of experience—from a particular level, such as street lights and sidewalks, to more complex and abstract levels, such as a sense of place.

Implications for Salutogenesis Practice

The complexity of the city system calls for a focus on inter- and cross-sectorial collaboration. Who should be involved in the development, design and maintenance of facilities? The example of walkability highlights the interplay between various factors, involving a variety of agents. The health-promoting effect of walkable ways, for example, might be sabotaged by inadequate maintenance of lights and renovation, changes in the number and quality of destinations (such as closing shops in the city centre), social climate or decisions made at higher levels, such as land-use regulations (Rychetnik et al., 2012). Overcoming the barriers between sectors and developing inclusive processes across sectors highlight the importance of including health considerations in all policies (Olilla et al., 2013; Ståhl et al., 2006).

Moreover, the importance of these processes calls for a focus on implementation: How can planning be put to action? This also marks the entering of phase VII in the Healthy City Network, which focuses on the implementation of the Copenhagen Consensus of Mayors including designing urban places to improve health, promote greater participation and improve community prosperity (WHO, 2019). Here, coherence is mentioned as crucial during collaboration. In extension, one can wonder if the creation of coherence throughout the supersetting, likewise, might be a relevant goal for health-promoting efforts in a city.

Furthermore, for health promotion in the city, it might prove beneficial to aim at strengthening the sense of coherence and improving conditions for good health, instead of focusing on health-promoting behaviour. To gather more knowledge and develop approaches to enhance comprehensibility, manageability and meaningfulness through a settings approach in the city might prove a beneficial strategy for health-promoting practice. Focusing on improving environmental and personal conditions for health might also contribute to balancing inequalities in health by allowing people to make better use of environmental resources.

Implications for Salutogenesis Research

The majority of research in this field focuses on the planning side, while less is known about the process of implementation, and to what degree healthy city interventions really improve health outcomes. Consequently, researchers have called for developing tools, methods and instruments for implementation and evaluation of the impacts of healthy urban planning.

Using salutogenesis as a guiding theory to describe how health can be promoted in the city context turns the focus towards an internalisation process: how does an environmental resource become a resistance resource? More knowledge is needed to learn more about internalisation and how it can be facilitated through the living environment. Likewise, the question of when and how an urban feature can become a resource in a local setting seems to be influenced by the degree of citizen involvement in the planning, design and administration of the feature. Is it possible that being involved in these processes is beneficial for internalisation, thereby enhancing health? A closer look at the concept of generalised resistance resources—what characterises them, what distinguishes them from other concepts and how they are put to use—might be a beneficial approach for exploring the internalisation process and how environmental issues influence it.

Can we define conditions for and qualities within resources that enhance their "internalisability"? The Healthy City setting represents a complex setting and includes people throughout their life courses. Thus, it might offer opportunities for learning more about the development of the sense of coherence and its impact on health through different stages of life.

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The Restorative Environment and Salutogenesis: Complementary Concepts Revisited

35

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Introduction

People deplete adaptive resources in facing the demands of everyday life, and environments differ in the support they afford for renewal of depleted resources. Environments that promote the renewal of adaptive resources, called restorative environments, have attracted attention in diverse disciplines. Both theoretically and practically, work with restorative environments can complement work guided by a stress perspective on adaptation that focuses on demands from the environment and ways of minimising and mitigating them. Work concerning restorative environments thus shares with salutogenesis studies a positive perspective on circumstances that promote health, effective action and well-being.

The two fields also have common roots in the study of stress, and they have emerged and taken form during roughly the same period from the 1970s on. Despite their similarities in perspective and origin, however, the two fields appear to have developed largely in parallel, without systematic exchange. Many researchers interested in restorative environments do refer to salutogenesis in a broad sense and have some familiarity with the literature on salutogenesis. However, those who study salutogenesis in the tradition of Antonovsky would find that little research on restorative environments has empirically addressed theoretical claims concerning, for example, the sense of coherence as a generalised resistance resource. Our reading of the literature on salutogenesis suggests to us that this neglect is mutual.

In this chapter, we consider how research on restorative environments can augment research on salutogenesis by calling attention to the dynamics of depletion and renewal of resources needed for the maintenance and promotion of health and well-being, and by showing how the sociophysical environment comes into play in people's ongoing efforts to manage diverse resources. We also consider how research on salutogenesis can augment research on restorative environments by encouraging a broader view of the kinds of resources that can be depleted and the different levels on which they are organised and become available. In this chapter, we thus indicate areas for more systematic, reciprocal exchange between the fields.

In the first of the following sections, we outline the restoration perspective and define key concepts and contexts of research on restorative environments. In the next section, we go on to overview theoretical and empirical research on restorative environments. In the subsequent section, we discuss implications of research on restorative environments for further research and for interventions that bridge the concerns of the two fields. In the final section, we consider some challenges for the future, covering possible reasons why exchange between the fields has been limited and reasons why both fields would benefit from engaging more systematically. Throughout, we provide points of entry into the literature for researchers and practitioners in both fields.

Key Concepts

In this section, we discuss the restoration perspective and four key concepts: resources, the antecedent condition of resource depletion, the restorative environment and constrained restoration. Throughout our discussion, we consider similarities and dissimilarities in thinking about salutogenesis and restorative environments.

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Environmental psychologists have long understood that the study of restorative environments provides a needed complement to inquiry into stress and coping (Saegert, 1976; Saegert & Winkel, 1990). More recently, this complementarity has been framed in terms of different perspectives on adaptation to changing environmental circumstances (Hartig, 2001, 2008; Hartig et al., 2008). Each of these perspectives is defined in terms of its basic theoretical and practical premises, summarised in Table 35.1.

The contrast between the stress and coping perspectives resembles the contrast between the pathogenic and salutogenic perspectives outlined by Antonovsky (1979). The impact of stress on health has from the start been a major concern of salutogenesis research. While stress has more traditionally been viewed as a pathogenic factor that engenders susceptibility to illness and ill-being and that should therefore be eliminated or avoided, the salutogenic perspective accepts that stressful demands are omnipresent and that stress is unavoidable and to some degree even desirable in any normal life (Antonovsky, 1979). For research on salutogenesis, the central questions have thus become: How can people stay healthy despite experiencing even extremely stressful circumstances? And what causes health (as opposed to what causes disease)?

For its part, the restoration perspective complements the stress and coping perspectives—and the pathogenic and salutogenic perspectives—by noting that even though a person may have ample protection from environmental demands, as well as ample resources available for use, that person will still need to restore adaptive resources periodically. A person unavoidably depletes some resources while pursuing goals and otherwise going through the activities of daily life, and this may make it difficult to proceed even though other resources may remain available. It is, therefore, necessary to restore depleted resources to continue with mundane activities and to maintain adaptation to the environment.

Table 35.1 Perspectives on human adaptation to the environment

	Stress	Coping	Restoration
	Perspective	Perspective	Perspective
Theoretical premise	Heavy demands can undermine adaptation	Readily available resources support adaptation	Adaptation requires periodic restoration
Practical premise	Interventions can eliminate or mitigate demands	Interventions can enhance the availability of resources	Interventions can enhance opportunities for restoration
Relation to salutogenic perspective	Contrast: comparable to the pathogenic perspective	Congruent: subsumes the salutogenic perspective	Complement: calls attention to issues of resource depletion and renewal

Resources

Our outline of perspectives reveals a common concern for adaptive resources, just as it indicates that the study of restorative environments differs from salutogenesis studies in its emphasis on resource depletion, renewal, and, by implication, resource management. Consider the differences between the resources of interest. Salutogenesis research takes interest primarily in individual or societal resources that support people in maintaining or improving their health and well-being despite the presence of stressors. In salutogenesis research, two key health resource concepts have been defined: generalised resistance resources and the sense of coherence.

Generalised resistance resources can be understood as biological, material and psycho-social factors that help people perceive their lives as consistent, structured and understandable or meaningful (Antonovsky, 1987). The sense of coherence is a "global orientation that expresses the extent to which one has a pervasive, enduring though dynamic feeling of confidence that one's internal and external environments are predictable and that there is a high probability that things will work out as well as can reasonably be expected" (Antonovsky, 1979, p. 123). A strong sense of coherence is thought to enable people to manage their lives, even when unpredictable events happen, as with a major illness or the loss of a job. Of particular note, salutogenesis research has emphasised the stability of sense of coherence across situations, with the relative strength of the sense of coherence consistently influencing a person's susceptibility to stress.

In contrast, restorative environments research takes an interest in resources that can vary greatly in their availability over time, including cognitive capabilities such as directing attention, physical capabilities such as mobilising the body for action and social capabilities such as the ability to call on a friend for help. Concomitantly, it also takes an interest in the circumstances that cause the availability of resources to vary across everyday situations, particularly the types of person-environment encounters that deplete resources and those that help people recover adaptive capabilities. Given recognition of the mundane and often predictable depletion of resources, as well as how people regularly use environments for restoration, research in the field also takes an interest in the deliberate management of resources and the acquisition of skills in managing resources (Kaplan, 2001; Lymeus, 2019).

The difference between the two fields in the treatment of resources is significant. The availability of resources referred to in salutogenesis research might show level shifts due to events such as losing one's job or making new friends. Still, changes in resources over a day or week are not the main concern in salutogenesis research (Antonovsky, 1979).

Rather, Antonovsky assigned little weight to minor fluctuations or momentary deviations from a more global and general sense of coherence, thereby discounting the importance of the kind of changes in resource levels that are of concern in restorative environments research. Research on restorative environments, on the other hand, assumes that these resource dynamics can influence a person's functioning from day to day and accumulate to substantially affect health and well-being in the longer term. These resource dynamics can also play a role in the availability of generalised resistance resources as discussed from a salutogenic perspective. For example, a person's sense of coherence may depend on the adequacy of regular restoration of other resources; a seemingly stable low level of sense of coherence may reflect circumstances of persistent inadequacy of more basic resources needed to meet recurrent adaptive demands.

Antecedent Condition for Restoration

We have indicated that research on restorative environments assumes that people deplete adaptive resources as they pursue goals and otherwise try to meet the requirements of everyday life. This assumption is logically necessary, as the potential for restoration only exists if some resource has become depleted. A task for research is then to describe how the resource becomes depleted and the consequences of its depletion. Conceivably, this task can be undertaken with any psychosocial resource, including sense of coherence (cf. Hartig, 2004).

Also, as indicated earlier, adaptive resources take different forms. It follows that the antecedent conditions from which people can restore can differ substantially in character, as can the circumstances needed for the renewal of the given resource. Along with the specification of the antecedent condition, the description of the process of restoration is a basic concern of any theory about restorative environments (Hartig, 2004). To date, given the discounting of the dynamic aspects of sense of coherence, theory has not systematically addressed the circumstances under which it becomes transiently depleted or environmental supports for its recovery. When such a theory is developed, it will presumably have features in common with those theories that have been formulated to address the restoration of other resources. We will discuss those theories in the next section. In this section, we consider the concept of restorative environment in general terms.

The Restorative Environment

Regardless of which resource has become depleted, a precondition for its restoration is that the sociophysical environment will support that process. Environments can support restoration in two general ways. First, a relative absence of perceived social and physical demands (e.g. crowding, noise, reminders of paid work or other obligations) in an environment may permit restoration. Second, certain qualities of the environment can promote restoration.

Defined in a positive sense, then, restorative environments do not only permit restoration but also promote restoration, enabling faster, more complete recovery of depleted resources than environments that are relatively free of demands but which lack positive features. Restorative environments can accordingly be defined as environments that both permit and promote restoration (Hartig, 2004). Given that sense of coherence and other generalised resistance resources of interest from a salutogenic perspective are subject to the kinds of resource dynamics of concern in the study of restorative environments, one could ask just what environmental conditions are needed to support the renewal of those resources; that is, what depleting conditions should be absent, and what restoration-promoting conditions should be present?

Constrained Restoration

In attending to environmental conditions that promote versus only permit restoration, research on restorative environments has enabled a theoretical distinction between environmental conditions that deplete resources and those that disallow or slow restoration (Collado et al., 2016; Hartig, Catalano, & Ong, 2007; Hartig, Kylin, & Johansson, 2007; von Lindern, 2015, 2017; von Lindern et al., 2013). The distinction becomes particularly meaningful when considering the causes of chronic stress. Stress can become chronic when stressor exposures persist, when one is unable to acquire new skills or resources to better cope with those stressors, when one cannot manage to apply the resources at disposal more efficiently, and when one fails to adequately restore needed resources that have been depleted. The concept of constrained restoration recognises that the failure to adequately restore may occur for reasons other than the direct effect of stressor exposures. A person may not be able to restore depleted resources because of prevailing environmental conditions that overlap little with the stressor exposures that deplete resources and which are not themselves perceived as direct sources of stressful demands.

For example, in the initial work on this concept, Hartig, Catalano, and Ong (2007) treated cool summer weather as an environmental condition that people could easily avoid by staying indoors, but which would in turn limit access to outdoor environments of relatively high restorative quality. Looking at monthly data over an 8-year period, they found that dispensation of antidepressants to the Swedish population was higher during relatively cool Julys compared

to warmer Julys, the period when many workers take the greater part of their annual vacation (see also Hartig & Catalano, 2013).

Thus, environmental characteristics that constrain restoration need not impose substantial demands on a person's resources, yet they can contribute to chronic stress by impairing the restoration of resources that were depleted earlier. Given that the dynamics of resource depletion are relevant for a discussion of generalised resistance resources as considered from a salutogenic perspective, the possibility of constrained restoration also becomes relevant for salutogenesis research.

Key Cultural, Practice and Research Contexts

One broad objective for restorative environments research is to inform environmental strategies for supporting restoration. Such strategies may be embedded within a specific therapeutic or rehabilitative intervention, but they are not limited to contexts of therapy or rehabilitation. By focusing on ordinary forms of depletion and renewal of adaptive resources, restorative environments research takes interest in the full range of environments in which people commonly face demands and find opportunities for restoration. These environments incorporate social and cultural characteristics as well as physical ones, and they ordinarily involve the performance of particular activities. By way of illustration here, in the following, we discuss several broad environmental categories that have received substantial attention to date: natural and urban environments, residential environments and healthcare environments.

Natural and Urban Environments

Embedded as they are within urbanised societies, restorative environment researchers often work with a pragmatic and coarse distinction between urban and natural environments. On the one hand, they are concerned about the harmful consequences of stressful conditions in urban environments in which so many people spend some of their time. On the other hand, they are concerned about the loss to ongoing urbanisation of natural environments that support restoration. Although the restorative values of seemingly untouched wilderness have long been acknowledged in the literature (Knopf, 1987), the natural environments used in studies as relatively restorative comparison conditions are rarely completely natural, in the sense of being untouched by human activity.

Rather, putting aside a strictly objective definition, researchers and practitioners have focused on the restorative value of environments perceived as relatively natural and on opportunities for contact with nature, wherever they might occur, from urban parks to indoor plants (Bringslinmark et al., 2009). It can thus be sufficient that vegetation or some other representation of nature comes into a person's subjective awareness.

Reflecting these definitional issues, researchers often use terms such as "green space," "open space," or simply "nature" to identify the environmental construct of interest. The terminological choices may themselves reflect the background of the given researchers or practitioners, who come from diverse academic and professional disciplines, such as environmental psychology, human geography, interior design, landscape architecture and occupational therapy.

Recent years have seen a reaction against the notion that nature should always be regarded as the more restorative alternative to an urban environment. Some researchers have noted that the environments used in studies—often dominated by streets and sidewalks with busy pedestrian and vehicular traffic—do not well represent the urban environment (Karmanov & Hamel, 2008), and that many environments in the urban context, such as cafés, are frequently sought out and enjoyed for restoration despite an absence of natural content (Staats et al., 2010).

Theories in the area, reviewed later, do offer explanations for why natural environments might more effectively support restoration than other environments, but they do not deny the possibility of restorative experiences in urban surroundings. Both relatively natural and relatively urban environments may support restorative processes such as psychophysiological stress recovery or attention restoration (details given later) to the degree that they enable experiences with particular components. Some types of environments are more likely to support such experiences, and these environments may be defined as generalised resistance resources from a salutogenic perspective and as such contribute to a sense of coherence.

Residential Environments

Another common focus for restorative environments research and practice involves the everyday residential context in which people spend so much of their time. The concern for where people live often overlaps with the concern for the relative restorative qualities of natural versus urban environments, as with studies of self-reported health or different causes of mortality in relationship to green or blue (water-related) space near the residence (e.g. Astell-Burt et al., 2014; De Vries et al., 2003; Mitchell & Popham, 2008; White et al., 2013). Such studies commonly assume that nearby green or blue space can over time become positively associated with indices of health through pathways that involve the cumulative effects of repeated episodes of adequate restora-

tion in the residential environment (Astell-Burt et al., 2014; Hartig et al., 2014). This may show, for example, in prospectively reduced risk of psychiatric disorders (Engemann et al., 2019) and all-cause mortality (Rojas-Rueda et al., 2019).

Not all of the research concerned with restoration in the residential context is, however, concerned with contact with nature in and around the home. Some research has, for example, considered how architectural characteristics of densely built urban residential areas can boost restorative quality (Lindal & Hartig, 2013; Weber & Trojan, 2018). Beyond such specific issues, research in the area recognises that people associate their home with personally important activities and find in the residential context many possibilities for satisfying basic psychological and social needs (e.g. Easthope, 2004; Hartig et al., 2003a; Lawrence, 1987; Stokols, 1976).

Many people withdraw into the home after a long day of work or studies, detach from the outside world and engage with people and activities in ways that promote restoration not only of physical and cognitive resources but also of social resources, including resources of potential interest to students of salutogenesis. Studies in different disciplines looking over many different cultural contexts indicate that residence or "home" is commonly associated with feelings of security, control, permanence and continuity, relatedness and refuge from the outside world (e.g. Després, 1991; Somerville, 1997), all of which in one way or another can figure in restorative experiences that might contribute to a strong and stable sense of coherence.

In line with this idea, research on people's self-identified favourite places has offered a window into the use of the residential environment for restoration as subordinate to an overarching process of self-regulation that serves multiple functions, including the maintenance of a coherent representation of reality and a favourable level of self-esteem (Korpela et al., 2001; Korpela et al., 2010; Korpela & Hartig, 1996). Other recent research acknowledges that the restorative qualities of residential environments may become constrained by environmental conditions such as traffic-related exposures (e.g. von Lindern et al., 2016) and by efforts to cope with work demands by bringing paid work into the home (Ahrentzen, 1989; Hartig, Kylin, & Johansson, 2007).

Healthcare Environments

Like the foregoing environmental categories, the final category we will consider here includes diverse contexts constituted of varying combinations of people, activities and physical environmental features. Also, just as the residential and natural categories overlap with each other, so does the healthcare category overlap with each of them. Guided by theories about restorative environments, much of the research in this area has considered how contact with nature can support caregiving in a range of institutional settings, some of which are residential in character.

There are many examples: screens showing nature imagery in waiting rooms for people about to give blood (Ulrich et al., 2003), virtual reality representations of nature used during dental procedures (Tanja-Dijkstra et al., 2014), large landscape scenes presented on curtains around beds where patients laid while undergoing an uncomfortable bronchoscopy procedure (Diette et al., 2003), window views of trees from a hospital room in which patients spent several days recovering from surgery (Ulrich, 1984), window views over the surrounding landscape from the rooms of patients going through rehabilitation programmes several weeks in length (Raanaas et al., 2012), and outdoor garden spaces at assisted living facilities in which elderly people were receiving daily care during the remainder of their lives (Dahlkvist et al., 2016; Ottosson & Grahn, 2005).

Although the contexts vary widely, and with them the specific issues addressed in the provision of care, a common concern is to help people better cope with pain and stress induced by illness, treatment and the environment in which treatment takes place. The literature tends to affirm the value of contact with nature in these environments, providing positive distractions that help to buffer people against anxiety, pain and stress and promoting more rapid recovery from the stress of treatment they nonetheless experience, whether acutely or over extended periods.

Moreover, work in this area recognises that benefits of restorative amenities in healthcare environments can accrue not only to those who receive care, but also to those who provide it and to the family members and friends who are there to support care recipients (Hartig & Cooper Marcus, 2006). From a salutogenic perspective, such outcomes can help people maintain their sense of coherence by enhancing the manageability of care, and perhaps, as well, its comprehensibility and the meaning it holds.

Theoretical and Empirical Research

In the foregoing section, we introduced the restoration perspective and defined key concepts and contexts for research and practice concerned with restorative environments. In this section, we give an overview of theories about restorative environments and additional empirical research. Our coverage here of empirical findings from experimental, epidemiological and clinical studies is only illustrative; the research area has expanded rapidly in recent years, and an exhaustive treatment of the many developments is beyond the scope of this chapter. The overview nonetheless enables us to note points of relevance for the study of salutogenesis.

Basic Theory and Research on Restorative Processes

The environmental qualities that permit and promote restoration are the subject of two prominent theories in environmental psychology, namely, psychophysiological stress recovery theory (Ulrich, 1983; Ulrich et al., 1991) and attention restoration theory (Kaplan, 1995; Kaplan & Kaplan, 1989). These theories grew out of concern for the psychological values of natural environments, and they have guided much of the research in the area so far, which has focused predominantly on the relative restorative value of natural environments. In specifying an antecedent condition from which a person restores, both refer to work done with individual resources under the general environmental stress rubric (Hartig, 2004). In the following, we will outline these two theories, as well as three more recent theoretical proposals that address knowledge gaps with respect to the resources under consideration, restorative processes and the conditions in sociophysical environments that support those processes.

Psychophysiological Stress Recovery Theory

The psychophysiological stress recovery theory (Ulrich, 1983; Ulrich et al., 1991) focuses on the affective response to particular stimulus patterns and contents in the visual stimulus array. The theory assumes that some visual characteristics support stress reduction and that this has an innate basis. Stress is one manifestation of the operation of an evolved affective system that directs approach and avoidance behaviour.

For example, an acute stress response may be triggered by visual stimuli that are perceived as threatening, such as a looming dark shape. That affective response involves the physiological activation necessary to execute appropriate behaviour, such as fighting or fleeing. Pleasant emotions are considered as another part of the same evolved system: an affective response to visual stimuli that signal an opportunity for relaxation and recovery of depleted adaptive resources. The process of stress recovery is thought to be initiated by positive affective responses that derive from perceiving a scene as mildly to moderately interesting, pleasant and calm.

Restoration will be facilitated if the visual stimulus array has moderate depth, moderate complexity, provides a focal point and contains particular environmental contents. It is believed that the characteristics typical of savannah landscapes (e.g. with regard to the shape and distribution of trees and grassy uniform ground), as well as the presence of water, are especially likely to evoke restorative responses, because these landscapes resemble the primary environments of human evolution, when the given characteristics signalled possibilities relevant for survival.

Following a stressful encounter with circumstances that are perceived as threatening to well-being, a person viewing such a pleasant scene will feel positive affects replacing the negative ones, affirming that well-being is being fostered instead of threatened. The person will concomitantly experience decline in physiological activation to a more moderate level. An innate tendency to respond this way in appropriate situations would hold survival value by enabling faster recovery from acute stress, thus providing protection against chronic stress and ensuring the ability to adapt to changing circumstances in the long term.

Empirical support for this theory has been discerned in the results of experiments in laboratory and field settings by Ulrich (1979), Ulrich et al. (1991) and others (e.g. Hartig et al., 2003b; Parsons et al., 1998). Importantly, very similar theoretical notions that seem to have been developed without awareness of Ulrich's work have also received experimental affirmation. Specifically, Fredrickson and Levenson (1998) tested an "undoing hypothesis" that invokes essentially the same affective mechanism for stress recovery described in 1983 by Ulrich; positive affect evoked by some environmental stimuli blocks negative affect and thoughts and enables more rapid, complete psychophysiological stress recovery. Such studies speak to the plausibility of the theory. Looking across multiple experiments, one meta-analysis has affirmed the beneficial effects of contact with nature in terms of reduced feelings of anger, anxiety, fatigue and sadness; however, they found too few suitable experiments to reliably affirm physiological benefits (Bowler et al., 2010).

Attention Restoration Theory

Another prominent theory concerned with restorative environments is attention restoration theory (ART) (Kaplan, 1995; Kaplan & Kaplan, 1989). It construes effective functioning as fundamentally reliant on the cognitive ability to direct attention, that is, to wilfully focus on what is necessary or relevant for fulfilling a specific task (e.g. writing a report) and so to inhibit processing of irrelevant stimuli (e.g. a conversation in the hallway) and inappropriate behaviours (e.g. angry outbursts). The capacity to direct attention is limited in its momentary span, so that high simultaneous demands limit the ability to handle additional demands (Choi et al., 2014; Lavie, 2010).

It is also limited in its temporal scope, so that sustained efforts to direct attention can deplete the resource (Hockey, 1997; Kurzban et al., 2013; Sarter et al., 2006), which brings with it gradually impaired performance and, eventually, fatigue of the self-regulatory capability (e.g. Cohen, 1980; Kaplan & Berman, 2010). ART assumes that many commonplace tasks and other everyday demands tax the directed attention resource. It follows that having sufficient

opportunities to restore the capability to direct attention is important for effective functioning, health and well-being.

In contrast to environments that require individuals to direct their attention to function effectively, restorative environments support an effortless mode of operation (Kaplan & Kaplan, 1989). This means that individuals can attend and act in accordance with their own inclinations by simply letting their attention go to what they find interesting. According to ART, an environment is restorative if it is rich in fascinating features, is perceived as coherently ordered and of substantial scope and is compatible with what the individual wants to do.

Additionally, a restorative environment permits a person to have a sense of psychologically being away, not having to engage with routine mental contents, including those associated with everyday tasks and demands. Taken together, these characteristics allow people to become positively engaged with pleasantly interesting experiences in the moment, with few constraints and interruptions. This, in turn, enables rest of the neurocognitive foundations of directed attention. Regular restoration can thus protect against fatigue and self-regulatory failures that could otherwise have undesirable consequences and it can mitigate stress by bolstering the resources needed to deal with demanding or threatening situations. Kaplan and Kaplan (1989) assert that natural environments, more than most environments, provide such restorative opportunities (see also Kaplan, 1995; Kaplan et al., 1998).

Empirical support for this theory has been discerned in the results of true and quasi-experiments in laboratory and field settings, some of which have concerned single, brief occasions spent in natural versus urban environments (e.g. Berman et al., 2008; Hartig et al., 2003b; Hartig et al., 1991) or different kinds of natural environments (e.g. Gatersleben & Andrews, 2013; Ratcliffe et al., 2013) and others of which assumed repeated contacts with nature in a residential or therapeutic context (e.g. Kuo & Sullivan, 2001; Cimprich, 1993; for a selective review, see Kaplan & Berman, 2010). In their meta-analysis, Bowler et al. (2010) could not reliably affirm attentional benefits of nature experiences on the basis of the results available at that stage in the development of the literature. Subsequent reviews of the experimental literature have described cognitive benefits of nature experience, though not for all measures taken to represent directed attention capacity, thereby raising more specific questions about the character of the cognitive processes at work (Ohly et al., 2016; Stevenson et al., 2018).

Social Aspects of Restorative Experience

The theoretical contributions just reviewed acknowledge the significance of social aspects of the environment in different ways. Much of the emphasis in their discussions of social aspects is, however, negative. Interactions with others are considered as causes of resource depletion, as when high social density imposes demands on attention, or they are considered with regard to a need for restoration, as when a hard-pressed individual too quickly shows irritation or a lack of attentiveness towards others. More recent work in environmental psychology has, however, begun to more deliberately consider how other people can help to advance the process of restoration.

This positive view of how others figure in restorative experience is treated more extensively in work by Staats and colleagues, who have described how others may enable more restorative experiences, as when one person helps another to feel safe when going into a wild forest area, as well as enhance restorative experiences, as when exploring an environment and discovering its particular features together (e.g. Staats et al., 2010, 2016; Staats & Hartig, 2004). The significance of social roles and social circumstances that may positively or negatively impact restorative experiences is also apparent in von Lindern's (2015, 2017) discussion of how restorative environments research can be informed by behaviour setting theory.

Insights from Behaviour Setting Theory

Many studies on the association between access to natural environments and human health assume that a key pathway involves repeated restorative experiences over time (for overviews, see, e.g. Abraham et al., 2010; Hartig et al., 2014; Kabisch et al., 2017). Such findings encourage the perception that, from a salutogenic perspective, natural environments can be regarded as generalised resistance resources. It is too simplistic to assume, however, that adding natural elements to any given environment will necessarily promote restoration, health and well-being. It is important to bear in mind that restorative environments research does not focus on particular environments alone, defined only in some objective sense, but on transactions that join a person and an environment. Whether or not the transaction serves restoration depends not only on the given environment, but also on what the person brings to the exchange with the environment, including experiences and awareness of other environments (cf. Hartig, 1993).

In this regard, the constrained restoration concept is particularly relevant. As illustrated in the study of cold summer weather and dispensation of antidepressants (Hartig, Catalano, & Ong, 2007), mentioned earlier, restorative processes may be constrained not only by directly stressful events but also indirectly by other more subtle aspects of the environment that are not of themselves particularly demanding. In a further application of the constrained restoration concept, von Lindern et al. (2013) found that restoration

reported to have occurred with forest visits during leisure time was constrained for people who had a profession related to forests. Moreover, their results suggest that this constraint of restoration occurred not because of excess familiarity with forests or a lack of interest in them, but rather because forest professionals found it harder to achieve a sense of psychological distance from their work-related demands. Similar findings have been reported by Collado et al. (2016) for children who worked with their parents on a family farm.

Such findings imply that a challenge for measurement is to capture not only the experience of the environment per se, but also the experience of the given environment in relation to other environments. A promising approach in this regard is to consider how the perception of an environment available for restoration differs from the circumstances in which a need for restoration arises. The behaviour setting theory initially proposed by Barker (1978) provides useful insights on how to discriminate the environments involved. Behaviour setting theory integrates psychological, social and physical aspects of the environment in accounting for behaviour. The theory combines these aspects in synomorphic relations with specific behaviours and social roles (Wicker, 1992), with the combination referred to as a "behaviour setting." For example, an open-plan office setting will have a number of chairs that have a synomorphic relationship to the behaviour of sitting in front of a respective desk, and the positioning and furnishing of desk spaces in the office will reflect on the arrangement of work and the status of different workers in the office hierarchy. In the course of a day, people usually move from one behaviour setting to another and in doing so, they move between different social roles and perform different behaviours as they engage with the different functions of the settings. The behaviour setting approach asserts that every setting has specific characteristics that support or even evoke some behaviours while also discouraging or preventing others (Schoggen, 1989; von Lindern, 2017). Different behaviour settings may, however, have common features, involve the same people, support similar behaviours and in other respects be interdependent. The more interdependence there is between two behaviour settings, the harder it becomes to discriminate them (Schoggen, 1989; von Lindern, 2015, 2017).

This account of behaviour settings and their characteristics encourages consideration of restorative environments as settings with particular social and physical properties that support particular behaviours, and it particularly directs attention to the degree to which behaviour settings meant or expected to support restoration are free from interdependencies with settings where stressful demands usually are experienced. When strong interdependencies with demanding settings are experienced while spending time in a setting ordinarily relied on for restoration, the restoration process is likely to be constrained. Common forms of restoration constraining setting interdependency involve the intrusion of work-related circumstances into the settings that people turn to during their leisure time (cf. Hartig, Kylin, & Johansson, 2007; von Lindern, 2017). This approach also implies that when a person interacts with completely different objects, has other cognitions and/or meets people who are primarily not associated with behaviour settings in which demands usually are experienced, then the behaviour setting will help more to support restoration of resources depleted in those other settings.

In an initial test of these notions, von Lindern (2015) found that the more that features of demanding settings overlapped with features of settings available for restoration, the less the participants reported feeling psychologically away and so the poorer their restoration. Further research could demonstrate that perceived setting interdependencies account for a large amount of explained variance in the feeling of being psychologically away, as well as in perceived health and well-being (von Lindern, 2017). The results illustrate how an integration of behaviour setting theory into restorative environments research contributes to a deeper understanding of restorative processes and human-environment transactions.

A Theory of Collective Restoration

All of the work reviewed earlier emphasises the restoration of individual resources. One recent contribution has, however, considered the environmental circumstances that contribute to renewal of shared resources in a collective process (Hartig et al., 2013). With inputs from environmental psychology, time geography and social epidemiology, this theory considers how the social regulation of time affects population health by affecting the ability of different people to converge in desired social constellations in settings that in other ways also promote restoration. It refers to the social resources that people provide to one another as a general determinant of health, and it assumes that the availability of social resources is predicated on relational resources. Constituted of shared experiences, mutual trust, mutual regard and other aspects of the bonds between people, these resources provide a basis for mutually supportive action by the parties to a relationship.

With regard to the antecedent condition, then, the theory assumes that relational resources held among different people can become depleted, and that this can in turn diminish the availability of different forms of social support. Renewal of relational resources and so preservation of the availability of social resources requires that people can enjoy time together free from the demands of paid work and other obligations.

Multiple mechanisms can then work simultaneously; free time can enable people to restore the capacity to provide support to one another, ease restrictions on the provision of support, remove some demands for support, help to maintain relationships that precondition the provision of support and enable the contagion of positive mood, even among people who do not know one another. When more people can take more time off, there is an increase in the number and variety of the social constellations that can form as well as the number and variety of places that support restoration which are within reach during the time available.

In the initial test of this theory, Hartig et al. (2013) focused on vacation as an example of the social regulation of time for restoration. In contrast to the documentation of health benefits for individuals, research has otherwise not considered the extent to which benefits of vacationing spread among individuals, an ecological effect that could show in population health. The test used data for Sweden, a society with generous annual vacation provisions in which workers can take much of their time off during the summer months. With monthly data for more than 12 years, time-series modelling uncovered negative associations between the number of people on vacation and aggregate dispensation of antidepressants to the Swedish population. The test involved a log-transformed dispensation variable; the decline in dispensation associated with each additional vacationing worker became larger as the number of vacationing workers increased.

As another indication that benefits spread among people, Hartig et al. (2013) found that the association held for dispensation to men and women of retirement age as well as to men and women of working age. In line with other work in social epidemiology, including the work in the salutogenic tradition initiated by Antonovsky (1979), the results call for attention to the social conditions that determine the access that individuals have to significant resources, such as social resources, which affect multiple disease outcomes through multiple mechanisms (see also Link & Phelan, 1995; Syme, 1967).

Research on Interventions

The last few decades have seen markedly increased practical and scientific interest in a range of approaches to preventing ill health and promoting personal development emanating from research fields like behavioural medicine, clinical psychology and cognitive neuroscience. Many of these approaches target individuals who experience self-regulatory insufficiencies. It is thought that, through training in relevant skills, these people can enhance their ability to live with the everyday demands that they expect (or are expected) to be able to handle. Such skill-based approaches involve teaching individuals techniques to manage stress symptoms (e.g. relaxation training; cf. Hazlett-Stevens & Bernstein, 2012), or, in keeping with a salutogenic perspective, help them expand their stress management capabilities (e.g. coping strategies training; cf. Taylor & Stanton, 2007) and strengthen their central self-regulatory faculties (e.g. cognitive training; cf. Rabipour & Raz, 2012). Still other approaches, such as mindfulness training, teach widely applicable skills that serve symptom management as well as the enhancement of self-regulatory capacity and other capabilities needed to manage demanding life circumstances (cf. Brown et al., 2007; Tang et al., 2015). However, individual-level training interventions such as mindfulness courses typically require a substantial investment of effort, time and other limited resources in acquiring new skills or enhancing functional capabilities on a neurocognitive level (see e.g. Lutz et al., 2015; Tang & Posner, 2009). Such investment can be prohibitive for already strained individuals (Lymeus et al., 2017).

Approaches that emphasise the value of training people to better cope with stressful demands commonly neglect the ways in which restorative environments can be used to serve similar goals without imposing heavy demands on already strained individuals. In contrast, a variety of approaches informed by restorative environments theory have considered the therapeutic value of natural settings in healthcare contexts, alone or in combination with a therapeutic regimen (see reviews by Cooper Marcus & Barnes, 1999; Dijkstra et al., 2006; Stigsdotter et al., 2011).

Examples include rehabilitation gardens as a setting and treatment complement for people who suffered from stress-related illness (Corazon et al., 2012; Sahlin et al., 2012) and personal gardens in which breast cancer patients engaged in activities within tailored programmes intended to help them better manage the cognitive resources needed to follow their treatment regimens (Cimprich, 1993). A study on a therapeutic horticulture intervention (Gonzalez et al., 2010) found that change in the severity of symptoms of depression during the course of the 12-week programme was mediated by the participants' experiences of fascination and being away, the constructs described in attention restoration theory.

Touch points between restorative environments theory and mindfulness meditation have stimulated work that integrates an environmental intervention with a mindfulness-based approach to attention regulation and stress management (Lymeus, 2019). Kaplan (2001) indicated that meditation skills and practices might enhance connection with restorative environmental features, which has stimulated the development of engagement tasks that could enhance restoration outcomes in nature visits (Duvall, 2011; Pasanen et al., 2018) and research on how mindfulness practice in nature could, in turn, enhance engagement for environmental issues (Geiger et al., 2020; Nisbet et al., 2019). Kaplan (2001) also suggested

that meditation practice in a natural environment might facilitate and deepen the meditative state, which has stimulated the development of meditation aids using virtual nature stimuli (Choe et al., 2020; Costa et al., 2019) as well as research employing mindfulness training interventions in gardens and other natural settings (for an early review of this developing field, see Djernis et al. (2019).

Extending and updating Kaplan's (2001) work, Lymeus et al. (2019) describe how theoretical connections and overlap between several key processes involved in restorative nature experience and mindfulness can be harnessed in specific meditation instructions and utilised in a training format. The resulting course, called restoration skills training (ReST), is an approach to mindfulness training adapted to draw on and enhance connection with restorative environmental qualities in a garden setting. Lymeus et al. (2018) showed that ReST training for student participants with stress and concentration problems enhanced their ability to draw attentional restorative benefits during class meetings in a garden setting. Lymeus et al. (2019) further showed that restorative experiences (i.e., fascination and being away) during meditation practice supported the strained participants in completing the ReST course and establishing a regular meditation practice compared with conventional mindfulness training indoors, which had poorer compliance.

While environmental interventions have the advantage of benefiting people with low levels of adaptive resources without imposing further demands, restoration outcomes are frequently considered to be transient so that regular visits are needed to maintain functioning and health over time (e.g. White et al., 2019). Furthermore, access to restorative nature experience is limited for many urban people, in terms of time and space as well as quality (Bratman et al., 2019; Cox et al., 2017; Hartig & Kahn, 2016). Individual training approaches have the advantage of producing lasting effects that can be learned and applied in diverse situations. Lymeus et al. (2020; also see Lymeus, 2019) showed that careful integration of the two can retain the advantages and overcome the weaknesses of the two approaches, thus producing generalised benefits for psychological functioning while also incurring minimal additional demands on strained individuals. Bringing skill- and nature-based approaches together could offer additional possibilities for understanding and facilitating mindfulness and restorative states and for understanding the ways in which individual-level and environmental resources more generally could interact to produce salutogenic outcomes.

Discussion of Implications

The theory and research we have presented so far illustrate the complementarity and potential for integration of the salutogenic and restoration perspectives in health promotion. On the one hand, we have shown how research on restorative environments can augment understanding of salutogenesis. We have called attention to the dynamics of the depletion and renewal of resources needed for maintaining and promoting health, and we have explained how sociophysical environments can play a positive role in people's ongoing efforts to manage diverse adaptive resources. On the other hand, we have shown how research on salutogenesis can augment research on restorative environments. The salutogenic perspective opens for a broader view of the kinds of resources that can become depleted and the different levels on which they are organised and become available. In the following two sections, we elaborate on some implications of these observations for salutogenesis research and practice, with a view to advancing the integration of the two research fields.

Implications for Salutogenesis Research

One important implication of our discussion to this point is that the regular restoration of depleted adaptive resources can contribute to a strong and stable sense of coherence. As considered by Antonovsky (1979), a person's stressors and resources will change over time. For example, during transitional phases, as when leaving the parent's home or becoming a parent, some of the stressors that a person faces may become more intense, new stressors may arise, resources that previously were available may no longer be at the person's disposal and other resources may become accessible. Although this account addresses change in the individual's life situation, the emphasis is on transitions between relatively long-lasting life stages. As we have already noted, the significance of daily fluctuations in stressors and resource availability was discounted by Antonovsky.

In contrast, the restoration perspective calls attention to the significance for adaptation over the long term of regular restoration in the short term. In this complementary research tradition, the degree to which people manage to restore their depleted resources on a daily basis allows resources to be understood as more or less stable when considered over weeks, months or years; however, attention to a finer temporal resolution is required, for example, to distinguish between resources that are persistently low because a person never acquired them versus those that are low because they are seldom adequately restored in the face of persistent demands and coping responses that make poor use of other resources that may be available.

Thus, it is reasonable to ask about the possibility of an antecedent condition of low sense of coherence from which a person can be restored. A person may have a persistently weak sense of coherence for quite different reasons, some of which can be framed in terms of deficits over long periods in

more basic, renewable resources on which a sense of coherence may depend.

It follows that a weak sense of coherence may stem from a lack of access to socio-physical environments that support adequate restoration. Therefore, another important implication of our presentation here is that environmental conditions and person-environment transactions can be construed as generalised resistance resources as conceived by Antonovsky (1987), in that they serve the regular restoration that presumably contributes to a strong and stable sense of coherence. A reasonable question then is whether certain kinds of sociophysical environments serve particularly well as generalised resistance resources. As in research on restorative environments more generally, the natural environment may warrant particular attention from salutogenesis researchers in this regard. In addition to serving restoration, nature experiences may also serve a sense of coherence by supporting the acquisition of capabilities that enable people to view circumstances as comprehensible, manageable and meaningful. Related possibilities have received particular attention from scholars of wildland recreation (cf. Brooks & Williams, 2012; Knopf, 1987).

Similarly, as noted earlier, an extensive body of research has described meanings attached to the "home," such as feelings of security, control and refuge from the outside world (e.g. Després, 1991; Somerville, 1997), that can figure in restorative experiences and so in a strong and stable sense of coherence. Also, other sociophysical environments such as work places or educational settings can help people maintain their sense of coherence during difficult times by enhancing manageability, comprehensibility and meaning; those discussions can be approached with a view to their recognition of restorative functions of person-environment transactions.

Appreciation of the relational character of restorative environments can also be used to advance understanding of how they serve as generalised resistance resources. In this regard, future research can attend to the interdependencies between behaviour settings that may serve to constrain restorative processes and so undermine a sense of coherence (cf. von Lindern, 2015, 2017; von Lindern et al., 2013). Further, only little research on restorative environments concerns special populations such as people with autism spectrum disorder (ASD). ASD is considered among the fastest growing developmental disorders (Li et al., 2019), and people with ASD are especially susceptible to sensory stimuli or overload in the social and physical environment. Li et al. (2019) point out that principles for inclusive and integrative designs could benefit from behaviour setting theory insofar as they could be joined and applied to public parks and natural environments, an approach which has the potential to provide a generalised resistance resource for people with ASD or related conditions.

A related issue has to do with the social regulation of time for restoration, which remains an understudied aspect of restorative environments. Work on this topic will require further integration of knowledge of the mechanisms of individual and collective restoration with knowledge of the ways in which social conditions determine people's spatial-temporal access to opportunities for restoration (Hartig et al., 2013).

As it stands, individual-level research has done little to address the implications that one person's restoration holds for the health of other individuals, their families and other collectives to which they belong. In geographically dispersed, 24-h economies, many people find it difficult to regularly spend time together, and this may diminish the relational resources they hold in common as well as their possibilities for providing support to one another (Strazdins et al., 2006). While the use of communication technologies could in some ways improve access to relational resources, it can also be an additional source of stress (e.g. Lee et al., 2016).

Under such circumstances, some people may prioritise the renewal of relational resources and provision of support to others over their personal restoration needs during time available for restoration. Such trade-offs need further study, as do the broader, collective implications of inequalities in the distribution of time and resources for restoration and access to restorative environments (cf. Hartig et al., 2013; Strazdins et al., 2011).

Implications for Salutogenesis Practice

An important practical implication of our discussion to this point is that empowering people to make use of environments for restoration fits with a salutogenic orientation to maintain the generalised resistance resources that enable a strong and stable sense of coherence. Practitioners who work with salutogenesis and those who work in the restorative environments field can consider the distinct yet intertwined roles of dynamic resources and relatively stable ones, respectively, for the health and well-being of individuals and general populations. This multi-level perspective may serve as a more complete theoretical foundation for work to strengthen people's sense of coherence and their health.

Efforts to integrate skill-based and environment-based approaches to restorative experience can also provide a source of inspiration for salutogenic interventions that help individuals develop skills that can serve as widely applicable resistance resources. Some of those skills may involve enhancing restorative experience in sociophysical environments that ordinarily would be perceived as lacking in restorative quality, for example, through the use of meditation techniques (Lymeus, 2008, 2019).

Other skills may target behaviour setting interdependencies and involve the disciplined application of techniques such as turning off a mobile phone, closing down e-mail and removing objects associated with stressful demands from

behaviour settings used for restoration. By applying such techniques, the behaviour setting used for restoration should become a more powerful generalised resistance resource, contributing more to restorative outcomes and thus to a strong and stable sense of coherence.

Results from restorative environments research suggest that salutogenesis research can also frame the protection of natural environments as a positive practical health concern, complementing the traditional pathogenic concerns for preventing the directly harmful effects of pollution and other aspects of environmental degradation (cf. Hartig et al., 2001). A growing body of evidence affirms that members of urbanised societies generally benefit in terms of health and well-being from accessing relatively natural environments. Thus, protecting nature and providing access to potential restorative environments can be understood as ensuring access to generalised resistance resources, which, in turn, promote a stronger sense of coherence.

A final form of practical work to mention here involves approaches to addressing inequalities in the distribution of time for restoration and access to restorative contexts (cf. Phelan et al., 2010; Richards, 1999; Rudd, 2019; Strazdins et al., 2011). Policy interventions, for example, might promote collective benefits at different temporal and social scales. For example, recent initiatives in the United States have sought to bring about national legislation that would enable a large proportion of the population to take vacation at about the same time during the summer months, along the lines of legislation currently in place in many other countries (for background, see Ray et al., 2013).

Challenges for the Future

The restorative environments and salutogenesis fields share some basic ideas and goals, and they complement each other in important respects, theoretically and practically. Both also have their own standing, however, and this entails several challenges. Some of these challenges have already been indicated, as with reconciliation of differences in terminology and foundational literature that reflect on the different disciplinary backgrounds of researchers in the two fields. How resources and resource dynamics should be conceived and weighted appear to us to be particularly significant in this regard.

Other challenges have remained unmentioned thus far. One such challenge is that those working in the two fields may have incompatible practical goals. For example, conserving nature and protecting natural environments are important motives for many working in the restorative environments field, but the protection of nature may disallow activities that could be seen by some as valuable for promoting a sense of coherence, such as the creation of new housing for a growing community. On the whole, however, looking at the integration of the two fields, we see a far greater potential for benefit than for conflict in terms of individual and public health and societal sustainability.

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Part VI

Applying Salutogenesis in Healthcare Settings

Applying Salutogenesis in Healthcare Settings

36

Jürgen M. Pelikan

The Challenge of Integrating Salutogenesis into Health Care

Health care, or more correctly the "disease care system" (Antonovsky, 1996, p. 12), is a very specific and challenging area for applying salutogenesis. And for health or disease care, implementation of salutogenesis is quite a challenge as well.

What is the essence of these challenges of integrating these two health-related fields? The healthcare sector still primarily follows a pathogenic paradigm. It intends to professionally manage illness by trying to cure, what is defined as a disease, or, if this is not possible, at least to offer care for chronic patients and palliative care. But the contribution of health care to public health, or health promotion more specifically, is still marginal. Reorientation of health services, as demanded by the Ottawa Charter (World Health Organization, 1986), has not happened to a remarkable degree yet (De Leeuw, 2009; Wise & Nutbeam, 2007). There still is quite an unrealized potential in health care to be more preventive of disease and more protective and promotive of positive health.

Salutogenesis as defined by Antonovsky has been developed as a paradigm in opposition to this "pathogenic orientation which suffuses all western medical thinking" (Antonovsky, 1996, p. 13). Therefore, in principle, applying salutogenesis to health care means to restrict the leading pathogenic orientation in healthcare practice (research and policy) and complement or change it by a salutogenic orientation in everyday practice and research. This can only partly be established as an add-on of new routines, and partly has to be done as an add-in to ongoing practices, by reorienting core processes of health care.

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As health care and its quality discourse are dominated more and more by the dictum of evidence-based practice, if salutogenesis is to be acceptable in health care, it has to demonstrate its evidence-based character. But salutogenesis, a partly normative concept, also has quite an unrealized potential for being more evidence-based. Antonovsky himself stated, "in short, at the present time, the appeal of the full salutogenic model for those engaged in health promotion cannot be on the grounds of powerfully demonstrated efficacy in producing significant health-related change outcomes" (ibid., 16). The relevant question, therefore, is how far has this changed since Antonovsky wrote this statement?

Salutogenesis—the newer and more focused concept—has been introduced by Antonovsky into health promotion, an older and broader concept, field, and movement. As Antonovsky saw it, "the basic flaw of the field (of health promotion) is that it has no theory." And he proposed "the salutogenic orientation … as providing a direction and focus to this field." But he also believed, "the salutogenic model is useful for all fields of health care. In its very spirit, however, it is particularly appropriate to health promotion" (ibid., 18). Thus, health promotion in health care definitely has the blessings of Antonovsky. Therefore, we have to clarify how the salutogenic orientation or model and its related construct of sense of coherence (SOC) can be integrated into health care, directly or via (re-)orienting health promotion in health care indirectly.

What Does Salutogenesis Specifically Mean for Health Care?

In health care, the salutogenesis paradigm can be used in principle for two purposes: either to guide health promotion interventions in healthcare practice or to (re)orient healthcare research. For this, the salutogenesis paradigm offers specific concepts, assumptions, and instruments. Three quite different conceptual forms can be distinguished: a salutogenic orientation, a salutogenic model, and the construct of

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the SOC and a "methodologically respectable way to operationalize it" (ibid., 13) by an instrument to measure it. These three forms first have to be specified in more detail, to be applied later to the field of health care. For that, health care has to be understood as a complex of a strongly interrelated professional practice, with clinical research and supporting policy. Therefore, applying salutogenesis in health care successfully cannot just be done by introducing salutogenesis in healthcare practice, but must also include salutogenic clinical research, and change in underlying healthcare policy.

The first and most broad form of salutogenesis, a *salutogenic orientation*, is described by three assumptions:

- "That the *human system (as all living systems) is inherently flawed*, subject to unavoidable entropic processes and unavoidable final death" (ibid., 13). Therefore, the necessity of adaptation or coping with accompanying tension that may result in stress is universal and not the exemption.
- "A *continuum model*, which sees each of us, at a given point in time, somewhere along a healthy/dis-ease continuum" (ibid., 14). Therefore, a dichotomization of people into healthy and sick is arbitrary and not adequate.
- The concept of *salutary factors* (or health-promoting factors): "factors which are negentropic, actively promote health, rather than just being low on risk factors" (Antonovsky, 1996, p. 14). Therefore, risk *and* salutary factors have to be attended to.

From these three assumptions follows implications for health promotion:

"A *salutogenic orientation*, as the basis for health promotion, directs both research and action efforts

- To encompass *all persons*, wherever they are on the continuum.
- And to focus on *salutary factors*" (ibid., 14).
- This "must relate to *all aspects of the person*" (ibid., 14) instead of "to focus on a particular diagnostic category" as in curative medicine or also in preventive medicine, that is, to include primary prevention or secondary prevention (ibid., 14).

Applying these assumptions and implications to healthcare practice would mean that:

1. Since a salutogenic orientation encompasses all persons independent of their position on the healthy/disease continuum, health care not only should just care for the health of its patients but also has to take responsibility for the health of its staff and the health of citizens in the catchment area as well (while dichotomous classification of persons into those who show indications for some specific disease or not seems to be still unavoidable for doing diagnosis-oriented curative medicine on patients).
2. In relation to these three groups of stakeholders, not only their risk factors have to be dealt with or fought by health care but also possible salutary factors have to be enhanced as well in curative, preventive, protective, and promotive practice.
3. A holistic approach, including physical, mental, and social dimensions, respectively, ill and healthy aspects of a person, has to be taken into account in dealing with all people affected by health care.

In principle, to apply these demands on health care sounds plausible and rational. But, to realize, (1) a policy change of the mandate of health care is necessary, (2) the traditional diagnostic and therapeutic repertoire of health care has to be widened, and (3) a radical change of clinical outlook is implied. The last reorientation is especially difficult, since part of the spectacular medical success rests on focusing on a narrow biomedical model.

The second form of salutogenesis is Antonovsky's specific and rather complex *salutogenic model* (described in Chap. 7 of Antonovsky, 1979). Within this model, the concept of *generalized resistance resources* (GRRs) is introduced as "a property of a person, a collective or a situation which, as evidence or logic has indicated, facilitated successful coping with the inherent stressors of human existence" (Antonovsky, 1996, p. 15). Major psychosocial, genetic, and constitutional GRRs are specified within this model. But this model has not much been taken up by Antonovsky or other authors in later publications (Mittelmark & Bull, 2013).

When using this *salutogenic model* in health care, the generalized resistance resources specified in detail in the model would have to be more adequately taken into account in healthcare practice and research. This makes much sense for healthcare and affords a more holistic and complex outlook and a widening of diagnostic and therapeutic methods applied.

The third most focused form of salutogenesis, the specific *construct of sense of coherence* (SOC), which has been introduced as a central factor in the salutogenic model of health, is defined as follows:

> a generalized orientation toward the world which perceives it, on a continuum, as comprehensible, manageable and meaningful. The strength of one's SOC, I proposed, was a significant factor in facilitating the movement toward health." This construct answers "what do all these GRRs have in common, why do they seem to work. What united them, it seemed to me, was that they all fostered repeated life experiences which, to put it at its simplest, helped one to see the world as 'making sense,' cognitively, instrumentally and emotionally. (Antonovsky, 1996, p. 15)

One way to interpret this is that Antonovsky introduces the SOC rather as a moderator or mediator of other

determinants of health than as a specific further determinant of health. Compared to other familiar concepts from the *coping literature*, "it is the particular combination of the cognitive, behavioral and motivational which is unique" and, furthermore, "the SOC is not a culture-bound construct." "What matters is that one has had the life experiences which lead to a strong SOC; this in turn allows one to 'reach out,' in any given situation, and apply the resources appropriate to that stressor." "The strength of one's SOC (as a dependent variable) is shaped by three kinds of life experiences: consistency, underload-overload balance, and participation in socially valued decision-making. The extent of such experiences is molded by one's position in the social structure and by one's culture…" (ibid., 15). Two *instruments/tools* have been offered to measure the SOC, a longer 29-item SOC scale and a shorter 13-item version, but both are *not* suitable to measure the three specific subdimensions of the SOC (Antonovsky, 1993).

How can the SOC be introduced into health care? Being ill and becoming a patient in professional healthcare services often is a rather threatening life experience for people and being a healthcare professional is a rather demanding kind of job. Therefore, using the SOC concept for making healthcare structure and culture as far as possible consistent, underload-overload balance and participatory for patients, staff, visitors and citizens generally would be an adequate and welcome application to make healthcare systems and services more salutogenic, generally. This is possible, since "social institutions in all but the most chaotic historical situations can be modified to some degree" (Antonovsky, 1996, p. 15). It even could be more feasible, effective, and efficient to develop salutogenic "standards" (Dalton & Mccartney, 2011) and make institutional contexts more salutogenic, than to try to directly enhance the SOC of large numbers of patients, staff, and citizens. Thus, patients and staff could be supported by healthcare organizations to experience their respective roles and tasks as comprehensible, manageable, and meaningful to allow for successful co-production in actual cure and care and of better health in the long run. That, at least, would reduce avoidable stress, most important for people with a low SOC. More specifically, the SOC of patients or staff could be measured or screened, and their level of SOC be taken into account in treating or deploying them, even if this seems to be a rather far reached and also problematic stigmatizing kind of application. Even if Antonovsky assumed that one's SOC could not be radically transformed, he left it open that the SOC could "be shaped and manipulated so that it in turn can push people toward health" (Antonovsky, 1996, p. 15). Therefore, improving one's SOC or at least one's health literacy could become an explicit goal of (chronic) disease management.

In summary, salutogenic thinking has good potential to be applied to health care in relation to health-promoting interventions for the health of patients, staff, and citizens, and in supporting health-promoting structures and cultures of healthcare institutions for better everyday practice and policy.

Overview of Chap. 37, the Application of Salutogenesis in Hospitals, by Christina Dietscher, Ulrike Winter, and Jürgen M. Pelikan

This chapter is reprinted from the 2017 edition. Hospitals, in developed countries the center of curative health care in practice, research, and education, still have a dominantly pathogenic orientation. Therefore, salutogenic principles definitely have to offer quality improvement of cure and care in hospitals. But salutogenesis also is a considerable challenge to be implemented in hospitals, and hospitals are challenging for health and salutogenesis promoters. Chapter 37 first demonstrates how salutogenesis, if understood as a specific dimension of hospital quality, could considerably contribute to better health gain for patients and hospital staff. Second, drawing on a comprehensive literature search, it is highlighted which aspects of salutogenesis in relation to hospitals already are covered in descriptive and intervention research focusing on patients (and family members), staff, and the hospital as an organization. Topics included are concepts of salutogenesis referred to, the SOC in relation to physical symptoms; the SOC in relation to mental symptoms, quality of life, and patient satisfaction; the SOC adjustment to disease, self-management, and adherence to treatment; the SOC and social outcomes; the SOC and positive health; the SOC in relation to gender, age, and socioeconomic status; the SOC in relation to patients' family members; salutogenesis in general and the salutogenic model; salutogenesis and impacts of the hospital setting on patients; using the SOC as a diagnostic tool; adapting treatment schemes; supporting self-care and self-management; supporting caring relatives; improving the impact of hospital functioning on salutogenesis; salutogenesis for different healthcare professions; and implications for occupational health in hospitals.

An overview of the application of salutogenesis in health-promoting hospitals, one of the WHO-initiated setting-oriented health promotion networks, also is provided.

Needs for further research are outlined focusing mainly on the specific role of the sense of coherence as a predictor, mediator, or moderator, by better conceptual clarity and more complex research designs; on the interlink between the SOC and other aspects of health than subjective and mental health;

on the impact of hospital functioning and organizational interventions on salutogenesis or the SOC specifically; and on the applicability of the SOC as a measurement to assess the outcome of health promotion interventions in hospitals.

Overview of Chap. 38, Applying Salutogenesis in Primary Health Care, by Daniela Rojatz, Peter Nowak, Ottomar Bahrs, and Jürgen M. Pelikan

Primary care is understood in Chap. 38 as the first contact point to medical care. It operates at the interface between the social and the health systems, between the patient with his or her family and the professional environment, and refers to the local population, while *primary health care*, following WHO, is defined as a whole-of-society approach envisioned to contribute to universal health coverage and equality. This chapter is dedicated primarily to the application of salutogenesis in primary care. Since primary care services are a complex of strongly interrelated professional practice, research, and supporting policy, applying salutogenesis in primary care comprehensively should introduce salutogenesis in all these fields simultaneously.

This chapter examines how salutogenesis is addressed and discussed in policy, research, and practice of primary care and discusses the application of salutogenesis as an orientation, a model, and the construct of "sense of coherence." Thus, it contributes to supporting the application of salutogenesis in primary care and provides an outlook on further research needs.

In a first step, the chapter tries to make comprehensible what characterizes primary care, salutogenesis, and, finally, the meaningfulness of *salutogenic primary care*. Subsequently, the chapter examines how salutogenesis is addressed and "managed" in policy, research, and practice of primary care. Moreover, it discusses the application of salutogenesis as a health orientation, model, and sense of coherence in primary care. Concerning policy, relating salutogenic primary care to public health and health promotion is outlined, by focusing on relevant documents by WHO and the UN Sustainable Development Goals. For research, a literature review was conducted and results were presented in relation to the use of salutogenesis as an orientation, a model, or the SOC. For practice, two pilot projects from Austria were described, one focusing on the use of the concept of "review dialogue" in GP practices in Germany and the other on developing a comprehensive primary care concept within the Austrian healthcare reform, taking explicitly into account the macro-, meso- and micro-level of primary care services. Finally, lessons for the implementation of salutogenic primary care are considered, and more detailed recommendations are summarized in the concluding part of the chapter.

Overview of Chap. 39, Applying Salutogenesis in Mental Healthcare Settings, by Eva Langeland and Hege Forbech Vinje

Chapter 39, which is a revised version of a chapter in the 2017 edition, deals with salutogenesis for a specific and growing group of patients. It emphasizes the importance of high-quality social support in interplay with positive identity development. Antonovsky's core concept of sense of coherence has been shown to be more closely related to mental health than to physical health. Thus, the application of salutogenesis on patients in mental healthcare settings is rather obvious. First, this holds for the principal paradigmatic understanding of mental health problems or disorders as a challenge for patients which depends on the individual's personal way of experiencing it, by their healthcare professionals. Second, it can result in specific forms of salutogenic therapy, for example, talk therapy groups that aim to support positive salutogenic identity building as a specific resistance resource and to improve the sense of coherence of patients by specific offers of social support. This approach emphasizes increasing participants' awareness of and confidence in their potential internal and external resources and possibilities to cope successfully and effectively manage tension. Third, as in all health care, the material and social setting itself should be designed by salutogenic principles as empowering by being comprehensible, meaningful, and manageable. This is especially important for more sensitive and vulnerable chronic mental patients who also experience longer stay in mental healthcare organizations.

Some experimental evidence for the feasibility and effectiveness of this kind of therapy is offered, while systematic intervention research on this application of salutogenesis in mental healthcare is still rather limited.

Overview of Chap. 40, Applying Salutogenesis in Vocational Rehabilitation Settings, by Monica Lillefjell, Ruca Maass, and Camilla Ihlebæk

In Chap. 40, which is a revised version of a chapter in the 2017 edition, rehabilitation services are more closely and directly linked to maintaining and regaining positive health lost by illness and by pathogenic side effects of health care than the provision of cure or care. There even exists some professional understanding that rehabilitation should start with the beginning of treatment and be integrated into treatment processes and not just follow after discharge of patients. But even the WHO definition of rehabilitation has a pathogenic bias by focusing on disabilities of people or on disabled people and not addressing their abilities explicitly, even if rehabilitation is defined as enabling "for optimal

physical, sensory, intellectual, psychological and social functioning." Therefore, salutogenesis still has to offer something and has an added value to rehabilitation as a supportive intervention for recovery processes. In addition, rehabilitation itself can be seen as a process where participants have to deal with considerable challenges at biological, psychological, and social levels, and their coping will be influenced by the existing level of the participants' sense of coherence.

Within the wider field of rehabilitation, this chapter has a specific focus on vocational work-oriented rehabilitation which is a combination of medical, psychological, social, and occupational activities with the goal of enabling a timely return to work after sickness absence. For that, the chapter highlights how salutogenesis can be related to the design and implementation of vocational rehabilitative services. A summary of descriptive and intervention research is given on the impact of the SOC as a moderator on processes and outcomes of rehabilitation programs and on the influence of these programs on the development of the SOC, which shows that there is empirical evidence for both kinds of effects. Recommendations for further research with more complex longitudinal designs are given, but the greatest challenge in the future will be not only just strengthening *individuals* by salutogenic rehabilitation programs but also assessing and influencing problematic challenges of workplace *environments* by these programs.

Overview of Chap. 41, Applying Salutogenesis in Residential Care Settings, by Viktoria Quehenberger and Karl Krajic

Chapter 41, a revised version of a chapter in the 2017 edition, focuses on aged and highly aged patients who have long and rather comprehensive contacts with healthcare institutions of long-term care, either in residential aged care or in community dwelling. Therefore, it is well accepted in the literature that a salutogenic orientation and health promotion measures could contribute to the quality of life, well-being, and health of this group. Furthermore, a good sense of coherence can be considered as a positive resource for coping with the physical, mental, and social challenges and transitions related to aging.

But the state of *descriptive* research on salutogenesis focusing not only on residents but also somewhat less so on community dwellers is still scarce and has mostly been conducted in few countries. Different subjective and objective health outcome measures have been used on the two groups, but scarcely more complex theoretical assumptions have been researched. There is research on determining, mediating, or moderating effects of the SOC on health outcomes, but results are still diverse. There also exist studies exploring the stability of sense of coherence in older age, but due to their cross-sectional design, their results have to be interpreted with caution.

Concerning *intervention* research, only "very few studies have specifically applied salutogenic principles to promote positive health among older people." Mostly studied were consequences of physical activity interventions which had positive effects on sense of coherence and well-being indicators. One study also showed an increase in the sense of coherence by psychotherapy.

In light of this scarce research situation, the authors make recommendations for further research in this relevant and growing area of health care which should make use of better clarified theoretical assumptions and hypotheses with more complex comparative cross-sectional or even better longitudinal designs and more elaborated measures for GRRs and SOC. Furthermore, it has to be dealt with one of the major limitations of existing research, where aged and highly aged with cognitive impairment have mostly been excluded from the research.

Overview of Chap. 42, Applying Salutogenesis in Midwifery Practice, by Sally Muggleton and Deborah Davis

Chapter 42 takes up midwifery as unique among the healthcare professions because it mostly focuses on physiological processes and a period of transition in the life of a woman and her family. Thus, midwives work across a childbearing continuum and the health-ease dis-ease continuum. While the autonomous scope of midwifery practice lies in uncomplicated childbirth, midwives also have an important part to play in the care of women with health complexities in close collaboration with medical or other colleagues. The "midwifery model of care" and its approach to childbearing focus on wellness rather than illness and work closely with women to help them mobilize their own resources to move toward greater health. But the contrasting pathogenic approach to maternity care is still ubiquitous in contemporary healthcare provision with over-medicalization of childbirth and overuse of interventions, which can also cause more harm than good.

While there is resonance between midwifery practice and salutogenesis, research examining the relationship is still in its infancy. Few researchers explicitly draw on salutogenic theory. Of these, few studies and scoping reviews are described in more detail. They suggest that there is an alignment between salutogenesis and midwifery practice. A number of studies found that women with a strong sense of coherence had improved emotional health, are more likely to engage in healthy behaviors and seek useful support. These women are also more likely to experience uncomplicated birth, birth at home and identify normal birth as their preferred mode of birth. A salutary childbirth education

program, based on these findings, was established, piloted, and evaluated by the authors of the chapter and is described in more detail. This program explicitly uses key concepts of salutogenesis.

The chapter concludes by stressing that salutogenesis, with its focus on health rather than pathology, offers a promising way forward to underline that much of the work of midwives' care for women is health promotion but has to be operationalized accordingly in midwifery practice. An overview of the project on salutary childbirth education focusing on generalized resistance resources and increasing individual sense of coherence by strengthening its key components of comprehensibility, manageability, and meaningfulness has been provided. A next step could be to extend the salutogenic approach beyond childbirth to maternity services in general.

Overview of Chap. 43, the Application of Salutogenesis in Birth, Neonatal, and Infant Care Settings, by Soo Downe, Shefaly Shorey, Claudia Meier Magistretti, and Bengt Lindström

Chapter 43 starts with a short summary highlighting Antonovsky's unique contribution to theory, practice, and policy concerning the origins and experience of health, as well as the causes and manifestations of disease. The relation of salutogenesis to maternity care is discussed by giving a critical overview of studies in perinatal care, primarily measuring and promoting parental SOC and well-being. A turn toward a positive experience is observed, driven by a new emphasis on finding out what matters to women, families, service providers, and policymakers, based on qualitative evidence of their views and experiences. Based on this, maternal health-promoting interventions have been strongly recommended by WHO in recent guidelines.

Next, an overview is given on salutogenic approaches to neonatal and infant service provision. The dependency of neonatal well-being on what has happened in utero and during birth is highlighted. Skin-to-skin contact, breastfeeding, and family-centered care in hospitals are examined as important aspects of and salutogenic interventions for parent-child attachment in the first year of a child's life. Infancy and early childhood are critical developmental periods for language and communication skills, cognitive skills, socioemotional functioning, and self-regulation. Therefore, parents' and caregivers' relationship with their infants and newborns plays a critical role in shaping the emotional, cognitive, and social development of their child. Thus, secure attachments have been associated with strong SOC expression. Different interventions of early support to optimize parenting capacity and their impact are discussed next, including strengthening the SOC in families and access to early education offers, based on a large-scale evaluation study in Switzerland. Special attention is given to the importance of coherence in early support.

In the discussion part of the chapter, it is stressed that only examples of salutogenic approaches based on reasonable evidence could be described in this chapter. But there is a growing awareness of the value of salutogenic approaches to the provision of maternity care and to facilities and services to enhance parenting and well-being in infancy and early childhood. Research gaps are identified, and suggestions for the direction of future research are outlined. The chapter concludes by stating that salutogenic theory is as relevant for describing and catalyzing maternity, parenting, and infant well-being as it is for other phases of human life.

Overview of Chap. 44, Applying Salutogenesis in Community-Wide Mental Health Promotion, by Vibeke Koushede and Robert Donovan

Chapter 44 first highlights the relevance of mental health as a resource and risk for population health and describes mental health problems and related financial and social implications for society, which has led to an increased focus on prevention of mental health problems in health policy lately. Using the river metaphor of salutogenesis and a mental health ease-disease continuum, mental health is seen not as a stable trait but rather as a constant process, which needs to be protected and promoted. Thus, mental health promotion is foremost focused on protective factors and promoting mental health resources at different levels of society and is relevant to everyone.

Second, the "Act-Belong-Commit"/"ABCs of Mental Health" Campaign is described as a world-first comprehensive, population-wide, community-based mental health promotion campaign designed to promote mental health and prevent mental ill-health, based on a grounded theory model. This campaign, which is consistent with the salutogenic approach of aiming to build positive mental health rather than targeting specific risk factors for specific mental illnesses, originated in Western Australia and is now diffusing nationally and internationally. This campaign developed a specific ABC message, act, belong, and commit, which was implemented in Western Australia using a community-based social marketing approach. The campaign also has been operated in Denmark, where the Act-Belong-Commit framework has been adapted first and then implemented.

In summary, the chapters of this part demonstrate for different services of health or disease care that applying the salutogenic orientation, the salutogenic model and the concept, and instrument of the SOC has the potential to improve the health-promoting quality of structures, processes, and

outcomes of these services for enhancing health gain and well-being of different stakeholders. There already exists impressive research-based evidence for this, but also quite a potential for further more systematic and complex research.

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The Application of Salutogenesis in Hospitals

37

Christina Dietscher, Ulrike Winter, and Jürgen M. Pelikan

Introduction

Hospitals are traditionally characterized by an orientation to diagnosing, curing, and caring for severe illness episodes in *patient* careers (and increasingly also for the continuous care for chronic patients at repeated points of contact); hospitals are often life-saving. However, it is no exaggeration to say that hospitals are in many aspects also highly pathogenic. Not only is it the very core business of hospitals to deal with the results of pathogenic or entropic processes in patients (possibly with obstetrics as one exception), but the hospital as a setting also contains specific pathogenic dangers and risks (e.g., nosocomial infections, medical errors, and hospitalization effects), and radical life-saving interventions often need to be performed that have themselves a certain pathogenic potential. Therefore, they need to be precisely targeted, such as an operation or chemotherapy, if they are to produce more benefit than harm, and need to be performed by highly specialized and skilled personnel. For this reason, there is a natural knowledge and power divide between healthcare staff (especially doctors) and their patients, with patients being often resigned to a rather passive role. Health researchers have repeatedly stressed the need to actively include patients in healthcare decisions and processes in order to achieve optimum outcomes (Coulter & Ellins, 2007). In light of the aging of populations and the increasing proportion of patients with long-term chronic conditions, this demand appears more timely than ever.

Informed consent and shared decision-making movements are one reaction to this problem. They demand that patients need to be informed about and consent to treatment options. Yet, this approach is often more a safety belt for medical staff, preventing them from being sued in the case of negative treatment outcomes, rather than a real integration of the patient in decision processes. In addition, the currently predominating culture of prevention (compare Dietscher & Pelikan, 2016) raises the fear to be sued for preventable medical errors. According to estimates, such errors affect one in ten hospital patients to some degree. In reaction, healthcare personnel recommend medical tests, and perform treatments, that are often not necessary. Gigerenzer and Gray (2011) call this approach "defensive medicine."

Hospital economics often have similar effects. Especially when financing mechanisms are performance-based, medical interventions are sometimes performed according to business plans rather than to meet patient needs (resulting in huge differences in the numbers of medical interventions that are performed in different countries and hospitals), often causing unnecessary risks to patient safety. Furthermore, medical interventions are often performed with a rather short-sighted perspective, not considering long-term implications for the quality of life. When discharged from hospitals after ever-shorter stays, patients often find themselves left alone with, and overwhelmed by, the challenges disease-specific self-management can pose.

Hospital staff, too, are confronted with many health-related stressors. They are among the professional groups with the highest health risks (Eurofound, 2012). These include the exposure to biological, chemical, and nuclear agents, physical strains from lifting patients or working in strenuous postures (such as in surgery), the need to perform

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shift work, having to cope with a high and difficult-to-plan work load, being continuously confronted with suffering and death, having to communicate interprofessionally, interhierarchically and between units, and having to cope with ongoing healthcare reforms.

The result is high fluctuation rates, which in turn confront hospital management with the necessity to maintain, or improve, the quality of services with ever-changing personnel. The situation is not eased by the aging of populations and by the raising of retirement ages. Staff need to perform for more life years than in the past while at the same time the number of patients needing treatment and the complexity of their conditions are also on the rise.

Concerning *people in the neighborhood and catchment area*, hospitals traditionally do not have that many points of direct contact. However, their mere functioning can have saluto- or pathogenic effects on their surroundings. Hospitals are large consumers of energy and goods; they create traffic and produce potentially dangerous waste, such as toxic wastewater and emissions. Thus, decisions taken by the purchasing department, for example, on buying local and biological food for the canteen, architectonic decisions that may have implications for the amount of energy needed to heat or cool the building, and the quality of waste management systems all contribute to saluto- or pathogenic impacts for people in the nearer or wider neighborhood.

In addition, hospitals are large consumers of healthcare budgets and, as such, use scarce resources on a comparably low number of people. WHO-Euro's current health policy, Health 2020, maintains that "we continue to spend far too little on health promotion and disease prevention compared with treatment. Health 2020 argues strongly that this balance needs to change in favor of upstream interventions to prevent the later human and economic burden of end-stage disease and disability" (WHO, 2013).

Numerous reform concepts have already been initiated from different angles, aiming at improving the salutogenic effects of health services:

- Patients' rights movements have led to the appointment of ombudsmen and patient attorneys. While in principle this is a positive development, a potentially dangerous side effect is a culture of not openly communicating about error in hospitals, by that missing chances for improvement.
- In the wake of the hospital quality movements, the concept of co-production of health was introduced, as healthcare staff became increasingly aware that treatment outcomes are suboptimal without the cooperation of the patients.
- Evidence-based medicine, with its criteria of scientific evidence, staff competencies, and patient preferences, aims at supporting rational healthcare decisions and omitting unnecessary interventions.
- Concepts for integrative care aim at supporting patients through their whole patient journey, not only the rather short hospital stay.
- Supranational agents like the World Health Organization are increasingly concerned about healthcare's ability to tackle non-communicable diseases and have been developing global action plans in which health services are seen as one of many actors who need to cooperate with others.
- Health promotion introduced the concept of empowerment; and the patient education movements introduced the need for (critical) health literacy.
- For hospital staff, there are specific concepts of workplace health promotion.
- For people in the neighborhood and catchment area, concepts like "sustainable" hospitals and "green" hospitals have developed.
- Health-Promoting Hospitals (HPHs) have further strengthened hospitals' community focus by encouraging health-promoting collaborations between hospitals and other organizations, such as schools or enterprises, or by suggesting the use of hospital data to inform decisions on health-promoting community development.

The above-mentioned and other reform movements have been implemented in hospitals to very different degrees. Hospitals are characterized by comparably high levels of hierarchy, and compared to the influence of the health professionals, management has a limited role. This organizational constellation has been coined the "professional bureaucracy" (Mintzberg, 2012). Because of these characteristics, hospital innovations very much depend on the actual motivation and behavior of healthcare professionals. Therefore, it is decisive to convince and train professionals (not only management) to achieve change. On an organizational level, following the German sociologist Niklas Luhmann (2011), it is decisions that reproduce—and can change—an organization. The consequence of this theory for altering organizations is that changes, in order to be effective and sustainable, have to be enacted by the everyday decisions of the members of the organization itself, but have to be enabled by supporting structures and cultures (Pelikan et al., 2014). Therefore, any reform proposal coming from outside needs to address and to relate to the specific way an organization takes and supports decisions.

We apply this perspective in asking not only how hospitals can be made less pathogenic—what most of the above-mentioned reform movements aim for—but how they could actually be made more salutogenic settings.

A General Salutogenic Orientation on Hospitals

In light of the above, it appears obvious that the introduction of salutogenesis provides a challenge and contradiction to the established practice of hospital healthcare. In the following, we provide some suggestions on how a salutogenic hospital could look like and what dimensions it would comprise, drawing on our understanding of Antonovsky's salutogenic orientation and model, as well as on the sense of coherence, and on our background in HPHs.

Antonovsky's (1996) salutogenic orientation introduces a resource-oriented—instead of risk-oriented—perspective on the maintenance, restoration, or improvement of health. To promote health, Antonovsky demands an orientation to salutary factors which allow people to remain on, or move further toward, the health side of what he describes as the health-disease continuum, by allowing them to handle well the stressors they are doggedly confronted with:

> This orientation, which should be reflected in both research and action, should refer to all aspects of a person and to everybody, no matter where they are on the health disease continuum: A salutogenic orientation, then, as the basis for health promotion, directs both research and action efforts to encompass all persons, wherever they are on the continuum (Antonovsky, 1996, p. 14).

Taking this perspective seriously would require a rather radically changed perspective not only on current hospital healthcare practice, but also on education of healthcare professionals and on research.

First, the risk and deficit-oriented approach that is now common in healthcare would have to be replaced or at least complemented by a thoroughly resource-oriented approach. In relation to *hospital patients*, this would mean a resource-strengthening approach from the first point of contact until discharge, focusing not only on symptoms, risks, and deficits but also on maintaining, using, and improving the resources that can support recovery or at least delay the progression of disease. Since salutogenesis refers to "all aspects of a person," this perspective needs to encompass health and resources for health in a comprehensive, somato-psycho-social sense. Accordingly, clinical research and care would have to expand from the best available medical care to asking which patients' physical, mental, and social resources (such as self-care, personal health beliefs, or social networks) are most helpful to support healing. Another important research question is how these resources can be activated.

Furthermore, encompassing "all persons, wherever they are on the health-disease continuum," would imply that *all patients*, no matter whether they are just there for a routine check-up or in palliative care, can and have to be addressed in a salutogenic way, focusing on, and strengthening, the resources they (still) have.

And of course the resource-oriented approach would also have to be applied to *hospital staff* by ensuring that they have the resources available they need for performing their job. This could, for example, be achieved by a comprehensive workplace health promotion approach.

For *neighborhood and catchment areas*, the resource-oriented approach would mean to transform hospitals into health resources for their communities, for example, by offering easily accessible and easy-to-understand health information in a hospital library, on the hospital website, or a hospital TV program, or by collaborating in joint health-oriented projects with local schools, enterprises, or administrations.

Second, in the spirit of "do no harm," it would be necessary to consider how far standard diagnostic and therapeutic interventions actually represent health resources—or rather risks or stressors to the health of *patients* (Ventegodt, Kandel, & Merrick, 2007). One option to avoid unnecessary stressors to health is by not applying interventions if the potential harm can be expected to outweigh the potential benefits. This could be the case, for example, for some CT scans because of the high radiation dose they incur. A specific campaign to support the aim to eliminate unnecessary or potentially harmful treatment was developed in the USA under the title "Choosing wisely" (see http://www.choosingwisely.org ; visited on July 28, 2015).

For *healthcare staff*, doing no harm has much in common with occupational health and safety management. It is important to identify the relevant stressors, for example, by using health circles (Aust & Ducki, 2004). Wherever possible, identified stressors should be eliminated or reduced. For example, communication problems between units can be improved by changing communication routines. For stressors that cannot be eliminated, adequate compensation should be provided. For example, the continuous confrontation of staff with suffering and death is endemic to hospitals, but its effect on staff can be eased by psychological interventions or by an organizational policy on how to deal with emotional strain. Also, there will always be the need for shift work in hospitals, but much can be done to improve work organization in the sense of a good work–life balance, an approach that has also become known as "family-friendly workplace." A salutogenic perspective might help to identify and address these and other staff-related stressors more systematically.

For *catchment areas and communities*, finally, avoiding harm can be achieved by a safer handling of hazardous hospital wastes. For example, potentially harmful residues of medical drugs, including antibiotics, hormones, or cytostatic agents, constantly get into the environment by way of medical wastewaters. As more and more treatments are being carried out in day clinics, those drugs also increasingly pass through the plumbing systems of regular households and might finally end up in the ecosystem.

From our comprehensive perspective on salutogenesis—encompassing patients, staff, and community citizens as target groups—follows that salutogenic interventions are not limited to interventions in persons. Such interventions include not least interventions to improve the physical hospital design. This can include ergonomics for staff or, concerning patients, quiet rooms (Hasfeldt et al., 2014), as well as naturally aired and lighted rooms. Light was, for example, found to make a difference on mortality after myocardial infarction (compare the study "dying in the dark" (Beauchemin & Hays, 1998)). A summary of the salutogenic effects of healthcare design (although without explicitly referring to salutogenesis) can be found in Ulrich, Berry, Quan, and Parish (Ulrich et al., 2010).

Sense of Coherence

Antonovsky's comprehensive salutogenic model puts great emphasis on characteristics that enable people to deal with different types of stressors. This seems particularly important in light of the available evidence from psychoneuroimmunology research on the impacts of stress on physical health (compare Kusnekov & Anisman, 2013). In hospitals, an orientation at this approach would demand a focus on reducing specific healthcare-related stressors for those persons who are exposed to hospitals. Furthermore, their stress-coping competences and resources need to be strengthened.

The *sense of coherence* can be understood as the most specific and focused way to operationalize Antonovsky's concept of salutogenesis. It implies the importance of three dimensions for successfully coping with challenges: these are *comprehensibility*, *manageability,* and *meaningfulness* of life. It seems that these dimensions also relate to the functioning of the human brain (compare Rock, 2008). Attempting at reducing possible stress by improving comprehensibility, manageability, and meaningfulness of life has specific consequences for the design and organization of health services, as well as for the content of healthcare interventions.

Studies on *health literacy*—the ability to find, understand, appraise, and apply health-related information—demonstrate that *comprehensibility* of healthcare tasks is difficult for many *patients* (Sørensen et al., 2015). A lot of verbal and written healthcare communication is based on medical jargon which makes it difficult for patients to detect the meaning of what they are told or of what they read. An orientation to the sense of coherence would require that health information be offered in an understandable way, in other words, by using plain language and writing in short sentences, and breaking content down into digestible junks of information. Written information and interpreting services should also be available in the languages of most patients. Furthermore, *comprehensibility* can be supported by healthcare design, for example, by providing easy-to-read signage (Rudd & Anderson, 2006).

Healthcare staff, too, can profit from an increased orientation to *comprehensibility*. By using communication tools like teach-back (letting patients explain what they understand in their own words), staff can develop a better understanding of their patients' communication needs (Pelikan & Dietscher, 2015). In some cases, it may be important to improve the comprehensibility—or disease-specific literacy—of healthcare personnel before they can properly support their patients. For example, Gigerenzer (2014) found that many medical doctors are not sufficiently trained to correctly interpret healthcare statistics. They may also be deliberately misled in interpreting findings by the way study findings are presented. The result is an overestimation of the benefits of medical diagnostic and therapeutic interventions, and an underestimation of the related potential harm, which has considerable implications for treatment recommendations. On the basis of these and similar findings, the Harding Centre for Risk Literacy developed a specific format—so-called fact boxes—for presenting medical information in an easy-to-understand way. The fact boxes give absolute figures on potential benefits and potential harms of diagnostic or treatment interventions, instead of difficult-to-interpret data formats like relative risks on potential benefits alone. This information provides the grounds for well-informed healthcare decision-making in a partnership between professionals and patients (https://www.harding-center.mpg.de/en/health-information ; visited February 25, 2015).

An increased orientation to the *manageability* aspect of sense of coherence would mean that *patients*, especially those with chronic diseases (and relatives or other caregivers), are empowered as much as possible to take care of their own condition, during and between hospital stays. For those who have problems with self-management, specific support should be available, for example, in the form of case management.

For *staff*, an orientation to *manageability* would also mean a perception of one's work life as malleable if work conditions are felt to be burdensome. Staff should be encouraged to make suggestions for improvements of the work flow, and there should be flexible options to support staff with acute problems (e.g., having to care for a family member at home).

And, for people in the hospital neighborhood and catchment area, an orientation to *manageability* would mean that the hospital offers publicly available information about the self-management of disease, and of health enhancement, for example, via its website, at health fairs, or in cooperation with other stakeholders.

Meaningfulness, finally, can be supported by psychological or pastoral interventions that enable people to make sense of their situation as a patient or staff member. While there may be more technical solutions for improving comprehensibility and manageability, supporting meaningfulness seems to be a rather individualized process which has to be mainly achieved in person-to-person interaction.

All three aspects of the sense of coherence can be addressed in relation to challenges posed by the routine functioning of the hospital itself—interventions would then aim at improving comprehensibility, manageability, and meaningfulness of being a patient or staff member. But interventions can also address the challenges of life in general. This may be adequate for patients with long-term conditions as well as for staff whose workability suffers from personal problems.

And, while a general salutogenic orientation of hospital structures and processes might be supportive for all those in contact with the hospital, people with a weak sense of coherence may need further specific compensatory support (providing help to understanding, managing, and sense-making).

Developing Organizational Capacities for Salutogenesis

From a quality perspective, and salutogenesis should be introduced into hospitals as a specific dimension of quality, it follows that salutogenic processes need to be supported by salutogenic structures in order to produce desired salutogenic outcomes. Salutogenesis should ideally be considered an organizational principle the implementation of which is supported by adequate organizational structures and capacities. Such capacities include leadership support, clear organizational responsibilities for salutogenesis, trained and experienced staff, an earmarked budget, and the inclusion of criteria and indicators for salutogenesis into continuous monitoring and improvement processes for which support from quality management might be a useful lever (Pelikan et al., 2001; Röthlin et al., 2015). The existence of such capacities would enable a continuous improvement of the salutogenic orientation of the overall daily functioning of hospitals as the centers of modern healthcare delivery systems. In addition, hospitals can support research on the role of salutogenesis in patient treatment, in designing workplaces for their staff, and in working with people in neighborhoods and catchment areas. Not least, they can contribute to teaching and training healthcare professionals to perform salutogenic healthcare interventions.

Research on Salutogenesis as Applied to Hospitals

We will now contrast the "salutogenic hospital blueprint" that we outlined above with the findings of a literature search on salutogenesis in hospitals that we performed in Medline and PubMed. Our main research question here is: how far does the available literature already refer to concepts of salutogenesis in relation to hospital structures or processes—which areas are covered, which are not? And do new areas emerge from the literature that could be used to further develop the blueprint?

We used Reference Manager as search tool to identify articles whose titles or abstracts contained a combination of one or more of the keywords salutogenesis, salutogenic, sense of coherence, or general/generalized resistance resources, with the keywords hospital, patient, doctor, or nurse, and which had been published until September 2014.

The main inclusion criterion was that papers retrieved should refer to salutogenesis or specific concepts like the Sense of Coherence (SOC) or generalized resistance resources in relation to hospital structures or processes. Papers were excluded if they met one or more of the following *exclusion* criteria:

- Clinical study with a focus on the impact of salutogenesis/SOC on the etiology of specific diseases, or other clinical study, without explicit referral to hospital characteristics or interventions.
- Focus on other healthcare settings than hospitals.
- Study on validation of measurement tool without relation to salutogenic impacts of hospital characteristics or interventions.
- Lack of conclusions in relation to salutogenesis.
- Abstract not available.

Of all 532 abstracts retrieved, 354 were excluded because they met one of the defined exclusion criteria (see Table 37.1).

Table 37.1 Defined exclusion criteria, number and percent of excluded papers per criterion

Exclusion criteria	Number papers	Percent papers
Clinical study with a focus on the impact of salutogenesis/SOC on the etiology of specific diseases, or other clinical study without explicit relation to hospital characteristics or interventions	169	47.7
Focus on other healthcare setting than hospital	142	40
No conclusions in relation to salutogenesis were presented	29	8.19
Study on validation of measurement tool without	11	3
Abstract not available	3	1
Total	*354*	*100.00*

Table 37.2 Search results

Keyword combination	Retrieved	Excluded	Focus on patients	Focus on staff
Hospital + salutogenesis	2	0	1	1
Hospital + salutogenic	16	6	6	4
Hospital + SOC	122	68	47	7
Hospital + GRRs	0	0	0	0
Patients + salutogenesis	35	22	13	0
Patients + salutogenic	15	12	3	0
Patients + SOC	310	224	84	2
Patients + GRRs	0	0	0	0
Nurses + salutogenesis	1	1	0	0
Nurses + salutogenic	8	6	0	2
Nurses + SOC	18	11	0	7
Nurses + GRRs	0	0	0	0
Doctors + salutogenesis	2	1	0	1
Doctors + salutogenic	0	0	0	0
Doctors + SOC	3	3	0	0
Doctors + GRRs	0	0	0	0
Total	532	354	154	24

The majority of excluded studies focused on the role of salutogenesis in the etiology of diseases and had no relation to healthcare as such (169 papers or 48% of all eliminated papers); 142 papers (40%) were excluded because they did not refer to hospitals but for example to patients in long-term care. Eight percent were excluded because their findings were not used to draw conclusions of relevance to salutogenesis. Three percent were excluded because they described the validation of measurement tools, and 1% of papers could not be further assessed because no (English) abstract was available.

Of the remaining 178 papers, 154 focused on patients and 24 on hospital staff; 158 (89%) focused on the sense of coherence (of these, 140 papers on patients and 18 on staff), 20 papers on a general, usually rather unspecified and normative salutogenic orientation (of these, 14 papers on patients and 6 papers on staff), and only 2 papers focused on generalized resistance resources (compare Table 37.2).

Abstracts of the included papers were content-analyzed in order to get a deeper understanding of what aspects of salutogenesis, the salutogenic model, and the sense of coherence or generalized resistance resources they covered in relation to hospital structures, processes, and target groups. On the basis of the results, a narrative review was produced.

Salutogenesis in Relation to Hospital Patients

Hundred and fifty-four of the included papers addressed hospital patients. The retrieved papers were published between 1991 and 2014. The majority of papers (80%) were published by European authors, with Sweden (59 papers), Germany (14 papers), Norway (10 papers), and Switzerland (8 papers) as the top countries. Nine percent of papers were from Asia (including Israel), 5% from North America, 4% from Australia, and 2% from South America (Table 37.3). Over the years, a slight rise of interest in other geographical areas, for example, in China, Japan, Brazil, and a few Eastern European countries was observed.

Table 37.3 Geographic areas from which papers on salutogenesis and hospital patients were published

Region	Number papers	Percent papers
Europe	124	80.52
Asia including Israel	14	9.09
North America	7	4.55
Australia	6	3.90
South America	3	1.95
Total	*154*	*100.00*

Over time, a visible increase of publications can be observed. Only 5% of the 154 papers had been published in the first 5 years (1991–1995) of the observation period, about 16% of papers respectively were published in the following two 5-year periods, and the percentage went considerably up to 28% in the next 5-year phase (2006–2010), and rose to 34% of papers for the period 2011–2015 (Table 37.4).

Eighty-one percent of the 154 patient-related papers refer to patients with specific clinical diagnoses. The majority of these are on frequent, severe, and chronic diseases such as heart diseases (22%), cancers (15%), severe mental health problems (14%), or diabetes (7%). Some papers also address patients with chronic conditions in general, or with rare diseases, such as ménières and cystic fibrosis.

Table 37.4 Distribution of publications over time

Years	Number publications	Percent publications	Percent publications in 5-year-periods
1991	1	0.65	5.19
1992	2	1.30	
1993	0	0.00	
1994	2	1.30	
1995	3	1.95	
1996	4	2.60	15.58
1997	2	1.30	
1998	3	1.95	
1999	10	6.49	
2000	5	3.25	
2001	4	2.60	16.23
2002	3	1.95	
2003	5	3.25	
2004	5	3.25	
2005	8	5.19	
2006	4	2.60	28.57
2007	13	8.44	
2008	9	5.84	
2009	10	6.49	
2010	8	5.19	
2011	15	9.74	34.42
2012	19	12.34	
2013	13	8.44	
2014	6	3.90	
24	154	100.00	100.00

Table 37.5 Clinical diagnoses related to salutogenesis and hospital patients in the literature

Patients	Number publications	Percent publications
Heart diseases	28	22.40
Cancers	19	15.20
Mental health/illness	18	14.40
Specific care units (e.g., ICUs, palliative care units)	10	8.00
Diabetes	9	7.20
Orthopedic diseases	8	6.40
Pregnancy and conception	6	4.80
Autoimmune diseases	5	4.00
Surgery	4	3.20
Kidney diseases	4	3.20
Rare diseases	4	3.20
Degenerative neurological conditions	3	2.40
AIDS	2	1.60
Digestive system diseases	2	1.60
Side effects of diseases	1	0.80
Other diseases	2	1.60
	125	100.00

Twelve percent of papers address patients more generally (e.g., "patients of a general hospital"), and the remaining 7% focus on the salutogenesis of family caregivers, usually in relation to severe illnesses such as cancers (Table 37.5).

Which Concepts of Salutogenesis Are Referred to?

As was to be expected, the most widely used of Antonovsky's concepts in relation to hospital patients is the sense of coherence (91% of papers). A minority of the related studies apply a qualitative approach, using the SOC dimensions to structure analyses of qualitative data, such as data on patient experiences. Most of the identified studies describe quantitative measurements and analyses of the SOC (either by 29-item, 13-item, or 3-item scales). SOC scores are often related to patients' self-perceived symptom severity, disease-related quality of life, subjective well-being, mental comorbidities of somatic diseases, patient satisfaction, or self-care and coping abilities. Furthermore, some studies test their predictive value in relation to the progress of disease.

The SOC in Relation to Physical Symptoms

Among the patient-related papers, the majority focus on patients with specific somatic diseases, and again a large part of these cover interrelations between the SOC and physical health.

Several papers reflect on the potential impact of the SOC on self-rated health, pain perceptions, symptom severity, treatment outcomes, and physical functionality in patients. Typically, these papers test the hypothesis that stronger SOC scores are related to better subjective health, treatment outcomes, and functionality.

Concerning *self-rated health*, this hypothesis was confirmed for self-rated health in patients after myocardial infarction (Gerber et al., 2009) and for pain severity (Barthelsson et al., 2011; Cederlund et al., 2010; Hall-Lord et al., 1999; Karlsson et al., 1999). Concerning the severity of other symptoms, Ahola et al. (2010) and Richardson et al. (2001) suggest that stronger SOC scores are related to lower HbA1c values in diabetic patients, and Bergman et al. (2009) report less angina attacks in heart patients with stronger SOC scores. Li et al. (2015) describe negative correlations between stronger SOC scores, symptom duration, and symptom severity in general, and Tschan et al. (2011) see a reduced likeliness of developing secondary somatoform dizziness after vestibular disease in patients with stronger SOC.

In relation to *treatment outcomes*, Ristner et al. (2000) identify a weak SOC as a risk factor for suboptimal treatment outcomes after orthopedic injuries. And there are also positive interrelations between SOC scores and physical functionality. For example, Li et al. (2015) detect interrelations between the SOC and daily-life impairment in patients and Schult et al. (2000) describe weak but significant correlations between the SOC and the ability of pain patients to perform daily activities.

Overall, authors argue that the positive effects of the SOC found in the above-listed studies can either be explained by moderating effects of good mental health (which is typically related to stronger SOC scores) or by better disease-specific self-management of patients with stronger SOC scores, or by a combination of both. These arguments seem to be supported by the fact that the literature reports hardly any findings on interrelations between SOC scores and the severity of diseases or symptoms that do not appear to be directly amenable by self-management or good mental health. For example, in a study on Parkinson patients, Pusswald et al. (2009) could not detect any positive correlations between SOC and somatic health.

In contrast to the idea of the SOC being a stable construct in adults, some longitudinal studies that involved SOC measurements at different points in time (e.g., at hospital admission and at later stages) suggest that the SOC can change over time. For example, according to Bergman et al. (2011), the SOC may decrease after a first-time myocardial infarction. However, the general perception is that SOC values return to the level before the onset of disease when symptoms decrease (see e.g., Berg & Kononova, 2009).

The SOC in Relation to Mental Symptoms, Quality of Life, and Patient Satisfaction

Studies on the SOC and mental health can be divided into two groups. One comprises papers studying the SOC in relation to mental diseases such as major depression (e.g., Skarsater et al., 2005), suicidality (Sjostrom et al., 2012), schizophrenia (Eklund et al., 2004; Gassmann et al., 2013), or delusional diseases (Bergstein et al., 2008). The other group consists of papers assessing the SOC in relation to mental comorbidities of somatic diseases and issues. These include cancers (Ezer et al., 2012; Forsberg & Bjorvell, 1996; Langius & Lind, 1995; Siglen et al., 2007), myocardial infarction (Benyamini et al., 2013), heart transplantation (Ruzyczka et al., 2011), lumbar spinal stenosis (Sinikallio et al., 2006), Morbus Parkinson (Pusswald et al., 2009), kidney diseases (e.g., Klang et al., 1996), rheumatoid arthritis (Buchi et al., 1998), systemic sclerosis (Hyphantis et al., 2007), traumatic child birth experiences (Stramrood et al., 2011), critical accidents (Schnyder et al., 2000), and critical diseases in general (Fok et al., 2005).

Papers overall (though not in unison) conclude that weaker SOC scores are related to more severe *mental disorders or mental comorbidities*. For example, Wang et al. (2012) identify a strong SOC as a counter-indicator for anxiety and depression in adolescent heart patients. According to studies on uremic patients (Klang et al., 1996) and on cancer patients (Gustavsson-Lilius et al., 2012), weaker SOC scores are related to higher levels of anxieties or demoralization (Boscaglia & Clarke, 2007). With regard to diabetic patients, Wikblad and Montin (1992) conclude that weaker SOC scores are related to lower self-esteem. Some longitudinal studies that assess patients' SOC at different points in time typically conclude, similar to longitudinal studies on the interrelation between the SOC and physical symptoms, that the SOC may change over time, depending on the patients' mental health conditions. For example, in a study on patients with major depression, Skarsater et al. (2005) note that the SOC increases significantly when patients recover. Similarly, Bergstein et al. (2008) point out that the SOC is reduced during phases of remission in delusional patients.

Both in relation to somatic and mental disorders, the literature is quite clear about positive effects of stronger SOC scores on patients' *quality of life*. One possible explanation might be that the SOC functions as a moderator between psychological distress and health-related quality of life, as suggested by Hyphantis et al. (2011) in a study on patients suffering from systemic Lupus erythematosus. Positive interrelations between the SOC and quality of life are reported for numerous conditions. These include critically ill groups of patients in general (Fok et al., 2005), heart conditions (Bruscia et al., 2008; Norekval et al., 2010; Ruzyczka et al., 2011; Silarova et al., 2012), cancers (Ding et al., 2013; Drabe et al., 2015; Forsberg et al., 1996; Henoch et al., 2007; Mizuno et al., 2009; Paika et al., 2010), and hematopoietic stem cell transplantation (Pillay et al., 2014). Few papers focus on the quality of life in patients with rare diseases. An example is the study by Soderman et al. (2001) on Meniere's disease. This too confirms the positive relation between the SOC and patients' quality of life.

Furthermore, the SOC is also described as being positively related to *patient satisfaction* (Larsson, 1999; Tistad et al., 2012). Dubs (1999) offers a complex model in which salutogenesis is understood as one factor to explain patient satisfaction after surgery. And Veenstra and Hofoss (2003) identify the SOC as the most important patient-related factor in relation to patients' perception of information received while in the hospital.

The SOC, Adjustment to Disease, Self-Management, and Adherence to Treatment

Another outcome of interest is the relation of the SOC to patients' *ability to adjust to a disease*, to take responsibility for their *self-care or self-management*, and to *adhere to treatment recommendations*, especially in relation to chronic diseases that require an active participation of patients in relation to maintaining their condition.

Concerning *adjustment* to disease, published findings include positive effects of the SOC in relation to myocardial infarction (Drory et al., 1999) and ostomy surgery (Nordstrom & Lutzen, 1995).

Concerning *self-management and adherence to treatment* too, the available literature widely suggests positive effects of stronger SOC scores in relation to numerous conditions. For example, Helvik et al. (2012) and Soderhamn et al. (2008) describe positive relations between the SOC and the self-care abilities of elderly patients in general, Spadoti Dantas et al. (2014) report positive links to coping strategies in patients with overall chronic diseases, Ahola et al. (2012) conclude that stronger SOC scores in female diabetes patients are related to healthier food choices, and to more exercise in male diabetes patients. According to Pusswald et al. (2009), the SOC is related to the coping abilities of Parkinson's disease patients, while Silarova et al. (2013) describe weak SOC scores as a risk factor for limited health-related behaviors in heart patients, and Myers et al. (2011) suggest relations to patients' level of leisure-time activities after myocardial infarction. Langius et al. (1994) identify the SOC as related to the functioning and rehabilitation after oral and pharyngeal cancer, Kenne et al. (2013) note relations between the SOC and coping in women with breast cancer, and Stromsvik et al. (2007) use the SOC theory to discuss their findings on the living experiences of Swedish men with multiple endocrine neoplasia. Cederfjall et al. (2002) detect relations between weak SOC scores and non-adherence in HIV patients. Warwick et al. (2010) conclude that a better understanding of the SOC may be helpful to support symptom monitoring and self-care in patients suffering from chronic obstructive pulmonary disease. Sjostrom et al. (2004) conclude that the SOC is important for pregnant women's ability to adjust to unforeseen events in relation to their condition.

Contradictive to these findings, one study on the associations between psychosocial factors and outcomes of physiotherapy reports no relations between the SOC and motivation (Lohmann et al., 2011).

The SOC and Social Outcomes

A small number of studies focus not only on the relations between the SOC, clinical symptoms, and subjective quality of life but also on relations between the SOC and social outcomes. These include school achievements in adolescents with congenital heart disease (Apers et al., 2013) and experiences of stigma in mental health patients (Lundberg et al., 2009). Papers typically conclude that weaker SOC scores are related to higher risks of experiencing undesired outcomes (such as low school achievement or high levels of stigma).

The SOC and Positive Health

Not surprisingly given the hospital context of this paper, most of the studies retrieved on the SOC and hospital patients are disease related. Only few studies use salutogenesis concepts such as the SOC to actually explain positive health. Examples are studies on healthy aging, respectively, good health in later life by Gilhooly et al. (2007) and Schneider et al. (2004). Findings suggest positive effects of stronger SOC scores.

The SOC in Relation to Gender, Age, and Socioeconomic Status

The few studies that differentiate between male and female patients typically find weaker SOC scores in females as compared to males with the same diagnosis and symptom severity (e.g., Bergsten et al., 2011; Cederfjall et al., 2001; Lithner et al., 2012; Torrati et al., 2010; Wrzesniewski & Wlodarczyk, 2012). Furthermore, literature suggests that the dimensions of the SOC may be of different relevance to men and women. According to a study on patients with cystic fibrosis by Bergsten et al. (2011), males are at higher risk for mental ill-health if they score weak on comprehensibility while females have higher risks if they score weak on manageability. With regard to patients of different socioeconomic status and different ethnicity, Silarova et al. (2013) report that members of more disadvantaged groups have weaker SOC scores. Both gender- and status-specific findings suggest that the development of individual levels of SOC may be dependent on restrictions experienced in relation to gender or socioeconomic status.

The SOC in Relation to Patients' Family Members

Caring family members—especially those of patients with severe and life-threatening diseases—and relations between their SOC, quality of life, mental health, and well-being are also a frequent theme in patient-related studies. For example, Jaracz et al. (2012) and Larson et al. (2005) report on relations between the SOC, quality of life and the burden of caregivers after stroke. Caap-Ahlgren and Dehlin (2002) focus on family members of Parkinson's disease patients. Drabe et al. (2015), Ezer et al. (2006), Gudmundsdottir et al. (2011), Khanjari et al. (2012), Schmitt et al. (2008), Tang et al. (2013), Tzuh and Li (2008), and Yang et al. (2012) investigate the situation and adjustment of caregivers and family members of cancer patients.

The literature generally confirms that a stronger SOC of family members reduces their risks for and levels of developing mental comorbidities in relation to taking care of an ill family member (e.g., Gudmundsdottir et al., 2011), and positive effects of strong SOC scores on the quality of life of caring family members are also described (e.g., Ezer et al., 2006).

Salutogenesis in General and the Salutogenic Model

Less than 10% of the papers retrieved referred either to Antonovsky's comprehensive salutogenic model or to salutogenesis in general. Tishelman et al. (1991) suggest the salutogenic model as a framework for studying and supporting cancer patients. Wikblad and Montin (1992) use it to identify the caring needs of diabetes patients. When salutogenesis is referred to in more general terms, the concept typically remains rather vague or normative. For example, in a paper by Ventegodt, Thegler, et al. (2007), salutogenesis is described "as the process exactly the opposite of pathogenesis" (Ventegodt, Thegler, et al., 2007, p. 306), or authors claim "salutogenic effects" of suggested interventions, such as relaxation training during pregnancy (Fink et al., 2012). Berger (2003) states that the theory of salutogenesis with its search for health-preserving factors can support the strengthening of patient's self-healing powers by identifying healthy parts, and Onega (1991) understands salutogenesis as a guiding concept for psychiatric care. Referrals to salutogenesis with a slightly esoteric touch can also be found in studies on so-called *holistic care* (e.g., Ventegodt et al., 2006).

Salutogenesis and Impacts of the Hospital Setting on Patients

In the sense of a whole-systems approach, another, still rather small strand of research focuses on salutogenesis in relation to the routine processes and physical surroundings of hospitals. For example, one paper by Hasfeldt et al. (2014) focuses on the impact of noise in ICU wards on patient experiences. Results indicate that a weaker SOC is related to higher perceived noise and to higher patient stress levels.

Additional papers on effects of the hospital setting that were identified by freehand search include a synthesis of the evidence of effects of healthcare design on health (Ulrich et al., 2010). Findings suggest that design is a relevant resource for salutogenic processes. More explicitly, Dilani and Armstrong (2008) bring together the concepts of salutogenesis and design, focusing on how physical environments can support understandability (e.g., by clear signage), manageability (e.g., by providing architectonic features that support functional independence), and meaningfulness (e.g., by providing areas for relaxation).

Implications for Salutogenic Patient-Oriented Interventions

What consequences for supporting patients did the researchers draw from their findings? Basically, five areas of interventions can be distinguished and will be described in more detail in the following. These are: to use the SOC as a diagnostic tool; to adapt treatment schemes to compensate for a weak SOC, or to improve the SOC; to strengthen patient self-management; to support caring family members; and to adapt hospital structures and routines. Overall, hospital nurses are most often suggested as those who should perform these interventions.

Using the SOC as a Diagnostic Tool

The most widely drawn conclusion from studies on patients and salutogenesis, over a wide spectrum of diseases, is that *SOC measurements enable the identification of patients in need of specific treatment, information or support* so as to achieve better targeted healthcare, better subjective health, quality of life, or self-management. Numerous authors conclude that patients' SOC scores should be assessed to inform treatment decisions and interventions (Blom et al., 2010; Boman et al., 1999; Buchi et al., 1998; Ding et al., 2013; Drabe et al., 2015; Forsberg et al., 1996; Klang et al., 1996; Linnen et al., 2011; Matsuura et al., 2003; Myers et al., 2011; Norekval et al., 2010; Spadoti Dantas et al., 2014; Torrati et al., 2010). However, there is also some criticism to use the SOC for this purpose, since authors find its dimensions overlapping with other concepts such as anxiety or disease-related depression (Sack et al., 1997), suggesting that the SOC might be a proxy for mental health, well-being, and functionality.

Recommendations on using SOC scores as diagnostic tools are clearly better represented in the literature than recommendations of resulting interventions. With regard to the latter, some authors (e.g., Sales et al., 2014) see a need for more and better studies on the interplay between concepts such as the SOC, quality of life, and treatment outcomes, as a precondition for suggesting effective interventions.

Adapting Treatment Schemes

Other papers on patients already recommend specific interventions. Implicitly, most recommendations seem to focus on interventions to compensate for a weak SOC, rather than to enhance the SOC in general or one of its dimensions. For

example, it is widely suggested to *adapt treatment schemes* for patients with weak SOC scores, mostly in relation to supporting patients' mental health. Interestingly, although most patient-related studies quoted in this paper focus on the SOC, most of the recommended interventions do not explicitly relate to improving or compensating the SOC or one of its dimensions. Across a wide spectrum of conditions, authors recommend rather general psychological or psychotherapeutic interventions to support patients with weak SOC scores. This refers to cancer patients (Forsberg & Bjorvell, 1996), patients after myocardial infarction (Wrzesniewski & Wlodarczyk, 2012), patients with rheumatoid arthritis (Buchi et al., 1998), patients after vestibular disease (Tschan et al., 2011), or patients in need of hematopoietic stem cell transplantation (Pillay et al., 2014). Other recommendations for patients with weak SOC scores include specific health promotion attention, such as the recommendation to heart patients to remain physically active (Gustavsson & Braanholm, 2003; Silarova et al., 2013). Yet another strand of recommendations calls for a "multidimensional" approach that comprises physical, psychological, and social aspects. This perspective is, for example, taken by Schneider et al. (2011) in a study on psoriasis patients, or by Karlsson et al. (1999) in a study on patients undergoing coronary artery bypass grafting. Richardson et al. (2001) conclude that SOC measurements may help to individualize care for diabetes patients, and Kenne et al. (2013) come to similar conclusions for supporting women with breast cancer. Cederfjall et al. (2002) suggest the development of a caring patient–provider relationship for HIV patients with weak SOC scores.

However, there is also a group of papers that relate their recommendations more specifically to salutogenesis, to the SOC in general, or to one of its dimensions. For example, Bergstein et al. (2008) who refer, in addition to the SOC, to the wider salutogenic model, call for interventions that may enhance elements of the SOC in patients with delusional disease, Ahola et al. (2010) formulate similar recommendations for diabetes patients, and Gassmann et al. (2013) for schizophrenic patients. Pusswald et al. (2009) recommend that—in line with Antonovsky's concept of generalized resistance resources—counseling interviews with patients suffering from Parkinson's disease should include analyses of resources available to the patient. Quintard et al. (2013), in a study on the sexual functioning of breast cancer patients, conclude that the patients' perception of available resources—in the sense of manageability of the situation—needs to be enhanced to achieve better outcomes and, also in relation to cancer patients, Gustavsson-Lilius et al. (2012) suggest promoting the SOC to enhance optimism. A paper by Bergman et al. (2012) aims at assessing which of the three dimensions of the SOC is most important for the rehabilitation of patients after first-time myocardial infarction. The authors conclude that comprehensibility is the most important dimension for this group of patients and consequently suggest that this dimension should be supported in healthcare. For patients in ICUs, Akerman et al. (2013) suggest strengthening patients' sense of coherence by photo diaries. And for palliative care, in relation to manageability, a paper by Andershed and Ternestedt (1998) points to the importance of involving patients and relatives in deciding on opportunities for an appropriate death. Glazinski (2007) discusses on how far salutogenesis could become a guiding concept for neurology and psychiatry.

Less common and comparably new is the perception of the SOC being an amenable concept and of patients with weaker SOC being in need of interventions to enhance their SOC. This position is taken in a study by Chenoweth et al. (2008) on patients with Parkinson's disease. They conclude that nurses could contribute to this goal by encouraging their patients to participate in Parkinson's support groups, by teaching them self-management skills and symptom monitoring. Norekval et al. (2010) suggest that patient education might have salutogenic effects. Also, Kvale and Synnes (2013) suggest that the SOC of cancer patients can be enhanced. They explicitly refer to the dimension of manageability that can be supported by adequate pain management strategies, while the dimension of meaningfulness may be enhanced by listening to patients' stories. Li et al. (2015), however, conclude that longitudinal studies on the effects of treatment for a weak SOC are still missing.

Least common in the literature were tests to assess the effectiveness of specific interventions. For example, one study by Johnson et al. (2008) measured and compared effects of quiet reading sessions, human visits, and dog visits, on the SOC of patients undergoing radiation therapy for cancer. While all three types of interventions were experienced as beneficial by the patients, no statistically significant differences could be detected.

Supporting Self-Care and Self-Management

Papers on patients' ability for self-care or self-management typically interpret a weak SOC as an indication that patients should receive *specific support and training to improve self-care and self-management*. For example, in a longitudinal study on smoking cessation in survivors of myocardial infarction, Gerber et al. (2011) conclude that patients with a weak SOC should receive targeted help to quit smoking. Hall-Lord et al. (1999) and Hildingh et al. (2008) call for improved *post-hospital support* for patients with weak SOC scores. In these papers, a weak SOC at admission is typically interpreted as a risk factor for limited self-care after discharge, so that papers call for a specific support of these patients in discharge planning, such as proactively inviting family members into the planning process, and helping patients to identify resources they can use or rely upon at home. However, one study on chronic patients found that

those with stronger SOC scores had more hospital admissions while those with weaker SOC scores were more trying to cope for themselves—which probably indicates that a stronger SOC is also related to the ability to delegate caring tasks to healthcare institutions instead of struggling for oneself (compare Kirby et al., 2013).

Supporting Caring Relatives

Some papers explicitly refer to *supportive interventions for caring relatives*. In light of Antonovsky's theories, these can be understood as a resource for the patient that can be strengthened by targeted interventions. A specific focus of these papers is on the stress-coping abilities, for example, of family member of patients after stroke (Jaracz et al., 2012) or cancer (Ezer et al., 2006; Schmitt et al., 2008; Tang et al., 2013; Tzuh & Li, 2008; Yang et al., 2012). However, in a study on family caregivers of Parkinson's disease patients, the authors conclude that the SOC, although found to be relevant to their experience of the caring situation, may be difficult to influence (Caap-Ahlgren & Dehlin, 2002).

Improving the Impact of Hospital Functioning on Salutogenesis

Only few studies have an organizational perspective on options to enhance salutogenesis or the SOC, focusing not on additional patient-oriented interventions but on how hospital structures and routine care processes can be used or altered for salutogenic purposes. Concerning salutogenesis as a component in hospital policies, Buscher et al. (2004) note a clear deficit. Based on an analysis of the rehabilitative content of available guidelines for the treatment of patients with mental disorders in Germany, they conclude that none of the guidelines they examined contains explicit referrals to salutogenic aspects of the therapy. With regard to specific recommendations for change, Swenne and Skytt (2013) suggest ways to improve traditional ward rounds so as to allow for more patient participation which the authors consider essential for a good SOC. A paper co-authored by Antonovsky himself (Langius et al., 1992) concludes that the SOC concept should be used to reflect on, and adapt, the way care is provided in hospitals, and Bruscia et al. (2008) call for an improvement in interdisciplinary cooperation to "help cardiac patients perceive life as comprehensible, manageable, and meaningful." With regard to hospital infrastructures, Hasfeldt et al. (2014) emphasize the need to keep ICU noise levels as low as possible, especially to support patients with a weak SOC.

Salutogenic Interventions by Different Healthcare Professions

Some authors conclude that healthcare professionals need a better general understanding of salutogenesis (e.g., Gilhooly et al., 2007; Helvik et al., 2012). The implications would be that salutogenesis and the SOC should be incorporated into the training curricula of healthcare staff. For this article, we could not assess in how far this is already the case. But we found at least one example, "The handbook of behavioral medicine" (Mostofsky, 2014) that contains several referrals to salutogenesis and its consequences for approaching patients.

Compared to doctors, nurses were more often suggested as potential providers of salutogenic interventions to patients. This probably indicates that nurses use salutogenesis as a concept for further professionalization, and that salutogenic interventions are typically not understood as needing the specific skills of the medical profession. One paper by Menzies (2000) even describes nursing care as a generalized resistance resource in mental healthcare. And several papers outline that salutogenesis or the SOC could be used as guiding concepts for nursing interventions (e.g., Etzel, 2001; Heather, 2013; Mizuno et al., 2009; Onega, 1991; Skarsater et al., 2005). In relation to suicidality, Sjostrom et al., (2012) suggest including the SOC into nursing diagnoses. In a paper by Fok et al. (2005), nurses are recommended to design interventions to enhance the SOC in early phases of hospitalization for critically ill patients. Bergman et al. (2011) found that nurses should support patients after first-time myocardial infarction to identify their risk factors and to support individualized rehabilitation, especially by supporting comprehensibility.

Occupational therapists are another professional group mentioned in the literature. One paper by Schult et al. (2000) recommends they should use SOC measurements for working with chronic pain patients.

Salutogenesis in Relation to Hospital Staff

All in all, 24 papers with a focus on salutogenesis and hospital staff were identified and analyzed, both with regard to statistical information such as the year of publication and the provenance of the authors, and with relation to content (the use of Antonovsky's concept(s), the groups of staff addressed, and conclusions and consequences).

Papers were published between 1991 and 2014, and over time, there was a clear increase of papers published annually (although not as strong as in the patient-oriented papers): While only five papers had been published in the first decennium of the observation period until 2000, there were already

nine papers in the decennium from 2001 to 2010, and in the first 4 years of the third observed decennium from 2011 to 2014, ten papers had been published. Authors come from all continents with a majority from Europe (14 or 58%), followed by Asia (5 papers or 21%), Australia and the USA (2 papers or 8% each), and Africa (1 paper or 4%). The single country with most published literature in the field is Sweden (5 articles or 21%).

Most articles have a focus on nurses (20% or 83%). These typically refer to nurses in specifically demanding caring situations, such as cancer care (Palsson et al., 1994), palliative care (Ablett & Jones, 2007), or mental healthcare (Berg & Hallberg, 1999). Three studies are on mixed occupational groups (Hoge & Bussing, 2004; Nilsson et al., 2013; Rabin et al., 2011) and only one study explicitly addresses doctors (Haoka et al., 2010).

Quite similar to papers on patients, most of the papers on staff are related to the SOC. The majority of these papers are of quantitative character, while a small number either uses the SOC as a theoretical construct to interpret qualitative data (e.g., Ablett & Jones, 2007; Bringsen et al., 2012) or focuses on the SOC conceptually (Malagon-Aguilera et al., 2012; Reid et al., 2004). The SOC is usually studied in relation to other areas of interest such as perceived work strain (Hoge & Bussing, 2004; Lewis et al., 1992; Orly et al., 2012; Palsson et al., 1994), perceived reward from work (Haoka et al., 2010), work–family conflict (Takeuchi & Yamazaki, 2010), self-rated health (Malinauskiene et al., 2011), and, most often, in relation to depression and burn-out in staff (Aries & Ritter, 1999; Cilliers, 2003; Kikuchi et al., 2014; Nordang et al., 2010; Tselebis et al., 2001). Studies typically conclude that weaker SOC scores are related to lower levels of desired states, such as self-rated health, and to higher levels of undesired states, such as perceived work strain, conflict, or depression and burnout.

Six papers (25%) show a more general salutogenic orientation. For example, Bringsen et al. (2012) describe focus group interviews with the aim to identify workplace-related health resources for hospital nurses, or Rabin et al. (2011) "looks at the wide spectrum of stressors found in specialists working in the mental health area… with the salutogenic approach in the background." Nilsson et al. (2013) present a questionnaire with a salutogenic perspective to guide workplace health promotion interventions.

Implications for Occupational Health in Hospitals

Similar to studies on patients, SOC is so far mainly used to identify staff members at higher risk of developing problematic conditions, such as burnout, and thus being in need of extra support. A weak SOC seems to be widely used as an indicator for the vulnerability of staff to work-specific stressors, while strong SOC typically is understood as a buffer against job strain (e.g., Malinauskiene et al., 2009). But there are also some more resource-oriented papers such as the one by Bringsen et al. (2011) that has a more general salutogenic orientation and uses this lens to identify work-specific resources for staff, such as flow situations.

While some papers conclude by describing the study results (e.g., Aries & Ritter, 1999; Hoge & Bussing, 2004; Lewis et al., 1994; Malagon-Aguilera et al., 2012; Malinauskiene et al., 2009; Nordang et al., 2010), others suggest interventions for improvements. Papers with a focus on the SOC often (but not exclusively) frame their conclusions more in the direction of risk orientation and risk reduction, while papers with a more general salutogenic orientation focus more on resource-strengthening. However, both perspectives come to rather similar recommendations with regard to suggestions for interventions. On the one hand, the recommended interventions refer to improvements of potentially strenuous work conditions such as high work load (e.g., Rabin et al., 2011) or generally adverse working conditions (Malinauskiene et al., 2011). On the other hand, support of individual staff members is recommended in the form of supervision (Berg & Hallberg, 1999; Palsson et al., 1994), mentoring (Cilliers & Terblanche, 2014), mindfulness meditation (Foureur et al., 2013), training and peer support (Michael & Jenkins, 2001), or targeted support for staff with burnout symptoms (Tselebis et al., 2001). Some authors also recommend a combination of organization- and individual-related interventions (e.g., Cilliers, 2003; Reid et al., 2004) as both may contribute to a better use of coping resources (Lewis et al., 1994). Bringsen et al. (2012), on the basis of a qualitative study, emphasize that different types of hospital staff may need different types of supportive interventions.

Less common and more recent are studies calling for actual improvements of a weak SOC in staff (e.g., Kikuchi et al., 2014). One study by Orly et al. (2012) describes the measurement of SOC scales in nurses' pre and post cognitive-behavioral interventions, with significant improvements post intervention. In a similar study on the effects of mindfulness-based meditation, Foureur et al. (2013) also report positive effects, while Berg and Hallberg (1999) could not detect any significant improvements in SOC scores following supervision.

Summing up, while there seems to be increasingly strong evidence for the interrelations between SOC and the (mental) health of hospital staff, the literature is less clear with regard to the type of interventions that should be used either to compensate, or to improve a weak SOC.

Salutogenesis and Health-Promoting Hospitals (HPHs)

Since salutogenesis is referred to as one of the theoretical backgrounds of health promotion, it is worthwhile to explore in how far salutogenesis has so far been taken up in HPH, an international network initiated by WHO-Euro that aims at supporting the reorientation of hospitals toward health promotion (Milz & Vang, 1989; Pelikan et al., 2001; WHO, 1991, 1997).

HPHs are based on a WHO initiative in relation to the settings approach in health promotion. They still seem to be exotic birds in the hospital world: While the ten nation states with most hospitals per country alone have more than 150,000 hospitals (according to Maps of the World), the roughly 1000 member organizations of the International HPH network make far less than 1 per mille of the hospitals on the planet.

Following the Ottawa Charter's (WHO, 1986) demand to "reorient health services," WHO had started consultation on how to bring this approach into practice in 1988, focusing on hospitals as the core organizations in modern healthcare systems. Subsequently, a model project in Vienna (1989–1997), a European pilot hospital project (1993–1997), and an international network (starting in 1990) were initiated by WHO-Euro. Since 2008, HPH is an international nonprofit association, operates in all continents and is organized in about 40 national and regional networks, coordinated by an international supra-network with a general assembly and elected governance board, and is supported by specific thematic task forces and two WHO collaborating centers (Dietscher, 2012, 2013; Pelikan et al., 2011).

Content-wise, HPHs are oriented at the Ottawa Charter's definition of health promotion which is "the process to increase control over, and to improve, one's health" (WHO, 1986). Defined target or stakeholder groups of HPH are not only patients (and their significant others) but also staff and community members (people in neighborhoods and catchment areas). From the beginning, HPH was dedicated to principles of organizational development and quality improvement, understanding health promotion not (only) as additional (consultative) services but rather as the way health promotion is addressed and integrated into the core processes of healthcare organizations, as outlined in two policy papers, the Budapest Declaration on HPH (WHO, 1991) and the Vienna Recommendations on HPH (WHO, 1997). This background was the basis for formulating 18 HPH core strategies—six main HPH intervention areas, for each of the three defined target groups. These areas or principles are (1) to support healthy living in the organization (maintaining and strengthening healthy aspects while in care or, for staff, during working life), (2) to improve co-production, (3) to develop the physical and social healthcare setting into a health-promoting environment, (4) to empower for disease management, (5) to empower for healthy lifestyles, and (6) to contribute to health-promoting community development (Pelikan et al., 2005) (Table 37.6). To support linking HPH to quality management, 5 standards (Gröne, 2006) and 7

Table 37.6 Eighteen HPH core strategies (Pelikan et al., 2005, modified). With permission of © World Health Organization 2005

Target group strategy	Patients	Staff	Community
Empowerment of stakeholders for health-promoting self-reproduction/self-management	Developing health-promoting living conditions for patients in the hospital	Developing health-promoting work life for staff	Developing health promoting access to the hospital for citizens
	PAT-1	*STA-1*	*COM-1*
Empowerment of stakeholders for health-promoting coproduction	Encouraging patients' participation, cooperation, and co-production in treatment and care	Encouraging health-promoting work processes	Developing health-promoting cooperation's with services in the region
	PAT-2	*STA-2*	*COM-2*
Health-promoting & empowering hospital setting for stakeholders	Developing a health-promoting hospital setting for patients	Developing a health-promoting workplace setting for staff	Developing the hospital as a health-promoting environment for the community
	PAT-3	*STA-3*	*COM-3*
Empowering illness management (patient education) for stakeholders	Encouraging patients' health-promoting self-management of specific diseases	Encouraging staff's health-promoting illness management	Participate in alliances to encourage citizens for a health-promoting self-management of specific diseases
	PAT-4	*STA-4*	*COM-4*
Empowering lifestyle development (health education) for stakeholders	Encouraging patients to lead a health-promoting lifestyle	Encouraging staff to lead a health-promoting lifestyle	Participate in alliances to encourage citizens to lead a health-promoting lifestyle
	PAT-5	*STA-5*	*COM-5*
Participation in health-promoting & empowering community development for stakeholders	Developing health-promoting living conditions for patients after leaving the hospital	Developing a health-promoting community setting for staff	Participate in alliances to develop health-promoting community settings
	PAT-6	*STA-6*	*COM-6*

implementation strategies (Pelikan, 2007) were also developed.

Summing up, a health-promoting hospital is actively attempting to integrate health promotion criteria into its decision premises and processes, and, consequently, taking comprehensive and continuous action to promote the health of its patients, staff, and the population in the community it serves (Pelikan et al., 2001). A bibliography on published literature in the field of HPH was published by Dietscher et al. (2014).

Conceptual and Practical Links Between HPH and Salutogenesis

The above-mentioned official HPH documents do not contain any explicit referrals to salutogenesis. Still, HPH has an implicit salutogenic orientation, focusing on a comprehensive concept of health and on strengthening the resources for health (e.g., by empowerment), as well as on reducing risks for diseases for a wide set of target groups, no matter where they are on the health-disease continuum.

However, while Antonovsky's general concept and also his specific salutogenic model are typically understood as a psychological concept, or rather as a theory on individual coping with challenges leading to tension and possibly stress, HPH—so as other setting-oriented health promotion strategies—is more oriented toward changing organizational characteristics that are either challenging or support coping for individuals and groups. HPH aims at using hospitals as settings in which both situative and individual health determinants can be addressed by individual as well as organizational interventions. In this respect, both concepts can be interpreted as complementary: salutogenesis provides a concept that can be pursued by the intervention strategies of HPH. Furthermore, the SOC concept and questionnaires might be interesting tools for developing HPH. Measurement tools developed by HPH itself—such as the self-assessment tool for the five HPH standards (Gröne, 2006)—assess whether health-promoting structures (and partly also interventions) are in place. The SOC could—at least in principle—be used to design specific health promotion interventions and to measure their effectiveness. Although the scientific debate on whether the SOC is ultimately shaped during childhood and adolescence or whether it can be altered in later life is ongoing, empirical data quoted in this chapter seem to support the hypothesis that the SOC of an individual can be improved or decreased also in adult life besides being taken into account by the hospital. Therefore, it seems plausible to suggest that SOC measurements pre–post targeted interventions may also produce data on the effectiveness of health promotion interventions.

As far as we could detect from the abstract books of HPH conferences that were published over the last 10 years, 33 papers—less than 1% of all abstract published during the observation period—had an explicit referral to salutogenesis. The number of related papers submitted annually seems largely related to the respective Calls for Papers (e.g., as the program of the HPH conference in 2011 in Turku, Finland, had a focus on salutogenesis, considerably more related papers than on average were submitted that year). Target groups and applications of the salutogenesis approach in HPH papers were quite similar as in the literature search outlined in this article. One difference, however, was that HPH papers also included papers on salutogenic community interventions by hospitals, probably because community citizens are one of the three explicit target groups of HPH.

Apart from the conference papers, quite a number of international HPH activities can be clearly related to one or more dimensions of the SOC. For example, HPH task forces that address topics such as health-promoting psychiatric health care, health promotion for children and adolescents in hospitals, or migrant-friendly and culturally competent hospitals, have been systematically calling for better comprehensibility and manageability, especially for vulnerable groups by adapting healthcare services to the needs of these groups.

Discussion and Conclusions

In this chapter, we contrast our theoretical considerations on the role salutogenesis could play in hospitals with the topics actually covered in the available reviewed literature. We will then discuss the limitations of our approach and suggest some resulting needs for further research.

A General Salutogenic Orientation and the Salutogenic Model

The literature in the hospital field that relates to a general salutogenic orientation of the hospital setting is scarce, as is the hospital-related literature referring to Antonovsky's complex salutogenic model. The few examples that exist remain rather normative and vague when it comes to concrete recommendations for resulting interventions to develop hospital's structures, cultures, and processes. While there exist some literature and research concerning the role of salutogenesis for the role and work of nurses, salutogenesis for and by medical doctors still is a potential to be discovered and implemented.

Concerning the general salutogenic model, in light of the available literature, especially three desiderata remain that provide ample room for future research and practice. First, following Antonovsky, a salutogenic approach means a consequent orientation at resources (not just risks). But a practical and hospital-specific (and partly even diagnosis-specific) concept and typecast of the health-relevant general and spe-

cific resistance resources of patients (and staff), as well as of interventions to activate them, is still lacking. Next to person-related resources such as physical, mental, and socioeconomic resources, as well as personal lifestyles, this typecast should also comprise resources related to the functioning of the hospital itself and to the way hospital core processes are run, as suggested by some of the papers quoted in this chapter. These hospital-internal resources would include caring styles, options for patient participation in treatment decisions and care, the support of patient health literacy (compare, e.g., Brach et al., 2012), or the kind of support available at discharge, or when progressing from hospitals to other providers of care. Second, a set of applicable interventions that can effectively activate these resources, as well as evidence on their effectiveness, would be required. Third, it would be necessary to understand salutogenesis as a feature of organizational quality, not only as characteristic of interaction between individuals, and thus to develop and evaluate models for developing salutogenic organizational structures and capacities for supporting the salutogenesis of the people affected by these organizations.

Furthermore, with regard to Antonovsky's comprehensive salutogenic model, practically none of the papers refers to the model in its totality. If at all, papers used concepts such as coping with stress, or generalized resistance resources. Against this background, especially a more thorough reflection of the stressors hospitals themselves produce by their way of functioning, and measures to avoid them, would be desirable.

The Sense of Coherence

The vast majority of the literature retrieved for this article somehow relates to the SOC. However, the SOC is, rather paradoxically, widely used with a risk perspective rather than a resource perspective. By use of the diverse available SOC questionnaires, the SOC is typically treated as a diagnostic concept. Mainly, a weak SOC is understood as a risk factor for numerous conditions. And most studies treat the SOC as an absolute or fixed personality trait but do not reflect on how hospital structures and processes themselves can impact on the SOC and its dimensions of comprehensibility, manageability, and meaningfulness.

Which Intervention Approaches Are Suggested for Whom?

In line with the outlined research perspectives, the salutogenic interventions suggested by the authors of the retrieved papers are, in line with medical interventionist thinking, mainly person-oriented, and here again, mostly relating to hospital patients, mainly with rather severe diseases. Few also address hospital staff, but rarely medical doctors and hardly any the people in the hospitals' communities. Most papers refer to compensating for patients' weak SOC with specific supportive interventions. Only a minority of papers has an organizational approach, considering how the hospital functioning as such could reduce stress and improve comprehensibility, manageability, and meaningfulness for patients, staff, and visitors alike.

Furthermore, in contrast to Antonovsky's demand to "encompass all persons, wherever they are on the continuum" (Antonovsky, 1996, p. 14), the available research on salutogenesis and hospitals has a clear focus on the disease side of the continuum, widely treating a weak SOC as a risk for self-perceived health, self-management, and quality of life.

Needs for Further Research

The literature reviewed for this article had no homogenous understanding of salutogenesis or the SOC. There seems to be good evidence for positive interrelations between salutogenesis, especially the sense of coherence, and subjective health, quality of life, and self-care ability. There is also evidence for positive interrelations between the SOC and mental health. However, it remains unclear and widely depending on the study perspective whether the SOC is viewed as a predictor, mediator (Tang et al., 2013), or moderator of desired outcomes, or even as an outcome itself. For example, while some authors see the SOC as a predictor of symptom severity, others interpret symptom severity and specific personality traits as impacting on the SOC. And in the emerging field of research on the SOC being an amenable concept, SOC levels are viewed as an outcome of interventions. Thus, it seems that more conceptual clarity on the role the SOC actually plays in relation to health still needs to be achieved and more complex designs to research this are needed. Furthermore, research is needed on the question why there is clear evidence for interlinks between the SOC and subjective health but hardly any proof for the SOC's impact on dimensions of health that do not appear directly related to subjective well-being or personal self-management.

When it comes to researching salutogenic interventions, we would argue that more emphasis should be given to researching the impact of hospital functioning and organizational interventions on salutogenesis or the SOC, and for person-oriented interventions, that more systematic research on the effectiveness of these interventions would be needed.

Finally, we suggest further research on the potential applicability of SOC measurements to assess the outcomes of health promotion interventions, on the level of both organizations and individuals, as well as concepts and research on implications for healthcare financing and healthcare curricula.

Limitations

The empirical part of this chapter is widely based on a systematic literature search and on a content analysis of abstracts of published research that contain explicit referrals to salutogenesis in relation to hospitals. Because of the inclusion and exclusion criteria that were decided upon, some papers that might be relevant for the context of this paper may have been overlooked if they do not contain explicit referrals to Antonovsky's concepts.

Furthermore, because of resource constraints, our analysis of the reviewed articles was limited to the abstracts of the retrieved and included papers. Since our main aim was to develop an overview on the topics that are already covered by hospital-related research in relation to salutogenesis, we consider this methodological decision justifiable. Still, more details could of course have been gained by a thorough analysis of the full papers.

As far as health promotion in hospitals is concerned, the international Network of Health-Promoting Hospitals and Health Services represents only a scarce but systematic and explicitly declared part of actual health promotion in hospitals. There is much more health promotion going on in hospitals, also without using the label, which also will have its links to salutogenesis.

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The Application of Salutogenesis in Primary Care

38

Daniela Rojatz, Peter Nowak, Ottomar Bahrs, and Jürgen M. Pelikan

Introduction

Behind the terms 'primary care' and 'salutogenesis' are visions, values, and structures. Primary care, understood as the first contact point to medical care, operates at the interface between the social and health systems, the patient with his or her family and professional environment, and the local population. Primary (health) care is envisioned to contribute to universal health coverage and equality. Salutogenesis describes an orientation towards health, a model, and the construct 'sense of coherence'. This chapter is dedicated to the application of salutogenesis in primary care.

Primary care services are a complex of strongly interrelated professional practice, research, and supporting policy. Therefore, applying salutogenesis in primary care comprehensively should include introducing salutogenesis in all these fields simultaneously (Pelikan, 2017).

This chapter examines how salutogenesis is addressed and discussed in policy, research, and practice. Moreover, it discusses the application of salutogenesis as a health orientation, a model, and a construct 'sense of coherence' in primary care. In doing so, we contribute to applying salutogenesis in primary care and provide an outlook on further research needs.

In the first step, we try to make comprehensible what characterizes primary care, salutogenesis, and finally, the meaningfulness of salutogenic primary care. Subsequently, the chapter examines how salutogenesis is addressed and 'managed' in policy, research, and practice. Moreover, it discusses the application of salutogenesis as a health orientation, model, and sense of coherence in primary care.

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Defining Key Terms: Primary Care and Salutogenesis

Since the terms primary care and salutogenesis are quite broad, it is important to show their variety and give orientation on how both terms are subsequently understood and highlight the importance of applying salutogenesis in primary care.

Primary Care

The terms 'primary care' and 'primary health care' are sometimes used interchangeably. We follow the WHO definition and differentiate between primary health care and primary care (Muldoon et al., 2006; WHO, 2018a).

Primary health care (PHC), according to the World Health Organization (WHO), is defined as '[a] whole-of-society approach to health that aims to maximize the level and distribution of health and well-being through three components:

(a) Primary care and essential public health functions as the core of integrated health services;
(b) Multisectoral policy and action; and,
(c) Empowering people and communities' (WHO and UNICEF, 2018, p. 40).

These three elements indicate that primary health care ideally resonates with people' and community needs through integrated health care and policy.

In contrast, primary care is a subset of PHC. It refers to '[a] key process in the health system that supports first-contact, accessible, continuous, comprehensive, and

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coordinated patient-focused care' (WHO and UNICEF, 2018, p. 40). There is no commonly used definition of primary care, but most definitions share the following attributes which are used to assess primary care (Muldoon et al., 2006; Starfield et al., 2005):

- First contact care can have two meanings: the first contact with the care system or the basic service level of health care.
- Accessibility: to provide service as close as possible to where people live and work.
- Comprehensiveness: to address any health problem at any given stage of a patient's life cycle.
- Coordination of care: to ensure the coordination of services and information a patient needs.
- Continuity: to care in long-standing relationships.

These aspects are also mirrored in the definitions of 'family medicine' and 'general physician' of the World Organization of Family Doctors (WONCA) (Jamoulle et al., 2017). In this context, it is important to mention that most minor health issues are solved by sick individuals and their social network as self-care (Sprenger, 2012). Therefore, households are the first and most important level of care and health promotion (Bhuyan, 2004; Pandey, 2018). Primary care services are in a unique position to accompany households and individuals if they cannot manage ill-health by themselves. Thus, the co-production of health through cooperation between health professionals and patients (including shared decision making) (Elwyn et al., 2012) is an essential part of primary care. The co-production of health care is defined as 'the interdependent work of users and professionals to design, create, develop, deliver, assess and improve the relationships and actions that contribute to the health of individuals and populations' (Batalden et al., 2016). Thus, on a micro-level, the basic primary care units are the co-productions based on the relationships and communications between single patients and their physicians (health professionals) (Hart, 1998; Rudebeck, 2019). Therefore, primary care is located at the interface of community and health care and social and medical services.

Comparative research on primary care (e.g. on its structure, process and outcomes) in Europe is quite limited (Kringos et al., 2015). Primary care structure and strength vary greatly, not only among European countries (Kringos et al., 2015). The primary care professions differ from health system to health system and may include general practitioners, pharmacists, general paediatrics, gynaecologists and gerontologists. In some countries, advanced nurse practitioners play a major role in primary care; in other countries, the structure is more physician-centred.

Salutogenesis as an Orientation, a Model, and the Sense of Coherence

'What keeps people healthy?' is the central question Aaron Antonovsky asked. This question introduces a shift from pathogenesis (an orientation on deficits and diseases) to salutogenesis (an orientation towards positive health and health resources).

Antonovsky considers salutogenesis as a conceptual foundation of health promotion (Antonovsky, 1996). Health promotion has been defined as 'the process of enabling people to increase control over and improve their health' (WHO, 1986, p. 1). In practice, health can be regarded as the ability to cope with stressors/challenges of life and to live a meaningful life. In other words, health means that a person is in resonance (resonates) with himself/herself, its immediate environment/life areas, and the wider world (Rosa, 2016). But health is not only a matter of an individual. Fundamental requirements for or determinants of health are situational factors like peace, shelter, and education (Dahlgren & Whitehead, 2007). Therefore, the realization of health (promotion) needs an interplay of all sectors of society (WHO, 1986).

Also, each person has his/her subjective ideas of health and well-being (Blättner & Waller, 2011), which among other things, derive from cultural and biographical experiences and overarching life goals (Matthiessen, 2010). This applies to all people in the context of primary care – patients, health professionals, and the local community (Kreher et al., 2008; Watson, 2008) and is therefore important to be considered in interactions in primary care and for the implementation of salutogenesis.

An important determinant for health – especially concerning healthcare settings – is health literacy. Health literacy is a relational concept defined as finding, understanding, appraising, and applying health-related information. The ability depends on health-literate patients and health-literate healthcare organizations (i.e. how easy it is to find your orientation in the organization) (Parker, 2009).

In contrast to health promotion, disease prevention is oriented towards illness or health risks and aims to prevent or mitigate these. In practice, disease prevention and health promotion are often overlapping. Their differentiation depends on the intention behind a measure (e.g. a healthy diet can promote health or prevent illnesses).

Although health promotion mostly builds just on a vague, general salutogenic orientation (Bauer et al., 2019), the paradigm of salutogenesis offers more specific concepts and instruments for guiding health promotion interventions and reorienting services towards health. Three quite different conceptual forms of using salutogenesis can be distinguished (Pelikan, 2017):

1. *The salutogenic orientation*: Human existence is inherently flawed, and therefore coping with tensions is universal and not exceptional (Antonovsky, 1996). There exists a health–dis-ease continuum and not a dichotomy of either healthy or sick people. A salutogenic orientation in health care means to consider the health of all persons involved (patients, relatives, staff and local community) and all aspects of their health (not only disease-specific ones) and focus on salutary and not just risk factors. This holistic perspective corresponds well with holistic treatment approaches in primary care for patients. It is further expanded by the settings approach of health promotion in health care to include staff and the region's population.
2. The salutogenic model is somewhat complicated and has hardly been taken up by Antonovsky or other authors (Pelikan, 2017). Within this model, the concept of generalized resistance resources (GRRs) is introduced as 'a property of a person, a collective or a situation which, as evidence or logic has indicated, facilitated successful coping with the inherent stressors of human existence' (Antonovsky, 1996, p. 15). The application of GRRs to primary care seems promising as it recognizes existing resources and competencies of human beings (patients and their families), staff, and community. It affords a more holistic and complex perspective and a widening of diagnostic and therapeutic methods applied (Pelikan, 2017). Current challenges in primary care (e.g. little interest in becoming a general practitioner, lack of communication time, and financial investment) can be understood as an imbalance between resistance resources and stressors for primary care settings.
3. The construct of sense of coherence (SOC) is a core element of the salutogenic model. Of the three concepts, it is the one most used in research. SOC is defined as the experienced comprehensibility, manageability, and meaningfulness of a situation. Therefore, SOC can be interpreted as a moderator, a mediator of other determinants of health or outcome measure (Pelikan, 2017). SOC is also defined by Antonovsky (1979) as 'confidence' in a predictable environment or the view of life being meaningful (Antonovsky, 1996). To be healthy can be regarded as being in a fulfilling, happy resonance with a specific situation, person, or other aspects of life (Bauer et al., 2019).

In sum, salutogenesis for primary care means to:

- Consider all people involved: patients, relatives, staff, and the community served.
- Take the current position of the person on the ease/dis-ease continuum into account.
- Focus on resources and risk factors in dealing with a situation (e.g. illness).
- Search for comprehensive, meaningful, and manageable interventions for patients, increasing their confidence in coping with their illness and life, and taking respective measures for staff and the local community.

Conversely, key assets of primary care for salutogenesis are the frequent, continuous, and trustworthy relationships between health professionals (general practitioners and their teams) and patients (and their families) as well as the holistic approach of primary care.

Salutogenesis and Its Relevance to Primary Care

Salutogenic primary care refers to salutogenesis as orientation, model, and SOC.

Derived from considerations in health promotion, one can differentiate between 'health-promoting practice' (a salutogenic orientation of primary care organization and its core processes) and 'health promotion in practice' (single salutogenic measures as an add-on in primary care). The add-on approach seems to dominate in primary care practice, whereas a fundamental salutogenic orientation of the core processes is still rare (Bahrs & Matthiessen, 2007; Boyce et al., 2010; Klein et al., 2017; Peckham et al., 2017).

Ideally, salutogenic primary care has integrated a salutogenic orientation in its core processes. It develops a health-promoting/salutogenic setting that focuses on the comprehensive/holistic health of staff (health professionals), patients, relatives, and the local community (Watson, 2008). Salutary factors should be considered along with risk factors within curative, preventive, protecting, and promoting practices and relevant aspects of local communities and settings.

The salutogenic model could be a resource to understand and use the interplay of diverse resources of patients, staff, and communities to better cope with health risks and stressors in salutogenic primary care. One of the primary resources in this context is health literacy: 'salutogenesis can be conceived as a constant learning process supporting the movement towards health (and other desired aspects of one's existence) via improving health literacy' (Erikson, 2017, p. 92). Although the relationship between health literacy and salutogenesis needs more theoretical reflection and much more research (Jensen et al., 2017), Bauer et al. (2019) recommend the promotion of health literacy to create competent citizens able to take control over their health and as a goal for chronic disease management (Pelikan, 2017). Studies of health literacy demonstrate that comprehension of healthcare tasks is difficult for many patients (Sørensen et al., 2015). Furthermore, it is argued that healthcare staff have to improve their health literacy to support the comprehensibility, manageability, and meaningfulness of health care (SOC) for their patients (Dietscher et al., 2017).

Health literate health care was developed explicitly in the context of 'health-promoting hospitals' initiatives, and salu-

togenesis and the SOC are seen as a specific dimension of quality of healthcare organizations (Dietscher et al., 2017). For example, the development of salutogenic 'standards' (Dalton & Mccartney, 2011) is recommended to make institutional contexts more salutogenic. These insights can be transferred to some extent to the primary care setting – as shown by the Austrian case below – but health literate and salutogenic primary care have specific opportunities as the first contact with care. When they have health concerns, primary care may be the only resource available to vulnerable groups and individuals with low health literacy. Health literate primary care relates especially to the challenging navigation within the healthcare system – making the healthcare system better understandable, accessible, and meaningful. Salutogenic primary care can increase the understanding of health, health promotion, disease prevention, and self-care of minor illnesses in the context of everyday life, thus empowering people for self-management.

Summing up, salutogenic primary care can be envisioned as care that is comprehensible, manageable, and meaningful for patients, residents, and the staff. Salutogenic primary care is oriented towards positive health integrated into its core processes and adapted to its patients' needs. It aims in a person-centred manner at enabling or empowering the help-seeking person/user to improve her/his health in everyday life, especially by health literacy measures and by developing a health literate organization. The primary care team's health resources and needs are also perceived as essential for salutogenic primary care. Staff should be enabled for interdisciplinary work that allows for a holistic perception and treatment of patients. From a public health perspective, this also includes going beyond the person by addressing the local community's health and taking other relevant social and medical services into account. Therefore, salutogenic primary care is in resonance with the social and medical system and individuals including their social network.

Salutogenesis and Primary Care in Policy, Research and Practice

How far is the application of salutogenesis in primary care taken up in policy, research, and practice?

Policy: Approaching Salutogenic Primary Care by Relating it to Public Health and Health Promotion

In this section, we use documents of the WHO as a proxy for the policy discussion on salutogenic/health-oriented primary care. WHO has been advocating for health-promoting services in primary care since the Alma Ata declaration more than 40 years ago: Primary care 'addresses the main health problems in the community, providing promotive, preventive, curative, and rehabilitative services accordingly' (WHO, 1978). The Ottawa-Charta (WHO, 1986) reinforced this by explicitly calling for a reorientation of health services by moving 'increasingly in a health promotion direction beyond its responsibility for providing clinical and curative services'. By a change in their perspective and organization, health services should focus on the individual's needs as a whole person. Realizing reorientation requires shared efforts from health services, community groups, health professionals, and individuals (WHO, 1986).

More recently, the WHO emphasized health-promoting – and therefore implicitly salutogenic – primary care by the Astana-Declaration and integrating public health and primary (health) care (WHO, 2018a). Public health is defined as 'the art and science of preventing disease, prolonging life, and promoting health through society's organized efforts' (Acheson, 1988). Integrating public health into primary care emphasizes a shift from the individual patient to a population-oriented perspective. WHO defined 10 essential Public Health Operations (WHO Europe, 2012). Three of these, concerning service delivery, are health promotion, disease prevention, and health protection. Health care and public health services need to be linked to reaching their potentials (Kringos et al., 2015). A recent publication summarizes models to link primary health care and public health services (WHO, 2018b). This opens a window for the application of salutogenesis and health promotion in primary care, including a patient-centred approach and community orientation.

Moreover, primary health care can play a central role in meeting sustainable development goals (SDGs) adopted by the United Nations in 2015 (Pettigrew et al., 2015). From the perspective of salutogenesis, working to achieve the UN Sustainable Development Goals (SDGs) strengthens general resistance resources. Primary care is key to meet goal 3 'Ensure healthy lives and promote well-being for all at all ages', in particular, by target 3.4.: 'reduce by one-third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being'. The SDGs also underline the aim of Universal Health Coverage (UHC) (WHO, 2019). UHC means that all people have access to health services, including health promotion, when and where they need services, without incurring financial hardship (WHO and UNICEF, 2018). Especially this request for also having access to health promotion underlines the importance of salutogenic primary care.

In sum, primary care is discussed in the policy discourse as important for health promotion and public health but without explicit reference to salutogenesis. Health-oriented primary care is seen as relevant to meet the SDGs, realize UHC, and save costs and be a general resistance resource for society.

Research: Application of Salutogenesis in Primary Care

We conducted a literature review to summarize the peer-reviewed literature on 'salutogenesis and primary care' in spring 2020. Using a Scopus search resulted in only 118 citations for salutogenesis (but over 18.000 results for health promotion). In an abstract review, we excluded 67 articles due to not focusing on primary care. The included studies originated mainly from Europe (primarily Sweden and Denmark). They addressed primary care mainly in general (i.e. without describing the specific setting) as general practices or primary care centres. Just a few studies referred to other facilities like dentists (Hjalmers et al., 2004). Target groups of the studies are mainly patients, subsequently primary care staff. We summarize the literature following the three constructs of salutogenesis (orientation, model and SOC).

Salutogenesis as an Orientation

Some studies report on considerations to reorient primary care towards positive health. For example, Hollnagel and Malterud (1995) present a clinical model to shift the attention from objective risk factors to patients' self-assessed health resources. Braun (2004) highlights a resource-oriented approach as a measure to overcome increasing doctor and patient discontent. Kröger and Altmeyer (2013) highlight the need to reorient primary care towards health. Some others used salutogenesis to illuminate the holistic nature of primary care practice (e.g. nurses) (Grant et al., 2017; Sangster-Gormley et al., 2013).

Salutogenesis as a Model

The few studies, which used the salutogenesis model as a conceptual basis, did this on an interactive micro level, for example, in the development of salutogenic (resource-oriented) language (Malterud & Hollnagel, 1997, 1998), of salutogenic dialogue with patients or salutogenic sessions. Interventions such as salutogenic dialogue try to create supportive space and time for patients and health professionals to interact in practice (Rakel, 2008) or preventive visits (Lagerin et al., 2016).

SOC as an Outcome Measure

Most studies refer to single intervention studies using the SOC as an outcome measure. Studies showed, for example, that frequent attenders of primary care in Sweden have a lower SOC than the control group (Bergh et al., 2006; Rennemark et al., 2009). There is also some evidence that specific health-oriented interventions in primary care lead to significant changes in SOC: In their randomized control trial, Arvidsdotter et al. (2015) compared therapeutic acupuncture, salutogenic dialogue, and conventional treatment concerning psychological distress. They found that acupuncture and salutogenic dialogue improve the patients' SOC and mental health status, whereas conventional therapy was less beneficial. Heggdal and Lovaas (2018) investigated changes in an individual's SOC when engaging in health promotion interventions and found significant changes in SOC, especially concerning community resources.

A few studies dealt with the resources of general practitioners or nurses (e.g. SOC, supervision, health-promoting leadership, and salutogenic work-related factors) in recognizing their health as the basis for providing services to others (Ejlertsson et al., 2018; Mazur et al., 2018; Palsson et al., 1994; Siber et al., 2009).

Practice: Piloting the Application of Health Promotion and Salutogenesis in Primary Care

Subsequently, two pilot projects are introduced, which exemplify diverse approaches to salutogenic primary care. The first introduces the concept of review dialogue, facilitating a salutogenic interaction between patients and health professionals. The second pilot project describes a path to systematically implement health promotion, health literacy, and disease prevention in new multi-professional primary care units.

Application of Salutogenesis in Primary Care Practice: Review Dialogue

The concept of review dialogue was developed in the framework of a study sponsored by the German AOK Federal Association (2002–2006) to analyse conditions that promote and hinder GP's health-oriented practice (Bahrs et al., 2004; Bahrs & Matthiessen, 2007). According to its self-understanding, family medicine as a specific aspect of primary care is characterized, among other things, by having a health education function and eliciting and promoting health resources as part of GPs' daily practice (DEGAM, 2012; Sturm et al., 2006). It was assumed that active listening as a core element of the GP's conversation could strengthen the patient's SOC concerning all dimensions mentioned by Antonovsky:

- The feeling of meaningfulness (a) by experience being taken seriously and accepted as a unique person and (b)

by experience in which dealing with health and illness, is considered valuable.
- The feeling of comprehensibility by (a) taking up the patient's illness theory, (b) the provision of information about possible causes and the course of the illness as well as the reflection on what the formation of symptoms may have been good for.
- The feeling of manageability by (a) shared perception of (existing or accessible) resources and (b) the certainty that the general practitioner and her professional help system are available as support.

To be able to take into account already existing competencies ('resource orientation') and the diversity of perspectives in dealing with chronic illness, two regional interdisciplinary quality circles (QC) were initiated during the project, and patients were continuously involved in the discussions (Bahrs & Andres, 2016). The discussion of experiences in these QC made clear that the patients' lifeworld and the therapists' professional orientation did not fit. The treatment of 'target diseases' (diabetes or chronic respiratory diseases) was often not a priority from the patient's perspective. The developed routines and ritualized procedures in primary care practice left little room for clarification between GP and patients. A new conversation format was developed and tested to interrupt the frustrating pattern for patients and physicians: the review dialogue (RD).

In an RD, the physician invites his patient to a 30-minute conversation to work out the patient's central problems holistically, recognize previous solutions, mutually agree on priorities, formulate health goals jointly, and develop ways to achieve these goals. The RD was systematically discussed in the QC, and a new patient-centred process structure (Bahrs, 2011) was developed, which was evaluated on a case-by-case basis, across all cases, supplementary patient surveys as well as by a clustered-randomized study. Results show an improved relationship, more tailored treatment, empowerment, greater satisfaction of patients and practitioners (Bahrs et al., 2017; Bahrs & Matthiessen, 2007; Kaschel, 2018). Most patients and physicians wanted the RDs to be continued; some physicians already integrate the RD into their daily routine ('RD hours'). The implementation of the concept varied considerably ('physician factor'). Younger female doctors with prior qualifications in psychosocial medicine (or complementary medicine) tended more towards salutogenic conversations. The central role of relationship formation was demonstrable in every case study: health development is an interactive process that professionals can support simultaneously through task-related and relationship work (Bahrs & Henze, 2019).

However, doctors and patients first had to learn their new roles. Uncertainties and adaptation problems accompanied the change. Accompanying QC can provide support here (Bahrs & Matthiessen, 2007). Case-related work in the QC makes it possible to:

- Develop tailor-made interventions.
- Promote an exemplary hermeneutic understanding of cases and a salutogenic orientation through a multi-perspective view.
- Track progress.
- Support the transfer of knowledge from practice to develop theories and interventions (Bahrs & Andres, 2016).

QC as a means/method of participatory research and continuous quality improvement can contribute to professional development towards acting more salutogenic by the professionals (Bahrs & Andres, 2016).

According to available experience, the RD has changed from a promising intervention to a proven intervention and has found its way into various guidelines (DEGAM, 2017; DEGAM-Praxisempfehlung, 2016).

Applying Health Orientation and Salutogenesis to Primary Care: Piloting a Comprehensive Approach

The Austrian healthcare reform aims to strengthen primary care. A new primary care concept was developed and adopted (Bundesministerium für Gesundheit, 2014). Salutogenesis is not explicitly mentioned in there. However, health promotion, health literacy, and prevention are highlighted as key elements of the new primary care units and as a key competence of the new multidisciplinary primary care teams (e.g. GPs, nurses, social workers, psychologists, midwives, physiotherapists, etc.) (BMGF, 2018; Bundesministerium für Gesundheit, 2014). New is also that the units must serve the local community (not only patients coming to the facility).

However, in this policy document, health promotion, health literacy, and disease prevention were hardly defined. That's where the project funded by the Main Association of Austrian Social Security Institutions and the Funds for a Healthy Austria came in. Based on an initial study (Klein et al., 2017), it uses a systematic approach that integrates health promotion, disease prevention, and health literacy to establish health-oriented primary care and increase SOC and comprehensive health gain for patients, staff, and the community. Health gain can be achieved through disease prevention (the avoidance of risks) and health promotion (the strengthening of health resources). Measures to strengthen health literacy, such as good communication, target group-oriented and evidence-based health information and a health literate primary care unit support measures of prevention and health promotion. Based on a better understanding and man-

ageability of these concepts, the project intends to further a salutogenic orientation for the health system, staff, and patients/population.

Since systematic change requires multi-strategic implementation addressing multiple domains (Harnett, 2018), the project simultaneously addresses the macro-, meso- and micro-levels of health care.

Macro-level

On the macro-level, the project tries to strengthen the meaningfulness of health-oriented primary care (i.e. health promotion, disease prevention, and health literacy as integrated tasks of primary care units) by discussing the basic concepts and practical application of health-oriented processes and practices with primary care staff and the relevant stakeholders of Austria's health administration. To make health promotion, health literacy, and disease prevention manageable for primary care units, key prerequisites for implementing health-oriented primary health care (e.g. funding health promotion, education of health professionals) were defined well as examples of how fostering conditions can look like.

Findings indicate that developing incentive systems (e.g. financing rules) for health-oriented practices (health promotion and health literacy measures) in/by primary care units are key for broad implementation of health-oriented primary care, but still not yet in place.

Meso-level

In the first step, the project developed an ideal organizational model for a health-promoting and health literate primary care unit (Rojatz et al., 2018) to provide a basic definition of salutogenic primary care. This seemed necessary as previous studies showed that health professionals in Austria only have a vague conceptual understanding of health as a comprehensive concept and its applications in practice. They mostly understand health promotion just as prevention, particularly as vaccination (Rumpelsberger, 2012; Schein, 2012). In discussions with primary care staff also the understanding of health literacy and health literate organizations was found to be limited. Therefore, the organizational model draws on key elements of health-promoting primary care based on Watson (2008) and health-promoting hospitals and health services (Pelikan et al., 2005) as well as health literate primary care organizations (Dietscher & Pelikan, 2016; ÖPGK, 2019). The model considers the health of all people involved (i.e. patients, staff and community) and the need to integrate the tasks of primary care, local social services, and community activities.

In a second step, the manageability of planning a health-oriented primary care unit was supported by developing a guideline ('blueprint') for the care concept that the founders of a primary care unit have to produce to be funded. This guideline indicates where disease prevention, health promotion, and health literacy have to be considered when systematically planning and implementing these aspects in primary care units (Sprenger et al., 2018).

Micro-level

Besides basic concepts for orientation and planning of a health-oriented primary care unit, competent health professionals are needed who comprehend the basic perspective of salutogenesis and its theoretical underpinning and its practical application in everyday routine. Therefore, a starter toolkit for primary care staff was developed. It provides introductions to the concepts of health, salutogenesis, health promotion, disease prevention, health literacy, and info sheets on selected easy to implement measures (e.g. checklists for health information, preventive check-up). Implementation was started with these 'low hanging fruits' to allow health professionals to be successful and motivated to implement these new tasks further. Particular attention was paid to health literacy as a prerequisite for improving the interaction between patients and health professionals (quality of conversation, patients asking questions and shared decision-making). These communicative measures are specially meant to strengthen the SOC of patients. More sophisticated measures like self-assessing the organizational health literacy shall set the basis for establishing a general health orientation within the primary care unit. The starter toolkit also recommends establishing a coordinating person for health promotion and health literacy in the primary care unit. Especially measures like social prescribing (referring patients for support to social services in the community) call for better coordination of regional health promotion services.

The dissemination of the starter toolkit was supported by (health promotion) experts of the local social insurance funds. The primary care units have started to pilot the starter toolkits, and a first evaluation was conducted in 2020.

Application of Salutogenesis

What can and does primary care contribute to our ability to make us swim in the dangerous river of life? (Antonovsky, 1996). In this section, we summarize our observations regarding applying salutogenesis to primary care in policy, research, and practice and try to answer how far it has come.

Moreover, we try to summarize fostering and hindering factors for the allocation of salutogenesis in primary care.

The application of salutogenesis as an orientation gets tailwind implicitly from the current efforts to strengthen primary care to combat chronic diseases (OECD, 2019) and of WHO by linking public health and primary care (WHO, 2018b). WHO and others work on breaking down the silos between public health and primary care services and strive to integrate public health functions (in specific health promotion and disease prevention) into primary care. This linkage should not only lead to more health orientation but also emphasizes a population-approach.

Primary care has to respond to current health demands that affect broad segments of the population. At present, it is infectious diseases (Covid-19) and chronic diseases in particular that are causing problems. This can promote an orientation towards illness if it is more about regular invitations to preventive medical check-ups, identifying and treating deviations in laboratory values or lifestyle, and in particular, neglecting the relationship aspects – also to the doctor. Authors even describe a recent shift away from the doctor–patient relationship to disease as an organizational principle (Rudebeck, 2019) or the shift from healing to symptom management (Rakel, 2008).

Especially the relationship aspect is important when addressing chronic diseases. Chronic diseases illustrate quite well that the dichotomization of healthy and sick people is insufficient and supports the health–dis-ease continuum concept. People continuously have to manage their life concerning health and disease, in better and worse times, or as Antonovsky (1996) proposed – on varying positions on the health–dis-ease continuum. They must integrate their role as a patient with other roles and aspects of life, which underlines the need to understand (and treat) patients holistically.

An important resource supporting chronically ill patients is the continuous relationship with the associated mutual trust and knowledge of doctor and patient in primary care. This resource is also implicitly expressed in the term family medicine. The definition of general physicians and family medicine indicates that comprehensiveness and relational medicine – essential aspects of salutogenic practice – have been key to primary care for a long time (Institute of Medicine (US) Committee on the Future of Primary Care, 1994).

One's chronic disease can be the reason for ongoing consulting with one's general practitioner. The relationship between doctor and patient builds trust. These specific resources enable a specific response to the needs and possibilities of the help-seeking person. A quality that increases with the time of care or the length of the illness. A salutogenic orientation might counteract this development of medicalization. This reorientation of primary care towards salutogenesis includes a shift from:

- Deficit orientation to resource orientation.
- Reactive to proactive action – also reaching those who do not regularly visit primary care.
- Medical focus to social health determinants (e.g. via social prescribing, GPs can refer patients to link workers who identify with the patient his/her social needs and make respective offers in the region).
- The individual patient to families and local communities.
- 'God in white' to the co-production of health, by the primary care team, with the patients and the local community.

Primary care operates in an area of tension between health and disease orientation. It is up to the actors involved to decide whether they see themselves as more oriented towards disease-oriented general practitioners or resource-oriented family medicine. Of course, the decision is influenced by the given framework conditions.

A salutogenic orientation in health care means considering all persons involved, and therefore, the SOC of patients, primary care staff, and the local community (we recognize that the community SOC concept is problematic since 'community' is not a subject).

SOC was introduced primarily on the individual level, referring to patients and primary care staff. Most studies on salutogenesis and primary care identified in our review refer to single interventions using the SOC either as a measure to assess the preliminary SOC of people in a population (as indictor for planning subsequent measures) or an outcome measure for evaluating interventions.

Only limited research was identified referring to the SOC of primary care staff (Ejlertsson et al., 2018; Mazur et al., 2018; Palsson et al., 1994; Siber et al., 2009). Heavy workload by a shortage of staff and competing priorities (acute care seems more important) leads to a lack of time for health promotion. This indicates the need to develop salutogenic conditions on the meso- and macro-levels for primary care.

No study was identified to SOC on the community level as SOC refers to subjects. However, one can assume that primary care can influence a community's ability to cope with health problems. This is especially relevant because large proportions of the general population have limited health literacy (Sørensen et al., 2015) and thereby have only a limited understanding of their health situation and might remain in an unhealthy lifestyle. A weak SOC of (potential) patients especially indicates the need for actions and specific measures to respond to their health needs.

Besides individual health needs, there are also ones on the community or population level. As the complexity of treatment options and health information grows, improving the community's health literacy is ever more critical.

Table 38.1 outlines the SOC concept in terms of comprehensibility, manageability, and meaningfulness dimensions.

Table 38.1 Application of SOC to patients, primary care staff, and community

Value	Patients	Primary care team	Community
Comprehensibility	Reflection on and a better understanding of the underlying needs behind a health concern. Understand the need for self-determined decisions in health issues.	Understanding their health as prerequisites to help patients. Understanding what matters to the patients (instead of what's the matter with the patient). Recognizing and appreciating the resources available to patients (and their support system). Recognizing systematic/population-based problems.	A better understanding of what and when primary care services are needed (understanding the function and limits of primary care) and how primary care is embedded in the healthcare system. Acknowledging the importance of community involvement for the health of the community.
Manageability	Increased confidence in self-management as well as co-production of treatment (adherence making use of medical advice). Shared decision-making. Increased control of personal health determinants.	Flexibility and quality of action. Shared decision-making as an important tool. Promoting and making use of the resources available to patients (and their support system). 'Making every contact count'	Supporting a participatory culture (e.g. right and duty to participate in planning and implementing healthcare). Establishing community health centres. Increased control of health determinants of the community.
Meaningfulness	Understanding health (and illness) as a meaningful part of one's life. Being recognized as an autonomous entity / whole person.	Personal identification with the work. Making a difference for their patients (more than just prescribing medication). Better relation with patients.	Understanding primary care and attuned community services and initiatives as part of a whole systems approach to a sustainable community.

Also, the cooperation of health care, social services, self-organized activities, or integrated health services supports the development of SOC on a health system level. This is indicated by the WHO term of 'primary health care' and its efforts to better link primary care and public health (WHO, 2018a).

A sound theoretical and practical model can support the development of 'salutogenic primary care'. Health promotion measures in practice are often rather an add-on to primary care services than an integral part of primary care's core processes based on an explicit salutogenic model (Peckham et al., 2017). There is scarce published research on the application of salutogenesis as a model for primary care settings. It was used for single interventions in primary care like review dialogue and a health-oriented language (Hollnagel et al., 2000; Malterud & Hollnagel, 1997, 1998). These interventions aim to change the core unit of production – the interaction between patients and health professionals (Hart, 1998), but not the organizational principles of primary care. We have only identified one model concerning salutogenic health care. Jonas et al. (2014) propose four domains of healing and healing-oriented practice and environments (HOPE):

- Inner environment (personal wholeness, autonomy).
- Interpersonal environment (the relationship between patients, staff, and community).
- Behavioural domain.
- External environment (PHC).

Other models like that of health literate (primary) care organizations also aim in this direction (Dietscher & Pelikan, 2016; ÖPGK, 2019). Although salutogenesis is not explicitly mentioned therein, health literacy's basic concept can be related to that of the SOC (Dietscher et al., 2017). Therefore, the implementation of standards for health literate primary care organizations could be seen as a first application of the SOC concept.

Based on the considerations made in this chapter, we can also make initial derivations of a SOC model in primary care. The mode of implementation or manageability is relationship work and participation – relationship works with the patient (and his/her family and professional environment), with the health and social system and initiatives in the local population. The significance arises from the fact that humans, as social beings, to be healthy, must be in resonance with themselves, their environment, and the world.

In practice, compliance and adherence are big issues. For a person who is about to be evicted, averting this may be the more prioritized health need than the medical need to reduce too high blood sugar level, which does not hurt. This example shows that those seeking help might have good reasons why they do not follow well-intended advice: so-called 'intelligent non-compliance', practical implementation problems in everyday life and other health goals (Scheibler, 2003).

Two developments can be observed in primary care to address the SOC of primary care. On the one hand, the spread of social prescribing measures shows that non-medical needs are also health-relevant and need to be addressed. On the other hand, the hype about health literacy shows that medical care also requires an orientation towards patients' possibilities in addition to evidence-based information. Information that is not understandable, assessable and implementable for patients is of little help.

With its holistic approach and good relationship, primary care is in a good position to identify and address patients' medical and non-medical health needs. This underlines the importance of a good therapeutic relationship for the successful co-production of jointly shared health goals. Good communication and person-centredness seem key to cope with medical and non-medical health needs. Here a salutogenic orientation can be the guiding principle in understanding and designing beneficial relationships. Approaches like the Review Dialog for the interaction between patients and health professionals or social prescribing for linking patients with social support (Woodall et al., 2018) seem to be appropriate measures to strengthen individuals' SOC.

In sum, there are only a few examples known that use some kind of salutogenic model for the application in primary care. These initiatives need feedback systems (e.g. evaluation by researchers) to make progress visible (Bahrs et al., 2015; Bahrs et al., 2017; Malterud & Hollnagel, 1998; Matthiessen, 2010) and exemplify what is 'attainable' (Fischer, 2012). Such feedback also promotes the SOC of the involved actors and the ability to be empowering to their patients (Meier Magistretti et al., 2019).

Lessons for Implementation

The successful implementation of a health-oriented, comprehensible, meaningful and manageable primary care is a complex and long-lasting process including multi-strategic interventions on the macro-level of public discourse and health policy, measures on the organizational level (meso), and skills training for health professionals as well as empowering patients by respective interaction (micro). Building on our two case studies and the literature review, we summarize the facilitating factors (=resources) for the implementation of salutogenesis in primary care.

Public campaigns can promote general awareness of the importance of health promotion among primary care patients and the general population (Rubio-Valera et al., 2014). Because positive attitudes and behaviours towards the health promotion of patients, practice managers, and colleagues affect the implementation (Rubio-Valera et al., 2014).

Education of health professionals in health promotion and salutogenesis is important in two ways: Building on existing resources and knowledge provides essential skills and forms

the self-concept, attitudes, and the understanding of the professional roles of prospective health professionals (Rubio-Valera et al., 2014). Furthermore, it supports developing a shared vision and mission of health-promoting (salutogenic) primary care (De Maeseneer et al., 2008; van den Muijsenbergh & van Weel, 2019). The (professional) helpers have to foster their 'sense FOR coherence' (Meier Magistretti et al., 2019). Specific communicative skills, including health literacy skills, are central for person−/people centred care. In addition to health professionals' basic education, primary care facilities can initiate such initiate-specific training for their staff locally.

Primary care staff can also be supported for salutogenic primary care by quality circles and establishing or using existing networks to exchange experiences and provide mutual support.

The many and varied salutogenic primary care tasks require differentiated professional skills in specific roles and processes within the primary care organization that usually can only be realized in multi-professional teams.

Defining one person responsible for coordinating health promotion ('health-promotion coordinator') in the primary care facility gives the topic a 'face' and increases the facility's implementation. There is still a lack of clarity on which professionals in primary care are responsible for carrying out these activities (Boyce et al., 2010).

Models of good practice, guidelines, and tools can support practical implementation. Results and experiences from the Health-Promoting Hospitals and Health Services Network and Health Literate Health Care Organizations can be used as models of good practice (Dietscher & Pelikan, 2016). Guidelines and tools and easy-to-use handouts for patients can support immediate practice (Rubio-Valera et al., 2014; Sammut, 2006). But the local participatory adaptation of these tools to the specific organizational context is essential. Practical tools need to be accompanied by a process of developing the basic vision, understanding, and attitudes of holistic health, well-being, and realizing salutogenesis.

Recommending health-promoting measures in the local context requires knowledge of these measures and good accessibility for patients, especially those with low socioeconomic status (Rubio-Valera et al., 2014). Establishing regional managers or the links to regional measures (e.g. health city networks) can support regional offers by the primary care facility. In particular, social prescribing can be implemented as a systematic approach (Polley et al., 2017; Woodall et al., 2018). These broader local processes also support the development of a salutogenic orientation and practice in the local community.

Incentives and funding for health promotion provide extrinsic motivation. Primary care managers can be motivated by reimbursement of health promotion measures. Policymakers and health authorities have to emphasize integrating health promotion into primary care in legislation, care planning, and reimbursement rules (Rubio-Valera et al., 2014; van den Muijsenbergh & van Weel, 2019).

Research is still needed to provide supportive evidence on the (cost-)effectiveness of health promotion measures. Evidence on the effectiveness of health promotion and a good knowledge transfer to health professionals can support the attitude and behaviour of health professionals (Rakel, 2008; Rubio-Valera et al., 2014) and the confidence of patients in the effectiveness of these activities (Boyce et al., 2010).

Collaboration (co-production) between all actors in primary care is essential. This includes patients and health professionals, researchers, and decision-makers on all relevant administrative levels. Emphasizing staff and users' participation as a necessary element of salutogenic primary care will help restore relationship-based medicine (Rudebeck, 2019). Also, the integration of primary care with local public health enhances the possibilities of effective salutogenic interventions (WHO, 2018b).

Conclusions

Primary care as the first level of care is close to the 'dangerous river of life' of people. Through their continuous relationship with patients and communities, primary care staff is excellent in supporting people's ability to swim. They can identify and support general resistance resources that are not recognized in the more specialized and technologized healthcare sectors. Primary care staff has (implicit) knowledge on community-based health determinants and knowledge regarding problems when guiding patients' navigation through the healthcare system. Thus, salutogenic primary supports a deeper understanding of risks, stressors, resources, and SOC within the salutogenic model.

In practice, primary care is under pressure. People meet with healthcare professionals under conditions of heavy strain, and the number of health professionals in primary care still decreases. Unmet needs and problematic conditions (long waiting times, little time to talk and dense workload) accompanied by steering and financing problems indicate the urgency for action. This is recognized and taken up by supra-organizations (OECD, WHO). For improving the situation, primary care also can be an entry point for salutogenic reorientation in health services. 'A whole-of-society approach' has to take into account salutogenic patient-health professional interaction (micro), and reorientation on the organizational level (meso) as well as the development of the systems level (macro). This includes promoting integrated care and collaboration by the social and medical sectors and civic society (e.g. self-help groups). In this way, the broader determinants of health and the comprehensive and interrelated aspects of physical, mental, and social health and com-

munities' well-being can be addressed (WHO and UNICEF, 2018).

Supranational organizations, like the WHO, recognize the need for action, and many states have adopted the Astana-Declaration (WHO, 2018a). Moreover, we can see some need for research from what has been said so far. Research can demonstrate the meaningfulness and manageability of the salutogenic primary care concept.

Concerning the application of salutogenesis as a model in primary care, we could only give a rough sketch here. The continuation of our approach of borrowing from existing concepts for health-promoting hospitals and health literate primary care units could be fruitful to develop a model of a salutogenic primary care unit. The research could also identify where and how the salutogenesis model is used at different levels in different countries.

Concerning the use of salutogenesis as a SOC in primary care, it could be possible to use cases of positive deviation as a basis for a targeted investigation of where and why groups of people with insufficient health opportunities benefited from interventions, contrary to the 'inverse care law' (Hart, 1971). We see a great need for research on the relationship between salutogenic resources (and the possibility of promoting them) among healthcare providers and their patients.

Research on salutogenesis in everyday primary care needs to consider the complexity of the interventions and the context. This calls for participatory research methodologies with a salutogenic perspective, which can contribute to the comprehensibility, meaningfulness, and manageability of people's health and the 'health' of the healthcare organizations and policy (International Network of Health Promoting Hospitals and Health Services et al., 2016).

Concluding, our theoretical and empirical analysis underlines that salutogenic primary care is a promising and feasible approach to sustainable primary care. The salutogenic approach supports person-centred care, universal health coverage, and the population's health and well-being. The broad establishment of salutogenic primary care requires a commitment to participatory methods in practice, policy, and research.

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Applying Salutogenesis in Mental Healthcare Settings

39

Eva Langeland and Hege Forbech Vinje

Introduction

Aaron Antonovsky's crucial theoretical proposition was that how human beings perceive reality in terms of comprehensibility, manageability, and meaningfulness, which together form sense of coherence, contributes to coping, health, and well-being. Research shows that sense of coherence is especially related to mental health (Eriksson & Lindstrøm, 2006). Mental health in a salutogenic perspective refers to a person's position, at any point in the life cycle, on "… a continuum that ranges from excruciating emotional pain and total psychological malfunctioning at one extreme to a full, vibrant sense of psychological well-being at the other" (Antonovsky, 1985, p. 274).

Although Antonovsky was a researcher and not a clinician, he claimed that salutogenesis "has something to say to all those who, professionally and personally, are committed to understanding and enhancing the adaptive capacities of human beings" (Antonovsky, 1979, preface p. viii). His challenge to different health professionals revealed that he wrote not only for his major reference group; his colleagues in medical sociology. He mentions sociologists, psychologists, psychiatric nurses, physicians, healthcare organizers, epidemiologists, architects, and community organizers as his intended audience (Antonovsky, 1979, preface p. viii).

Since Antonovsky was primarily a researcher, he did not work so much with the operationalization of salutogenesis in clinical settings, even if he did present some cases that revealed the difference between a salutogenic and pathogenic approach (Antonovsky, 1987, p. 9–10). The relevance of applying salutogenesis in clinical settings is obvious, and Antonovsky suggested that every health professional should include aims in their clinical practice that promote peoples' sense of coherence.

Health promotion in mental healthcare may work at three levels: strengthening individuals, strengthening communities, and reducing structural barriers to mental health (WHO, 2005). This involves a reorientation from the medical model to a more inclusive and holistic one. It could be said that the professional mental health promoter has a role as an expert in mental health in general. At the collective level, the professional mental health worker aims to develop structures that enable people with mental health problems to empower themselves through, for example, gaining access to and making use of resources like material goods and social services. At the individual level, the professional aspires to be an expert and to create a conversational and interactional climate that will promote desirable change for and in the recipient of the mental healthcare service. A fundamental attitude is that people are experts on themselves and their unique situations and experiences, including their pain, suffering, and concerns. Subsequently, the professional mental health worker functions more as a dialogue partner, balancing between listening empathetically to participants' difficulties and taking into account their strengths and resources (Duncan et al., 2010).

Mental Health and Mental Health Challenges

Antonovsky (1985) claims that our role as scientists or therapists concerned with mental health is to gain an increased understanding of the challenges posed in the life cycle of the human being and the factors which shape the selection of responses. Antonovsky describes the movement on the continuum toward better mental health as shifting:

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> …—from the use of unconscious psychological defence mechanisms toward the use of conscious coping mechanisms;—from the rigidity of defensive structures to the capacity for constant and creative inner readjustment and growth;—from a waste of emotional energy toward its productive use; from emotional suffering toward joy;—from narcissism toward giving of oneself;—from exploitation of others to reciprocal interaction (Antonovsky, 1985, p. 274).

In the present chapter, mental illness, mental suffering, mental disorders, mental problems, and psychosocial problems are conceptualized as *mental health challenges*, in concert with the salutogenic model of health. Antonovsky (1985, p. 274) emphasized that he used the word challenges rather than stressors, conflicts, or problems; the latter implies an unwelcome burden, while "challenges" are far more open to initiating an interaction which may end catastrophically … or joyfully. Further, "challenges" are less disease-focused and encourages one to keep in mind that, despite suffering from mental illness, there always is some level of health and resources present that can be recognized, utilized, and nurtured. It thus corresponds more to the positive mental health concept and that tension, the state of psychophysiological responses of the organism to challenge, is not necessarily pathogenic (Antonovsky, 1985, 1987; Berger, 2003; Langeland, 2007).

Applying Salutogenesis in Mental Healthcare Settings

While salutogenesis is a design for health, pathogenesis is a design for disease. However, the traditional perspective or design in healthcare has been and still is pathogenesis. Becker and Rhynders (2013) illustrate this by referring to a presentation by Deming (2000) that uses a marine metaphor and asks, "What determines how fast a ship moves?" The answers include currents, sails, the crew, and the weather. All these factors may, of course, have an impact on the speed. However, only the ship designer determines the capacity of how fast a ship might move, regardless of the conditions. For health, our design has been pathogenesis, a design for disease. Salutogenesis provides a new design that enables faster progress toward better health by helping health professionals' practices to be about health (Becker & Rhynders, 2013).

Jormfeldt (2011) illuminates this through an example of how a focus on diagnosis (pathogenesis) versus a focus on the person (salutogenesis) might be displayed in clinical mental health work. When looking at schizophrenia from a biomedical point of view, medication and the person's compliance are emphasized. It is easy to understand that the individual's motivation to sustain hope is reduced in such a context. In a salutogenic perspective, the attention is to the individual's own experience, including history, wishes, dreams, and experiences here and now. If medication is applied, it is for supporting the person to achieve one's own goals.

Salutogenic Talk Therapy

The first intervention program based on the entire salutogenic model of health and aimed to strengthen sense of coherence as a main outcome was developed by Langeland et al. in 2007 (discussed in Yamazaki et al., 2011) and further developed in Langeland and Vinje (2013). This intervention was implemented in talk-therapy groups for people with mental health challenges. It has been evaluated in a randomized controlled trial, showing positive effects on the sense of coherence. In addition, an evaluation performed by the study's participants revealed that between 85% and 95% experienced their participation as contributing greatly to improving their mental health in everyday life (Langeland et al., 2006). Further, to increase knowledge about salutogenic processes, in-depth interviews have been performed with people who have participated in a salutogenic talk-therapy group. The findings indicate that participants strengthen their consciousness and use of general resistance resources (GRRs) and specific resistance resources (SRRs), thus promoting their sense of coherence (SOC), salutogenic capacity, and mental health (Langeland et al., 2016).

The main aim of this salutogenic approach is to increase participants' awareness of and confidence in their potential, their internal, and external resources, and their ability to use these to increase their sense of coherence, coping, and level of mental health and well-being. In applying a salutogenic approach, one is encouraged to search for and identify individual and collective generalized resistance resources that may promote the effective management of tension in demanding situations. Higher levels of generalized resistance resources are associated with a stronger sense of coherence. Due to the changing nature of human/environment interactions, it is not possible to make a list and identify all possible generalized resistance resources. Therefore, Antonovsky (1979, p. 99) formulated the following definition: "every characterization of a person, group or environment that promotes effective management of tension." The relationship between resistance resources and the sense of coherence is reciprocal (Antonovsky, 1979; Landsverk & Kane, 1998). For example, social support leads to a stronger sense of coherence, which enables a person to mobilize and make use of social support. When people experience concordance between their use of generalized resistance resources and their expectations, wishes, and demands, life's challenges are experienced as appropriate, and thus tension is transformed into coping. The experience of appropriate chal-

lenges (balance between overload and overload) in daily life strengthens sense of coherence (Langeland et al., 2007).

In this regard, it is crucial to understand tension as potentially health-promoting and to distinguish between tension and stress (Antonovsky, 1987, p. 8). Tension is understood as a normal and necessary feeling for coping. The concept of *flow* (Csikszentmihayi, 1997) may shed some light on the significance of appropriate challenges and the strengthening of the sense of coherence:

> Flow tends to occur when a person's skills are fully involved in overcoming a challenge that is just about manageable. Optimal experiences usually involve a fine balance between one's ability to act and the available opportunities for action (Csikszentmihayi, 1997, p. 30).

Accordingly, the key is to acquire good coping experiences by perceiving appropriate challenges. Lutz (2009) suggests that flow may be sense of coherence experienced in the here and now, while sense of coherence is also a product of flow over time. Figure 39.1 illustrates the positive interplay between sense of coherence and the use of resistance resources. The person is an open system that contains social, psychological, and genetic subsystems, but it is the integration of the whole that is emphasized in the concept of sense of coherence (Sullivan, 1989).

In the talk-therapy setting, the aim is to promote a person's sense of coherence; it is thus important to support the individual's understanding of her own situation and diagnosis. A high level of comprehensibility promotes a good capacity to judge reality (Antonovsky, 1979, p. 127). Langeland et al. (2007) suggest defining diagnosis as but one dimension of the person; a fundamental aim is that the person with a diagnosis experience understands herself primarily as a person and not as a diagnosis. This is crucial in order to prevent the stigmatization that can follow if everything that a person says or does is interpreted in relation to the diagnosis. When this happens, the person loses the right to be a human being with normal feelings and thoughts. Human beings construct meaning and coherence by telling their own stories, and it is important to emphasize the coping in their stories in order to assist the person in developing a constructive narrative identity.

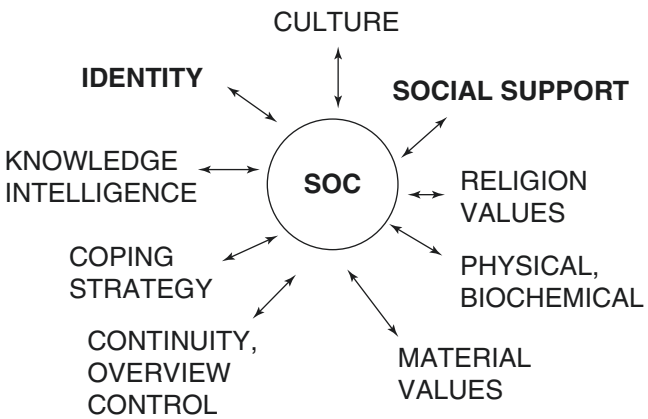

Fig. 39.1 The interplay between resistance resources and the sense of coherence (SOC)

Another critical feature of the talk-therapy setting is that the person identifies internal and external resources that make her manage the situation better. The emphasis is on what functions to promote a person's health. This includes increased consciousness of resources and support factors that function well in a person's life. Internal and external resources might include culture, outdoor life, music, humor, relationships, adaptive strategies, coping strategies, good inner dialogue, reflection, and knowledge acquisition.

Further, the talk-therapy setting is partly dedicated to supporting a person's exploration of what gives life meaning. Mental health is much more than and not necessarily the lowest level of suffering. For example, an individual who wants to commit suicide needs—in addition to action that prevents her from succeeding—facilitation to find out what makes life worth living. According to Antonovsky, one has to invest in inner feelings, immediate personal relationships, major activity, and existential issues (Antonovsky, 1987, p. 139), if one does not want to lose resources and meaning over time. This means, as Lindstrøm (2001) explains, that it is important to be able to form a view of life (ideological, religious, or political), to know people one perceives to be supportive (the function of social support), to have mental stability, and to be involved in rewarding everyday activities, such as work, sports, education, etc. In salutogenic talk-therapy groups, an important part is homework based on these crucial spheres. Langeland et al. (2007) gives examples of such homework. The homework might function as an inner voice, much like a continuation of the group, which helps to increase the impact of the group.

Finally, yet importantly, the main focus in salutogenic talk therapy is to draw attention to a person's adaptive capacity and the ability to activate adaptation (individually tailored) to various challenging situations through creative processes, thus promoting sense of coherence in everyday life (Table 39.1).

Other Perspectives on Salutogenesis and Therapy

Consistent with the experience of talk therapy just described, Griffiths (2009) concluded in a literature review that it might be advantageous to include therapy goals based on the sense of coherence in mental health rehabilitation with people hav-

Table 39.1 A mental health promotion process based on the salutogenic model of health

Salutogenesis	Salutogenic principles	Desired outcomes
1. Health as continuum	Movement toward health	*Increasing tolerance for various feelings*
	Universalizing mental health challenges	*Improving active adaptation*
	Introducing the metaphor of the stream of life	
2. The story of the participant	Diagnosis as a narrow description	*Experiencing oneself as a person*
	Listening to the participant's narrative identity: Shedding light on individual coping ability	*Structuring life experiences that reinforce sense of coherence*
		Increasing perception of coping in the narrative identity
3.Health-promoting (salutary) factors	Extending coping resources	*Improving self-identity*
	Paying attention to what is currently functioning well and asking questions to increase the awareness of resources	*Increasing perception of the quality of social support such as attachment, social integration, opportunity for nurturing, reassurance of worth, reliable alliance, and guidance*
	Promoting resistance resources, particularly social support and self-identity	
4. Stress, tension, and strain as potentially health promoting	Discussing appropriate challenges	*Increasing acceptance of one's own potential and coping ability*
	Universalizing the feelings of tension	*Experiencing one's resources*
5. Active adaptation	Promoting a climate of unconditional positive regard, empathy, and genuineness	*Experiencing motivation for change*
	Developing participants' unique capacities	*Thinking more salutogenic and developing positive patterns for health promotion*
	Developing crucial spheres in human existence	*Increasing perceptions of comprehensibility, manageability, and meaning; improving SOC*

Based on Langeland et al., 2007. *Issues in Mental Health Nursing*, *28*, 275–295. Taylor & Francis Ltd. www.tandfonline.com. All rights reserved

ing various mental health challenges such as schizophrenia, psychosis, addiction, and depression. Menzies (2000) elaborated on how a psychiatric nurse might apply a salutogenic approach to a person diagnosed with schizophrenia: talking about managing and coping with symptoms and problems, fostering hope by discussing possibilities, and supporting increased consciousness of abilities and skills, thus contributing to self-esteem, identity, and sense of coherence.

Joachim et al. (2003) discussed the treatment of obsessive-compulsive disorder based on strengthening the sense of coherence: based on a literature review they illuminate how emphasizing comprehensibility, manageability, and meaning help improve self-efficacy, coping, and control, and reduce vulnerability and repeated compulsions. Since comprehensibility includes how one perceives stimuli from internal and external surroundings, the first aim in this therapy is to increase comprehensibility. Manageability might be increased by identifying specific strategies to tackle challenges such as the side effects of medicines, compulsive symptoms, and changes in thoughts and actions, thus creating coping experiences. The alliance between therapist and client is emphasized, and an atmosphere of trust and acceptance is basic. Meaning is explored as the client is helped to cope better with anxiety and becomes more able to explore spheres in life that he/she earlier has avoided. Hence, purpose and meaning in life are enhanced. Vital in this program is not to find the reasons for the suffering, but rather to develop strategies to change thoughts and actions. To structure treatment of obsessive-compulsive disorder using sense of coherence as a framework facilitates exploring emotional reactions and developing constructive patterns by encouraging acceptance, stimulating new strategies, and managing negative feelings. Accordingly, the person is strengthened in her efforts to take more responsibility for her health and discover resources and relations that promote growth and well-being in his/her everyday life.

Landsverk and Kane (1998) show how salutogenesis and the sense of coherence concept might be used as a theoretical basis for "psychoeducation" that strengthens stress-reducing skills, promotes assertiveness, and recognition and mastery of symptoms. Also, central to this strategy is raising awareness of social support and a supportive environment, and enabling the person in identifying, assessing, and using the resources available. In addition, they emphasize that to share coping stories creates optimism and confidence in one's strengths.

Social Support

Since social support and self-identity (in bold in Fig. 39.1) are crucial resistance resources (Antonovsky, 1987), these are further elaborated here. Different types of social support provide different resistance resources (Cutrona & Russell, 1987). Because life situations vary in adaptation

demands, a given type of social support will be effective only when the resistance resource it provides is matched to the demands of the situation (ibid). Weiss (1974) has identified six social functions or provisions that might be obtained from others: attachment, social integration, opportunity for nurturance, reassurance of worth, reliable alliance, and guidance. This finer-grained approach to the conceptualization of social support could have important implications for mental health interventions. In talk therapy, an attempt could be made to emphasize these six relational provisions explicitly. For example, talk-therapy group facilitators might try to increase group members' awareness of opportunities for nurturing. Research reveals that the ability to give nurturance is especially important in raising consciousness among people with mental health problems because they often are recipients of care; accordingly, their coping may be strengthened (Langeland & Wahl, 2009). Their strengthened social competence may subsequently be applied in other settings.

Salutogenic Self-Identity

Mental health professionals often wish to be able to facilitate the development of positive self-identity in their clients. Positive self-identity is a vital resistance resource (Antonovsky, 1987) and a crucial aim in talk-therapy groups based on salutogenesis. For example, one might encourage a client to undertake constructive actions or activities whose rewarding outcomes improve self-identity. Increasing participants' consciousness of their own possible choices in different challenging situations is, therefore, key in salutogenic conversations. As an example of this, Magrin et al. (2006) have developed a psychological intervention named *The power of stress: a salutogenic model of intervention*. The aim is to develop a salutogenic coping style by concentrating on finding meaning and thus promoting identity. A crucial acknowledgment is that well-being is a continuous process that individuals themselves are influencing. An important element in the intervention of Magrin et al. (2006) is the salutogenic understanding of tension. Tension is a normal feeling when facing challenges, and it is essential to accept this; otherwise, a person does not experience coping and thus develops a stronger identity. Magrin et al. (2006) suggest that tension might be seen as the "salt of life." The intervention consists of two phases, and the first is to discover meaning through working with identity. The phase focuses on individuals exploring who they are by working with desires for life and how they understand tension and stress. The aim is to perceive tension as a salutogenic factor in one's internal and external environment. Phase II focuses on developing the courage to live as one wishes. In this phase, the individual moves from getting in contact with one's own potential to acknowledging own ability to take action and realize own competence, and through that experience the positive potential of tension and gradually developing a salutogenic coping style.

Højdahl et al. (2013) have developed an intervention based on salutogenesis for convicted women called the VINN-program ("vinn" is the Norwegian word for "win" or "overcome"). The intervention concentrates on teaching participants how to identify and mobilize coping resources in order to meet and manage demands, risk-situations, and stressors, thus promoting identity and the sense of coherence. Homework, relaxing exercises, and every group session is structured around the topics identity, health, and relations. Moreover, the participants are encouraged to search for and identify meaningful activities to engage in. Each participant's personal motivation and commitment to change behavior is purposefully stimulated, within a group atmosphere of acceptance and compassion (ibid).

Social support and identity are very closely related to an individual's identity as developed through social relationships. While Antonovsky uses the metaphor about health in the river of life and active adaptation by swimming (Antonovsky, 1987), the Norwegian professor Per Fugelli uses the metaphor of "dancing with your flocks," and claims that your identity is formed by how one dances with one's flocks such as one's family, colleagues, and friends (Fugelli, 2012). This is why the qualities of our flocks are so important. A good life is not promoted in social isolation; it is created in flocks with qualities that foster dignity, belonging, and safety (Fugelli, 2012). Related to this idea, we have followed the progress of salutogenic talk-therapy groups, and we have clear evidence for a process stimulating active adaptation and coping with tension, based on the interplay of social support and identity (Fig. 39.2). It is particularly

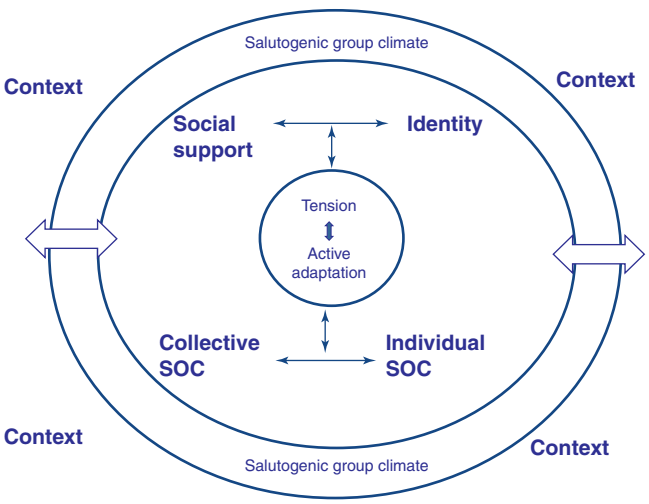

Fig. 39.2 Salutogenic talk-therapy group climate

apparent that it is the trustful climate of a group that encourages the opening up of one to oneself and to other group members (Langeland et al., 2016; Langeland & Vinje, 2013). The willingness to reveal one's vulnerability in the caring, accepting, and trustful group atmosphere is characteristic of these groups. Salutogenic talk-therapy groups seem to be an important resource that stimulates health-promoting processes.

Conclusion

This chapter emphasizes the importance of high-quality social support in interplay with positive identity development. Social support and identity are crucial resistance resources when applying salutogenesis in mental healthcare settings. The issues of social support and identity are germane in any discussion of group therapy, but a salutogenic orientation gives explicit attention to their interplay as resistance resources. Of course, the research base is never complete, and the utility of salutogenic approaches needs to be further explored. Yet, examples presented in this chapter illustrate how a salutogenic orientation can be used to both formulate and to form interventions in mental healthcare settings. While intervention research is still quite limited, some experimental evidence is presented in the chapter that indicates both the feasibility and the effectiveness of taking a salutogenic orientation into the mental health setting.

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Applying Salutogenesis in Vocational Rehabilitation Settings

40

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Introduction

Vocational rehabilitation is a combination of medical, psychological, social, and occupational activities aiming to re-establish, among sick or injured people with previous work history, their work capacity, and prerequisites for returning to work (Ahlgren et al., 2007). This chapter aims at providing a salutogenic orientation to vocational rehabilitation, and we explore how a salutogenic perspective applied in practical rehabilitation can be beneficial in rehabilitation settings such as specialist health service, private rehabilitation institutions, Green Care agriculture-based welfare services, and workplace rehabilitation for employees on sick leave.

Antonovsky (1979) stated that his writings on salutogenesis were aimed at all those who are "committed to understanding and enhancing the adaptive capabilities of human beings," clearly inclusive of the field of rehabilitation. Individuals who are in a rehabilitation process face constant challenges, and the outcome of the rehabilitation, at biological, psychological, and social levels, depends on their capability to deal with, overcome, and recover from these challenges. According to Antonovsky's theory, this capability depends on the strength of the individual's sense of coherence, determined by an individual's general resistant resources.

There is evidence that rehabilitation is facilitated by the adoption and practical application of a salutogenic approach (Førland et al., 2017; Griffiths, 2009). According to the World Report on Disability, *rehabilitation* is "a set of measures that assist individuals who experience, or are likely to experience, disability to achieve and maintain optimal functioning in interaction with their environments" (WHO, 2011). In line with this definition, Antonovsky (1991) defined recovery as a constructive process in which the individual focuses on their own situation in a flexible, adaptive, and future-oriented way. He argued that for adults, the work environment is the most important setting in determining an individual's sense of coherence. Vocation can strengthen the sense of coherence when expectations are known and consistent, when a worker experiences having the resources required to complete job tasks, and when the worker believes that he/she has a shared responsibility (Lustig et al., 2000).

Studies have shown that Sense of Coherence is linked to work-related phenomena or outcome such as sick leave processes (Falkdal et al., 2006), disability leading to pension (Suominen et al., 2005), occupational well-being (Virtanen & Koivisto, 2001; Feldt et al., 2000), work engagement and job satisfaction (Grødal et al., 2019a; Vogt et al., 2016; Saksvik et al., 2015), work attitudes (Axelsson et al., 2005), fewer stress symptoms (Albertsen et al., 2001) and lower absence rates, work stressors and strain (Höge & Büssing, 2004; Kivimäki et al., 1997, 1998), profession or kind of employment (Lundberg & Nyström Peck, 1994), and quality of work (Volanen et al., 2004). Moreover, Strümpfer and Mlonzi (2001) and Grødal et al. (2019b) reported a significant, correlation between Sense of Coherence and organizational commitment.

According to Ilmarinen (2006), return to work (RTW) or work ability is built on the balance between a person's resources and work demands. Besides the work environment, individual factors that affect work ability include functional capacity, competence (knowledge and skills), and values and motivation. Non-work factors known to influence work ability include family, friends, and relatives and the broader social and policy environment (Ilmarinen, 2006).

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Descriptive Research

Return to work after a period with disability leave has often been studied in terms of clinical factors, objective measures of trauma, pain, and musculoskeletal diseases (Shaw et al., 2002), or how social expectations and values influence attitudes toward employment (Jakobsen, 2004). Coordinated and tailored multidisciplinary rehabilitation programs that include psychosocial pain management and physical exercise intervention are more effective in improving function and return to work than programs that do not include psychosocial interventions (Hoffman et al., 2007; Staal et al., 2005; Guzman et al., 2002).

Hoefsmit et al. (2012) identified characteristics of return to work (RTW) interventions that facilitated RTW in multiple populations and across interventions, and concluded that multidisciplinary interventions were effective. This conclusion is supported by Franche et al. (2005) for workplace-based RTW interventions aimed to reduce work disability duration and associated costs.

In the last decade, an increasing number of persons with mental, physical, and social problems have participated in Green Care services in the Nordic countries and other European countries (Batt-Rawden & Tellnes, 2009). Typical examples of so-called green services are healing gardens, care farms, and green exercise, used for health promotion, rehabilitation, and social interventions to improve the coping abilities, participation, empowerment, and quality of life of rehabilitation clients (Pijpker et al., 2019; Hassink et al., 2010; Batt-Rawden & Tellnes, 2009).

Sense of coherence is a predictor of the outcome of vocational rehabilitation (Kaiser et al., 2006). Several studies underline that rehabilitation services should ensure that they have rehabilitation goals that strengthen individuals' sense of coherence (Engström & Janson, 2009; Griffiths, 2009; Lillefjell, 2008; Kaiser et al., 2001, 2006; Newton, 1999). Engström and Janson (2009) found that a strong sense of coherence counteracts short as well as long-term sickness absence. As an example of dramatic recovery, liver transplant recipients with higher levels of hardiness and stronger sense of coherence scores demonstrated higher RTW rates compared to those with lower scores (Newton, 1999). In accordance are findings of Ramel et al. (2003), who found that the RTW process after serious hand injury was more dependent on the person's own ability and motivation, including sense of coherence, than on the severity of the injury. Additionally, both personal resources (a strong sense of coherence) and the presence of a sufficient social network have been observed to buffer the negative influence of disabilities on life satisfaction (Anke & Fugl-Meyer, 2004).

Bildt et al. (2006) examined the associations between physical and psychological stress factors in and outside work, sickness absence, and cardiovascular and musculoskeletal diseases. The impact on sickness absence consisted mainly of demand and control aspects of the psychosocial working conditions, but also on employment security and level of the sense of coherence; a weak sense of coherence was found to exacerbate musculoskeletal complaints. In accordance are results from a 10-year follow-up study comparing psychosocial factors in healthy persons and sick-listed persons with musculoskeletal disorders (MSD); there was significantly higher quality of life, more control over the working situation, and a better sense of coherence in the healthy group compared to the MSD group (Lydell et al., 2011).

Evaluation of workplace-based early rehabilitation in Finland showed that during the rehabilitation period, the performance of participants began to match that of an at-work comparison group, especially with respect to work capacity, mental well-being, and musculoskeletal problems (Väänänen-Tomppo et al., 2005). Sense of coherence actually rose in both groups, attributed in part to positive changes in the workplace. In contrast, a study of employee and work-related predictors for entering rehabilitation observed that sense of coherence was not associated with return to work (Lamminpää et al., 2012).

Volanen et al. (2010) found the sense of coherence to be associated with intentions to retire early among women and men reporting somatic or mental illness; this association was not influenced by socioeconomic, psychosocial, and work and health behavior. Kaiser et al. (2006) found that 3 years after the vocational rehabilitation process had ended, men who received disability pension had significantly lower sense of coherence scores than those who did not receive disability pension, and women who received disability pension had stronger sense of coherence than men who received disability pension. The gender difference might be related to a societal belief in women's greater vulnerability to musculoskeletal disorder. The income disparity between men and women, with lower income for women, is probably also of importance. Thus, the findings of descriptive research indicate that the level of the sense of coherence is a factor in rehabilitation processes (Lillefjell, 2006).

Intervention Research

A vast amount of interventions exist that aim to facilitate RTW after sickness absence. These interventions are usually focused on specific target populations such as employees with low back pain, stress-related complaints, or adjustment disorders. The majority of RTW interventions for sickness absence beneficiaries involve some form of cognitive-behavioral treatment to improve cognitive skills in relation to work (Martin et al., 2013; Franche et al., 2005). Some inter-

ventions showing promising results also include contact with the workplace or aim at restoring contact with the workplace (Martin et al., 2013).

Salutogenic theory is found to help explain the process of recovery for those with mental health issues (Griffiths, 2009); there is substantial evidence that sense of coherence plays a central role in coping with stressors in the rehabilitation process, and that it contributes to mental health and psychosocial functioning. Moreover, sense of coherence is found to increase through work rehabilitation programs and re-employment (Vastamaki et al., 2009; Lillefjell & Jakobsen, 2007). For example, a Finnish unemployed sample significantly improved the sense of coherence through intervention, and re-employed individuals experienced the greatest improvements (Vastamaki et al., 2009). This included changes in comprehensibility, manageability, and meaningfulness.

Hansen et al. (2005) identified predictors of individual resources for a return to work among persons on sick leave. There were significant differences between the study group and the reference groups in sense of coherence, locus of control, life satisfaction, and coping resources. The most important predictive factors were previous sick leave, own belief about future, and self-reported symptoms. A study among unskilled Danish public employees and privately employed housecleaners on sick leave due to musculoskeletal and/or common mental illnesses found support for the salutogenic theory (Jensen Claudi, 2013); work ability expressed as the intention to work was decisive for RTW, reflecting the interpretation of the work/health situation as comprehensible, meaningful, and manageable.

A study by Lillefjell and Jakobsen (2007) investigated the association between the sense of coherence and work re-entry following vocational rehabilitation among patients with musculoskeletal pain. Sense of coherence significantly improved, and pain experience, anxiety, and depression significantly decreased during the rehabilitation period. Sense of coherence was found to significantly predict anxiety and depression in a non-RTW subsample. However, no significant association was found between the sense of coherence and RTW. These data clarify the role of the sense of coherence in coping with chronic pain and emotional distress, but question the presumed role of the sense of coherence in work re-entry of persons with long-term chronic musculoskeletal pain. In contrast, the Pathway-to-Work Project (Juvonen-Posti et al., 2002) found participants' distress level to decrease remarkably during rehabilitation, and their perceived competence increased, but their sense of coherence did not change.

Rehabilitation services adopting a salutogenic approach and seeking to enhance a client's sense of coherence can be beneficial in terms of the client's rehabilitation and recovery (Lie et al., 2019; Griffiths, 2009; Lillefjell, 2008).

Individuals who have been on sick leave and in the process of returning to work might profit from a systematic salutogenic orientation, where the daily actions of the counsellors focus on the resources available (Falkdal et al., 2006). According to Hansen et al. (2006), a reliable prediction of a return to work was influenced by a combination of many factors: the individual's expectations, the number of days of sick leave taken in the past, somatic disorders, level of life satisfaction, and level of the sense of coherence.

In most European countries, there has been a shift within the health and social service sector from highly institutionalized toward more community-focused rehabilitation, such as the use of care farming, which was mentioned earlier (De Krom & Dessein, 2013). Care farms offer empowerment-oriented and strength-based practices within the community (Hassink et al., 2010). Different care farming interventions aim at starting a rehabilitation process by getting people to participate in an activity, and in this way contribute to improved coping, empowerment, meaningfulness, and quality of life (Pedersen et al., 2016). Care farming interventions might therefore be regarded as pre-vocational rehabilitation where the focus is shifted from disease and disability toward participation and coping (Pedersen et al., 2012.) Pre-vocational rehabilitation on care farms have been shown to stimulate functionality, motivation, and well-being through satisfaction of psychological needs such as competence, relatedness, and autonomy (Ellingsen-Dalskau et al., 2016).

Discussion

Vocational rehabilitation is a process of increasing awareness, enabling people to manage tension, to reflect about, identify, and mobilize internal as well as external resources, and to promote effective coping by finding solutions. Implementation of the salutogenic concept in vocational rehabilitation seems to be of value. The relevance of a salutogenic orientation in vocational rehabilitation is shown in several studies (Griffiths, 2009; Falkdal et al., 2006; Hansen et al., 2006); a strong sense of coherence predicts RTW and a weak sense of coherence predicts no RTW.

A salutogenic orientation might therefore have several implications when it comes to designing rehabilitation interventions. Enhancement of an individual's sense of coherence seem to be beneficial in terms of the individual's rehabilitation process and recovery (Merz et al., 2001). The main foundation of the concept of sense of coherence is to create coherence between structures and systems (Eriksson, 2007; Antonovsky, 1979), which is considered as a main challenge in the process of RTW. A salutogenic orientation may enhance professionals' ability to appreciate clients' coping strategies and resources. The professionals' competence seems to be essential. A salutogenic orientation includes

practical skills, sensitivity, and intuition, and the ability to see the whole situation, contextualize it, and act accordingly, in order to facilitate return to work. RTW counsellors need training to help them focus on assessing and strengthening clients' sense of coherence, by focusing on past experiences that contribute to the sense of coherence. Rehabilitation services should have the goal to strengthen clients' sense of coherence (Merz et al., 2001; Lustig et al., 2000). On a note of caution, using a sense of coherence questionnaire as a screening instrument in RTW practice carries a risk of stigmatization. It is also relevant to question what the individual sense of coherence level at any given time really means for rehabilitation. A sense of coherence assessment might nevertheless be useful in the dialogue between the client and the professional, in order to identify resources (Eriksson, 2007).

Implications for Salutogenesis Research

Further investigation is required into the development of rehabilitation programs with salutogenic orientation as a part of their foundation. Additionally, more knowledge on how the salutogenic framework can facilitate the return to work process is needed. A salutogenic orientation in outpatient early rehabilitation, where the rehabilitation program and the development of working circumstances progress side-by-side, seems to give promising results and should be further investigated in longitudinal studies. To improve return to work rates, this might indicate a need for a greater part of the rehabilitation process to take place at the workplace/context to which the person is supposed to return after the rehabilitation period. More insight is needed into how disability interacts with comprehensibility, meaningfulness, and manageability (Antonovsky, 1979, 1987), and how this may be applied in rehabilitation counselling settings.

Challenges for the Future

To assist individuals to achieve their vocational goals, the rehabilitation models place emphasis on assessing and changing the environment as well as changing the individual. A multidimensional approach taking into account a person's physical condition and workplace-related challenges, as well as psychosocial factors, might be of great importance for the person as well as for the society. The key factor is to identify as well as to be able to use and re-use the general resistance resources available, for the intended purpose. Thus, in order to improve vocational rehabilitation in general, a salutogenic approach in all societal levels in policies is required. Coherence is a key, illustrating the main challenges in the rehabilitation research and practice, to create coherence between structures and systems.

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Applying Salutogenesis in Residential Care Settings

41

Viktoria Quehenberger and Karl Krajic

Introduction

This chapter provides a brief overview of research on salutogenesis in long-term care settings, including descriptive research that is needed as a basis for interventions and intervention research. The focus is on users of residential aged care, and as a comparison, some studies on aged and highly aged people in the community setting are included. By "*residential aged care,*" we understand institutions that provide comprehensive social and healthcare services to older people for whom adequate care cannot be provided in their homes. By "*community-dwelling,*" we understand aged and highly aged people who live in their own or other's private homes, and who might need a varying degree of home-based social and healthcare services. We also use the terms "*aged*" and "*highly aged*" referring to people between 65 and 84 years, and 85 years and older, respectively. These labels are used for convenience as they correlate with the epidemiology of chronic illness and functional impairment, but of course, there is a large amount of inter-individual variation in functional versus chronological age.

To increase readability, we refer henceforth to residents of residential aged care institutions as "*residents*" and to community-dwelling aged and highly aged people as "*community dwellers.*"

Our primary focus on residents is in accord with the focus of this part of the Handbook on curative settings. The private home may also be temporarily or permanently a curative setting, as many older persons receive health and social services delivered in the home.

The chapter starts with an introduction to the characteristics of residential aged care settings and their residents and then addresses the main concepts of the salutogenic model. Subsequently, the relevance of a salutogenic approach in residential aged care institutions is discussed. This is followed by a description of the current state of *descriptive research*, followed by an analysis of *intervention research* using salutogenesis on residents. We discuss the current state of research on community dwellers. We close with a discussion of some implications and challenges for future research on salutogenesis in this setting.

Residential Aged Care

Aged care is located at the interface of social and health care. The core function is to support the everyday living of people who are, to some degree, functionally impaired, dependent, and vulnerable. This can apply to people of all ages, but we focus on the aged as the largest group.

Settings of residential care range from large, often rather bureaucratic organizations like traditional nursing homes to small, rather informal care units, which systematically include elements of self-care, contributions from family members and other informal carers, and co-operate with external professionals (medical and professional nursing support, housekeeping, social support, etc.). Aged care organizations combine different services, adjusted to the individual needs of residents. The key outcome often is defined as good or enhanced quality of life, comprising a wide range of expert and lay perceptions about physical, mental, and social aspects of the quality of life.

There is a high prevalence of chronic diseases and chronic physical and/or cognitive functional impairments among the

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residents (Horn et al., 2012), as admission to residential aged care is often caused by or dependent on multi-morbidity and dementia-related symptoms, accompanied by a varying degree of impairments in activities of daily living (Drageset et al., 2009).

Though the prevalences of diseases and the average health status of residents might vary between countries, regions, and types of care, there is a general trend that residents report worse health outcomes than community-dwelling counterparts. A study among US nursing homes found the prevalence of dementia among newly admitted residents to be 48.2% (Magaziner et al., 2000); a Norwegian study found that about 80% of residents showed some dementia-type symptoms (Nygaard et al., 2000). Even when comparing residents and community dwellers without cognitive impairment, residents have significantly worse scores on functional ability, depression, satisfaction with life, and loneliness (Rodriguez-Blazquez et al., 2012) and also on many dimensions of health-related quality of life (Drageset et al., 2008a).

Salutogenesis

Antonovsky proposed the salutogenic model in sharp opposition to the pathogenic orientation, which is prominent in western medical thinking. Starting from a perspective that the human system is inherently flawed and subject to entropic processes, Antonovsky rejected a dichotomous categorization of the health status (e.g., well vs. diseased, healthy vs. ill) as inappropriate to represent the complexity of health status. In contrast, the concept of the "*health ease/disease continuum"* (HE-DE) assumes that health is better understood as a continuum. Every person—at a given point in time—is somewhere between the health and the disease poles on this continuum. Central guiding questions in Antonovsky's theory are "what it is that keeps people healthy?" and "what explains movement toward the health pole of the HE-DE continuum?". According to Antonovsky, this movement cannot be accounted for by simply being low on risk factors, but complementary, "salutary" factors actively promote health (Antonovsky, 1996).

In this context, Antonovsky introduced the construct of "*generalized resistance resources*," defined as "a property of a person, a collective or a situation which, as evidence or logic has indicated, facilitate successful coping with the inherent stressors of human existence" (Antonovsky, 1996, p. 15). Another core construct of the salutogenic theory is the "*sense of coherence*," which is "a generalized orientation toward the world which perceives it, on a continuum, as comprehensible, manageable, and meaningful" (Antonovsky, 1996, p. 15). The sense of coherence is comprised of cognitive, behavioral, and motivational components. When confronted with a stressor, people with a strong sense of coherence are likely to be motivated to cope (meaningfulness), to believe that they understand the challenge (comprehensibility), and to believe that coping resources are accessible (manageability) (Antonovsky, 1996).

There are various hypotheses regarding the relationship between the HE-DE continuum (health status), the sense of coherence, and generalized resistance resources (resources for health). In general, the strength of the sense of coherence is thought to determine whether the outcome of stressful life events will be noxious, neutral, or salutary (Antonovsky, 1987).

Figure 41.1 provides an overview of three basic designs of analysis, which have been used to test different assumptions of the salutogenic model in cross-sectional studies in aged and highly aged persons.

Some studies introduce the sense of coherence as an independent determinant of health outcomes, which correlates with other health determinants (Fig. 41.1a).

Sometimes the relations are mapped as the "salutogenic triangle" (Fig. 41.1b). Antonovsky stated that the sense of coherence is shaped through the repeated experience of the availability and of successful coping through general resistance resources. Then, in turn, the sense of coherence is thought to influence the individual's health status (partly through various mechanisms like attitude/behavior change, emotions, and psychoneuroimmunology) (Antonovsky, 1996; Wiesmann & Hannich, 2010). In this context, researchers have investigated the sense of coherence as a mediator of the effects of general resistance resources on health status.

Finally, yet importantly, a strong sense of coherence might enable the person to activate and apply his/her general resistance resources appropriate for the specific stressor and thereby influence health (Antonovsky, 1996; Wiesmann & Hannich, 2010). Another assumption states that a high sense of coherence might play an especially prominent role in those people with few general resistance resources, that is, that a high sense of coherence might buffer negative effects of having few general resistance resources on health. In this context, moderation analysis is used to test further hypotheses (Fig. 41.1c).

Besides investigating these underlying mechanisms, there is also the question of whether the sense of coherence is important in general or in specific situations of vulnerable groups. Antonovsky claimed that life is inherently stressful. Thus, some researchers have investigated a general sample assuming that sense of coherence should be a relevant health determinant in all participants (independent of actual stressful life events). Antonovsky further suggested that the strength of the sense of coherence would determine whether the outcome of stressful life events would be noxious, neutral, or salutary (Antonovsky, 1987). In this context, some studies have examined the relevance of the sense of coher-

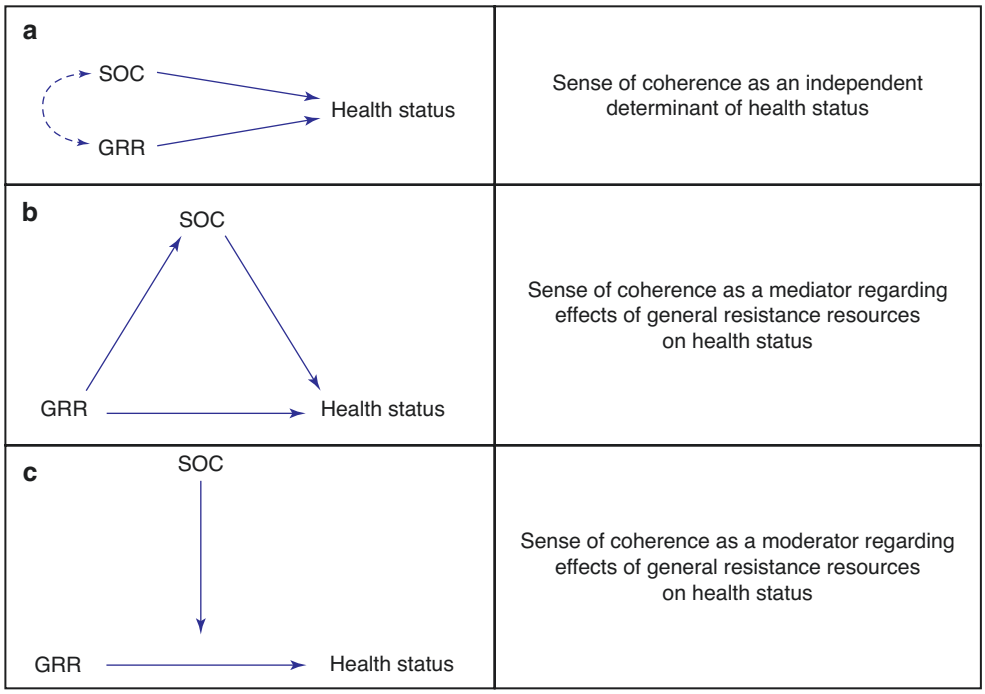

Fig. 41.1 Basic designs of analysis to test assumptions of the salutogenic model in cross-sectional studies. *SOC* sense of coherence, *GRR* general resistance resource

ence among people that recently experienced a stressful life event (e.g., accident, hospitalization, loss of a significant other, etc.).

A sound understanding of theoretical assumptions supported by empirical findings is essential to design effective health promotion interventions. Therefore, the second part of the overview concerning descriptive research will focus on research testing these complex theoretical assumptions of the salutogenic model.

Salutogenesis and Its Relevance in Residential Care Settings

Proponents of salutogenic orientation in aged care assume that the health of older adults could be enhanced by better integrating the salutogenic approach into care and health promotion practice in long-term care and related research. For example, a salutogenic orientation on health in later life would help to counteract stereotyping "the elderly" as diseased. Further, it would help to reconceptualize questions about health in later life toward why and how aged and highly aged persons stay healthy, respectively, successfully cope with chronic illness and disability (Sidell, 2009).

From a gerontological point of view, the sense of coherence can be considered as a positive resource in the process of age-dependent changes (Wiesmann & Hannich, 2008). The literature describes the salutogenic model as widely congruent with existing gerontology theories like the "model of selective optimization with compensation" or "activity/disengagement theory." Further, utilization of the "sense of coherence" construct might contribute to a better understanding of normal aging processes (Wiesmann et al., 2004). For example, it is of empirical interest how a strengthened sense of coherence might ease the transition of becoming a resident (Tan et al., 2014).

Salutogenesis is particularly relevant to understand the stress that many older people encounter due to an unpredictable future based on diminishing socioeconomic resources, shrinking social networks, and deteriorating health and capacities (Tan et al., 2014). In this context, residents can be considered as an especially vulnerable group. Therefore, concepts like the sense of coherence seem to be especially salient as a framework for research in residential aged care (Cole, 2007). On a practical level, there are propositions to use the sense of coherence scale as a screening instrument to identify people at risk (e.g., risk groups for rapid functional status decline). A sense of coherence assessment is proposed to form a meaningful indicator of the quality of life in residents (Cole, 2007).

In a broader context, there are some attempts to integrate the salutogenic paradigm into nursing theory, conceptualizing nursing care as a generalized resistance resource for patients (Brieskorn-Zinke, 2000; Menzies, 2000; Sullivan, 1989). There are also recommendations that nursing practice in residential aged care should be guided by the use of a salutogenic approach (Drageset et al., 2008b). In line with this, a salutogenic perspective could support refocusing aged care toward meaningful, manageable, and client-defined structures and processes (Cole, 2007). Providing professional

care sufficiently and consistently enhances comprehensibility. If staff is sensitive to the effect of care routines on residents' sense of control over their life, attempts to strengthen residents' resources (e.g., social support), and supports residents in using their resources, this enhances feelings of manageability. Support in the maintenance of close relationships, emotional support, and provision of opportunities for purposeful activities (e.g., occupational therapy, activities residents valued in their life before moving to the facility) might foster residents' sense of meaningfulness (Drageset et al. 2008b). Further, the literature proposes that salutogenic "standards" could be integrated into the design of healthcare settings including nursing homes (Dalton & Mccartney, 2011; Meeyoung & Heshmati, 2014).

Finally, yet importantly, research on residents and community dwellers could provide further insight on a fundamental assumption of salutogenic theory—that the sense of coherence is stable during the adult lifespan. So far, empirical findings on the stability of the sense of coherence are inconsistent (Drageset et al., 2014).

The Current State of Research

So far, research on salutogenesis focusing on residents is very scarce. Most of it was conducted in Scandinavian countries, and some contributions originate from the United States. A significant limitation of current studies is that research has mainly been restricted to residents with no or little cognitive impairment, although cognitively impaired individuals are the majority in residential aged care.

Regarding community dwellers, the research base is considerably broader, and we could find attempts to test complex assumptions of the salutogenic model. Such research has mostly been conducted in the Scandinavian countries and Germany, but there are also contributions from the United Kingdom, Italy, Belgium, Canada, Portugal, Australia, and other countries. The researched population mainly comprises relatively younger persons (65–84 years), who are often quite healthy and active. Research on the highly aged (85+ years) is still very scarce. An exception is the Umea 85+ study from Sweden (e.g., Lövheim et al., 2013; Lundman et al., 2010; Nygren et al., 2005).

In studies on community dwellers, we did not find consistent information on their functional status and need for support. So it is challenging to identify applications of salutogenesis for those community dwellers who need assistance and compare them to the residents who more obviously all need some support. However, similar to research on residents, research on community dwellers tends to exclude the rather large segment of cognitively impaired individuals.

Descriptive Research

Table 41.1 provides an overview of *outcome measures addressed by salutogenic research with residents and community dwellers*. Researchers most often applied the salutogenic model to investigate subjective (overall) health outcomes like health-related quality of life, self-rated health as well as subjective physical and psychological/mental health. However, these concepts are often used interchangeably, though using the same instrument, the label of the outcome can differ according to the research tradition and context.

In their review, Tan, Vehiviläinen-Julkunen and Chan (2014) conclude that in general, a strong sense of coherence among older people was correlated with better physical, social, and mental health. The use of generalized resistance resources, such as appraisal, coping strategies, and social support, was correlated with their sense of coherence, perceived holistic health, and quality of life.

Although less frequently studied than subjective health, also other outcomes have been examined: Mortality, morbidity, symptom reporting, depression, adjustment to aging in later life, self-care management, mobility disability, and—of particular interest in the context of this chapter—risk of nursing home admission. Objective measures such as immune functioning are rarely in focus.

Antonovsky stated different hypotheses on how the sense of coherence might influence health status (see Fig. 41.1). So far, research testing these complex theoretical assumptions of the salutogenic model within community dwellers is scarce, and this is even more evident for research on residents (Table 41.2 provides an overview).

Comparative studies (Table 41.2) are one way to identify whether the sense of coherence plays a prominent role in a particular population (or context). Some studies have investigated if the association between sense of coherence and health outcomes varies between different populations (e.g., by comparing community-dwelling men and women).

Mediation (see also Fig. 41.1b) refers to "how" a particular independent variable (for example, a general resistance resource) might influence an outcome variable (for example, subjective health). A mediating variable (such as the sense of coherence) is introduced as a possible mechanism to explain a statistical association between the independent and the outcome variable. In this model, the independent variable causally influences the intervening and both, in turn, the outcome variable (Hayes, 2013). In the context of the salutogenic theory, this means that the sense of coherence is shaped through the repeated experience of the availability and of successful coping through general resistance resources. Subsequently, the sense of coherence is thought to influence

Table 41.1 Outcome measures addressed by research on salutogenesis with residents and with community dwellers

	Residents	Community dwellers
Subjective overall health outcomes[a]		
Health-related quality of life	Drageset et al., 2008b, 2009, etc.	Ekman et al., 2002; Ekwall et al., 2007, etc.
Self-rated health		Elovainio & Kivimaki, 2014; Forbes, 2001; Schneider et al., 2004; Söderhamn & Söderhamn, 2010, etc.
Subjective physical health		Nygren et al., 2005; Read et al., 2005; Wiesmann et al., 2006, 2009; Wiesmann & Hannich, 2014, 2018, etc.
Subjective mental/ psychological health		Billings & Hashem, 2010; Nygren et al., 2005; Read et al., 2005; Wiesmann et al., 2006, 2009; Wiesmann & Hannich, 2014, 2018, etc.
Satisfaction with life		Dezutter et al., 2013; von Humboldt et al., 2014; Kocjan, 2017, etc.
Quality of life		Borglin et al., 2006; Helvik et al., 2014; Nesbitt & Heidrich, 2000, etc.
Subjective well-being		Elovainio & Kivimaki, 2014; Giglio et al., 2015; von Humboldt et al., 2015; Wiesmann et al., 2006; Wiesmann & Hannich, 2008, 2018, etc.
(Health) Outcomes especially relevant in aged and highly aged		
Mortality		Lundman et al., 2010, etc.
Morbidity		Elovainio & Kivimaki, 2014, etc.
Diseases		
Depression	Drageset et al., 2012, 2016, Rajagopal et al., 2002, etc.	Dezutter et al., 2013; Giglio et al., 2015; Lundman et al., 2010, etc.
Various other diseases (e.g., heart failure, COPD[b], osteoarthritis)		Lundman et al., 2010, etc.
Symptom reporting		Rennemark & Hagberg, 1999; Wiesmann et al., 2006, 2009, etc.
Post-traumatic symptoms		Glück et al., 2016, etc.
Functional status (Impairment in ADLs[c], mobility disability)	Cole, 2007, etc.	Avlund et al., 2003, etc.
Immune functioning (Natural killer cell activity; immune response to influenza vaccination)		Kohut et al., 2005; Lutgendorf et al., 1999, etc.
Adjustment to aging		von Humboldt et al., 2013; Kocjan, 2017, etc.
Pain-coping strategies		Andruszkiewicz et al., 2017, etc.
Self-care management		Gallagher et al., 2008; Söderhamn et al., 2011, etc.
Risk of nursing home admission		Thygesen et al., 2009, etc.
Concepts of the salutogenic model as outcomes		
HE-DE continuum		Wiesmann & Hannich, 2010, etc.
Stability of SOC	Drageset et al., 2014, etc.	Caap-Ahlgren & Dehlin, 2004; Forbes, 2001; Larsson et al., 1995; Lövheim et al., 2013; Wiesmann et al., 2006; Wiesmann & Hannich, 2018, etc.

[a]Specific outcome terms often used interchangeably
[b]Chronic obstructive pulmonary disease
[c]Activities of daily living

the individual's health status (Antonovsky, 1996; Wiesmann & Hannich, 2010).

So far, mediating effects of the sense of coherence have been mainly examined in middle-aged adult samples (e.g. Wiesmann & Hannich, 2010); for community-dwelling aged, there are very few studies (Table 41.2).

First, findings indicate that there are complex interactions between generalized resistance resources, sense of coherence, and the HE-DE continuum. Regarding overall health measured on a HE-DE continuum, the sense of coherence has some additional explanatory power after controlling for generalized resistance resources (ibid). The sense of coherence fully mediated some effects (e.g., the effects of resources like autonomy, self-efficacy, self-esteem), other effects were partly mediated (e.g., the effects of resources like activity level, social support), and some effects were not mediated by sense of coherence (e.g., the effects of depressive mood). Furthermore, the sense of coherence has been shown to mediate the effects of physical exercise on mental health and social health (Read et al., 2005).

Second, other research has observed that the sense of coherence mediates the association between generalized resistance resources and psychological health and symptom reporting, but not physical health (Wiesmann et al., 2009).

Table 41.2 Exemplary overview of research in residents and the community dwellers testing for complex assumptions of the salutogenic model

	Residents	Community dwellers
Role of sense of coherence in a particular population—comparisons		
… of the association between sense of coherence and health outcomes by means of…		
… men/woman		Ciairano et al., 2008; Saevareid et al., 2007, etc.
… home-dwelling/hospitalized elderly		Ekman et al., 2002; Söderhamn & Söderhamn, 2010, etc.
… aged with/without Parkinson's disease		Gison et al., 2014, etc.
Testing assumptions on "when" and "how" sense of coherence might influence health status (in cross-sectional studies)—mediation and moderation		
Sense of coherence as a mediator between general resistance resources and specific health outcomes		
… HE-DE continuum		Wiesmann & Hannich, 2010, etc.
… symptom reporting, psychological and physical subjective health		Wiesmann et al., 2009, etc.
… subjective physical, mental, and social health		Read et al., 2005, etc.
… pain		Wiesmann et al., 2014, etc.
… positive aging	Wiesmann et al., 2017, etc.	Wiesmann et al., 2018, etc.
… attitudes toward retirement		Lee et al., 2020
… coping in stressful situations		Krok, 2016
Well-being paradox—sense of coherence as a mediator between		
… subjective psychological and physical health/quality of life and physical health limitations, etc.		Nesbitt & Heidrich, 2000; Wiesmann & Hannich, 2008, 2014, etc.
Mediators/mechanisms between sense of coherence and health outcomes		
… psychological resources as mediators between sense of coherence and depressive symptoms, satisfaction with life, mental health		Dezutter et al., 2013; Wiesmann & Hannich, 2014, etc.
Sense of coherence as a moderator between general resistance resources and specific health outcomes		
… health-related quality of life	Drageset et al., 2008b, 2009, etc.	
… depression	Drageset et al., 2012, etc.	
Sense of coherence as a moderator between stressful life event and specific health outcomes		
… immune functioning (Natural killer cell activity)		Lutgendorf et al., 1999, etc.
Sense of coherence as a predictor for certain health outcomes and stability of the sense of coherence—longitudinal research		
Sense of coherence as a predictor for…		
… subjective health		Wiesmann et al., 2006, 2018, etc.
… psychological health		Wiesmann et al., 2018, etc.
… depression		Lundman et al., 2010, etc.
… physical health		Wiesmann et al., 2018, etc.
… change of functional health status	Cole, 2007, etc.	Boeckxstaens et al., 2016, etc.
… future needs of care		Larsson et al., 1995, etc.
… risk of nursing home admission		Thygesen et al., 2009, etc.
… mortality		Boeckxstaens et al., 2016; Lundman et al., 2010, etc.
Stability of sense of coherence	Drageset et al., 2014, etc.	Caap-Ahlgren & Dehlin, 2004; Larsson et al., 1995; Lövheim et al., 2013; Wiesmann et al., 2006, 2018, etc.
Enhancement of the sense of coherence (and health) status—interventions by way of…		
… physical activity		Kohut et al., 2005; Pakkala et al., 2012; Seah et al., 2017; Wiesmann et al., 2006, etc.
…resource enhancement and activation program		Tan et al., 2016, etc.
…empowering self-management intervention		Hourzad et al., 2018, etc.
…group-based health promotion program		Arola et al., 2018
…educational intervention		Musavinasab et al., 2016, etc.
… spiritually based prayers	Rajagopal et al., 2002[a], etc.	
… personal-centered therapy		von Humboldt & Leal, 2013, etc.
… self-care telephone calls		Sundsli et al., 2014, etc.

[a]Residents of a continuing care community

Though the evidence on this topic is still very scarce, this might indicate that the sense of coherence might be more prominent to explain psychological than physical health.

Last but not least, some studies have investigated mediation effects of sense of coherence in old age to gain a new perspective on the "well-being paradox," which is known as the paradox that old persons report positive psychological functioning despite declines in physical health (Wiesmann & Hannich, 2014). The assumption is that aged persons with a strong sense of coherence can compensate for adverse effects of declining physical health on psychological health. If an aged person can interpret age-related changes in physical health as comprehensible, manageable, and meaningful, or can compensate for this loss by concentrating on and positively valuing other life domains, the person might be able to maintain a high level of well-being and psychological health (Wiesmann & Hannich, 2014). While some evidence supports the mediating effect of sense of coherence in community dwellers (Nesbitt & Heidrich, 2000; Wiesmann & Hannich, 2008, 2014), others fail to find an association between mental and physical health in highly aged in the first place (Nygren et al., 2005).

So, findings are mixed regarding the mediating effect of sense of coherence on the relationship between subjective physical and mental health in old age. However, from the authors' point of view, moderation might also be a promising way to investigate this phenomenon.

Moderation (see also Fig. 41.1c) means that an association between an independent and an outcome variable is influenced in its size, sign, or strength by a moderating variable (Hayes, 2013). In the context of the salutogenic theory, this refers to the hypothesis that a strong sense of coherence might enable the person to activate and apply his/her general resistance resources appropriate for the specific stressor and thereby influence health (Antonovsky, 1996; Wiesmann & Hannich, 2010).

Possible moderation effects of sense of coherence (Table 41.2) have mostly been examined in residential care settings, and these studies have failed to observe such effects. So far, no moderating effect of sense of coherence has been observed regarding the relationship of social support to health-related quality of life (Drageset et al., 2009) or depression (Drageset et al., 2012). Another study found no moderating effects of sense of coherence in the association of sociodemographic variables to health-related quality of life (Drageset et al. 2008b). However, a study on elderly persons who anticipated relocation to congregate living facilities found that sense of coherence was a moderator for immune functioning in those anticipating a move. Sense of coherence was positively associated with immune functioning in the moving but not in the non-moving group (Lutgendorf et al., 1999), an indication that sense of coherence might only have a protective effect in situations with high stress.

In addition to the issue of possible mediating and moderating effects, some research has focused on the sense of coherence as a main independent *predictor for specific health outcomes* (Table 41.2). A study found the sense of coherence to predict care needs in hospitalized elderly, 1 month after hospital discharge (Larsson et al., 1995). On the other hand, the sense of coherence was not a significant predictor of nursing home admission/death in community-dwelling aged at a 2-year follow-up. However, some authors suggest that in the face of significant health changes in old age, moving into a residential aged care facility could be considered as a successful coping strategy (Thygesen et al., 2009). Concerning psychological health, the sense of coherence was not found to be a significant predictor of quality of life in hospitalized elderly 12 months after hospital discharge (Helvik et al., 2014), nor of depression in community-dwelling highly aged at 5-year follow-up (Lundman et al., 2010). As to mortality, the sense of coherence is a significant predictor for mortality in community-dwelling highly aged at 1-year, but not at 4-year, follow-up (Lundman et al., 2010). Research indicates that sense of coherence might predict certain outcomes in the short run; regarding long periods, there is no evidence.

In studies exploring the *stability of sense of coherence* in old age (Table 41.2), there seems to be a trend toward higher sense of coherence scores with aging. However, a significant limitation of studies on the stability of sense of coherence in community dwellers is that most of these are cross-sectional. They do not provide evidence about change in the sense of coherence in the life course.

Intervention Research

According to Billings and Hashem (2010), very few studies have applied salutogenic principles in interventions to promote positive health among older people. Some research applied concepts that relate to salutogenic principles, like coping and mobilization of resources and social support. So far, no interventions explicitly addressing and testing the sense of coherence as a mediator for health changes in residents have been conducted though there are various suggestions for interventions (Cole, 2007; Drageset et al. 2008b, 2014). However, of relevance is a small intervention study with residents with minor depression in a continuing care community setting. The spirituality-based intervention led to a significant decrease in anxiety, and there was a trend toward decreased depression. There was a non-significant trend toward an increase in the sense of coherence in the group who did individual prayers (Rajagopal et al., 2002).

There are few intervention studies in community dwellers that explicitly used and scientifically tested salutogenic principles and concepts. Small sample sizes often limit studies. A study using different types of physical activity (yoga, meditation, endurance, strength) found a significant increase in the sense of coherence, independent of the type of activity (Wiesmann et al., 2006). In addition, there was a significant increase in overall well-being, somatic well-being, and subjective psychological health, while there were no effects on subjective physical health and symptom reporting (ibid). In accord with these results, a study that investigated the effect of physical activity on immune response to influenza vaccination in old adults found a significant time by treatment interaction, with a slight increase in sense of coherence in the intervention group and a slight decrease in sense of coherence in the control group (Kohut et al., 2005). Moreover, improvements in the sense of coherence accounted for some of the exercise-associated increase in immune response to vaccination (ibid). In contrast to these findings, a study among old adults after a hip fracture found no significant effect of intensive strength training on the sense of coherence, although there were improvements in muscle strength, power, and self-reported outdoor mobility (Pakkala et al., 2012).

Besides physical activity interventions, a study using psychotherapy found an increase in participants' sense of coherence, with the most substantial effect on the comprehensibility component of the sense of coherence (von Humboldt & Leal, 2013). A resource enhancement and activation program led to an increase in the sense of coherence (Tan et al., 2016) and an empowering self-management intervention led to improved self-efficacy and sense of coherence among the retired elderly with chronic diseases (Hourzad et al., 2018). Arola et al. (2018) found a significant improvement in the sense of coherence after a group-based health promotion program at 6-month follow-up, but not at a 12-month follow-up. On the contrary, an intervention using self-care telephone talks found no effects on the sense of coherence of the participants (Sundsli et al., 2014).

Discussion: Implications and Challenges

We can see various theoretical and methodological implications for research on salutogenesis in aged and highly aged.

First, the concept "general resistance resources" is often used unsystematically and in an unquestioned way. Some have used psychological variables (e.g., psychological traits, self-complaints) as general resistance resources; others have used psychological variables as mediators between the sense of coherence and health outcomes. However, there are also considerations whether sense of coherence and some psychological traits like resilience, purpose in life, and self-transcendence share a common "area," which could be looked upon as a person's "inner strength" (Nygren et al., 2005), which questions the usefulness of additionally using these measures as general resistance resources.

Second, a sound understanding of theoretical assumptions supported by empirical findings is essential to design effective health promotion interventions. So far, cross-sectional research on salutogenesis in aged and highly aged persons has not often considered theoretically diverging hypotheses. It would be interesting to test systematically diverging hypotheses (e.g., Wiesmann & Hannich, 2014; for example, in middle-aged samples, see Albertsen et al., 2001; Hogh & Mikkelsen, 2005).

Also, it is possible to refine the existing modalities of analysis further. One may test the theoretical assumptions of Fig. 41.1a–c, and simultaneously control whether the expected association is evident only in the group with a stressful life event, by introducing a stressful life event as (another) moderating variable (i.e., moderated mediation; two moderators). These methodologically elaborate designs test for conditional indirect effects, defined as "the magnitude of an indirect effect at a particular value of a moderator (or at particular values of more than one moderator)" (Preacher et al., 2007). As far as the authors know, such elaborate designs have not been applied in this context so far, but it would be interesting to test the theoretical assumptions on interrelations of the salutogenic concepts in cross-sectional studies.

Finally, it seems crucial that interventions in intervention studies should be designed to address the sense of coherence components. They should be need-oriented, and they should focus on the entire person (Antonovsky, 1996), rather than including the sense of coherence just as a secondary outcome.

Conclusions

So far, there is very little research applying salutogenesis in residential aged care. A significant limitation is that aged and highly aged people with cognitive impairment have mostly been excluded from the research, which raises doubt about the generalizability of the findings that are reported. The applicability of the salutogenic paradigm to guide effective health promotion intervention for older people receiving health and social services is as yet uncertain. So far, only a few intervention studies among the comparatively healthy and active community-dwelling segment of the older adult population have explicitly applied salutogenesis to promote participants' health, and these studies are often of diminished value due to small sample sizes. However, the scant literature that is available and highlighted in this chapter suggests that salutogenesis is a promising concept to guide

health promotion with care-dependent aged and highly aged people. Given the relevance of the approach and the lack of research, taking the salutogenic orientation explicitly into account in the design and testing of interventions in residential care and community settings, where frail older persons need/receive social health care, seems a worthy priority for future research.

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Applying Salutogenesis in Midwifery Practice

42

Sally Muggleton and Deborah Davis

Introduction

Since time began, women have been supported by other women during childbirth. Midwifery as a profession, however, is a more recent phenomenon. In most high-income countries today, midwives are prepared through tertiary level education and the profession is regulated and often supported by professional associations. Midwifery is unique amongst the healthcare professions because it mostly focuses on physiological processes and a period of transition in the life of a woman and her family. Childbearing and the transition to parenthood is an expression of wellness for many women and families.

Midwives work across the childbearing continuum with women including preconception, pregnancy, labour, birth and the postpartum periods (ICM, 2017). An important part of their role is health promotion whether this involves education in the preconception or antenatal time or optimizing labour and birth outcomes in the intrapartum period by protecting and promoting physiological birth (McNeill et al., 2012). This latter role has become increasingly important against the backdrop of increasing and unnecessary obstetric intervention in normal childbirth, a trend that is contributing to increasing perinatal morbidity and mortality in high-income settings (Villar et al., 2006). In the postnatal time, midwives assist women and families as they transition to parenthood while also having a central role to play in promoting, protecting and supporting breastfeeding, one of the most impactful health-promoting activities in which a woman can engage (Horta & Victora, 2013).

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Midwives work with women across the health-ease disease continuum. While the autonomous scope of midwifery practice lies in normal childbirth with well women, midwives also have an important part to play in the care of women with health complexities in close collaboration with medical or other colleagues (ICM, 2017). Midwives can be found wherever, whenever and however a woman grows, gives birth to and nurtures her baby. Whatever the setting or practice context, the unifying feature of midwifery is an approach to practice known as the midwifery model of care.

The "midwifery model of care" (a term coined by sociologist Barbara Katz Rothman in 1979) (Katz Rothman, 1979) describes midwifery as primary health care focusing on the promotion of wellness through empowering women to be confident in their childbearing capacities and to be active agents in their health care (Wagner, 1998). This speaks to a feminist ethic and to an orientation towards wellness. The midwifery approach to childbearing focuses on wellness rather than illness, works with physiology to avoid unnecessary intervention and works closely with women no matter their current state of health, to help them mobilize their own resources to move towards greater health. It is perhaps this health-promoting potential of midwifery that creates such resonance between salutogenesis and midwifery (Downe, 2010).

This approach contrasts sharply with the pathogenic approach to maternity care which is ubiquitous in contemporary healthcare provision. A pathogenic approach focuses on the risk of disease or pathology. In the preconception and antenatal time, it means that much attention is paid to screening for disease or deficiencies and in labour and birth, to monitoring and measurement of labour progress with a keen eye to the detection of deviations from obstetric norms. In the postnatal period, the focus is on maternal recovery from childbirth and monitoring of the baby to ensure it meets expected milestones and norms, for example, weight gain. In research, a pathogenic focus means that negatively framed research outcomes such as measures of morbidity and mortality are used rather than salutogenically focused outcomes such as wellness and physiology (Smith et al., 2014).

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While a pathogenic approach has its place, its dominance in modern health care and particularly in the arena of childbearing, which by and large is a healthy undertaking, is problematic. Pathogenic-focused practices, services and research are not creating health in the maternity care context. In many high resource settings, it has led to a phenomenon referred to as "too much, too soon." This describes the overmedicalization of childbirth and overuse of interventions which, when used injudiciously, cause more harm than good (Miller et al., 2016). It is time for a new approach, and salutogenesis offers much promise.

Can Midwifery Practice Be Salutogenic?

While there is resonance between midwifery practice and salutogenesis, research examining the relationship is in its infancy. Two studies have examined the fit of salutogenesis and midwifery practice: one drawing on interviews with midwives and the other, published studies reporting women's experiences of midwifery care. A small European study examined the health orientation of 27 midwives in Switzerland, Austria and Germany and found that midwives were oriented towards the protection of physiological processes and that their practice was implicitly underpinned by components of sense of coherence: comprehensibility, manageability and meaningfulness. Comprehensibility was promoted by midwives as they sought to understand the woman and her needs, provided orientation and security within the maternity care system and enabled the woman to control her experience. Meaningfulness was fostered by practices focusing on assisting the woman in meeting the challenges of childbearing and manageability was a dimension in this study that reflected the midwives' experience, the presence or absence of conflict especially in relation to the paradigms of risk and health orientation (Meier Magistretti et al., 2016).

A systematic review using best-fit framework synthesis applied the concepts comprehensibility, manageability and meaningfulness to 349 quotations from 31 qualitative studies into women's experiences of midwifery care. This study found salutogenesis to be a good fit for midwifery practice as experienced by childbearing women. In this study, comprehensibility was described as the ways that midwives help women increase predictability and preparation for childbearing. Manageability was described as the ways that midwives enhance and support a woman's capacity and resources for managing pregnancy, labour, birth and parenting and meaningfulness as the ways that midwives encourage the commitment and engagement of childbearing women with their experience (Mathias, 2019). These studies suggest that there is an alignment between salutogenesis and midwifery practice.

Salutogenesis and Midwifery Research

Despite the alignment between midwifery and salutogenesis, few researchers explicitly draw on salutogenic theory. Two scoping reviews have identified research focusing on sense of coherence (Ferguson et al., 2014) and salutogenic theory (Perez-Botella et al., 2015) in the maternity context. Perez-Botella et al. (2015) conducted a systematic review with the aim of understanding how salutogenesis has been defined and used in maternity care research. They identified eight studies that used salutogenic theory and wide variation in the way the theory was used with most using it in a limited way. Ferguson et al. (2014) described 15 studies that have measured sense of coherence, finding that women with strong sense of coherence had improved emotional health, are more likely to engage in healthy behaviours and seek useful support. These women are also more likely to experience uncomplicated birth, birth at home, and identify normal birth as their preferred mode of birth. Following on from this scoping review, Ferguson et al. (2016) conducted a longitudinal study demonstrating that women with a strong sense of coherence have half the rate of caesarean section compared to women with a weak sense of coherence. In addition, regardless of the mode of birth, women with a strong sense of coherence are more satisfied with their childbirth experience. This finding was the impetus for developing the salutogenic childbirth education program described in the following paragraphs.

Childbirth Education

Childbirth education is viewed by pregnant women and health professionals as an important component of pregnancy care with most health professionals recommending it and most first-time expectant parents using the service (Fabian et al., 2005). A lack of clear aims, content, processes and guidelines makes evaluation difficult (Bergstrom et al., 2009) creating doubt about its value (Gagnon & Sandall, 2007; Davis & Walker, 2011; Murphy, 2008; Ferguson et al., 2013). In their systematic review comparing individual and group childbirth education, Gagnon & Sandall (2007) found that the effects of antenatal education for childbirth or parenthood or both are largely unknown. Ferguson et al.'s (2013) structured review of the childbirth education literature found no evidence of an effect on women's labour and birth outcomes. Murphy (2008) claims that antenatal education promotes dependency and coercion into compliance with hospital policies and procedures and often deprives women of freedom and choice. Rather than promoting health, childbirth education has been criticized for preparing women and their partners for a medicalized birth (Walker et al., 2009; Ferguson et al., 2013). This reflects the general orientation of contemporary maternity care, underpinned by pathogenesis (Perez-Botella et al., 2015) and risk (Shaw, 2013).

The model of salutogenesis may provide a useful alternative to the biomedical approach as a theory focused on discovering the causes of health rather than the causes of illness (Antonovsky, 1979). Antonovsky suggests that a salutogenic rather than a pathogenic orientation is a more viable paradigm for health promotion, research and practice (Antonovsky, 1996). Salutogenic work moves away from the identification of deficits and problems and moves towards emphasizing a person's capabilities (Heimburg, 2010). The theory of salutogenesis may provide a useful alternative framework for childbirth education. The study described briefly below aimed to compare outcomes for women attending a conventional childbirth education program with those attending a salutogenic childbirth education program.

Salutary Childbirth Education Program

The Salutary Childbirth Education program, a joint initiative of midwives in academia and clinical practice, replaced an existing childbirth education program which needed renewal. The authors collaboratively worked with the theory of salutogenesis and contemporary literature to design the program. The Salutary Childbirth Education program aimed to build the capacity of women/couples for a positive pregnancy, birth and early parenting experience through focusing on generalized resistance resources and increasing individual sense of coherence by strengthening its key components of comprehensibility, manageability and meaningfulness.

Sense of Coherence

Antonovsky believed that sense of coherence as a whole influenced movement on the health/dis-ease continuum (Antonovsky, 1987). However, when considering ways of operationalizing the theory with the aim to move individuals further towards the health end of the continuum, it was important for us to consider the elements of manageability, comprehensibility and meaningfulness separately.

Manageability

Manageability is the behavioural dimension of sense of coherence and reflects the degree to which individuals feel that they have the resources available to them to meet the demands of a situation (Eriksson & Mittelmark, 2017). The Salutary Childbirth Education program is not content focused and does not attempt to provide women/couples with the resources necessary to meet the demands of childbirth and parenting. The program uses active learning strategies aimed at promoting personal responsibility and independence, assisting women/couples to identify their existing resources for managing pregnancy and childbirth and assisting them to identify and realize potential resources.

Comprehensibility

Comprehensibility is the cognitive component of sense of coherence that relates to the extent to which an individual perceives stimuli as understandable, ordered and predictable (Eriksson & Mittelmark, 2017). It is easy for pregnant women/couples to become overwhelmed with increasing amounts of available information and misinformation relating to childbirth available in the media. The aim of the Salutary Childbirth Education program is to improve participant's ability to identify good quality information and facilitate the development of knowledge related to pregnancy, birth, parenting and maternity care.

Meaningfulness

Meaningfulness is the motivational aspect of sense of coherence and relates to the emotional meaning attached to aspects of an individual's life and its challenges (Eriksson & Lindström, 2006). In childbearing, this may be related to the ways in which women/couples engage with their experience. Meanings attached to childbirth and parenting are individual and may be underpinned by different personal values. Some women/couples may experience childbirth as spiritual, while others may enjoy the physical challenge. The Salutary Childbirth Education program aims to assist women/couples to understand their values, motivations, needs and desires relating to pregnancy, birth and parenting.

Resistance Resources

Resistance resources are also important elements of the model of salutogenesis and are key to the development of a strong sense of coherence. These may be intrinsic, extrinsic, generalized or specialized. Generalized resistance resources are those available in a broad range of circumstances, while specialized resistance resources may only be used in certain circumstances (Eriksson & Mittelmark, 2017). We use the term "resistance resources" to refer to all variants. Although Antonovsky (1987) identified that generalized resistance resources were characteristics of a person, group or community, in our Salutary Childbirth Education program, we have a focus on those of the individual. Sense of coherence and resistance resources have a reciprocal relationship where an individual's resistance resources may contribute to their sense of coherence, and their sense of coherence may contribute to their use of resistance resources (Idan et al., 2017).

The Salutary Childbirth Education program consists of four, two-hour sessions with a focus for each session following the chronology of pregnancy to parenting. The salutogenic curriculum shifts the focus away from complications of pregnancy towards health. A salutogenic orientation is reflected in the four sessions which were carefully named: "growing babies, growing families," "a labour of love," "ways of birth" and "healthy families." Midwives leading each session are facilitators rather than teachers, and those attending are positioned as active participants engaged in

exploration and knowledge and resource generation. In all topics, facilitators help focus discussion on ways women and their partners can promote health regardless of where they might be situated on the health/dis-ease continuum. While a non-judgmental attitude is employed, the program unashamedly promotes practices and choices known to positively impact health.

The Study

This study and its findings are presented in full elsewhere (Davis et al., 2019). Therefore, a brief summary is provided here. The study used a longitudinal survey design (before and after) with two questionnaires administered to participants (pregnant women attending education sessions) at two time points to two different groups. The control group (existing standard childbirth education program) was administered one questionnaire in the antenatal period, and one postnatally. Following the development and implementation of the Salutary Childbirth Education program, the intervention group (pregnant women attending the Salutary Childbirth Education program) was administered identical questionnaires antenatally and postnatally. Groups were not run concurrently; after the development and implementation of the Salutary Childbirth Education program, the standard program was discontinued.

The first questionnaire provided information on Sense of Coherence (SOC) scores, personal history, demographics and pregnancy plans. The second questionnaire provided information on SOC scores, labour and birthing outcomes and feedback about the childbirth education program. The study utilized the SOC 13 questionnaire, comprising 13 items measured on a 7-point Likert scale creating possible scores of 13–91. Scores between 13 and 63 corresponded to low and scores between 80 and 91 corresponded to high SOC (Eriksson & Lindström, 2005). Ethical approval was obtained from the relevant Human Research Ethics Committee.

The hypothesis of the study was that there would be a significant difference in the mean score change in SOC between groups from the antenatal to postnatal time. Comparisons were made between groups using students t-test with significance set at 0.05.

Findings

In the standard childbirth education group (control group), 201 women completed questionnaire one and 105, questionnaire two. In the Salutary Childbirth Education group (intervention group), 228 women completed questionnaire one and 115, questionnaire two. There were no statistically significant differences in demographic variables between the two groups. There was a statistically significant difference in the mean SOC score change between groups with women in the intervention group experiencing a greater increase in SOC score from the antenatal to postnatal time than the control group (5.16 increase vs. 1.83 $p = 0.032$).

Discussion

Scholars and practitioners in midwifery have long since identified the potential salutogenesis holds for midwifery (Downe & McCourt, 2004). To date, few have operationalized the theory in the development of a therapeutic intervention. There is good evidence associating a strong sense of coherence with improved health and health behaviours in childbearing women (Ferguson et al., 2014) including our own longitudinal study (Ferguson et al., 2016) which found that women with a strong sense of coherence experienced half the rate of caesarean section compared to women with a weak sense of coherence. This body of evidence provided a strong basis for the development of the Salutary Childbirth Education program.

One of the few other studies to operationalize salutogenesis is in the context of mental health (Langeland & Vinje, 2017). The authors developed a "talk therapy" intervention program with the aim of increasing the sense of coherence of participants. The similarities of this program and the Salutary Childbirth Education program include the following:

- The aim to increase participant's consciousness of and confidence in identifying useful resources that will support well-being
- Attention to where meaning lies for the participant
- "Homework" to extend the group work and to position, the individual as an active participant and
- Acknowledgement that individuals are expert in their own lives and thus professionals are positioned as facilitators rather than experts.
- This program demonstrated effectiveness in improving the sense of coherence of participants (Langeland et al., 2007).

While Antonovsky (1987) believed that sense of coherence was stable over adulthood, researchers have since found that it is more malleable. For example, in large studies conducted in Scandinavia sense of coherence increased with age (Eriksson & Mittelmark, 2017), although studies including long-term follow-up are few. Our longitudinal study into sense of coherence in a pregnant population found that sense of coherence increased and decreased from the antenatal to the postnatal time with levels of birth satisfaction (Ferguson et al., 2016). Childbirth education framed in a perspective of salutogenesis can now be added to the interventions that increase the sense of coherence.

Conclusion

While midwives care for women located at all points on the health-ease dis-ease continuum, they have special expertise in promoting physiological birth and working with women to build their capacity for pregnancy, birth and parenting, whatever their health status. Much of this work is health promotion. The focus on pathology that underpins contemporary maternity care has not served childbearing women well. Pregnancy and childbirth are over-medicalized and are at the point of doing more harm than good. It is time for a new approach. Salutogenesis, with its focus on health rather than pathology, offers a promising way forward. The fit between salutogenesis and midwifery has long been recognized though few have operationalized the framework in the context of midwifery practice. The chapter provides an overview of a project that successfully operationalized the salutogenic framework to produce Salutary Childbirth Education that raised the capacity of women/couples for a positive pregnancy, birth and early parenting experience through focusing on generalized resistance resources and increasing individual sense of coherence by strengthening its key components of comprehensibility, manageability and meaningfulness. Next steps could extend the salutogenic approach beyond childbirth education to maternity services in general.

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The Application of Salutogenesis in Birth, Neonatal, and Infant Care Settings

43

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Introduction

As noted elsewhere in this volume, salutogenic theory was first introduced by medical sociologist Aaron Antonovsky (1979). His unique contribution to theory, practice, and policy is the focus on the origins and experience of health, as well as the causes and manifestations of disease. Antonovsky believed that the health status of an individual shifts over their life along an ease/disease continuum. This approach is in direct contradiction to the currently hegemonic medical/technocratic downstream emphasis on identifying pathology and testing the efficacy and cost-effectiveness of consequent treatment. Given that the kind of research that is generally funded in health and social care is inevitably influenced by the medical–scientific norms that prevail, studies assessing actual or potential pathology, and subsequent interventions, are highly prevalent in early years of research. A turn to salutogenic theory has the potential to create a space for new research programmes, and new types of practical solutions, by advocating a balance between downstream pathogenic perspectives and upstream health promotion. Such studies and solutions focus on the creation, enhancement, and maintenance of well-being.

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The sense of coherence (SOC) is a key salutogenic concept. It is considered to be an adaptive life orientation that enables one to cope and manage adverse experiences (Antonovsky, 1979; Eriksson et al., 2007). The mechanism of effect is the capacity to integrate high levels of meaningfulness, comprehensibility, and manageability when faced with challenging situations or events. A person with strong SOC will be able to understand and integrate (comprehensibility), to make sense of (meaningfulness), and to handle (manageability) a disease, crisis, or challenging experience more successfully than someone with a weaker SOC. Therefore, a stronger SOC is often associated with, and predictive of, positive physical and psychological health outcomes (Lindström et al., 2010). The degree to which the SOC is present for an individual has been associated with four types of life experiences: consistency, load balance, participation in shaping outcomes (Antonovsky, 1991), and (identified more recently) emotional closeness (Sagy & Antonovsky, 2000) (Box 43.1).

Box 43.1: Types of Life Experience, Contributing to the Development of the Sense of Coherence

Type of life experience	Definition	Component of sense of coherence
Consistency	The extent which during the course of growing up, there is clear order and structure instead of a chaotic environment	Comprehensibility
Load balance	The extent to which one experiences overload or underload in the balance between the demands of others and one's resources	Manageability
Participation in shaping outcomes	The extent to which one is able to decide one's own fate, independent of the whim of others	Meaningfulness

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Type of life experience	Definition	Component of sense of coherence
Emotional closeness	The extent to which one feels consistent emotional bonds and a sense of belonging in a social group which one is a member	Meaningfulness

SOC is a central concept in salutogenesis theory. Other theories and concepts have also been included under the general 'salutogenic' umbrella. These include Bowlby's attachment theory, Bandura's self-efficacy theory, learned resourcefulness, locus of control, and connectedness (Lindström et al., 2010). All these concepts share a similar view of health being a resource for life, and on the value of maximizing optimal health, even in the presence of illness.

Salutogenesis and Maternity Care

Pregnancy, birth, and the early postnatal period and infancy (the first 1000 days) are times when the physical, psychological, and emotional development of humans is highly plastic (Barker & Osmond, 1986; Georgieff et al., 2015; Schwarzenberg & Georgieff, 2018). Social and environmental influences during this period can strongly affect child development and the maternal/paternal/parental bond. There is a large amount of evidence on the potential for epigenetic and microbiotial damage during this period, secondary to environmental and social deprivation (the so-called Barker hypothesis) and the long-term impact on chronic adult diseases (Indrio et al., 2017). However, the salutogenic aspect of this critical period of development is a particularly under-researched area.

To date, most studies of salutogenesis in perinatal care have been focused on measuring and promoting parental SOC and well-being, as the basis for improving parental health outcomes that will indirectly affect infant birth and developmental outcomes (Browne et al., 2014; Escuriet et al., 2015; Ferguson et al., 2016; Shorey & Ng, 2020). Since infants and neonates are highly dependent on primary caregivers to address and manage their needs, strong parental SOC and well-being are vital in ensuring healthy infant developmental outcomes. SOC is not measurable in early infancy. Despite this, the development of SOC is believed to span across the entire lifecycle starting from infancy and the infant's experience of its socio-cultural and historic context (Sullivan, 1993). Socialization from infancy to early adulthood provides the opportunity to develop a certain degree of SOC. The socialization process in infancy begins with exposure to a stimulus, in which the nature of the infant's response (i.e. positive or negative) determines a set of experiences that leads to the development of meaningfulness. As children grow older, Antonovsky hypothesized that various socio-cultural factors and personality characteristics would continue to shape the development of their SOC (Antonovsky, 1998).

In recent years, the concept of salutogenesis has been gradually gaining traction among maternity and perinatal care researchers, promoting the transition of an almost exclusive pathogenic orientation towards one that also includes a more health-promoting salutogenic orientation (Perrez-Botella et al., 2015; Ferguson et al., 2016). The World Health Organization (WHO) has been stepping up efforts to improve maternal and newborn health, to improve parental care provided at home by women and families, to increase community support for mothers and infants, and to increase accessibility to and the use of skilled care (World Health Organization, 2015). The intention of the WHO to ensure that both pregnancy and childbirth are optimal for women and their newborns is captured in the inclusion of the term 'positive experience' in the titles of the most recent WHO antenatal and intrapartum guidelines (WHO, 2014, 2018a, b).

The turn towards a positive experience is driven by a new emphasis on finding out what matters to women, families, service providers, and policymakers, based on qualitative evidence of their views and experiences. This serves to balance the evidence from randomized trial evidence. Such trials have also usually included only or mainly pathogenic outcomes, such as death and severe morbidity. Given that, for the vast majority of women, babies, and families, the maternity episode is one of growth, joy, and fulfilment, such outcomes fail to measure the spectrum of what matters (Downe et al., 2018). Along with measures such as rates of breastfeeding, and parental sense of competence and confidence, this shift in emphasis is also beginning to introduce more positive, salutogenic outcomes into primary research studies in maternity care (Smith et al., 2014).

As evidence of this turn, maternal health-promoting interventions that have been strongly recommended by WHO in recent guidelines have involved birth preparedness and complication readiness, male partner involvement, partnership with traditional birth attendants, providing culturally appropriate skilled maternity care, continuity of midwifery care, respectful care, having a companion of choice at birth, and community group support (World Health Organization, 2015).

Salutogenic Approaches to Neonatal and Infant Service Provision

It is increasingly recognized that neonatal well-being is dependent on what has happened in utero, and during birth. Good maternal nutrition and social support during pregnancy have been associated with improved outcomes (Borge et al., 2017; Koletzko et al., 2019). The way a baby is born can affect its epigenome and microbiome in ways that are only recently becoming evident (Indrio et al., 2017). The consequences of these effects include impacts (for better or worse) on the immune system and the expression of health or disease in later life (Indrio et al., 2017; Schwarzenberg & Georgieff, 2018).

Historically, neonates who required special or intensive care were subjected to parental separation, sterile and non-therapeutic environments, and a range of noxious interventions. This was partly because the importance of closeness to a nurturing adult was not recognized, and because of a widespread belief that neonates (and especially premature neonates) could not feel pain. More recent moves towards family-centred neonatal care, recognition of the acute sensitivity of neonatal senses, and the potential for neonate and family-centred design for neonatal units have started to shift the balance for these very vulnerable babies. Neonatal staff are engaged in a range of innovations that are designed to move the focus from pathology and hospital-centric environments and treatments to more salutogenic configurations and regimes (Thomson et al., 2013).

Considering the importance of parent–child attachment in the first year of a child's life and how nurturance and responsiveness are the primary determinants of attachment, we examine three widespread solutions with a salutogenic-like ethos. These are skin-to-skin contact (including kangaroo care for premature or sick neonates), breastfeeding, and family-centred care.

Sustained skin-to-skin contact between mother/parent and baby immediately after birth is one of the cardinal steps of the Baby Friendly Hospital Initiative (BFHI) launched by the WHO and UNICEF in 1991 (World Health Organization, 1991; UNICEF, 1991) and updated to be more mother-friendly in 2018 (World Health Organization, 2018b). The inclusion of cuddling the baby naked directly against the mother's body is because it has been shown to increase the potential for successful breastfeeding, which, in itself, is linked with a range of positive outcomes throughout life (Dieterich et al., 2013; Horta et al., 2015; Sankar et al., 2015). However, skin-to-skin contact is also independently associated with other health and beneficial psychosocial effects for both mother and baby, in terms of bonding, stabilizing breathing and temperature control, the adaptation of a range of neonatal organs and systems to healthy functioning in external life, oxytocin and endorphin production in both mother and baby (associated with feelings of happiness and joy), and increased cytokine and natural killer cell production, which is associated with more rapid recovery from the intense effort (and, in some cases, the physical damage and infection risk) of giving birth and being born (Crenshaw, 2014; Moore et al., 2012; Safari et al., 2018).

For premature or sick neonates, the extension of this practice into kangaroo care entails the baby being held skin to skin with the mother/parent or caregiver for long periods, where this is clinically possible. Indeed, the best neonatal units are designed around the facilitation of this approach (rather than trying to fit kangaroo care around clinical technologies and equipment). Where this is done, the unit itself becomes a catalyst for salutogenesis, not just in what is done, but in how expectations for parents and staff are constructed (Chan et al., 2017; Golembiewski, 2017). If a unit is designed to make it easy and normal to undertake skin-to-skin/kangaroo care, then this will be the norm (Chan et al., 2017; Golembiewski, 2017). This salutogenic-centric design has been adopted in a number of neonatal units in Sweden. Flacking et al. (2016) undertook a qualitative study of parents' experiences in neonatal units in England, Sweden, and Finland, using what the authors described as a 'salutogenic approach'. The analysis revealed several hypothesized pathways to the establishment of emotional closeness between parent and infant. These included the power of physical closeness, the reassurance of and contribution to infant wellness, having realistic expectations and knowing what to do, the joy of feeling engaged, and being able to spend time and bond as a family.

In terms of breastfeeding, the BFHI could be conceptualized as a worldwide salutogenic initiative to protect, promote, and support exclusive breastfeeding for the first 6 months. In 2009, the BFHI was revised and expanded to include integrated care for preterm or sick infants and their mothers (World Health Organization, 2009). A report by Nyqvist et al. (2013) expanded on the original ten steps guide for healthcare providers to facilitate successful breastfeeding for infants in the neonatal intensive care unit (NICU). This recommended a specific breastfeeding policy for NICU, which requires healthcare professionals to have knowledge and skills in lactation and breastfeeding support, including the provision of antenatal information pertaining to neonatal care. Emphasis was made on early initiation of breastfeeding, and the facilitation of early, continuous, and prolonged skin-to-skin contact between infant and mother, with minimal parent–infant separation. Upon discharge, the report rec-

ommended that parents should also be adequately informed about available support resources and that they should be provided with a follow-up plan.

In relation to feeding practices in general, a qualitative study by Holdren et al. (2019) revealed that pumping breast milk was more common in US mothers than in Finnish mothers, for whom breastfeeding was more prevalent. This seemed to be because Finnish parents saw breastfeeding as a social as well as a nutritional act. They believed that breastfeeding was an important component of closer parent–infant bonding. In contrast, American parents saw breastfeeding primarily as a means to promote infant nutritional health. This may be partly a result of different return-to-work policies and provisions for women in these two countries, since US mothers are under pressure to return to work very early, in contrast to Finnish mothers. The conceptualization of breastfeeding as social bonding and intimate relationship building has important implications for the development of the SOC concepts of comprehensibility, manageability, and meaningfulness for both mother and baby (Thomson & Dykes, 2011). In this study, comprehensibility was associated with the method and type of information provided to mothers from healthcare providers, and the need for consistency and choice. The manageability of breastfeeding was influenced by the women's birth experience, handling of their breasts by midwives, and the nature and extent of available support during feeding. Lastly, the meaningfulness of the experience was derived from public or media portrayal of infant feeding messages, perceptions of breastfeeding, their own emotionality, and difficulties associated with breastfeeding (Thomson & Dykes, 2011).

This might be an area where government policy could be changed to enhance the capacity of mothers and babies to experience feeding as more than just a transactional enterprise. If this could be done, it is possible that a consequence would be the development of strong SOC for both mother and baby into later life. In support of this hypothesis, Holdren et al. (2019) concluded that breastfeeding coupled with skin-to-skin contact was found to enhance a salutogenic care approach for the whole family, beyond the provision of a nutrition source for the baby.

Another hospital-based salutogenic intervention, Family-Centred Care (FCC), was proposed by Helen Harrison in 1993 (Harrison, 1993; Gooding et al., 2011). The core concepts of FCC include respect, diversity, recognizing and building on the strengths of each infant and family, choice, flexibility, information sharing, support, collaboration, and empowerment (Gooding et al., 2011). The FCC principles helped set the foundation for the recent family-integrated care model (Franck & O' Brien, 2019). FCC is built on the development of a healthy therapeutic alliance between family and healthcare provider through sharing of infant care responsibilities to balance out the power and authority of the provider, build positive entrustment, and improve quality of care (Maria & Dasgupta, 2016). The hypothesis is that this approach could lay the foundation for the continuum of care for the baby at home, after being discharged from the neonatal unit. Despite limited research comparing the effectiveness of FCC models to current care models, the review by Gooding et al. (2011) reported that more robust programmes tend to include family-centred NICU design, policies, support services, and clinical team education and support. Such FCC models have also been found to lead to favourable outcomes for neonates in NICU, the family, and healthcare providers. Positive impacts on the neonate include greater weight gain, higher breastfeeding rates, fewer signs of stress, better performance on a neurobehavioral exam, shorter length of hospital stays, and fewer readmissions (Bastani et al., 2015; Byers et al., 2006; Lv et al., 2019; Yu et al., 2017). Parents are also more satisfied with FCC model that provide them with better information, and that helps them to cope better with stress, improve their psychological well-being, and be more confident in their parenting roles (Bastani et al., 2015; Maria & Dasgupta, 2016; Melnyk et al., 2006; Yu et al., 2017). However, due to poorly defined components of the FCC model, Franck and O' Brien (2019) cautioned against the interpretation of findings from studies to date in this area and called for improvements to be made to the model in future. One basis for this might be the conceptual discussion paper produced by Thomson and colleagues that examined the FCC principles in the context of the SOC and suggested that practices that optimize manageability, meaningfulness, and comprehensibility may be an appropriate conceptual basis for (re) designing FCC in future (Thomson et al., 2013).

Salutogenesis and Attachment in Infancy

Infancy and early childhood are critical developmental periods for language and communication skills, cognitive skills, socioemotional functioning, and self-regulation (Mowder et al., 2009). The foundations of a child's mental health are also established during this period as early experiences mould the development of the brain structure (Miller & Kinsbourne, 2012). These early emotional experiences of neonates and infants mostly occur through interaction with their caregivers. The association between positive emotions and the availability and responsiveness of the caregiver is strengthened during infancy, affecting behavioural and brain architecture development (Cassidy, 1994). Therefore, parents' and caregivers' relationship with their infants and newborns plays a critical role in shaping the emotional, cognitive, and social development of their child.

As mentioned previously, emotional closeness is one of the four types of life experiences that contribute to the development of SOC (Sagy & Antonovsky, 2000). The concept of establishing close emotional relationships with others is also dominant in Bowlby's attachment theory (Bowlby, 1980). Attachment theory emphasizes the development of a specific and enduring relationship between infants and their primary caregivers over the first year of life (Ainsworth & Wittig, 1969). According to Bowlby (1980), attachment is a lifelong connectedness between humans and also part of an innate behavioural process where children seek proximity from their caregivers to receive comfort and protection. The primary caregivers' availability and responsiveness to an infant's needs allow the child to develop a sense of security, knowing that the caregiver is dependable, which then creates a secure base for the child while they explore the world.

The development of attachment varies throughout the first year of life. Over this time, the availability of a caregiver, and the degree to which this caregiver provides consistency and responsiveness, influences the extent to which the infant can form secure attachments (Bowlby, 1980). Infants of responsive and available caregivers are more like to develop trusting and secure attachments. In contrast, infants of unavailable, unresponsive, or inconsistent caregivers are more likely to perceive the world as threatening, unpredictable, or rejecting (Ainsworth & Wittig, 1969). The ability to establish secure attachments in infancy may subsequently lead to stronger self-esteem, better self-reliance, successful social relations, better school performance, and decreased risk of psychological and behavioural disorders (e.g. depression, anxiety, oppositional defiant disorder and conduct disorder) as they grow older (Cassidy & Shaver, 1999; Malekpour, 2007). Such secure attachments have also been associated with strong SOC expression (Al-Yagon, 2003).

The Nature and Impact of Early Support

Early support to optimize parenting capacity, and short and longer term well-being for infants and parents, includes comprehensive, systematic and integrative social, health and educational policy development, the creation, coordination and networking of structures and organizations in the social, health and educational system, and an orientation towards equal opportunities. These could be conceptualized as resources that could maximize the meaningfulness, manageability, and comprehensiveness of parenting and (in the older child) of understanding and dealing with relationships and with the world. Given the evidence cited above on the dynamic nature of infant growth and development in the first 1000 days (up to the age of two) the availability of and access to such resources is particularly important for vulnerable and stressed families in these early years if the intention is for the achievement of the best possible life for all.

Early support includes services, offers, and structures that support social integration, as well as catalysing the healthy and holistic development of children in the period from the mother's pregnancy to the child's entry into kindergarten. When such support is accessible, acceptable, and effective, it can enhance the ability of the child to learn through experience. The primary social living space for children in the first years of life is the family. The primary caregivers are usually the parents but whoever is there consistently in the first few years of the child's life will have the greatest influence on their early development (Perry & Fantuzzo, 2010). The early childhood physical, psychological, and social environment also significantly shapes lifelong health and cognitive, emotional, and social development (Walker et al., 2011). For this reason, early support can be offered to parents to enable their children to enjoy good family conditions within which they can develop securely.

Early support is usually designed (explicitly or not) to strengthen the health-promoting resources of children and their families. Arguably, developing a strong positive sense of coherence (SOC) is central to this endeavour, whether programmes acknowledge this or not. Individuals with stronger levels of the SOC have a greater capacity to activate existing resources, to maintain their health and well-being, and to protect themselves against health stressors (Lindström & Eriksson, 2019).

As noted elsewhere in this chapter and this book, the sense of coherence has been defined as a persistent basic trust in life and one's abilities to cope with life (Antonovsky, 1987). In terms of parenting, this can be translated as (Meier & Walter-Laager, 2016):

1. Trust that events and tasks of life related to the upbringing of one's children are fundamentally understandable, that the tasks ahead are predictable to a certain degree and that events and challenges can be cognitively classified (comprehensibility)
2. The conviction that the tasks and challenges of raising children have to be mastered, that the required resources are available, and that help can be found in the outside world if there are insufficient resources within the family (manageability)
3. A belief that there is an intrinsic value or worth to raising children and that this makes it worthwhile and rewarding to engage with the complexities and difficulties of parenting (meaningfulness)

In the area of early childhood, both the SOC of mothers, and the sense of family coherence, have been widely examined (Al-Yagon, 2003, 2008; Ngai & Ngu, 2013, 2014; Idan et al., 2017). There is much less research on fathers SOC in this context. Mothers with a strong sense of coherence have better mental health and have a lower risk of depression, anxiety disorders, and other psychological problems as well as reductions in the prevalence of a range of physical illnesses (Lindström & Eriksson, 2019). Pregnant women with a strong sense of coherence experience fewer birth complications (Perrez-Botella et al., 2015). A positive experience of pregnancy and childbirth—regardless of the birth mode—is a function of a pre-existing strong positive sense of coherence (Ferguson et al., 2016).

Children whose mothers have a strong sense of coherence have fewer psychosomatic complaints as infants and toddlers (Olsson & Hwang, 2008), are less anxious, less depressed, and show less internalizing and externalizing problem behaviour (Books et al., 2010; Honkinen et al., 2009; Svavarsdottir et al., 2005). In addition, they generally have more stable social and emotional health in the first years of life (Al-Yagon, 2008). Previous research on the sense of coherence has also shown positive connections between the SOC of mothers and the lifelong mental and physical health of children and their health behaviour in adolescence (Honkinen et al., 2009).

Parents and children (including parents in formal early support schemes) who have a strong SOC are psychologically and physically healthier throughout their lives, are better able to cope with stress, and are more able to cope with chronic illnesses and disabilities (e.g. Lindström & Eriksson, 2019; Einav et al., 2012; Hedov et al., 2002; Pozo Cabanillas et al., 2006; Svavarsdottir et al., 2005; Schmitt et al., 2008). Parents with a strong sense of coherence have a better expectation of self-efficacy with regard to their parenting skills, and they build more secure bonds with their children (Perrez-Botella et al., 2015). Family cohesion is stronger when mothers or parents have a strong sense of coherence (Einav. et al., 2012).

There are indications that families with a strong sense of occurrence make more use of preventive services for their children (Silva-Sanigorski et al., 2013). Indeed, when controlled for other variables, it was evident that usage behaviour was determined more by the sense of coherence than by social class. However, other studies suggest that families with a low socio-economic status generally have a weaker sense of coherence than better-off families. They tend to have less confidence in understanding their skills, situations, and tasks, and they tend to be less likely to believe that it is worthwhile to commit to these tasks or that they can master events that arise (Ying, 1999; Lundberg, 1997). This suggests that, while families in low socio-economic groups with a strong SOC do well, families in these settings are more likely than others to have a weaker SOC. This group, in particular, may benefit from formal support, if it can be shown to be effective in strengthening their sense of coherence.

Strengthening the SOC in Families

The sense of coherence can be influenced (Sagy & Antonovsky, 2000; Hakanen et al., 2007), especially around the time of childbirth (Röhl & Schücking, 2006) and in the early years of life (Habroe & Schmidt, 2007). For early support, this means that offers should enable parents to have experiences that strengthen their sense of coherence by helping them to experience challenges as comprehensible, manageable, and meaningful. Where structural and social inequalities are the root of these problems, strengthening the SOC of an individual may also help them to challenge such inequalities, and, by themselves or with others, to force those in power to enact positive change that reduces such inequities.

Access to Early Education Offers

As an example of how parents access pregnancy and postnatal/early childcare provision, we describe a large-scale evaluation undertaken in Switzerland with 489 respondents (the AFFIS study, Meier Magistretti et al., 2019). The evaluation included the views of parents on the offer of early support, the accessibility of the programme, the outcomes, and the effects on the families involved. The SOC-13 scale was included in the evaluation design. Parents were interviewed in two cohorts, each at two different time points: once, when their children were 0–2 (cohort 1) and 2–3 years of age (cohort 2) and a second time at the children ages of 3–4 years (cohort one) and the age of 5 at the beginning of kindergarten (cohort 2). All interviews were conducted face to face, if needed with the help of professional interpreters who were trained for these types of interviews, and who, between them, were fluent in 19 different languages. In most families, mothers were the only respondents. In less than 1% of cases, both parents, or fathers only, took part. The interviews lasted between 40 and 90 min each. The analysis divided participants into three sub-groups: those who represented the general local population (66% of the sample), those who were migrants living in disadvantaged conditions (22%), and those who were non-migrants in receipt of social welfare (11%).

The kinds of support on offer for pregnant mothers and parents with children up to the age of 5 in the local (German-speaking) area of Switzerland are set out in Box 43.2.

Box 43.2: The Kinds of Support on Offer. Main Services for Early Childhood Care and Education Provided in Switzerland

Type of service	Content	Availability[a]	Costs for parents	Remarks
Prenatal check-up	Seven medical or midwife appointments	(not specifically investigated as this is routinely provided to all)	Covered by the health insurance system all Swiss inhabitants are part of	All maternity care (prenatal, postnatal, and mother and child centres) are available for all Swiss habitants. Special free services are provided for women refugees and 'sans papiers' (migrants living illegally in Switzerland). Hospitals and midwives generally provide translations, but mother and child consultations do so only in cities with special EDC programmes
Midwifery postnatal home care	Ten visits at home after discharge from the place of birth	In 24% of Swiss communities	Covered by the health insurance system all Swiss inhabitants are part of	Mothers have to find a midwife and book the service, which isn't always done (or even known about by mothers)
Mother and child consultation centres	Help and advice relating to the health, development, management, and support of support of babies, toddlers, and preschool children	In 58% of Swiss communities	The service is for free and open to every family. Communities, regions cover the costs	
Daycare	Daycare from 7 am to 6 pm for preschool children from 3 months of age	In 44% of Swiss communities	Costs depend on parent's income	Daycare is expensive: a part-time middle-class mother can spend almost her whole salary on daycare. Many mothers stay at home or use informal services
Playgroups	Semi-professionally guided playgroups for children aged 2 to 5 years (generally once or twice a week for about 2 h)	In 61% of Swiss communities	Paid for by parents, but relatively affordable	
House visit programmes	Supportive house visits for vulnerable families, in some cases combined with parent's groups, parent's education, or access to family centres	In 10% of Swiss communities	Free of charge for parents, but costly for the cities and communities which offer the service	

[a]Availability refers to a study in 785 small and medium Swiss communities (Meier Magistretti & Schraner, 2018). They show the percentage of communities who offer specific services. Parents in communities that lack offers have to search for services in other communities than the one they live in

The full range of local population socio-demographics was represented across the respondents. The profile of the participants varied across the socio-economic groups. Broadly, parents from the general population were well educated, working in stable employment, with few financial problems. Subjectively, however, they tended to report a high burden of parenting, due to time pressure, fatigue, and exhaustion.

Figure 43.1 provides details of the access to and uptake of services by socio-demographic group.

Generally, respondents in all groups reported having similar access to clinical care in pregnancy. Most attended antenatal check-ups, and these were generally highly rated. The parents emphasized the benefits of this offer, the information they received from doctors and midwives before the birth, the security they gained from antenatal and intrapartum care provision, and the relationships of trust with the specialists that arose, especially where continuous support with a known care provider was available.

However, access to postnatal home care from midwives was experienced differently between the groups. About 80% of parents from the general population and those with a migration background reported access to this service, as compared to less than two-thirds of those in receipt of social welfare. Some in this group reported that they did not know they could have access to such a service. Others stated that

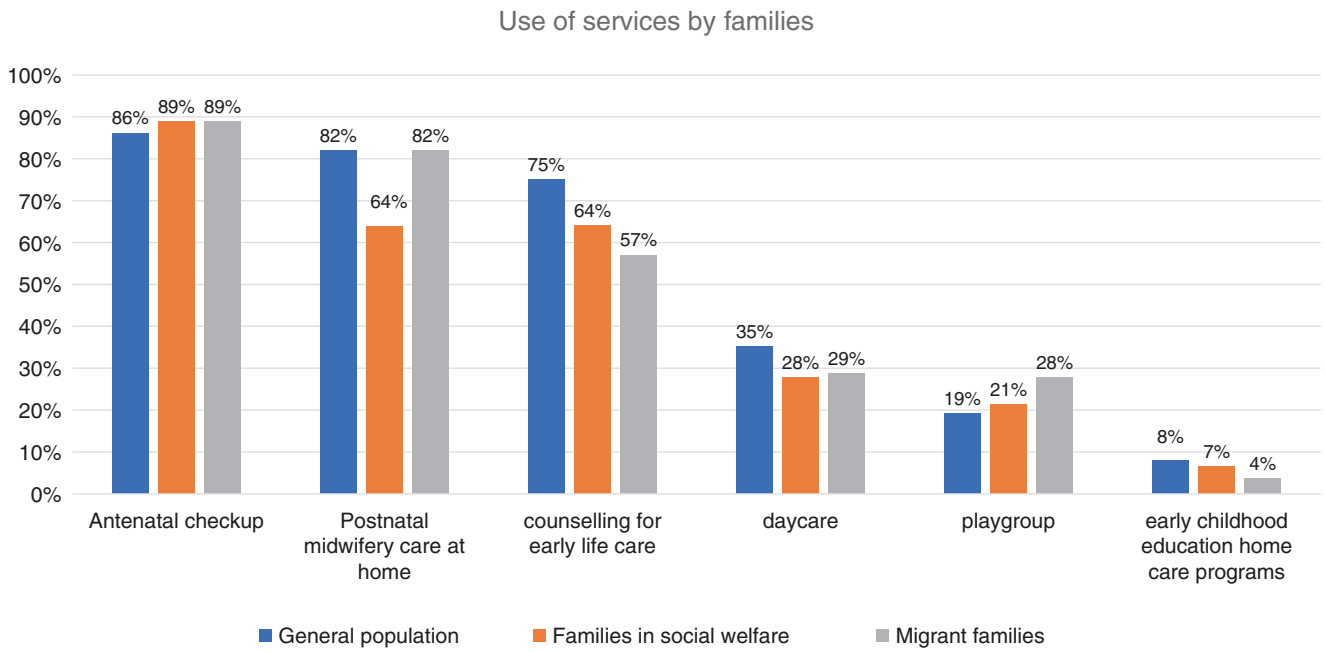

Fig. 43.1 Use of services by different types of families in the Swiss-German AFFIS study. (Adapted with permission of interact Verlag. © Claudia Meier Magistretti et al., 2019)

they were unable to take advantage of this and other linked offers (e.g. mother and father counselling) after the birth of the child, due to their health problems or those of their baby.

After the early postnatal period, access to support dropped off sharply for all groups. Only a little over a quarter of parents who received social assistance had a playgroup place (22%) or a place in a daycare centre (28%) for their child. For parents with a migration background, the usage figures were about 28% for both types of provision. The somewhat higher proportion of children with a migration background in playgroups could be attributed to the high demand for playgroups with integrated language support. From the wider literature, stressed families benefit particularly strongly from home visit programmes, in which they can be supported by trained specialists in creating good development conditions for their child and in interacting adequately with them (Walter-Laager & Meier Magistretti, 2016). However, less than 10% of the disadvantaged groups in the AFFIS survey had access to or were able to use this offer.

Coherence and Early Support

Although families with and without a migrant background were not able to have equal access to all offers of early support, in the AFFIS study all parents had used at least one offer of early support, at least temporarily. Analysis of the change in SOC-13 values over 18 months for families of the general population with younger children (age 0–2) showed slightly weaker SOC values at the second measurement point. In the preschool cohort, that is, for parents with children aged 2.5–4 years at the first measurement, and 4–6 years at the second measurement, SOC remains stable. This could be at least partly because the SOC value usually rises after birth and then returns to the prenatal level within 1 year after birth (Hildingsson, 2017). In contrast, the families receiving welfare benefits and those with a migrant background showed a significantly stronger average SOC value over time, as illustrated in Fig. 43.2.

This is counter-intuitive based on the literature that more marginalized families tend to have a weaker SOC. It could suggest that parenting and family life for more marginalized populations is more likely to be seen as comprehensible, manageable, and meaningful than for those whose identity is more bound up with validation external to the family, such as employment. It could also mean that families who are threatened by marginalization, such as poor and migrant families, gain an accepted societal role, when they become parents. Whatever the mechanism of effect, a finding of increased SOC in marginalized families during the early years of parenting could have important implications for later well-being for their children.

In addition, contrary to expectations, there were no correlations between the changes in SOC values and the use of individual offers, the available social support, the age of the child, and other parameters. On the one hand, this could be due to the sample size, which did not allow path analysis and other analytical statistical methods. On the other hand, the lack of clear correlations confirms recent findings from salutogenesis research. These are based on the realization that

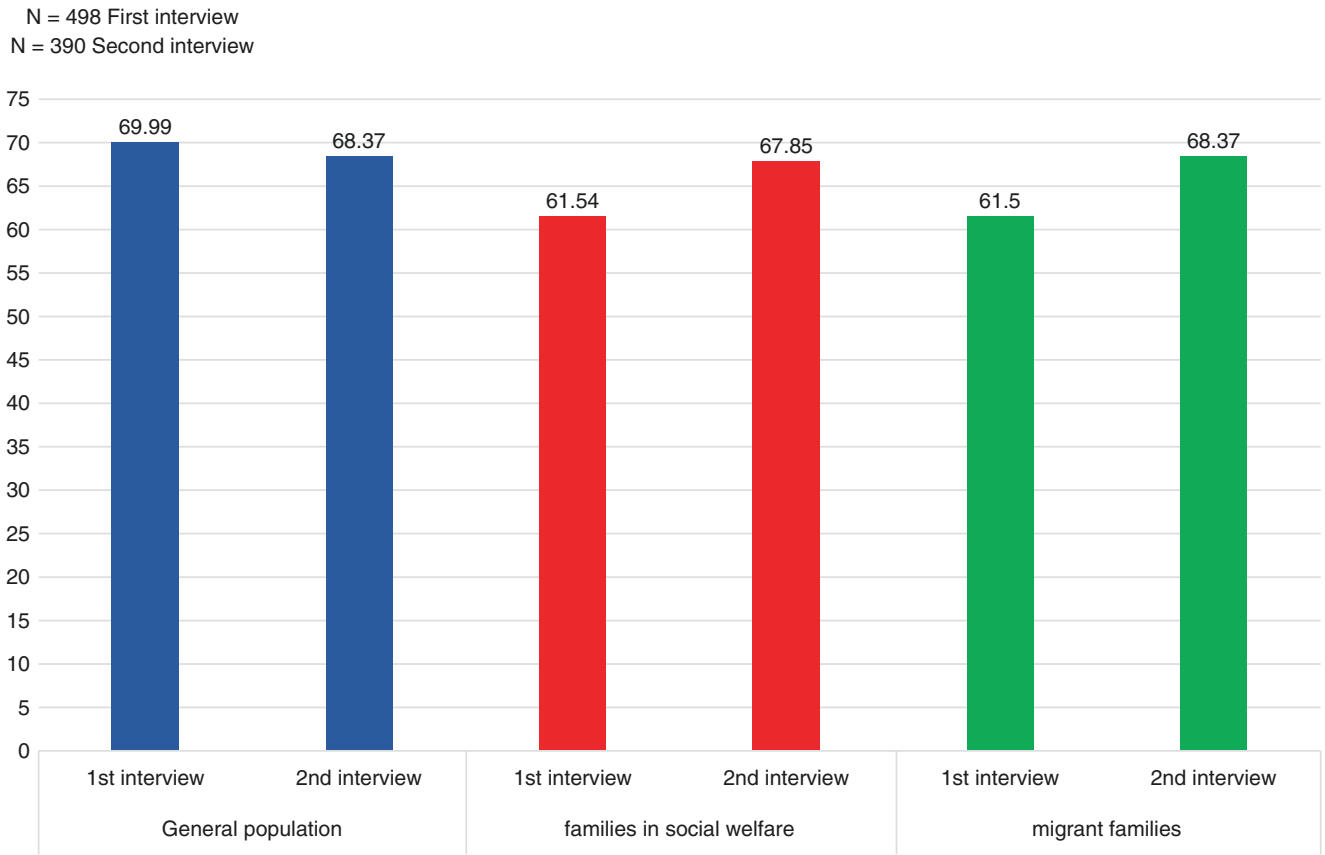

Fig. 43.2 Changes in mothers' Sense of Coherence (SOC-13-Scale) between interview 1 and interview 2 (18 months after). (Adapted with permission of interact Verlag. © Claudia Meier Magistretti et al., 2019)

the subjectively experienced qualities of the experiences people have in everyday life are significant for any change in their sense of coherence (Maass, 2019). In particular, so-called transformative experiences, such as those that change attitudes towards the world, play an important role here. The birth of a child can be highly transformative in this respect, and, for some groups, where achievement in other spheres is less easy to reach, this experience can be one of the highlights of their lives. Such a positive experience might outweigh the benefits of social or other types of formal support.

However, it is catalysed, a stronger sense of coherence enables existing resources to be better perceived and used. In this way, the uptake of offers of early support after the birth of a child could trigger a 'positive spiral'. In support of this hypothesis, when asked why they did not continue to use services after an initial visit, almost all respondents stated that this was because they did not feel they needed any more support. On the other hand, while reduced uptake over time might indeed be evidence that an initial visit triggers capacity to parent effectively, and to feel confident and confident in doing so, lack of future uptake could also be because the design of the service is not aligned to the actual needs of the intended recipients. This could be especially true for families that continue to have a weak sense of coherence in the postnatal and early childhood period. If specialists in early support want to consciously strengthen parenting capacity, particularly in those who are more socially isolated and with a weak SOC, the active participation of children and parents could contribute to the optimum design of future offers. In addition to this, alternative settings for service provision could enable longer term social integration of families into communities and peer support groups. These could include family and neighbourhood centres, shops, places of worship, or multi-generational houses.

Discussion

It is widely accepted that caregivers contribute to strengthening the sense of coherence in children if they practice a parenting style geared to the needs of the child (Feldt et al., 2005), if they engage with and play with the child and if they can develop an authentically loving relationship (Sagy & Antonovsky, 2000). Success in this endeavour can be particularly difficult where there are chronic stressors on the fam-

ily (Barroso et al., 2018). These stressors can be structural (poverty, homelessness, forced migration, for instance) or they could be caused or intensified by particular events, such as illness in pregnancy, or traumatic birth, or illness or disability in the child, or lack of available family support in the postnatal and early childhood period. There is a growing awareness of the value of salutogenic approaches to the provision of maternity care (Shorey & Ng, 2020), and to facilities and services to enhance parenting and well-being in infancy and early childhood. As we have shown, specific activities and services can enhance the capacity for parents to trigger an existing SOC, or, indeed, to strengthen it. This, in turn, can enable improved responses to stressors in the future, in a positive feedback loop that could be mirrored across generations. It is known that persistent adversity leaves an epigenetic imprint that can be expressed in chronic adverse mental and physical health across generations (Sokolowski & Boyce, 2017). It would be logical to assume that optimizing the capacity for the development of a strong SOC as a result of positive maternity and parenting experiences may be associated with a reversal in such a trend. However, this has, to date, not been subject to formal investigation.

The kinds of salutogenic approaches we have described are only examples. They have a reasonable evidence base behind them. They cover what can be done very easily by individual practitioners on a person-to-person basis (skin-to-skin/kangaroo care and breastfeeding support) or, with some adjustment, across whole service provision (family-centred neonatal care). We have also examined the impact of current standard family support (maternity care in general, and the range of childcare and development support) through the lens of one national social care ecology, the German-speaking area of Switzerland. The finding that families who are in employment and highly educated might find the adjustment to parenting more difficult than those who are migrants or in receipt of benefits is intriguing. The further evidence that those on welfare benefits may improve their SOC as they become families and parents, and that this improvement is independent of the experience of formal parenting support, raises a range of fascinating questions about the mechanism of the SOC in different socio-economic contexts. All of these data raise intriguing questions for future research.

Research Gaps and Future Direction

In addition to the limited available literature on salutogenesis in the infant care setting, the concepts of salutogenesis and sense of coherence are more prominent in studies examining neonatal intensive care units (NICU), parents of preterm infants or infants with developmental delays. Moreover, salutogenesis is increasingly invoked during the antenatal and intrapartum period in relation to the birth of a healthy infant and positive maternal outcomes. However, there is still little application of the theory to service provision in the postpartum period and during infancy. This is an important research gap.

Research on salutogenic impacts in the first 1000 days could also benefit from the new developments in epigenetic research and from the growth in big data sets that have accompanying banked human tissue material. As the measurement of the SOC (and/or of parallel concepts) becomes more mainstream in longitudinal birth cohort studies, it will become increasingly possible to correlate SOC over time and across generations with epigenetic and data, to examine how far a sense of SOC becomes encoded in physiological and psychological responses in both children and parents.

More pragmatically, there is a need to examine which parents and families could benefit the most from the formal provision of health and social care designed to optimize family well-being and the thriving and flourishing of children in the short and longer terms. As the AFFIS study demonstrates, not all poor or migrant families have support deficits, and some families in advantaged socio-economic groups have very high needs for improved parenting skills and experiences. Using SOC as a measure of need and change is an important component of such research, independent of the usual measures of socio-demographic need. This would help with targeting of services more precisely, to enable the ideal goal of proportional universalism to ensure maximum benefit for parents, children, families, and societies, based on tailored inputs. Participatory action research to examine the impact of co-production of the design and delivery mechanisms for such tailored inputs with the families who need them most is also an important research direction for the future.

Conclusion

Salutogenic theory is as relevant for describing and catalysing maternity, parenting, and infant well-being as it is for other phases of human life. In this chapter, we have picked up on the growing interest in the potential of the first 1000 days of life. We have examined salutogenic impacts of experiences over this time, for parents and their children. We have also shown how salutogenic thinking has underpinned new developments, including the recognition of the importance of positive pregnancy and childbirth experiences, the institution of skin-to-skin and kangaroo care after birth, breastfeeding support, and for family-centred neonatal care. We have also shown that the standard provision of family and parenting support services in one country (Switzerland) does not always produce the expected effects and that relative weakness of SOC, and a reduced capacity for it to be

enhanced as a result of parenting, may be a better indicator of the need for parenting support than simple socio-demographics. The research gaps we have identified range from basic epigenetic science to organizational change and implementation science. From these analyses, it is clear that the first 1000 days of life are an important catalyst for salutogenic flourishing, in both the short and longer terms and, potentially, across generations.

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Applying Salutogenesis in Community-Wide Mental Health Promotion

44

Vibeke Koushede and Robert Donovan

Introduction

A prosperous and sustainable society requires a mentally healthy population. An individual's mental health is fundamental to short- and long-term health and thriving. It affects cognition and ability to learn, which in turn affect educational attainment and employment (Chida & Steptoe, 2008; Holstein et al., 2011; Kirkwood et al., 2008; Lehtinen et al., 2005; Stewart-Brown, 2005; WHO, 2005). Mental health and health-risk behaviours are strongly correlated (Hamer et al., 2009; Hoyt et al., 2012; Royal College of Physicians, 2013; Whiteford et al., 2013), with mental health problems shown to be important risk factors for unintentional and intentional injury, and the risk of marginalisation (WHO, 2009). Good mental health and well-being are profoundly important to quality of life, the capacity to cope with life's ups and downs, and is protective against physical illness, social inequalities and unhealthy lifestyles (UK Faculty of Public Health and The Mental Health Foundation, 2016; Huppert, 2014). In line with these findings, the need to include mental health and well-being among the priorities of the public health agenda has been increasingly recognised in Europe and elsewhere over the past decades (EU joint action on mental health and well-being, 2016; Forsman et al., 2015; Anwar-Mchenry & Donovan, 2013).

The WHO and OECD estimate that approximately 25–50% of the population will experience mental health problems at some time during their life, with half of all mental health disorders having their onset before the age of 14 (OECD, 2019; WHO, 2005, 2014). In the upcoming decade, mental health problems are estimated to constitute one of the major global burdens of disease (Whiteford et al., 2013; WHO, 2003). This has wide-ranging social and financial implications not only for the individual and their families but for society as a whole (WHO, 2005). For example, in the Member States of the European Union (including Denmark), the cost of mental health problems is estimated to be between 3% and 4% of Gross National Product (GNP) due to loss of productivity and increased expenses for social services and the healthcare system (OECD, 2013; WHO, 2003). These costs may be underestimates given that some economic consequences of mental health problems may not be included due to lack of knowledge of various indirect expenses outside these systems (Knapp, 2003).

The increasing burden of disease and monetary costs related to mental health problems has in recent years resulted in an increased focus on population mental health and a dawning realisation that treatment alone is insufficient to halt the escalating worldwide rates of mental health problems (Knapp, 2003; The European Commission, 2005, 2008; WHO, 2005). Whilst not generally matched by actions, there is at least a growing recognition that interventions focusing on prevention of mental health problems and promotion of mental health and well-being are critical in enabling individuals to strengthen and protect their mental health (Anwar-Mchenry & Donovan, 2013; UK Faculty of Public Health and The Mental Health Foundation, 2016; EU joint action on mental health and well-being, 2016; Forsman et al., 2015; Haro et al., 2014; Knapp, 2003; UK Government, 2012; Slade, 2010; The European Commission, 2005, 2008; WHO, 2004, 2005). Further health economic evaluations suggest that investing in mental health promotion is cost-effective in the short term as well as in the long term (Knapp, 2003; McDaid & Park, 2011; Zechmeister et al., 2008).

The Mental Health Ease–Disease Continuum

Similar to the 'fence on the cliff or an ambulance down in the valley' prevention analogy, a river analogy is often used in public health in the same way. That is, attempting to focus

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health authorities on prevention by referring to looking at what is causing people to fall into the river 'upstream' rather than focusing on 'rescue, resuscitation and recovery' services' downstream (Donovan & Henley, 2010). However, from a salutogenic approach, the river analogy has been used differently, namely, by suggesting that everyone is always in the river of life. The river is full of risks and resources, and the outcome is largely based on our ability to identify and use the resources to improve our options for health and life (Eriksson & Lindström, 2008). This perspective acknowledges that mental health is not a stable trait but rather a constant process which, like physical health, needs to be protected and promoted. We move up and down the river throughout life, and what we are faced with, the challenges we meet, and the resources available to us determine where in the river we are at any given point in time.

At the top end of the river, the water is shallow and crystal clear with hardly any current. We are, therefore, more likely to have a complete overview of our situation and plenty of mental surpluses. We are what some call flourishing. When we are at this end, we are more likely to be innovative, creative, altruistic and productive. Any society would have an interest in most of the population being located in this part of the river at any given time. However, studies indicate that this generally applies to a small proportion of the population. Most are in the part of the river further downstream, where the water is slightly deeper with an undercurrent beginning to emerge. Here, we still have our heads above water and experience what we might call moderate mental health. We are okay but do not have nearly the same energy to spare as those up the top end. As a result, we may be less altruistic and less resilient if a strong undercurrent suddenly comes our way.

Further down the river, it becomes increasingly deep and difficult to find a foothold, the water is murky, and the undercurrent is strong. Here, we struggle to keep a clear overview of our situation. We may be able to paddle around and fight to keep our heads above the water for a period, but unless something or someone helps us up towards the upper end again, within a reasonable amount of time, we are at significant risk of being drawn out over the edge of a roaring waterfall. This is where we see the most common mental health disorders in terms of, for example, anxiety and depression.

Throughout our lives, we move up and down this river. In other words, we move back and forth on the spectrum between mental health and mental illness on the ease–disease continuum. We may experience periods of flourishing and periods of languishing, depending on what challenges we face and what resources we have available.

Something may always happen in our lives that increases the risk of us ending up in deep water. Most of us will experience this from time to time during our lives. What determines whether we sink or stay afloat is our ability to swim and deal with the challenges we encounter along the way. Being able to identify and use the resources available to us in a mental health-promoting manner is crucial. Mental health promotion is first and foremost focused on protective factors and on promoting mental health resources, rather than on preventing risk factors for mental health illness.

Resources for mental health exist at the individual, group, community and societal levels, and there will always be an interaction between these levels, which is why a singular focus on the individual is not enough. We are influenced by our surroundings, and we influence each other. Mental health is something we create together.

Traditionally, the focus on mental health has been on the deep end of the river, politically and scientifically, with a focus on individual treatment and early intervention among those already struggling. Naturally, these perspectives are important to preserve, but as the increasing number of people with mental health problems worldwide clearly shows, they cannot stand alone. The current strategy may be appropriate if the main goal is to reduce individual suffering once problems occur. However, having a singular focus on the deep end of the river is not an efficient strategy if the goal is to prevent those further up the stream from drifting down to the deep end. And it is most definitely not an appropriate strategy if the goal is to promote a mentally healthy and flourishing population.

Mental health and well-being are more than the absence of mental health problems. Focusing on positive aspects of mental health has added value beyond what is achieved from a pure risk reduction perspective. Having a sense of meaning and purpose in life, good social relations, and a feeling of contributing with and to something or someone, are critical aspects of mental health.

We need to do both more and something else if we want to decrease the number of individuals who experience mental health problems and increase the number who flourish in the population. For example, are we at an increased risk of developing a mental disorder if we have been stressed or bullied for a long time? Yes, to a large extent, and therefore treatment and prevention in the form of stress policies, anti-bullying policies, low-threshold offers, and therapy are crucial. However, does not being stressed or bullied in and of itself result in being mentally healthy or flourishing? Unfortunately, not.

On the other hand, promoting positive aspects and protective factors of mental health (e.g. mental health awareness, self-efficacy, social and emotional competencies, action competencies, good social relationships and inclusive communities) promotes not only flourishing, but also prevents many common mental health problems from arising in the first place. Further mental health promotion may offer a substantial contribution to the recovery process from mental ill-

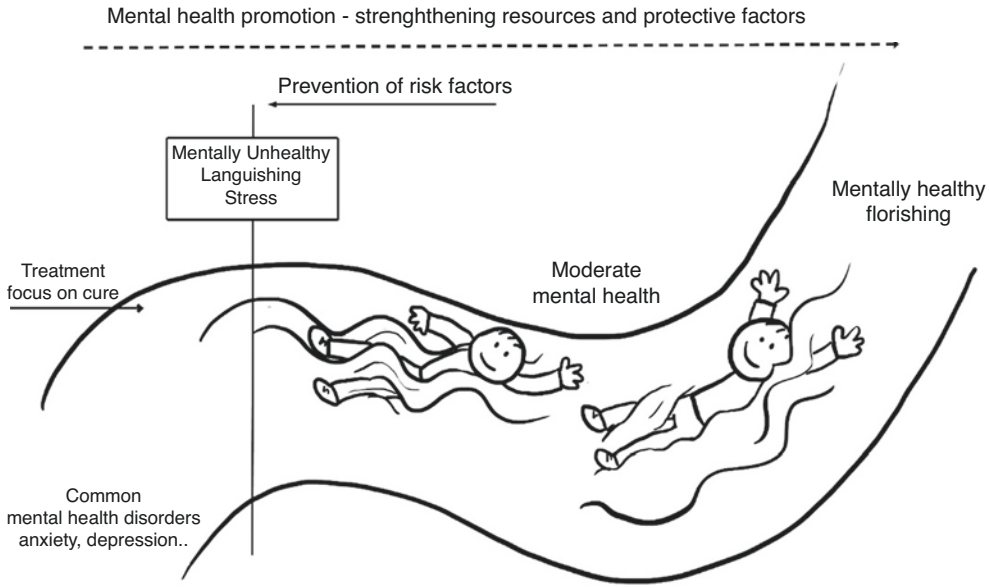


Fig. 44.1 Background: The 'Act-Belong-Commit'/'ABCs of Mental Health' Campaign. (Illustrated by Mads Ortmann. © Vibeke Koushede 2015)

ness. Mental health promotion is thus relevant to everyone, no matter where in the river one may be at any given time, and whether one is young or old or has a physical or a mental health problem.

If more people are to flourish in the future and less languish, we need to broaden our perspective and support a more holistic and salutogenic view of mental health. We need to raise awareness of protective factors for mental health and well-being in the general population as well as in the public and private sectors. We need to work across disciplines and sectors. We need to promote inclusive and nurturing communities, support frontline personnel and volunteers in creating mentally healthy conditions for their target groups, and empower people to move towards the top end of the river. In other words, we need public mental health promotion.

Act-Belong-Commit (Fig. 44.1) is a world-first comprehensive, population-wide, community-based mental health promotion campaign designed to promote mental health and prevent mental ill health (Donovan et al., 2006, 2016). The campaign originated in Western Australia and is now diffusing nationally and internationally (Ekholm et al., 2016; Koushede et al., 2015; Nielsen et al., 2017). It is the first population-wide mental health promotion campaign we are aware of that is consistent with the salutogenic approach of aiming to build positive mental health rather than targeting specific risk factors for specific mental illnesses, and that targets all persons regardless of where they are on Antonovsky's 'ease–disease' continuum (Antonovsky, 1993).

Whilst there are school and worksite interventions that aim to build positive mental health whilst preventing risk factors, past and current community-wide campaigns dealing with mental health tend to focus on issues related to mental ill health, such as increasing awareness about mental disorders, providing education on stress reduction and coping strategies, encouraging help-seeking, early detection and treatment, and reducing stigma (e.g. see Barry et al., 2005; Saxena & Garrison, 2004).

Campaign Origins

The program came about in the early 2000s when Western Australia's Health Promotion Foundation ('Healthway') acknowledged that whilst there had been health promotion campaigns for several decades in Australia (and around the globe) targeting physical health issues such as tobacco, alcohol, physical activity, nutrition/healthy eating, obesity, road safety and sun protection, very little attention had been paid to promoting what people can and should do for their mental health. Hence, Healthway posed the question 'can we promote mental health in the same way as we promote physical health?' and funded research into people's beliefs about mental health with a view to answering this question, and, if the answer were 'yes', to translate those findings into a framework for a mental health promotion campaign.

Whilst the researchers were unaware of Antonovsky's work and his salutogenic, 'what makes people healthy?' (Mittelmark et al., 2016), the overall approach adopted by the research team, in both the primary and secondary researches, was wholly consistent with Antonovsky's question. That is, the overall thrust of the research sought to answer the question 'what makes people mentally healthy?' and then how that information could be translated into a mental health-promoting framework that was feasible and actionable. Hence, the research first set out to find out what both laypeople and scientific experts in the field believed 'makes people mentally healthy'.

Qualitative research into laypeople's understanding of, and beliefs about, factors contributing to good mental health was conducted first, taking a grounded theory approach. Then, a model was developed, which was then confirmed through an extensive review of the scientific literature. Although the language was understandably different, it was found that laypersons' intuitive knowledge about factors contributing to good mental health was consistent with the scientific literature. This was 'good news' for the research team as the primary communication strategy could then be to validate and make salient already held beliefs rather than change established beliefs, and to further reinforce to people that their world was comprehensible and manageable. The grounded theory model developed from the primary research shared a number of features with the published literature, but most significantly with respect to this chapter, postulated an 'end-point' labelled 'coping capacity' which was influenced by people's perceived self-worth and self-efficacy, the ability to communicate with others about their problems, and the ability to ask for help when needed. In retrospect, this model can be seen to have had much in common not only with Antonovsky's overall salutogenic orientation but the dimensions of a sense of coherence (see Donovan et al., 2004).

The ABC Message

The words Act, Belong and Commit, represent the three behavioural domains that laypeople in Australia (Donovan et al., 2007) and Denmark (Nielsen et al., 2017) and the scientific literature around the globe consider the behaviours that contribute to positive mental health. These are articulated as follows:

- **Act**: keep physically, mentally, spiritually and socially active: '**do something**'
- **Belong**: keep up friendships, engage in group activities, participate in community events: **'do something with someone'**
- **Commit**: set goals and challenges, engage in activities that provide meaning and purpose in life, including taking up causes and volunteering to help others: **'do something meaningful'**

Overall, the Act-Belong-Commit message encourages people to be physically, spiritually, socially and mentally **act**ive in ways that increase their sense of **belong**ing to the communities in which they live, work, play and recover, and that involve **commit**ments to causes or challenges that provide meaning and purpose in their lives. As noted above there is substantial and increasing evidence that the three Act, Belong and Commit behavioural domains contribute to increasing levels of both physical health and mental health (Barry et al., 2005; Donovan & Anwar-McHenry, 2014), and act as protective factors against mental disorders, such as depression and anxiety, and cognitive impairment (Santini et al., 2017). Furthermore, the three domains are universal across cultures, although the articulation and emphasis of each of the domains may vary between cultures (e.g. Nielsen et al., 2017).

In line with the principles of mental health promotion and the salutogenic approach advocated by Antonovsky, Act-Belong-Commit's overarching framework was designed to target 'everyone', regardless of their mental or physical health status, and acknowledged that even those with a diagnosed mental illness can—and should—be offered opportunities to enhance their health. Follow-up research has revealed that persons with a diagnosed mental illness are significantly more likely to take action to enhance their mental health as a result of exposure to the campaign than the rest of the population (Donovan et al., 2016).

Consistent with an overall health-promoting approach, the ABC framework not only allows for implementation at the population level but also in specific settings and for targeted groups. Act-Belong-Commit provides a framework for individuals, health professionals, organisation leaders and policymakers to take action to build and support good mental health in their organisations, communities and nation-states, and hence can be seen as answering Antonovsky's question 'What can be done in this community (factory etc) to strengthen comprehensibility, manageability, meaningfulness of the persons in it' (Antonovsky, 1996). These three domains can also be considered to build intellectual, social and spiritual capital (Zohar & Marshall, 2005), further illustrating ABC as a salutogenic approach and building a sense of coherence through these three sources of capital.

In short, Act-Belong-Commit can be seen as responding to Antonovsky's call for the systematic development of programs that strengthen a sense of coherence. That is, we believe—and we think Antonovsky would agree—that by acting, belonging and committing, people will strengthen their view of the world as comprehensible, manageable and meaningful.

How Act-Belong-Commit Operates in Western Australia

The overall strategic framework is a community-based social marketing approach that encourages individuals to engage in mentally healthy behaviours whilst simultaneously partnering with organisations that provide supportive environments for good mental health and well-being (Anwar-McHenry & Donovan, 2019). The campaign is implemented via a hub of

five to six individuals based within Curtin University, with ongoing funding from the Health Promotion Foundation of Western Australia (Healthway) and the Mental Health Commission of Western Australia.

Under a mass and social media advertising and publicity umbrella, the campaign utilises social franchising of government authorities, commercial and not-for-profit organisations, and local community groups to reach both the general population and specific target groups (Donovan & Anwar-McHenry, 2015). Partners are not actively solicited; instead partners respond to the campaign's advertising, publicity or word-of-mouth with requests to get involved in the campaign. Partners range from statewide not-for-profit organisations and state government departments to local government municipalities, large and small sporting clubs, mental ill health organisations, theatre and arts groups, and small community groups such as knitting groups, stamp collectors, groups in recovery and dragon boat clubs. Any organisation offering mentally healthy activities is welcome as a partner. The campaign has around 270 community and organisational collaborators or partners in Western Australia, several partners in other Australian states, and international partners or collaborators in Denmark, the Faroe Islands, Japan, Norway and the United States.

Act-Belong-Commit partners sign a Memorandum of Understanding to ensure message integrity and brand consistency, the sharing of activities and strategies between partners, and the provision of evaluation data to assess the impact of the campaign (Donovan & Anwar-McHenry, 2015). In return, partner organisations are provided with various supports, such as training, strategic direction, access to resources and assistance with seeking funding. The use of social franchising in this way has enabled the Act-Belong-Commit campaign to expand its impact and geographical reach statewide, nationally and internationally without necessarily increasing the size and hence costs of the franchiser 'hub' (Beckmann & Zeyen, 2013).

The campaign also has a number of supporting resources (available in print and online) including a self-help guide ('A Great Way to Live Life: The Act-Belong-Commit Guide to Keeping Mentally Healthy'), self-assessment questionnaires, a website search tool to find clubs and organisations of interest by geographic area, organisers and planners, factsheets, curriculum materials for schools, and print and video advertisements (see actbelongcommit.org.au). Over the years, the campaign has implemented a school program (currently 52 schools in Western Australia), a Youth Connectors program, an Act-Belong-Commit in Recovery program, and a pilot adaptation in a regional Aboriginal Community.

In Western Australia, the campaign has been supported by a mass media campaign, which, whilst limited in budget, has contributed to high ongoing awareness among the general population and hence sensitising people to on-the-ground activities held under the Act-Belong-Commit banner. Ongoing evaluation of the campaign in Western Australia shows widespread awareness of the campaign (over 80% of the adult population), with 10–15% of those aware taking specific actions to improve their mental health as a result of exposure to the campaign. The campaign is also seen to reduce stigma against mental illness, increase openness about mental health issues, and is changing the way people think about mental health, from a passive 'illness' perspective to a belief that they can proactively enhance their mental health (see reports on actbelongcommit.org.au).

How the ABCs of Mental Health Operates in Denmark

Over the past decade, mental health has been declining in Denmark, as in many countries, with vast increases in stress, anxiety, depression and loneliness among all age groups (Jensen et al., 2018; Rasmussen et al., 2019; Twenge et al., 2019). In spite of international recommendations to invest in and prioritise public mental health promotion (EU joint action on mental health and well-being, 2016; Forsman et al., 2015; Haro et al., 2014; WHO, 2004), the primary focus in Denmark, again as in most countries, has been on treatment and targeted prevention for mental illness; for example, Denmark is one of the European OECD countries with the highest use of antidepressants (OECD, 2018). Several other European recommendations on mental health have also largely been ignored, for example, recommendations on bridging the gap between research, policy and practice; strengthening cross-sectoral collaboration; investing in mental health and well-being research and better data; scaling up mental health promotion and prevention efforts; supporting implementation of evidence- and research-based programs; promoting a holistic view on mental health; improving mental health literacy in the population and in the public and private sectors; building capacity to empower end users; and incorporating mental health in all policies at all levels—just to mention a few (EU joint action on mental health and well-being, 2016; Forsman et al., 2015). Reference to universal promotion and prevention has mainly been rhetorical with a scarcity of political action (Eplov & Lauridsen, 2008).

However, in the national goals for health put forward by the Danish Government's Ministry of Health 2014, mental health goals featured for the first time (The Danish Government, 2014). Further, the Danish Health Authority recommends that Danish municipalities prioritise mental health promotion (The Danish Health Authority, 2018).

When we fall ill, the responsibility to treat us lies firmly embedded in the healthcare sector. Most of the drivers of

mental health and well-being, however, lie outside the healthcare sector, in the arenas where we live, love, work and play. In Denmark, the five regions are responsible for the hospitals and treatments that require hospitalisation. Promotion, prevention and community care, on the other hand, are the responsibility of the 98 Danish municipalities.

In April 2014, researchers at The National Institute of Public Health (NIPH), University of Southern Denmark, decided to try and help bridge the gap between research on public mental health and well-being, international recommendations, and national policy and practice (Koushede et al., 2015).

At the time, many service providers in the municipalities voiced uncertainty as to how to implement mental health promotion, resulting in little action (Friis-Holmberg et al., 2013). A major reason for this uncertainty was the perceived complexity associated with mental health, and that service providers did not have an easily understood and practical framework for the implementation of mental health promotion. The Australian Act-Belong-Commit mental health promotion campaign was designed to not only reduce the complexity surrounding mental health for the population at large but also to provide service providers, health professionals and clinicians with a practical framework for doing mental health promotion. Hence, the Danish researchers hypothesised that bringing the Act-Belong-Commit framework to Denmark might enable implementation of mental health promotion across different sectors and disciplines. Denmark, therefore, became the first country outside Australia to sign a memorandum of understanding to adapt and implement Act-Belong-Commit (Koushede et al., 2015).

Adaptation and Implementation of the ABCs of Mental Health in Denmark

After a thorough introduction to the Act-Belong-Commit framework and campaign by the founder and team at Curtin University, the Danish researchers identified initial relevant national Danish stakeholders and potential partners to bridge the gap between mental health and well-being research and practice using the ABC framework. Several meetings were held in order to examine the perceived relevance of and possibilities for initiating a Danish Act-Belong-Commit multidisciplinary partnership with a team of private and public institutions.

As a result of these meetings, an initial funding application to adapt and pilot Act-Belong-Commit in a Danish context was sent in 2014 to the Danish Ministry of Health by the NIPH and involved the following partners: The Danish Healthy Cities Network, The Danish School of Media and Journalism, Public Health Copenhagen, and Red Cross Copenhagen. The application was successful, and funding was granted for a two-and-a-half-year period.

In the first phase, a qualitative study was conducted to determine whether Danish people's understanding of what constitutes good mental health and what people can do to keep mentally healthy was consistent with the underlying messages in the Act-Belong-Commit campaign. The study showed that the generic nature of the Act-Belong-Commit messages made them readily translatable to a Danish context. Further, the research highlighted that although most Danes intuitively know what activities and social relationships promote their mental health, many forget to prioritise them in a busy day-to-day life. Many stop doing activities known to protect mental health and well-being when feeling under pressure from school or work. These findings underlined a need to raise awareness in the Danish population regarding how to look after one's mental health; in the same way, the public is given information on how to look after one's physical health. The Act-Belong-Commit campaign was therefore deemed relevant to implement in Denmark (Nielsen et al., 2017).

Act-Belong-Commit was renamed the ABCs of mental health (In Danish: *ABC for mental sundhed*), for two main reasons: first, the qualitative research showed that many found using the Australian wording created a sense of distance and expressed a preference for a name in Danish, second. The term mental health was slowly surfacing on the public and political agenda, and hence there was an opportunity to create an 'ABC' association with this emerging awareness. The three underlying ABC messages—'do something', 'do something with someone' and 'do something meaningful'—are used in Denmark as an articulation of the ABC of mental health branding. The Danish logo was also adapted to accommodate people's desire for a more Nordic look.

Organisation of the ABCs of Mental Health

The partnership is led by the Department of Psychology, University of Copenhagen (UCPH). Since 2014 the partnership has grown and expanded significantly and currently exists of over 50 partners, including 23 municipalities across Denmark ('ABC for mental sundhed', 2019). Funding for further development and dissemination has been granted twice by the Nordea Foundation.

The Danish model differs somewhat from the Australian model, in that various components of the campaign are developed and implemented through one or more of the part-

ners rather than only through the central 'hub'. Each partner has at least one ABC coordinator. These coordinators meet up four times a year for partnership network meetings. The form and content of the meetings vary, and partners take turn in hosting the events. One result of regular meetings is a strong element of co-creation in the Danish partnership, with many activities being carried out by and across partner organisations.

> With so many different personalities, from many different organisations, NGOs and municipalities we're forced to think outside the box. This has resulted in creative ways of addressing and working with mental health and many of the activities/talks/workshops we have developed have been thanks to the collaboration in the ABC-partnership. (ABC-coordinator, sports association)

There is a steering committee that determines the overall strategy and ensures progress in the partnership. Current committee members represent the following organisations: Department of Psychology, UCPH; The NIPH; the Danish Mental Health Foundation; the Centre of Prevention in Praxis, under KL—Local Government Denmark; DGI, a sports association with more than 6.300 member sports clubs and 1.5 million members; the Danish Scouts Association; The Danish Healthy Cities Network; and Vejle municipality. These organisations all play a central role in the partnership as described below.

The Department of Psychology leads and coordinates the partnership as well as undertakes continuous evaluation and relevant research supporting the partnership. together with NIPH. Further, The Department of Psychology and NIPH are responsible for creating the best possible knowledge base for public mental health promotion and for communicating this knowledge broadly, and particularly to policy and decision-makers. Together with several of the other partners, they also undertake workshops and training of frontline personnel and volunteers in the ABC framework and mental health promotion drawing on a salutogenic approach.

The Danish Mental Health Foundation oversees communication and campaign activities and offers communication workshops to partners. Each year, partners decide on a focus for a joint campaign in the week around World Mental Health Day on October 10. For example, one year, the main message was 'join the club' and 'your old hobby misses you' followed by the ABC messages; another year, it was 'do something nice for someone' followed by the ABC messages, and this year the focus was on 'meetings across' generations, cultures, social groups, etc. Campaign messages are supported by local activities across the partnership. Some campaign elements and materials are developed as part of a collaboration with the Danish School of Media and Journalism (Campaign materials and films can be accessed via the website www.abcmentalsundhed.dk).

The Centre of Prevention in Praxis (CPP), under KL – Local Government Denmark, is responsible for counselling municipalities and supporting municipal ABC coordinators in their work. CPP also undertakes workshops and theme days for partners and municipalities that want to learn more about mental health promotion and the ABCs of mental health. DGI and the Danish Scouts Association are responsible for training and supporting volunteers in the ABC framework. The Danish Healthy Cities Network and the municipalities inform one another about the work in the partnership. The representative for Vejle municipality shares valuable knowledge regarding potential political, organisational and practical barriers and facilitating factors for working with mental health promotion at a municipal level.

All partners have a shared responsibility in disseminating the ABC messages to their respective target groups, supporting and empowering their target groups in acting, belonging and committing in their local communities, and promoting mentally healthy activities and surroundings. By supporting frontline personnel and volunteers, and empowering people to act, belong and commit, the aim is to strengthen their view of the world as comprehensible, manageable and meaningful, thereby increasing individual and community resilience and well-being. Apart from organisations that have formally joined the partnership, the ABCs of mental health have also spread through smaller local organisations and individuals who have heard or read about the framework and messages and found them useful in their context.

Overall the ABC framework has provided a mutual and straightforward language, understanding, and focus for mental health promotion. This has greatly helped the cross-sectoral and cross-disciplinary partnership take collaborate action in promoting public mental health and well-being in Denmark. Campaign messages have been well received; they are considered positive, easy to understand and act on, as well as help to destigmatise mental health problems.

Act-Belong-Commit/ABCs of Mental Health in Communities and Cities

The reader will no doubt be aware that the ABC social franchising/community-based approach is relevant to several other chapters in this Handbook. ABC's community-based approach is all about bringing people together, not just to enjoy themselves but to work towards goals that help the whole community. In that way, ABC contributes towards building generalised resistance resources and a sense of

coherence, both at the individual and at the community levels. For examples of this overlap, we have included below several press advertisements that were used in the pilot of the campaign in six regional towns in Western Australia in 2005–2006. Given people's lack of salience of positive mental health at that time, the communication objectives of

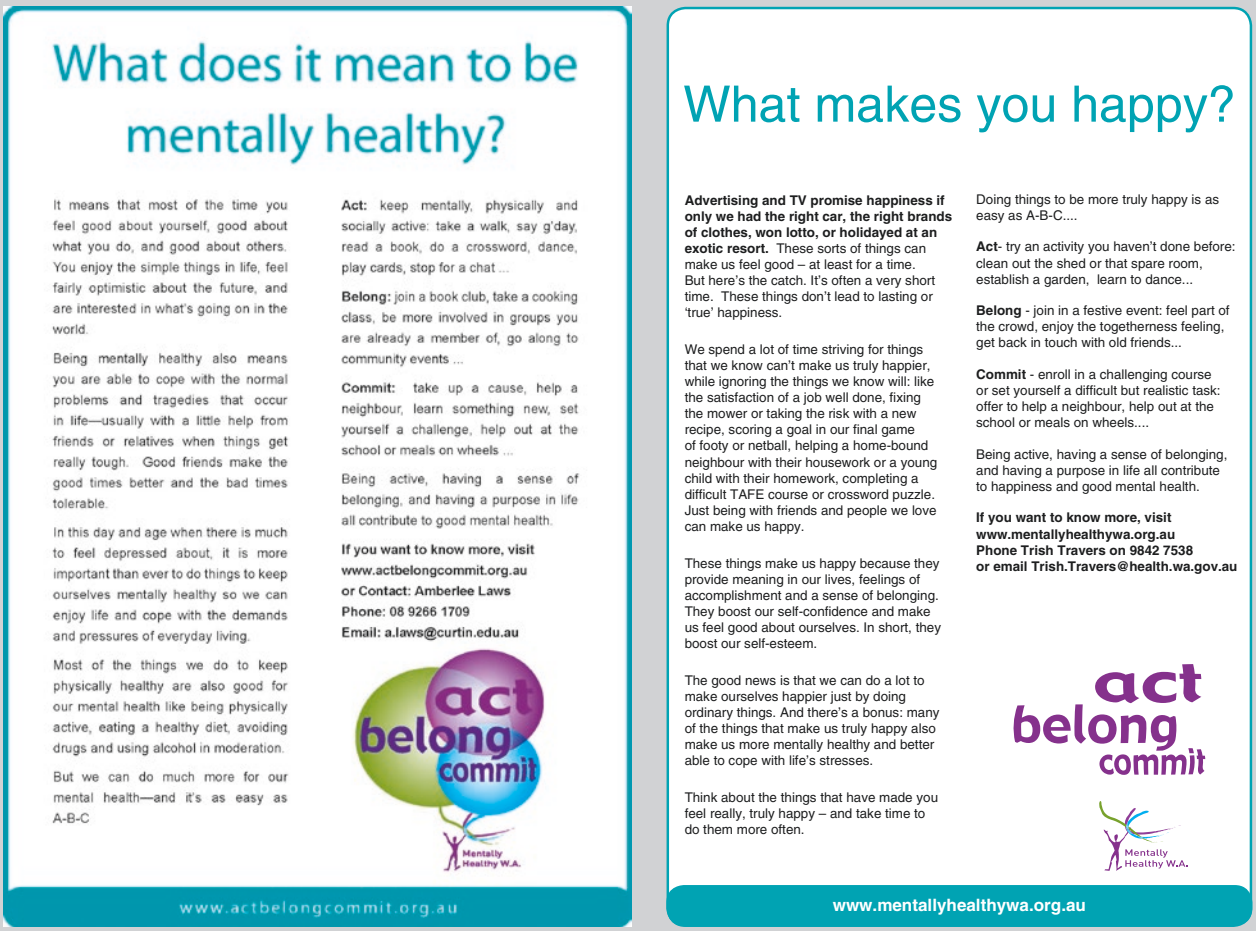
Box 44.1: Act, Belong, Commit. © Curtin University, Western Australia, used with permission

these early ads were to increase awareness of positive mental health per se, as well as something they could be proactive about, and to encourage individuals and community groups to engage in mentally healthy activities (see Box 44.1).

Of note is that the introductory ads in Box 44.1 exploited the research finding that whilst not salient, most people had an intuitive notion of what factors kept them mentally healthy; hence, the reference in the ads to 'Grandma', Grandpa' and 'Aunt Sally' having such wisdom which 'health experts' had 'finally' endorsed. These ads aimed to increase the salience of being proactive about mental health and to validate what people intuitively believed about how to keep mentally healthy.

The later press ads in Box 44.2 attempted to increase mental health literacy by posing and/or answering common questions about what it means to be mentally healthy and what is 'true' happiness, whilst Box 44.3 specifically

Box 44.2: Early Press Ads: What Does It Mean to Be Mentally Healthy? What Makes you Happy? © Curtin University, Western Australia, used with permission



What does it mean to be mentally healthy?

It means that most of the time you feel good about yourself, good about what you do, and good about others. You enjoy the simple things in life, feel fairly optimistic about the future, and are interested in what's going on in the world.

Being mentally healthy also means you are able to cope with the normal problems and tragedies that occur in life—usually with a little help from friends or relatives when things get really tough. Good friends make the good times better and the bad times tolerable.

In this day and age when there is much to feel depressed about, it is more important than ever to do things to keep ourselves mentally healthy so we can enjoy life and cope with the demands and pressures of everyday living.

Most of the things we do to keep physically healthy are also good for our mental health like being physically active, eating a healthy diet, avoiding drugs and using alcohol in moderation.

But we can do much more for our mental health—and it's as easy as A-B-C

Act: keep mentally, physically and socially active: take a walk, say g'day, read a book, do a crossword, dance, play cards, stop for a chat ...

Belong: join a book club, take a cooking class, be more involved in groups you are already a member of, go along to community events ...

Commit: take up a cause, help a neighbour, learn something new, set yourself a challenge, help out at the school or meals on wheels ...

Being active, having a sense of belonging, and having a purpose in life all contribute to good mental health.

If you want to know more, visit
www.actbelongcommit.org.au
or Contact: Amberlee Laws
Phone: 08 9266 1709
Email: a.laws@curtin.edu.au

act belong commit
Mentally Healthy W.A.

www.actbelongcommit.org.au

What makes you happy?

Advertising and TV promise happiness if only we had the right car, the right brands of clothes, won lotto, or holidayed at an exotic resort. These sorts of things can make us feel good – at least for a time. But here's the catch. It's often a very short time. These things don't lead to lasting or 'true' happiness.

We spend a lot of time striving for things that we know can't make us truly happier, while ignoring the things we know will: like the satisfaction of a job well done, fixing the mower or taking the risk with a new recipe, scoring a goal in our final game of footy or netball, helping a home-bound neighbour with their housework or a young child with their homework, completing a difficult TAFE course or crossword puzzle. Just being with friends and people we love can make us happy.

These things make us happy because they provide meaning in our lives, feelings of accomplishment and a sense of belonging. They boost our self-confidence and make us feel good about ourselves. In short, they boost our self-esteem.

The good news is that we can do a lot to make ourselves happier just by doing ordinary things. And there's a bonus: many of the things that make us truly happy also make us more mentally healthy and better able to cope with life's stresses.

Think about the things that have made you feel really, truly happy – and take time to do them more often.

Doing things to be more truly happy is as easy as A-B-C....

Act- try an activity you haven't done before: clean out the shed or that spare room, establish a garden, learn to dance...

Belong - join in a festive event: feel part of the crowd, enjoy the togetherness feeling, get back in touch with old friends...

Commit - enroll in a challenging course or set yourself a difficult but realistic task: offer to help a neighbour, help out at the school or meals on wheels....

Being active, having a sense of belonging, and having a purpose in life all contribute to happiness and good mental health.

If you want to know more, visit
www.mentallyhealthywa.org.au
Phone Trish Travers on 9842 7538
or email Trish.Travers@health.wa.gov.au

act belong commit
Mentally Healthy W.A.

www.mentallyhealthywa.org.au

Box 44.3: Ad: Feeling Blue, Act Green! © Curtin University, Western Australia, used with permission

focussed on green environment benefits (note that in Australia, feeling 'blue' refers to feeling 'depressed' or 'down'/'unhappy', etc.).

However, what is also clear is that the salutogenic model means that we need to intensify on-the-ground activities that bring people together rather than rely only on media advertising to stimulate action.

This intensification is illustrated in the training of volunteers and frontline personnel in both Denmark and Australia, and also in the specific sub-programs in Australia that have focussed on training mental health professionals to help people in recovery to 'act-belong-commit', and the very focussed community approach in a remote Aboriginal community in the North of Western Australia (Wedin et al., 2016; Donovan et al., 2018). The last, in particular, called 'Standing Strong Together in Roebourne', is very focussed on building on existing community strengths, bringing groups together to work on common town issues and fostering community cohesion, resistance resources and shared goals to improve the local physical, social and political environment.

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Part VII

Salutogenesis in Challenging Social Circumstances and Environments

Salutogenesis in Challenging Social Circumstances and Environments

45

Bengt Lindström

Introduction

Part VII of the Handbook is new to the 2nd Edition, addressing the utility of a salutogenic approach in coping with extreme and challenging environments. This is obviously in line with Aaron Antonovsky's original study of menopausal women who, despite having faced extreme stress earlier in life, managed to do well at the time of his study (Antonovsky et al., 1971). This came as a complete surprise to Antonovsky and aroused his curiosity, driving him to address the question, how could these women possibly do well after their experience of extreme adversity? His answer, as we all know, was a strong sense of coherence. His quest, as we are keenly aware, led to the salutogenic model of health. In the chapters of Part VII, we are on a path following Antonovsky's footsteps, seeking constructive solutions in seemingly impossible situations. The settings included in the chapters are heterogeneous and stem from diverse geographic locations.

Chapter 46 by Bakibinga and Matanda examines the potential of a salutogenic orientation to childcare in poor urban African settings. There is an as of yet limited but growing body of evidence on the application of the salutogenic model in research among children who experience adversity in Sub-Saharan Africa (SSA). For example, a study in Uganda explored challenges faced by orphaned children in group homes, their coping strategies, as well as their ability to thrive.

Thriving was supported by generalized resistance resources (GRRs) that promoted coping with challenges, especially attention from caregivers. The authors discuss the need for more childcare research in Africa, using a salutogenic lens. As most salutogenic research with children has been conducted on other continents, the authors call for collaborations between African scholars and salutogenesis researchers in other parts of the world.

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Chapter 47 by Daniel and Ottemöller gives a brief overview of research on salutogenesis and migration, including both forced and voluntary migration. Salutogenesis has been used to frame labor migration and how people respond and adapt to new cultural contexts.

The focus is mainly on forced migration, i.e., the case of refugees. The authors consider research framed by the Salutogenic Model of Health (Model) and research with refugees that uses the broader "salutogenic" approach. They conclude by discussing how salutogenesis adds insight—but may also induce distraction—in the study of refugee migration.

Chapter 48 by Golembiewski and Zeisel addresses salutogenic approaches in dementia care support, using a resident-centered model of care. Securing patients' sense of coherence in care settings requires shifting the locus of decision-making power from only staff, to include residents. In this approach, patients manage more tasks themselves, they get what they need but also what they want, and they engage meaningfully with others and with life in general. The authors explain that implementing salutogenic models of dementia care is not a simple task. It involves reimagining approaches to interpersonal communication, the thoughtful development of meaningful and enjoyable activities, and creative inclusion and engagement of friends and family. Supportive design of facilities includes spaces that provide choice, opportunities for social interaction, and memory-triggering cues that inform patients about where they are, who they are, who other people are—in sum, environments that remind them that they are safe and happy. The authors contend that replacing old-fashioned approaches to care with life-affirming environments is richly rewarding. They explain that success in making this switch requires professionals to pivot away from models that see dementia primarily as a disease to be cured, toward seeing living with dementia in terms of maximum health and well-being. They conclude that salutogenesis is a useful theory to guide this transition.

Chapter 49 by Généreux, Roy, O'Sullivan, and Maltais has its starting point in 2013, when a train carrying crude oil

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derailed in Lac-Mégantic, Quebec, Canada. Research on the aftermath of this tragedy indicates that the adverse psychosocial impacts resulting from the rail tragedy decreased over time. The authors explain that although the tragedy certainly has left its mark, the local community is gradually adapting to its new reality. The asset-based approach to recovery that has been encouraged seems to have contributed to the "new reality," emphasizing the importance of social capital to activate individual and community resilience in post-disaster contexts. The authors identify and discuss success factors supporting the recovery of citizens and the social reconstruction of the community, and they document the positive development of the psychosocial situation in Lac-Mégantic, commenting also on the importance of developing a shared understanding of risks and working together in finding solutions.

The authors conclude by discussing the importance of long-term initiatives to promote understanding, preventing, and reducing psychosocial risks in the months and years following a disaster, and the need to move from disaster management to risk management logic in response to disasters.

Chapter 50 by Antonovsky addresses salutogenesis and the mental health of first responders (FRs). Research has observed FRs to be prone to psychological distress and psychopathology resulting from their repeated exposure to potentially traumatic events. Most of the literature is focused on post-event treatment. The author discusses a mental fitness model that includes salutogenically-oriented psychoeducation and other activities, to enhance mental fitness among FRs and build their psychological strengths as they face adversities on their job.

In closing, the author recommends that besides psychopathology-oriented programs intended for providing mental first aid to FRs and for the communities who experience potentially traumatic events, intervention also should include salutogenically-based mental *preparation* programs. These should emphasize the strengths and resources that could help FRs arrive at scenes of disaster equipped with salutogenic resources, at the strategic as well as tactical levels.

Chapter 51 by Woodall, de Viggiani, and South concludes Part VII, with a focus on salutogenesis in prisons. This chapter presents and debates how prison health rhetoric, policy, and practice are influenced by a pathogenic view of prisoner "health." The authors comment that there is growing recognition of a salutogenic approach to prison health policy and practice, to help tackle the root causes of health, criminality, and inequality. The chapter emphasizes that while the health of prisoners is influenced by material and social factors beyond their control, a salutogenic approach offers an alternative way of delivering public health and health promotion in prisons. The chapter concludes noting that the application of salutogenesis in prisons is in its infancy. They call for research, policy, and practice framed by a salutogenic orientation, leading to sustained and effective measures to improve the health of people in criminal justice settings, and reducing health inequalities in prisons.

Conclusions

Binding all these chapters together are their discussions of how the salutogenic approach can improve coping in times of severe distress, and the advantage of having salutogenic theory as a backbone for design and implementation of prevention and preparation interventions. In their conclusions, the authors illuminate factors, processes, and conditions leading to successful salutogenic management.

Although the cases presented in Part VII represent quite different realities, this variation helps to demonstrate different salutogenic applications in diverse, challenging social circumstances and environments. The advantage of this diversity is that it enriches the reader's spectrum of ideas about the application of salutogenesis when people, groups, and whole communities experience particularly adverse life events.

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The Salutogenic Approach to Childcare in Sub-Saharan Africa: A Focus on Children Who Thrive in the Face of Adversity

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Introduction

Promoting child health and well-being in Sub-Saharan Africa (SSA) remains a major aspiration for governments, public health officials and researchers. This is because, despite the global reduction in under-five child mortality, SSA is the worst region for a child to live; a child in SSA being 14 times more likely to die than children in other regions (Blencowe et al., 2016; Liu et al., 2016; You et al., 2015). Most deaths are due to causes directly related to pregnancy and childbirth.

A majority of the causes are preventable with existing, cost-effective interventions (Boschi-Pinto et al., 2010; Kinney et al., 2010; Liu et al., 2012). Yet, these interventions are not up to scale in most SSA countries as a result of wars, the inadequacy of healthcare facilities, trained personnel, information, inadequate referral systems and pervasive poverty. Amidst these disturbing statistics, some children do thrive even in very challenging living situations. This raises one critical question: How do some children thrive in adversity, and how can lessons from such children inform care for others who appear to fail to thrive under the same conditions?

This question is anchored in the growing community of practice with interest in positive aspects of functioning for health and well-being. Antonovsky's salutogenic model and its core concept 'sense of coherence' (SOC) focus on the ability of individuals to cope with stressors in life and stay healthy (Antonovsky, 1987). In this chapter, we focus on children who thrive in the face of adversity in SSA. We examine the potential of a salutogenic orientation in childcare in poor urban settlements, to raise awareness amongst African public health stakeholders, decision-makers, public health managers and workers. Last, we propose future directions for scaling up the use of salutogenesis in childcare research, policy and practice in the sub-region.

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Childcare and Resources for Care

'Childcare' as used here refers to the time, attention and support given to children both at the household and community level, to enable them to thrive physically, mentally and socially (Engle et al., 1997). This may include practices such as observing high-quality home hygiene, preparing nutritious foods, following the recommended optimal breastfeeding and complementary feeding practices, ensuring that the child gets proper psychosocial care and offering various preventive and treatment services. Various scholars have documented the importance of childcare in enhancing child health, development and well-being (Arimond & Ruel, 2004; Black et al., 2008; Engle & Lhotska, 1999; Onyango et al., 1999; Ruel, 2003; Ruel et al., 1999). The importance of the caregiver has equally been emphasised in the literature on child health and development. Practices such as the use of finger foods, responsiveness of the caregiver to the child's feeding situations (encouraging a troublesome child to eat rather than forcing) and physical, visual and verbal interaction with the child are beneficial to the health and well-being of the child (Engle et al., 1999; Kröller et al., 2013). The caregiver's health-seeking behaviour involves taking action to protect the health of the child through ensuring prompt access and utilisation of essential health care whenever the child is unwell, attaining full immunisation and practising other preventative measures (Ruel et al., 1999).

Resources for care are as necessary as the care itself. Better child health and development outcomes are directly affected by the resources at the caregiver's disposal. These resources include resources that guarantee food security and resources that enable the mother to provide optimal care and the existing infrastructure. Important to note is that contextual factors determine how these resources are utilised.

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Beginning with food security, a food-secure household means that there is sufficient food both in quantity and quality accessible to family members to live an active and healthy life (Smith & Haddad, 2000).

Maternal resources include the following:

- Maternal autonomy – a woman's power in the household and her ability to influence and change her environment (Engle et al., 1999; Gupta, 1995)
- Maternal physical and mental health – physical deficiencies, such as anaemia, stunting and low body mass index influences caregiving by reducing energy needed to provide care (Engle et al., 1999), and mental health problems, such as stress and depression, are risk factors that can lead to inadequate childcare and poor growth (Edwards et al., 2003; Patel et al., 2004; Rahman et al., 2004)
- Maternal knowledge and beliefs – proxied by maternal education level confers economic advantage and the knowledge accumulated as a result of attending school to improve child health (Appoh & Krekling, 2005; Barrera, 1990; Brody et al., 1999; Cleland & Van Ginneken, 1988; Frost et al., 2005; Ware, 1984)
- Availability of time for the mother to interact and provide care to the child – is partly influenced by the workload, especially domestic chores (Bernal, 2008; Bianchi, 2000; Lamontagne et al., 1998; Nair et al., 2014)
- Social support – extensive social support networks influence the responsiveness of the caregiver when interacting with the child leading to stronger attachment (Burchinal et al., 1996; Jacobson & Frye, 1991)
- Infrastructure – existence of facilities such as educational institutions, appropriate sanitation facilities, clean drinking water, accessible health care and proper shelter are likely to influence child health more positively (Gamper-Rabindran et al., 2010; Jalan & Ravallion, 2003; Lavy et al., 1996; Thomas & Strauss, 1992)

The Importance of Context

The importance of context as a variable in childcare has been highlighted (Smith & Haddad, 2000). The political, economic and social-cultural environment of a country dictates how natural resources, technological advancement and human capital are exploited for the benefit of the people. Specifically, context influences how resources are utilised to ensure households are food secure, empowerment of mothers to provide optimum care to their children and the location of households in settings with adequate infrastructure. There is evidence that sex differences in children's physical growth deficits have contextual roots (Crognier et al., 2006; Cronk, 1989; Wamani et al., 2007). Child feeding practices and subsequent undernutrition differ by households' socioeconomic status (Frost et al., 2005; Urke et al., 2011; Van de Poel et al., 2008). Residence (urban/rural) is a significant contextual factor for the course of child growth and development (Smith et al., 2005; Trussell et al., 1992).

Many of the threats to the well-being of children in SSA, as in other low- and middle-income countries, are known to include the impacts of poverty, war, disasters, pandemics, climate change and associated displacements (Engle et al., 2011). This is further compounded by health systems that are ill-prepared to meet the health needs of their populations. Most of the health systems cannot yet adjust to current needs, given the longstanding chronic underinvestment in the health sector. Within this environment, additional risks to health and well-being have been described. They include the death of a primary caregiver/parent, exposure to violence (physical and gender-based violence), poverty and low levels of maternal education, amongst other factors (Akello et al., 2010). These interact to predispose individuals to future and lasting mental and physical health problems.

Children Who Thrive: Why It Matters

Amidst dire circumstances perpetuated by poverty, war, disasters, pandemics, climate change and associated displacements in SSA, some children thrive. Children who thrive under challenging circumstances lead us to ask why and under what circumstances do such children manage to do well, against all odds that are stacked against them. To support this, there is a much needed and new trend demonstrating the growing appreciation of positive health concepts, including resilience amongst children in this setting. For these children, several factors may promote resilience. Protective factors include family, social and community assets that together serve to improve a child's ability to thrive amid adversity.

Within SSA, several studies have been conducted showing how children exposed to different stressors thrive despite apparent adversity. Studies on growth and development, specifically those looking at stunting, have demonstrated factors responsible for positive deviance. Amongst groups of children exposed to similar environmental risks, some tend to fare better than others. Critical protective factors include but are not limited to higher maternal education level, healthy birth weight and better socioeconomic circumstances in the home (Donald et al., 2019). On the other hand, risk factors for poor development outcomes encompass poor maternal health, including mental health issues, HIV infection and anaemia in pregnancy (Donald et al., 2019). Amongst former child soldiers in post-conflict northern Uganda, approximately one-third of the respondents showed post-traumatic resilience. Their resilience was associated with better

socioeconomic situation in their families, lower guilt cognition and exposure to domestic violence and perceived spiritual support, amongst other factors (Klasen et al., 2010).

Because childhood establishes a lasting foundation for adulthood, adequate nutrition, good quality childcare, learning opportunities and social support are fundamental prerequisites for lifelong health (Neuman & Devercelli, 2012). These lay the foundation for resilience (Masten & Barnes, 2018). Quality childcare, therefore, is an essential generalised resistance resource (GRR) for coping with life's pernicious stressors.

By focusing on children who thrive, we can identify what enables them to withstand individual and environmental factors that can be harnessed for the improvement of the care for those who do not do as well.

Salutogenesis in Childcare: Why It Matters in SSA

The focus on the pathways to health that pay close attention to resources for health and the many aspects of childcare that encompasses home and community life have been emphasised in various conceptual frameworks of child health and development (Engle et al., 1997; Smith & Haddad, 2000). Of particular importance is the alignment of this view of childcare with the ideas of health promotion as championed by the Ottawa Charter's definition of health as a resource for everyday life (Mittelmark, 2005; WHO, 1986).

Salutogenesis is concerned with how to live well with stressors and not how to eliminate the stressors. The salutogenic model focuses on the use of resources at an individual level and those within one's environment to maintain health. At the core of the salutogenic model are the sense of coherence (SOC), GRRs and specific resistance resources (SRRs). A strong SOC supports an individual's ability to view and manage life stresses as comprehensible, manageable and meaningful. With origins in socialisation encounters, early childhood interactions, sociocultural and environmental conditions and other related factors, the GRRs enhance one's ability to deal with demanding situations. A strong SOC makes it possible for one to use available GRRs and SRRs and enhance thriving.

In line with basic health promotion principles, salutogenesis has a holistic view of health and life in general and provides a vital way in which health can be maintained and enhanced especially during challenging conditions (Eriksson & Lindström, 2008) such as those children in SSA encounter. Research on children in different countries has demonstrated the value of a salutogenic approach in the development and education of children and adolescents (Idan et al., 2017). As research has shown, in different contexts, some children do thrive despite the stressors they encounter. Such children utilise the GRRs and SRRs at their disposal to strengthen their SOC. As the SOC is mainly developed during childhood, this is the ideal phase of life in which to invest in measures that foster individual and group SOC for better health and well-being.

Salutogenic Research Examples in SSA

The application of salutogenesis in child development specifically, and in healthcare in general, have been elucidated as noted above. Although limited, there is a growing body of evidence on the application of the salutogenic model in research amongst children who experience adversity in SSA.

(a) Orphaned Children Living Without Proper Adequate Care

In Tanzania, amongst orphaned children living without proper adequate care, the model was successfully used to understand the coping strategies of the children (Daniel & Mathias, 2012).

(b) Orphaned Children Living in Group Homes

In Uganda, one study explored challenges faced by orphaned children in group homes, their coping strategies, as well as their ability to thrive (Rukundo & Daniel, 2016). The children's ability to thrive was supported by different factors resources (GRRs) that promoted coping with challenges, attention from caregivers and other personal attributes.

Such studies suggest opportunities be harnessed in understanding and providing childcare through a salutogenic lens.

A Salutogenic Approach to Childcare: Examples from Poor Urban Settings

To demonstrate how a salutogenic approach to childcare in SSA and similar low- and middle- income countries can be applied, we describe several health and childcare programmes in Nairobi, Kenya.

Rapid urbanisation is a global phenomenon, but the challenges are more pronounced in SSA, being the region with the highest urban growth rate (UN-HABITAT, 2007). SSA's urban growth rate is up to 4% annually, and the urban population is expected to grow to 60% by 2050 from 37% in 2011, with the majority of the urban residents living in informal settlements (UN-HABITAT, 2003, 2003, 2010). This growth in urban population is driven by rural-urban migration and further exacerbated by internal displacement of people and the effects of climate change.

In Nairobi, the capital of Kenya, about 60% of the population live in slums or under slum-like conditions. Research

has demonstrated that residents have poor health and socioeconomic outcomes compared to other urban and rural residents. Limited access to essential preventive and curative services for women and their children in addition to the prevailing poverty are the major underlying factors contributing to the high mortality in the informal settlements (APHRC 2002, 2014). As a result, evidence indicates high maternal and infant mortality rates (706 maternal deaths per 100,000 live births and 57 infant deaths per 1000 live births), high rates of undernutrition in children under 5 years (stunting prevalence of 46%) and high rates of morbidity and mortality from diarrhoeal diseases. These poor health and nutrition outcomes are attributable to limited access to social and health services, poor environmental and sanitation conditions and poor livelihood opportunities (Zulu et al., 2011; APHRC, 2002).

While there are individual and community-level barriers to accessing and using maternity and child healthcare services amongst the urban poor, the poor state of both maternal and childcare services in this setting substantially contribute to the high mortality observed in Nairobi (Emina et al., 2011). This environment, rather than being protective (GRR), exposes children to threats.

A Health System's Strengthening Intervention Targeting Mothers, Neonates and Children

Due to the challenges encountered by mothers and their children in the process of accessing care in the informal settlements, they exhibit poor health indicators, including high levels of maternal, neonatal and under-five mortality. Healthcare delivery in this setting is mostly the domain of a thriving but largely unregulated private health sector.

Within this environment, a 3-year project was implemented in Viwandani and Korogocho slums to strengthen public-private partnerships for the improvement of healthcare services and outcomes for mothers, neonates and young children through various strategies: infrastructure upgrade of selected health facilities, capacity building of health workers and managers and strengthening community referral systems (Bakibinga et al., 2014). The intervention was informed by discussions with different stakeholders on what the critical needs were.

High crime rates and violence were identified as barriers to timely access and utilisation of healthcare services by slum residents, especially women. The intervention package included an 'escort' system set up and run by young men to accompany mothers or their children needing medical attention at night, when it is not safe to transverse the dark narrow alleys.

There were increments in various population-level outcomes. Proportions of newborns initiating breastfeeding within 1 h of birth, children with full vaccination, children receiving measles vaccination, sick children <5 years who seek care at a health facility, women using contraceptives and women attending at least three PNC visits increased from 33.3%, 28.8%, 46.6%, 34.9%, 47.2% and 22.1% at baseline to 81.8%, 42.4%, 49.3%, 45.0%, 70.8% and 59.4% at end line, respectively. A 68% increase in obstetric night admission at selected health facilities was seen as well as a reduction in home deliveries. The assessment showed better functionality of upgraded healthcare facilities in terms of variety, quality of services and recognition by regulatory authorities, and stronger relationships between the public and private sector facilities, with the private health facilities benefitting from in-service training and access to publically-supplied health commodities. The private health providers did not continue with some components of the project. It was also discovered that community members expected free health services from upgraded health facilities.

The intervention highlights the importance of GRR in serving the general population, especially the urban poor. Within this, a targeted service with young men serving as escorts for women and children served as an SRR. Furthermore, the targeted support to private health facilities was an SRR. However, not all health providers utilised the resource, as expected. Data from individual facilities showed that some providers embraced the intervention with better results at their facilities while others did not.

A Subsidised Daycare Programme for the Urban Poor

Due to violence, accidents and poor sanitation in the informal urban settlements, children require more attention to avert these dangers. Yet weak social support systems make this impossible. This has contributed to women's absence from the employment sector. For those who must work, the choice is usually to leave infants with their older siblings or with house help, who have limited knowledge on how to care for children adequately. Most women are employed in the informal sector, and many survive from hand to mouth. Affordable childcare is necessary if women are to engage in work outside the family. A randomised intervention of quality and subsidised daycare was implemented in one informal settlement (Clark et al., 2019). The intervention provided daycare vouchers for women to take their children to daycare centres in the community and assessed the economic impact of the vouchers on the women's engagement in economic activities. At the end of the intervention, there was an 8% increase in women employed.

Here, the voucher system for daycare was provided as SRR which enabled women to take their children to an affordable daycare centre where they were assured of quality care for their children, while they went out to fend for their families.

A School Health and Nutrition Programme in Poor Urban Settings

Malnutrition is a risk factor for which researchers and public health programmers have made commendable strides. Here, we consider the nutrition of children in a faith-based school – a GRR – operated in an urban slum (Neervoort et al., 2013). In the absence of the public sector, such schools provide a safe space for children to learn and grow in a supportive environment.

Quite often, nutrition programme managers at the city-county level work with development partners to develop school feeding programmes. Breakfast and deworming services serve as SRRs for children who come from homes where only one meal a day or less is available. Although poverty is common, some children hail from homesteads where both parents are available, employed and able to provide all meals for their children. Since services are made available to all the children, those coming from slightly better homesteads benefit more from the services, potentially widening the inequities amongst the children.

What all the interventions mentioned above have in common is the desire to improve health outcomes for children while improving their chances to thrive both as children and later in adulthood. Although the lack of social and health services is common to all the residents, not all households are at the same level. This means that if interventions are implemented, differences between children hailing from different households would be pronounced, increasing inequities and inequalities. If programme staff do not make deliberate efforts to disaggregate intervention beneficiaries, an unintended outcome of widening inequity gaps is a given. In the spirit of salutogenesis, attention to individual as well as family, social, community and group dynamics is necessary to improve child health and well-being in SSA, as elsewhere. Those with fewer GRRs could benefit more from targeted SRRs.

Conclusions and Future Research Directions

Despite the growing evidence on the benefits of focusing on positive constructs, most child health interventions address mainly deficiencies, working towards responding to what is not available, rather than using available resources to improve health and well-being. These are a reflection of the traditionally appreciated paradigm. Children who thrive under adversity have lessons that can be harnessed to promote the health and well-being of those who struggle under similar circumstance. For this to take effect, a salutogenic approach to research, policy and practice has the potential to add value to the standard approach of focussing on risk factors. In SSA, there is a need for more research using the salutogenic lenses to support an evidence base that will inform policy and practice. Significantly, international research collaborations are needed to highlight issues pertinent to different social-cultural contexts. As most salutogenic research amongst children has been conducted in other regions, collaborations between researchers in other parts of the world and those in SSA are needed.

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Salutogenesis and Migration

47

Marguerite Daniel and Fungisai Puleng Gwanzura Ottemöller

Introduction

Migration involves movement across space, away from the place of origin to a new location, either in the same country (internal) or in a different country (transnational). Migration may be voluntary (as when people choose to move to seek work or for education) or forced (when violence, war or natural disasters force people to move). Migration involves numerous stressors including loss of social support networks, known environment and having to deal with uncertainty and the unfamiliar. Salutogenesis is one theory that has been used to explore how migrants cope with the stressors they experience and how they respond and adapt to new cultural contexts. In this chapter, we aim to give an overview of research on salutogenesis and migration, both forced and voluntary.

We conducted a systematic literature search using Medline, PsychINFO, CINAHL and Web of Science databases for articles published from 1999 to 2020. The thematic filters we used were: (a) Migration: migrants OR immigrants OR 'ethnic groups' OR emigration and immigration OR 'Forced migrants' OR refugee* OR 'asylum seeker*'; (b) Salutogenesis: Salutogenesis OR Salutogenic OR 'Sense of Coherence' OR SOC OR SoC OR 'Salutogenic Model of Health' OR 'Generalised resistance resources' OR GRRs OR meaningfulness OR manageability OR comprehensibility; and (c) Population: Child OR Children OR Women OR Woman OR Men OR Man OR Family OR Families OR Adolescent* OR 'Young adults' OR Adults. The results of these searches, however, excluded relevant articles and book chapters of which we were aware, so we also used Google Scholar to extend the search, using the same filters and period. In addition to some peer-reviewed publications not found by the other databases which we have included in our analysis, Google Scholar also disclosed Master's and PhD theses that we have not included.

Table 47.1 Criteria used for analysing content of articles found in literature search

	Participants	
	Voluntary migrants (e.g. labour or education migrants)	Forced migrants (e.g. internally displaced people or refugees)
Quantitative, qualitative or mixed methods		
Components of the Salutogenic Model of Health (SMH) Generalised resistance resources (GRRs) Sense of coherence (SOC) Comprehensibility Manageability Meaningfulness		
'*Salutogenic approach*' General focus on use of resources to deal with stressors rather than framing analysis with specific components of SMH		

We categorised the articles identified by the searches using the criteria shown in Table 47.1.

Most articles on salutogenesis and migration use well-defined components of the Salutogenic Model of Health (SMH) such as generalised resistance resources (GRRs) and sense of coherence (SOC). However, several articles use a '*salutogenic approach*' by which we mean a general focus on the use of resources to deal with stressors without specifically using components of SMH. There were a few articles that did not neatly fit into the categories, but did in some way deal with salutogenesis and cultural diversity. In the end, we included 59 peer-reviewed articles in our analysis. The vast majority of articles are *quantitative* and use the SOC-29 or the SOC-13 scale, for example, as part of a group of statistical measures. We excluded articles that measured the SOC of children (who had not migrated) and whose parents were migrants. We identified 33 articles on forced migration, 17 on voluntary migration, 6 where both forced and voluntary migrants were included and 3 articles where it was not

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specified (for example, participants described as 'migrants at risk of social exclusion').

Before moving on to the overview of articles on salutogenesis and voluntary and forced migration, we present a couple of articles that cannot be classified as either, but that we consider relevant for the topic of salutogenesis and migration. They are more theoretical than empirical but provide valuable insights into the cultural context of migrants. Benz et al. (2014) analyse all texts in English by Antonovsky that have any reference to 'culture'. They identified cultural stressors such as minority background, rapid change in culture, cultural discrimination and hostile or complex culture. They also identified cultural assets or GRRs such as cultural stability, being valued in a culture, integration, cultural adaptability and 'culture gives place in the world' (Benz et al., 2014). These are all important in shaping the SOC of refugees, displaced people, labour migrants or international students. A paper by Riedel et al. (2011), in the context of the rising numbers of migrants, develops a theoretical framework that integrates salutogenesis and an acculturation model by Berry (2006). Acculturation stress refers to challenges arising from contact between cultures that cannot easily be resolved. In their theoretical framework, the authors show how the GRRs and SOC of migrants helps them cope with acculturation stress (Riedel et al., 2011).

Salutogenesis and Voluntary Migration

Voluntary migration focuses on people who have willingly left their home countries, city or region of origin to either work or study. This section presents empirical articles that focus on internal and external voluntary migration.

Internal Voluntary Migration

Internal voluntary migration occurs when people migrate within their home country in order to either work or study. We found only two articles on internal voluntary migration, both related to labour migration. The first is a quantitative study from China. Chen et al. (2019) look at internal migrant workers in China to identify the potential mechanisms of psychological well-being. The SOC-13 scale is one of the instruments used to assess the migrants' depression, subjective well-being and SOC. The authors find that in general migrant workers have poor mental health and weak SOC, but they conclude that GRRs (income ratio, marital status) are positively associated with higher SOC and may strengthen SOC in this group (Chen et al., 2019). The second article about internal voluntary migration is a qualitative study from Ghana that focuses on women who had migrated from northern regions in Ghana to work as porters in the capital city, Accra (Wilson & Mittelmark, 2013). The study adopts a 'salutogenic perspective' and the authors note that some of the migrants adjust well in spite of difficult circumstances. GRRs include religious beliefs, achieving financial stability and developing and cultivating supportive social networks (Wilson & Mittelmark, 2013).

External Labour Migration

External labour migration involves people leaving their home country to find work in a different country. The majority of articles we found on voluntary migration focus on external labour migration and most were quantitative.

There is a cluster of three quantitative articles on migrants from the former Soviet Union (FSU) living in Israel. Soskolne's (2001) study examines whether the combination of single parenthood and occupational drift in the context of migration implies greater risk of psychological distress for single mothers compared to married mothers from FSU. Soskolne concludes that single mothers had weaker SOC and higher levels of distress than married mothers. The beneficial effects of social support in reducing distress were significantly greater for married than for single immigrant mothers from the FSU living in Israel (Soskolne, 2001). Sagy et al. (2009) examine SOC as a protective factor towards drug and alcohol abuse amongst Israel-born and immigrant teenagers from the FSU. They use both the SOC-13 scale and the Sense of family coherence scale. Although both groups had low levels of interest in using drugs or alcohol to cope with stress, the study found that the immigrant group had a more permissive attitude. Further, they found scoring strongly on personal and family SOC to be protective against drug and alcohol abuse (Sagy et al., 2009). Ponizovsky-Bergelson et al.' (2015) study focuses on filial responsibility amongst young immigrants from FSU living in Israel. Filial responsibility due to migration occurs when young members of a migrant family take responsibility and try to help their parents to cope with difficulties related to migration. They used SOC-29 as one of a series of measures of resilience (others included optimism and social support) and found that SOC is directly protective of psychological adjustment in the context of filial responsibility (Ponizovsky-Bergelson et al., 2015).

Two studies from the same team of authors in Germany conduct comparative studies about migrants from Turkey and Poland and the native populations in these countries. Erim et al. (2011) compare two clinical samples of outpatients with neurotic disorders: one sample of Turkish immigrant outpatients living in Germany and one sample of Turkish outpatients in Istanbul. They applied the SOC-29 questionnaire to both groups. Both samples had weaker SOC scores compared to the Turkish population, the German

population and the German population with similar neurotic disorders, but there were no differences between the two samples (Erim et al., 2011). The authors found SOC to be a strong predictor of depressiveness. They attributed this to the collectivist nature of the Turkish people and their tendency to attribute the skills measured by the SOC scale to their families, and not themselves as individuals, which resulted in weak scores (Erim et al., 2011). Morawa and Erim (2015) compare the health-related quality of life and sense of coherence amongst Polish immigrants in Germany, Poles in Poland and the German population. The authors report that SOC levels are weaker in both Polish samples compared to the German population. They explain that this could be due to cultural differences, as the individualistic attributes measured in the SOC questionnaire do not correspond with the collectivistic orientation amongst Polish people (Morawa & Erim, 2015).

There are two papers based on a study on Pakistani migrants living in Toronto, Canada. Jibeen and Khalid (2010) examine how coping resources (SOC and perceived social support) and coping strategies (both problem- and emotion-focused) have an impact on positive well-being. They found that, along with a higher level of perceived income comfort, coping resources and strategies were associated with higher positive functioning. Jibeen (2011) found that sense of coherence and perceived social support moderated the effect of acculturative stress and enabled positive functioning in terms of self-acceptance and positive relations with others.

A quantitative study on migrants in Sweden includes both forced and voluntary migrants. Sundquist et al. (2000) examine the impact of several variables including exposure to violence, SOC, acculturation, sense of control over one's life, economic difficulties and education on psychological distress in immigrants. Their sample includes immigrants from Iran, Chile, Poland, Turkey and those of Kurdish descent. The study uses data from the first Swedish national survey of immigrants. The study uses only three questions from the SOC-13 item questionnaire, one each to measure comprehensibility, manageability and meaningfulness. The authors found that a weak SOC was related to migration status and psychological distress (Sundquist et al., 2000).

We found only a few mixed methods or qualitative studies on salutogenesis and labour migration. In a mixed-methods study, Slootjes et al. (2017) examine the development of a strong sense of coherence and the role of migration, integration and GRRs in this process. A sample of women with Turkish, Moroccan and Surinamese backgrounds completed the SOC-13-item questionnaire. The women also participated in interviews where they were asked to share life stories and reflect on their migration and integration experiences in the Netherlands. Slootjes et al. (2017) conclude that consistency and load balance were associated with a strong SOC amongst these women. However, the women did not necessarily require decision-making power to develop meaningfulness. The findings indicate that migration and integration are related to the mechanisms shaping SOC, but that this depends on the availability and use of GRRs (Slootjes et al., 2017). Slootjes et al. (2018) report on a second study with the same sample, but this time including Dutch women. They use SOC to examine how the women escape the vicious cycle between health problems and unemployment (Slootjes et al., 2018, p. 1). The study moves away from the focus of how SOC influences health, to examine how SOC functions and whether it is applicable outside the health domain (Slootjes et al., 2018, p. 11). The findings indicate that the participants found it possible to escape the vicious cycle between health problems and unemployment by focusing on meaning and the purpose of adversity. Slootjes et al. (2018) found that stronger levels of SOC were associated with narratives of meaningful endurance.

We identified three qualitative studies using salutogenesis to explore different aspects of labour migration. Crowther and Lau (2019) explore how communication influences maternity care amongst migrant Polish women in Scotland. They interviewed nine women who had recently used the maternity services, and then adopted a salutogenic conceptual framework to analyse the data. Their findings identify the significance of quality communication, relationship and culturally sensitive practices as ways of mitigating feelings of vulnerability amongst Polish women in Scotland. SOC facilitates 'the women's ability to comprehend and their capacity to understand their own experiences of communication challenges' (Crowther & Lau, 2019, p. 30). Using a salutogenic approach, Obrist and Büchi (2008) investigate why West and East African migrants in Switzerland stay healthy. The meanings of health and resilience are explored using case studies and focus group discussions. Although the study claims to use a salutogenic approach, salutogenesis is not really mentioned much in the article. The focus of the research is more on resilience, and stress as an idiom for resilience that helps the migrants to reflect, interpret and explain their feelings (Obrist & Büchi, 2008). Bürgelt et al. (2008) investigate how German couples, who migrated to New Zealand, experience and interpret the migration process. They interviewed four couples who chose to settle permanently in New Zealand and four couples who returned to Germany. What the authors call 'the salutogenic paradigm' highlights how successful adaptation to migration depends on the meaning migrants find in their experiences, which leads to well-being and growth (Bürgelt et al., 2008).

External Migration for Education

We found only three papers where participants had migrated internationally for purposes of education. Interestingly, all

the studies had a comparative aspect. Ying et al. (2000, 2007) conducted two studies with American-born and immigrant Chinese students. In their first study, they investigated whether cultural orientation and racial discrimination influenced subjective competence (as measured by sense of coherence: SOC-29) in these two groups (Ying et al., 2000). Their results indicate that Chinese American students tend to be more integrated into American society and have a stronger SOC than their immigrant counterparts who are more bi-cultural. Although, racial discrimination negatively impacted both groups' SOC, the immigrant group were better able to cope and distance themselves from it. This was attributed to their not being as well-integrated into the American way of life and, therefore, not having grown up with the expectation of attaining the American dream (Ying et al., 2000). The second study examined SOC as a mediator between depressive symptoms, parent and peer attachment and college challenges, to see whether there was variation depending on migration status (Ying et al., 2007). The sample included Chinese American students and compared them with two immigrant groups: early immigrants and late immigrants, i.e. immigrants who had been in the United States longer and those who had arrived more recently. The findings indicated that peer and parental attachment had different effects on the various groups' depressive symptoms and SOC; moreover, SOC mediated the effect of attachment on depressive symptoms in all three groups (Ying et al., 2007). Grayson (2008) used the SOC-13-item questionnaire in his study to examine the impact of SOC on academic achievement between domestic and international students in Canadian universities. The study found that international students with a strong SOC were more likely to perform well academically than those with a weak SOC (Grayson, 2008).

In summary, the papers reviewed above indicate that quantitative studies dominate research with voluntary migrants, and the predominant focus is pathogenic – mental health with an emphasis on depression. Moreover, some of the studies indicate that the SOC scale is not always sufficient to capture the experiences of populations with more collectivist attributes, and they are portrayed as having weak SOC (Erim et al., 2011; Morawa & Erim, 2015). The qualitative studies we identified, although few, had a broader focus on life experiences and a more salutogenic emphasis.

Salutogenesis and Forced Migration

Forced migration occurs when people flee war, persecution, violence or natural disasters. Sometimes they move to a different part of their own country and are then known as internally displaced persons (IDPs). When they flee beyond the borders of their country, they are refugees.

Salutogenesis and Internally Displaced Persons

All the articles we found on salutogenesis and IDPs report quantitative research. The studies cover six countries: three in Sub-Saharan Africa, namely Eritrea, Niger and Democratic Republic of the Congo (DRC), and then Palestine and Chechnya, and finally, two studies in Indonesia by the same team of authors. Aitcheson et al. (2017) used the 26-item *family* sense of coherence scale (i.e. the extent to which a family collectively perceives the world as comprehensible, manageable and meaningful) as one of four family-level predictors of health and well-being in Palestinian adolescents living in Gaza (although their outcome measures were depression and anxiety). They found that a strong family SOC, along with several other family, cultural and individual factors, contributed to adolescent health. Almedom et al. (2005a, b, 2007) produced a cluster of articles based on a study with Eritrean IDPs. They used only SOC-13 and found that IDPs had a significantly weaker SOC than persons who had not been displaced and that women were significantly more negatively affected than men. Their method of data collection included some 'qualitative' discussion on some of the 13 items. In a publication on IDPs in Chechnya by Parker et al. (2013), in which Almedom is also a co-author, they called the methodology of the Eritrean study 'Sense and Sensibilities of Coherence (SSOC) Methodology'. They found that the meaningfulness scores were significantly higher than comprehensibility and manageability scores, with hope emerging as the key component of meaningfulness. In a study in the DRC by Pham et al. (2010), the authors set out to investigate the association of SOC with prolonged and cumulative exposure to traumatic events and violence. Of the total of 2635 respondents, 2139 (85.5%) were displaced, and they had a significantly weaker SOC than those who were not displaced. Likewise, exposure to a cumulative number of traumatic or violent incidents was inversely related to SOC. The authors suggest that, given that SOC is a protective factor, finding ways to strengthen it by providing an environment that is comprehensible, manageable and meaningful could enhance health and well-being of internally displaced persons. They suggest that interventions, particularly in IDP camps, that help people living there gain a sense of control over security, shelter, food and clothing, would be a good place to start. However, they acknowledge that the best solution would be peace and stability. The Indonesian studies follow the same group of IDPs over time using SOC-13 as an indicator of mental health. In the first study (Turnip et al., 2010), the IDPs suffered significantly more psychological distress than a control group of non-IDPs, and the authors concluded that displacement is a significant risk factor for distress. The second study (Turnip et al., 2016) reported data collected a year after the first study

and found that for IDPs, despite previous traumatic experiences, both SOC and well-being had improved. The authors attribute this to improved socio-economic conditions. Veronese et al. (2019) worked in a 'salutogenic tradition', or what we have called a '*salutogenic approach*', focussing on the social ecology of adolescents in IDP camps in Niger. Despite multiple traumatic experiences, the adolescents functioned positively by using relational resources and self-competence. We found no qualitative studies on salutogenesis and IDPs.

Salutogenesis and Refugees

There seems to be a growing interest in using SMH or the salutogenic approach in studying the health and well-being of refugees. Although we have included articles for the first two decades of the twenty-first century, more than half of the articles in this section were written since 2015, the start of the so-called refugee 'crisis'. The literature on salutogenesis and refugees is dominated by studies from Sweden (which, with one exception, are quantitative), both before and after the refugee crisis. In the Swedish studies, before 2015, the refugees were from Iran (Bayard-Burfield et al., 2001; Ghazinour et al., 2004; Lindencrona et al., 2008) and the Balkans (Björn et al., 2013; Roth & Ekblad, 2006). After 2015, Syrians and Afghans (Sarkadi et al., 2018) are the dominant refugee populations with some from Eritrea (Bergstrom-Wuolo et al., 2018). The remaining studies are conducted mainly in Global North countries (Norway, Finland, Denmark, Germany, Canada, Australia, United States and Israel). They are mostly qualitative in approach, except for three recent articles from Germany (Georgiadou et al., 2020; Kindermann et al. 2020a, b) and a series of three articles by Getnet and colleagues (Getnet & Alem, 2019a, b; Getnet et al., 2019) conducted with Eritrean refugees in Ethiopia.

The studies using SMH or its components are mostly quantitative in methodology. Only the study by Ghazinour et al. (2004) uses the SOC-29 scale; the rest use the SOC-13 scale or some adaptation of this shorter scale. It is mainly the older studies that use adaptations, for example, Bayard-Burfield et al. (2001) and Lindencrona et al. (2008) use only 3 of the SOC-13 items while Roth & Ekblad, (2006) use 12 items. Two recent studies from Germany (Kindermann et al. 2020a, b) use SOC-9L (Leipzig short scale). Getnet & Alem, (2019a) use SOC-13 but found that the removal of item 2, '*Has it happened in the past that you were surprised by the behaviour of people whom you thought you knew well*?', improved the measurement of SOC in Eritreans.

A surprising number of the quantitative studies, although using SOC as one of a number of measures, are essentially measuring depression, anxiety or PTSD – i.e. pathological measures – rather than health and well-being. Again, this applies mostly to the older studies, for example, the Bayard-Burfield et al. (2001) study focused on psychiatric illness, the Lindencrona et al. (2008) study focused on mental disorder and stress and the Roth & Ekblad, (2006) study found that for Kosovan refugees over time, depression increased while SOC decreased. Kuittinen et al. (2014) examined the manifestation of depression and psychosocial correlates amongst older Somali refugees and native Finns. Likewise, two of the Ethiopian studies (Getnet & Alem, 2019b; Getnet et al., 2019) focused on pathological outcomes like depression and PTSD. The Ghazinour et al. (2004) article, although old, focused on health and well-being outcomes like social support and coping. The authors found that meaningfulness was particularly important in helping refugees cope with trauma and have a good quality of life.

Most of the more recent quantitative studies on salutogenesis and refugees focus on health and well-being. Georgiadou et al. (2020) explored the role of SOC along with other measures of quality of life for Syrian refugees in Germany separated from their marital partners, and Kindermann et al. (2020b) examined the link between SOC and utilisation of health care. Some studies measure SOC after the study population has experienced a health promotion intervention. Arola et al. (2018) worked with older refugees from the Balkans while Sarkadi et al. (2018) studied unaccompanied minors from Afghanistan and Syria; both studies found a stronger SOC which helped participants cope with stress and trauma. A recent study with Syrian adolescents in refugee camps in Israel (Braun-Lewensohn & Al-Sayed, 2018) found that gender (being a girl) and length of time in the camp contributed most to stress and psychological problems. Still, their role almost disappeared once SOC was taken into account. In other words, SOC was found to be the most important factor in reducing stress and psychological problems. A study with women in refugee camps in Greece, which used SOC-13 and a 16-item measure of *community* SOC, found that SOC mediates negative variables (e.g. time spent in camps) and outcomes such as reduced depression and anxiety (Braun-Lewensohn et al., 2019).

We found ten *qualitative* studies on salutogenesis and refugees, four using components of SMH and six using a salutogenic approach. While many of the qualitative studies focused on the health and well-being of the participants, some studies looked at other aspects of participants' lives. The de Wal Pastoor (2015, p. 247) study in Norway views schools as 'salutogenic arenas' for young refugees – spaces that can provide safety and predictability, resources to cope and can promote meaning. The study findings show that the support received tends to be somewhat random. Still, the author concluded that schools are poten-

tially supportive environments for young refugees – in contrast to therapeutic interventions. In another study with a school setting, this time in Canada, Reimer (2020) explores how restorative justice helps students to build a strong sense of coherence, both individual and collective. She defines restorative justice as 'a set of principles and practices that positions harm as a violation of people and relationships rather than a violation of rules and laws' (Reimer, 2020, p. 410). Another article adopting an unusual approach is the one by Kolanen et al. (2016), which explores how components of SOC can improve breastfeeding amongst Somali refugees in Finland. Given that new mothers in the Somali community often cease breastfeeding prematurely, the authors explored new mothers' GRRs, comprehensibility, manageability and meaningfulness. They found the new mothers were motivated to breastfeed by religious and cultural factors, with their most important source of information being their own mother and other female relatives. The authors conclude that the GRRs that emerged in the study could be exploited during health service counselling to increase effectiveness.

Qualitative studies are also able to explore the role of families and communities. Two studies in Sweden examined the SOC of parents. Atwell et al. (2009) found that while parents experienced numerous stressors and felt they were not coping, they had a strong sense of purpose (meaningfulness) for their children. Björn et al. (2013) took a salutogenic approach in running *family* therapy sessions and found that cohesive family narratives about traumatic experiences and their new lives emerged. A recent study in Denmark (Poulsen et al., 2020) uses the salutogenic approach to explore how the natural environment and participation in an eco-village can help severely traumatised refugees. Horticultural activities and respectful attitude of staff contributed to recovery while new skills were achieved, and feelings of isolation decreased (Poulsen et al., 2020, p. 1). The salutogenic approach has also been used in life course studies amongst refugees in a study on perceptions of health amongst older refugees from the Balkans living in Sweden (Lood et al., 2016).

One GRR that emerges in several qualitative studies is spirituality or religious beliefs. Sossou et al. (2008) worked with Bosnian refugees in the United States. They conducted narrative interviews after a quantitative study – and purposely selected women with a strong SOC. Spirituality was amongst the GRRs they identified, along with social support and services. Two publications by the same team of authors in Australia working with Burmese refugees found spiritual and religious beliefs as well as individual and cultural strengths and values, and duty to family and community, all contributed to the ability to cope (Borwick et al., 2013; Shakespeare-Finch et al., 2014).

Health Promotion Interventions for Migrants

Salutogenesis, particularly through the identification of GRRs, provides an approach for designing health promotion interventions. We found two pairs of studies that report on formative research for a health promotion intervention with migrant women, and then evaluate the intervention. In Norway, an intervention for new mothers in a multi-ethnic community was planned and evaluated using salutogenic theory (Leirbakk et al., 2018, 2019). In Spain, Bonmati-Tomas et al. (2016) report on a qualitative study mapping the assets of immigrant women experiencing health inequities and at risk of social exclusion. They use this knowledge to develop better tools for a health promotion programme. In a second article (Bonmatí-Tomas et al., 2019), they report on a quantitative evaluation of the health promotion intervention. Although the SOC-13 scores did not change significantly after the intervention, the participants did experience less perceived stress (Bonmatí-Tomas et al., 2019).

How Does Salutogenesis Contribute to Research with Refugees?

Many of the papers included in this study state that they are using SOC as a measure of coping or of resilience. So does the use of salutogenesis in migration studies add anything that other strengths-based theories could not?

To answer this question, we need to return to Antonovsky's (1996) paper that suggests the use of SMH as a theory for health promotion. He contends that the prevailing axiom of a dichotomous classification of people as *either* healthy *or* temporarily, permanently or fatally ill (in contrast to his view that all humans are somewhere along a healthy/dis-ease continuum) leads to a concern with pathogens and risk factors. Antonovsky (1996) points out that it is not only curative medicine and preventative medicine that take this stance, but even health promoters (Antonovsky sees this as a failure of nerve!). Unfortunately, we have found ample evidence of this pathogenic approach in the literature on salutogenesis and migration. It is mainly the older, quantitative papers that focus on pathogenic outcomes such as depression or anxiety or PTSD – despite including some measure of SOC. Antonovsky (1996) warned that a focus on pathology is often narrow and does not in any way take the rich *complexity* of human life into account.

The SOC, comprised simultaneously of cognitive, behavioural and motivational elements, *can* deal with complexity. Some of the more recent literature on salutogenesis and migration has succeeded in taking a salutogenic approach, with a focus on what Antonovsky (1996) calls 'salutary'

factors. This has enabled innovative studies on the health and well-being of migrants from a more holistic perspective. One example is the identification of cultural values and practices that may be used as GRRs (Borwick et al., 2013; Kolanen et al., 2016; Sossou et al., 2008). Creating 'salutogenic arenas' in schools to help unaccompanied minors move towards greater health (de Wal Pastoor, 2015) and training children in restorative justice (Reimer, 2020) are examples in school settings. Understanding how flexibility in expectations can enhance SOC (Slootjes et al., 2017) provides a pathway for interventions that strengthen SOC. Another innovative approach to the holistic health and well-being of refugees is training in horticultural skills within eco-villages (Poulsen et al., 2020). It is often qualitative studies that allow innovative use of salutogenesis in the study of refugees. Antonovsky (1996, p. 15) promotes SMH as a systematic theoretical guide for research *and action*. We have included a few papers that use salutogenesis to plan and evaluate interventions (Bonmati-Tomas et al., 2016, 2019; Leirbakk et al., 2018, 2019).

In conclusion, while some of the earlier research tended to focus on pathogenic outcomes and, therefore, does not contribute much to studying migration from a salutogenic perspective, more recent papers focus on salutary factors, take a more holistic view and illustrate innovative ways of using salutogenesis to explore migration experiences. This indicates an encouraging move towards migration research that is more in line with Antonovsky's interest in what builds health.

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Salutogenic Approaches to Dementia Care

48

Jan A. Golembiewski and John Zeisel

Introduction

Salutogenesis is a theory of health focused on strengthening the forces that support life and engagement, rather than on preventing or treating disease. In doing so, salutogenesis propels a person's ontological sense of self (their sense of coherence – SOC) towards full engagement with life and away from infirmity and death. 'Good health' and 'a strong sense of coherence (SOC)' are thus powerfully correlated; helping people feel strong and resilient to life events, pathogens, and other challenges. This approach contrasts to health disciplines ('white-coat medicine') that seek to draw people back from physical and mental failure to the point where the pathogens and insults have been neutralised.

Salutogenesis theory is useful in developing ecopsychosocial (Zeisel et al., 2016), non-pharmacological aged and dementia care interventions because it incorporates not only factors that lead to infirmity but also ones that lead towards better health. Salutogenesis provides practical tools to understand and affect this passage, managing cognitive and other age-related declines by maximising all available resources. Unlike white-coat medicine, the focus is not on eliminating a disease (although this approach is still compatible); instead, salutogenesis improves resilience and a person's capacity to engage in life more completely, fortifying the ability to cope with the challenges that are a normal part of life's passage – even the challenges associated with ageing and dementia (Fig. 48.1).

While salutogenic effects are generalisable, its tools – specific resistance resources (SRRs) – can be quite specific. SRRs focus on supporting a person's endogenous adaptive capacity in three domains: intellectual (comprehensibility), physical (manageability) and affective (meaningfulness).

Salutogenic theory holds that while disease is unquestionably caused by pathogens, specific stressors, genetics, and so on, good health is not merely the absence of these things. In the face of life's challenges (including disease), health is maintained by a strong SOC, which in turn is drawn from the generalised composite of all resistance resources (the GRRs). A strong SOC is expressed as hope, optimism, and buoyancy in the face of adversity. When a person can no longer manage or even understand life's challenges, their SOC becomes depleted, the GRRs needed to maintain their vitality and reason to live are insufficient for the job, and disease and infirmity follow.

While salutogenic theory explains and predicts resilience in the face of assaults on body and mind, the question remains, 'How does a salutogenic framework explain resilience in the face of the *natural and inevitable* course of ageing – especially once cognitive, emotional, and physical decline has already set in?' And what about when a person faces the stressful inevitability of death (Butler, 1975)? With age, a salutogenic approach focuses on improving a person's SRRs to continually strengthening their SOC by targeting tailored interventions in each of the three person-centric salutogenic domains (comprehensibility, manageability and meaningfulness).

The advancement of SRRs is described more fully in Chap. 26 of this volume. In simple terms, anything that helps people with dementia manage corporeal challenges such as barrier-free access and physical comfort supports *manageability*. Manageability is naturally and increasingly under pressure as people age because of deteriorating vision and hearing, and because of losses in mobility due to arthritis, loss of bone density, muscle control and other somatic failures. *Meaningfulness* is the powerhouse SRR: meaningfulness gives people the reason to live, to push back against adversity and get through it all (Antonovsky, 1979). Meaningfulness is supported by qualities that Simone De

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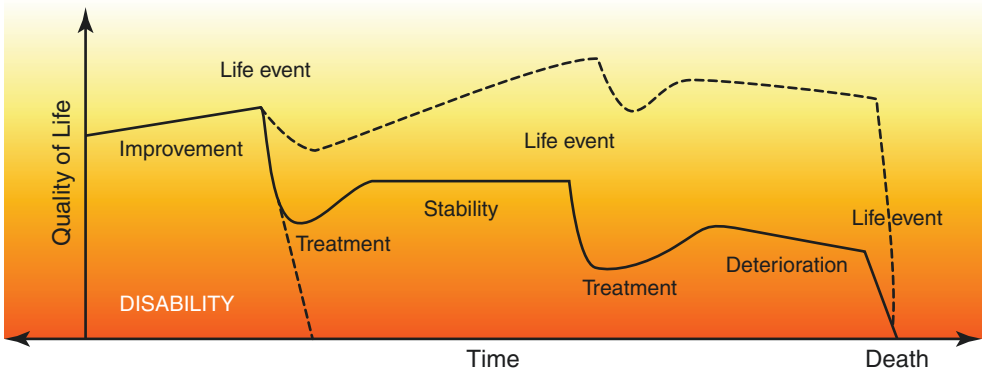

Fig. 48.1 Quality of life over the lifetime. (Jan A. Golembiewski)

Beauvoir summarised beautifully; *'(the) ends that give our existence meaning–devotion to individuals, to groups, or to causes—social, political, intellectual, or creative work… One's life has value so long as one attributes value to the lives of others, by means of love, friendship, indignation, compassion… It's better to live a committed life, even when all other illusions have vanished'* (1972, p. 541).

Comprehensibility – the intellectual domain – is particularly challenged when people develop dementia. A great deal can be done to support comprehensibility and this chapter focuses on the subject. In simplest terms, comprehensibility interventions maintain a person's intellectual abilities as long as possible and, as these decline, build a comprehensibility framework in its place. Just as children live in trust before they develop the epistemic knowing they will need to survive when they become independent, so too can those with dementia: as epistemic memories become difficult to access, people living with dementia (PLWD) can employ hope, faith and simplicity to support their SOC.

Dementia challenges a salutogenic approach because the GRD headwinds grow stronger as people age and managing day-to-day living becomes physically more trying. People's sensitivity to the environment also becomes greater, especially when there are cognitive and memory losses. Furthermore, as one SRR is eroded (typically comprehensibility with dementia and manageability with ageing generally), the other SRRs are threatened. Take hearing, for instance. When a person becomes particularly hard of hearing, they do not merely lose the ability to hear: their ability to communicate with others diminishes – especially amongst other elderly people with similar losses, and to children who may not be able to compensate with writing and other visual cues. Unchecked, this leads to the distancing of friends and family, a key meaningfulness SRR. Given such circumstances, a person can easily give up. *'Why bother?'* is a question that cuts at the heart of meaningfulness. Because salutogenic dynamics shift with age, this question does not change underlying salutogenic principles, it simply means the SRRs must be reinforced as they are required to work harder.

To get the balance right when dealing with advancing dementia, it is essential to identify and, as far as possible, remove environmental stressors – pathogens, social stressors, and anything else that directly burdens the natural salutogenic resources and counteracts salutogenic interventions. Such stressors include confusing building plans which affect comprehensibility and process-centred models of care (MOCs) that compromise a person's sense of meaningfulness. Salutogenic interventions must be more strident and bespoke to compensate for cognitive decline, through greater support for the SOC generally, and comprehensibility, manageability, and meaningfulness specifically.

Zeisel's Hope Versus Despair Model

Zeisel's hope versus despair model (Zeisel, 2020a, b), as shown in Fig. 48.2, is formulated on empirical, praxis-based evidence, gathered over many years. Zeisel and his team charted the health benefits associated with maintaining hope when dealing with dementia, versus the decline that is all but assured when people meet a diagnosis by collapsing into despair. The hope model reflects salutogenic principles providing a useful window into how other SRRs fill the gap for persons living with dementia when comprehensibility is challenged and manageability confronted.

The public narrative represented in most media around dementia is one of despair, focusing primarily on what people lose as they live with dementia. Despair is a natural response to learning that you or someone you care about has dementia; the prevalent public narratives about dementia are frightening and inevitably mean a huge change in people's lives. The narrative of despair defines dementia as having no cure, leading easily to the conclusion that giving up seems like the only thing a person can do until a magic bullet can be found. The completely natural tendency to fall into despair becomes a self-fulfilling prophecy: *'if someone I love is*

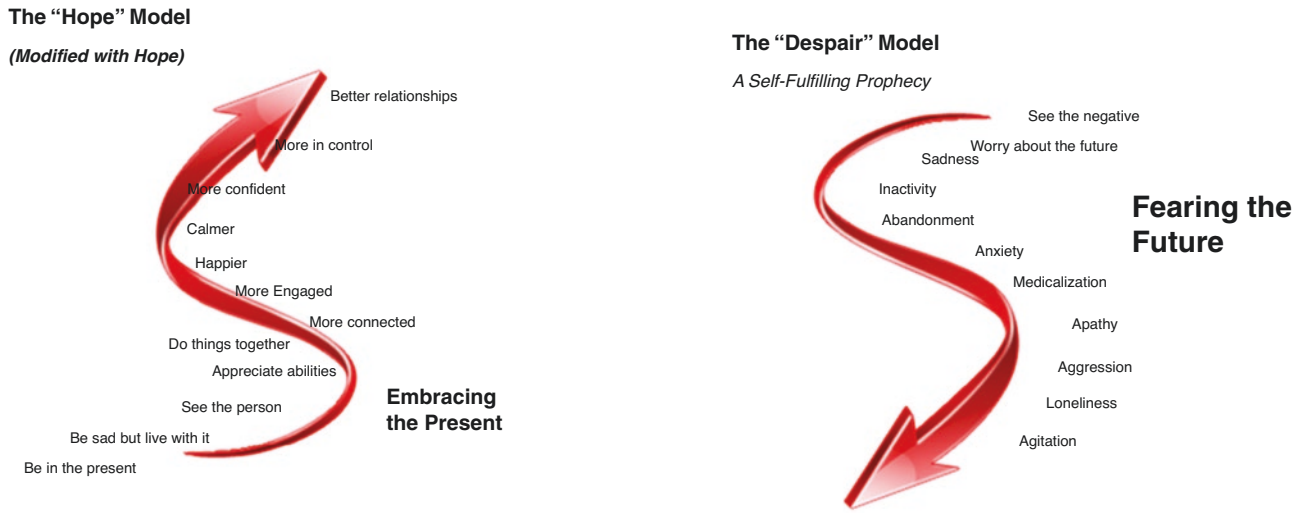

Fig. 48.2 Hope versus despair model. (Zeisel, 2020a. Published with permission of © J. Zeisel 2020. All rights reserved)

going to lose her sense of self, how can I treat her like the person she was?' This kind of response causes people to simply give up – the opposite action we get from meaningfulness. This very normal attitude represents a lapse into meaninglessness. When meaningfulness is decimated, the illness accelerates triggering many disturbing experiences.

Hope, on the other hand, establishes a positive narrative even when all else appears to be stacked against us. In salutogenic terms, hope fills the void caused by memory-related losses and loss of comprehensibility generally. Hope enables us to maintain (and even foster) the *'dynamic feeling of confidence that one's internal and external environments are predictable and that there is a high probability that things will work out as well as can reasonably be expected'* (Antonovsky, 1987: xiii). Hope reflects our impulse to live and thrive (meaningfulness) and with it the power to stay present, curious, engaged, and creative. In other words, hope provides a scaffold for meaningfulness, so it is not lost with dementia. Hope functions as a scaffold for comprehensibility, thereby supporting meaningfulness – the impulse to figure out how to make the most out of life's situations and challenges.

In the hope versus despair model (Fig. 48.2), hope is not a vague notion, wishful thinking, or ungrounded optimism. It is the positive knowledge that each of us can make a difference in our and others' lives: understanding that a dedicated community armed with appropriate design and engaging care programmes can make a positive difference. Counter to despair, hope enables greater confidence, connectedness and well-being. It is little wonder that hope leads to different outcomes than despair. How a person thinks about the future is a major determinant for how their future evolves – it is genuinely a 'self-fulfilling prophecy'.

Design Approaches: How They Can Help?

The built and natural environments can help people live life meaningfully with a true sense of agency until the end. Physical and social environments are not passive elements in life as many since Descartes believe them to be.

Descartes considered the brain an organ to transmit messages from the earthly plane to a detached and ethereal mind. In this view, architecture is an unconnected and passive thing to observe (Descartes, 1641 (tr. 1986)). This idea stuck tenaciously until the Second World War, when psychiatrist Victor Frankl observed that while some people fare reasonably well by maintaining positive social connections, ambitions and outlooks, others deteriorate very quickly in identical aversive circumstances (Frankl, 1963). Frankl's 'natural' experimental conditions were the Nazi concentration camps – Theresienstadt, Auschwitz, Kaufering and Türkheim – where Frankl himself was imprisoned.

Since the 1980s, the idea that the physical environment is a significant 'factor' in health has grown, with a slow accumulation of measurable evidence correlating the physical environment with somatic health, mental health, and even spiritual beliefs (Sloan Devlin & Arnell, 2003; Dijkstra, 2009; Ulrich et al., 2008).

Descartes' hypothesis is today an anachronism because most health professionals see the mind housed in the brain connected to the body through a shared nervous and endocrine system. The idea that a person's social network has an impact on their quality of life is now widely accepted, even though health professionals still struggle to understand how to identify useful environmental factors, and even more so with how to 'prescribe' them. That the environment plays a role in health beyond simplistic influences (like protection

from the weather) is growing. Evidence is plentiful that views of nature positively affect a broad range of health outcomes (Bossen, 2010; Clay, 2001; Diette et al., 2003; Hartig et al., 2014; Kaplan & Kaplan, 1989; Larsen, 1992; Ulrich, 1984; Ulrich & Parsons, 1990; Ulrich & Simons, 1986). Although intuitively understood, the aetiology pathways involved are not immediately evident.

One of the brain's principal tasks is to make sense of the world and situations we find ourselves in; that is, *to perceive* (de Wit et al., 2017). When we look around, however, there usually is not much that is natural to be perceived; what we largely are faced with is artificial – the 'designed' environment (Golembiewski, 2016). Perception, as it is moderated by language and visual culture, leads us to perceive according to implied meanings with powerful psychological implications (Moen et al.,1995). Perceptions are also ecological: the very act of perceiving an object is difficult to extricate from the actions that object inspires (Gibson, 1979). When a person perceives an opportunity to act or think (the 'affordances' the circumstances offer), perceptions trigger an impulse to take associated actions and thoughts (Bargh & Dijksterhuis, 2001). Choice is a cognitive process that slows and inhibits the perception-triggered action/thought process, committing it to memory – if it is inhibited at all (Bargh & Chartrand, 1999). When perceptions lead to uninhibited (or disinhibited) actions (or thoughts), as often occurs with dementia, the ecological perception/action expressway can lead both to memory loss (Golembiewski, 2014) and to reactive behaviours and behaviours that are interpreted as symptoms of dementia (American Psychiatric Association, 2014) as well as an apparently wilful defiance of the rules that are intended to keep PLWD safe.

Much of the built environment is designed and constructed for human use. Designed affordances deliberately trigger actions and thoughts. Just about *every* object in a building and its context makes demands of this kind on our perceptual apparatus. An exit door in a place where people live with dementia is *not* an opportunity to *escape*; it is an *invitation* for residents to leave. This is how *the language of design* works. The way affordances like this are created and managed directs the way design makes a difference to people with dementia.

Affordances – physical, aesthetic and sensory – trigger intangible, often emotional, responses: A beautiful woodland or a park with children playing might trigger feelings of joy. A locked door might trigger anger. These responses become more pronounced with the loss of cognitive capacity and advancing disinhibition; thus, PLWD are particularly reactive to the emotional quality, aesthetics, and 'tone' of their environment (Lhermitte, 1986). When an environment is perceived as aversive, PLWD's negative reactions are prone to be stronger. Equally, when an environment is distinctively positive, people with dementia are likely to reflect this powerfully.

These dynamics have extraordinary implications for physical design and MOCs, as well as for the way we communicate with people with dementia. Seemingly innocuous choices of design features, innuendo in communication, and other subtle contextual features can elicit strong behavioural reactions. When these reactions are disturbing, they create further pressure on SRRs. Not only might this leave people prone to illness and exacerbate apparent dementia symptoms; these actions can flow through to social interactions and into treatment and management regimens which only make matters worse over the long term. It is one thing to treat individuals for an illness, and another to treat them for reactions to the very environment in which the treatment is taking place!

We can, however, change the direction of treatment by 'treating' both the physical and social environments. That is, to 'treat' the way social interactions are managed by planning them carefully within the model of care (MOC). This includes briefing carers, friends and family to respect the dignity of each PLWD, to engage those receiving care with their own care as much as possible, to rely on PLWD to lead engagement activities employing their natural and life-long skills, and by taking care that the way they and we communicate does not unnecessarily tax memory and other comprehensibility SRRs.

Zeisel's (2009) eight suggested design approaches and positive MOC strategies (Zeisel, 2020b) can be interpreted both as salutogenic interventions and as affordance management. They have been shown in practice to increase well-being and decrease dementia 'symptoms' and can easily be understood and enacted within the salutogenic framework. For example, the decision to hide and obscure doorways to areas that are dangerous for PLWD both reduces the need to continually restrict their access to these areas, and also decreases the demands on residents' salutogenic resources required to respond to repeatedly being told to stop using a particular door and adapt to such restrictions. A sign that frustrates residents with dementia saying, *'residents are forbidden to leave through this door'* taxes the comprehensibility SRR. In salutogenic theory, an insurmountable frustration (however minor) leads to deterioration. A door that invites passage, yet is nevertheless labelled impassable, is intrinsically negative. This conflict creates an ambiguity which in turn triggers amygdala activity, leading to a cascade of deleterious downstream effects including increased anxiety, psychotic reactions, and hormonal and endocrinal imbalances that even turn into chronic illness (Sapolsky, 2017), none of which helps a person living with dementia.

Perception of negative environments depletes SRRs; conversely, positive perceptions support SRRs and therefore

help with dementia. Some researchers point to emerging evidence that dementia may even be reversible – or at least symptoms can be reversed – under positive conditions (Francis & Murtha, 2021). Even if dementia might not currently be curable, like autoimmune disorders, most mental illnesses, and many viruses, the best treatment involves symptomatic relief and appropriate environmental modifications to make environments better fit the needs of those with the condition (Zeisel, 2009) – in other words, support for the SRRs.

'Challenging behaviours', formerly regarded as symptoms of dementia, are now, in many cases, understood to be responses to physical and MOC stressors – and are more accurately referred to as 'responsive behaviours'. Responsive behaviours in dementia increase when faced with adversity and functional decline. Environmental stressors are strongly implicated – destinations that are around corners, for instance, are quite 'normal' architectural choices. But they force PLWD to fail even with relatively simple activities of daily life. They force PLWD to try to remember what is around the corner, and therefore rely on spatial memory – a particular challenge in dementia. Similarly, long hallways with no identifying landmarks to signpost activities along the path confuse and offer no guidance for PLWD; common rooms that all look alike make it difficult to know what is expected in each room; institutional settings make it difficult for PLWD to feel at home; lack of access to an outdoor garden means it is difficult for PLWD to feel free and connected to nature; inviting doors to no-go areas and dangerous places mean that PLWD are continually being restricted and chided; when there is no personal space to make their own, PLWD feel a sense of loss; auditory and visual pollution and confusion make it difficult for PLWD to make sense of where they are; and the absence of aids such as toilets that are high enough to use easily (with weak knees) prevent PLWD from being as independent as they can be.

Removing social stressors, which might be taken for granted in traditional MOCs, leads to more salutogenic alternatives. For example, personalised schedules that respect and adapt to each person's history and habits, in lieu of standardised schedules for getting up in the morning and going to bed at night, reinforces each person's sense of self. A person's comprehensibility SRR is supported when friends, family and carers ask bifurcated questions (e.g. *'Would you like to wear your comfortable shoes or your smart ones today?'* as opposed to *'which shoes do you want to wear today?'*). It helps to provide PLWD answers to questions before asking the question (e.g. *'That's Uncle Evan in the picture, do you know who that is?'*). Embarrassment and other emotional problems can be avoided by refraining from the common habit of testing PLWD with questions like, *'Do you remember me?'* or *'What is the name of that bird over there?'*

From a salutogenic perspective, it is easy to see how poor design choices and communication practices like these break down critical SRRs, creating symptomatology and disability. When the following design approaches are respected, symptoms are passively reduced, SRRs are supported (particularly those related to comprehensibility), resulting in disabilities becoming less apparent and restrictive, with PLWD happier and more positive (Zeisel, 2013).

- Unobtrusive control of exits to dangerous places
- Walking paths with clear destinations
- Common space differentiation
- Private spaces and personalisation
- Access to accommodating secure gardens
- Residential quality
- Comprehensible sensory environment
- Support for Independence
- Support verbal communication with non-verbal communication
- Choices, 24 hours a day

In the following, photographs are used to bring life to the text because, as they say, a picture is worth a thousand words.

Unobtrusive Control of Exits to Dangerous Places

To avoid frustration and related behavioural side-effects associated with reduced comprehensibility, it is important to carefully plan affordances and the actions they are likely to trigger for PLWD. Some affordance/action relationships are desirable – such as a door that leads to a person's personal space, or a safe garden. When PLWD exercise such 'choices', their independence as well as their comprehensibility is maintained. Other affordances, however, are undesirable such as when a door leads somewhere risky – to a busy street, into mechanical or electrical rooms or to an unfenced garden. Undesirable affordances such as these need to be made less inviting and, wherever possible, well camouflaged (Fig. 48.3). Memory-taxing, complex locking systems can be added for additional security, typically a numerical keypad somewhere other than by the door – ideally, in a place that directs PLWD away from the exit and towards a destination that offers an attractive and desirable alternative affordance. For complete safety (which is required to provide residents with independence and freedom of movement within a residence), unobtrusive access control of some sort is also needed for external windows and fences (Fig. 48.4). When doors to safe and desirable places look and feel to residents like a front door, are as inviting and are even designed to provide attractive views to what is beyond (a door between a residence and a garden for instance), residents will naturally use that door rather than ones that are less evident and less inviting.

Fig. 48.3 A door blended into the wall colour, with a keypad around a corner and behind furniture does not communicate 'please enter'. And if PLWD do recognise it as a door, finding and using the keypad requires memory and sequence – the kind of cognitive processes that challenge PLWD. (Photograph © J. Zeisel 2005. Published with permission. All rights reserved)

Fig. 48.4 An opaque garden fence, obscured by vines, provides security because of its height and the vines which do not speak of an invitation to explore the world beyond. (Photograph © J. Zeisel 2005. Published with permission. All rights reserved)

Doors with transparent panes invite PLWD to look out and seek whatever is beyond. When a transparent door is an exit or otherwise leads to somewhere dangerous, the PLWD who try to use it are not attempting to escape – the problem is one of design. The door communicates 'please come through', while the rule says 'NO EXIT'. This is equally the case for doors that have signs on them – any sign at all (whether the sign says 'NO ENTRY' or 'THIS WAY OUT') – indicating that there is a door, which means there is somewhere to go, regardless of what the sign reads.

MOCs that promote continuous personalised engagement and activities for PLWD are complementary to good exit control design. PLWD engaged in interesting and meaningful activities have less desire to leave. Engagement replaces anxiety and the desire to get away (Zeisel, 2020b).

Walking Paths with Clear Destinations

In his seminal work, Image of the City, Lynch (1960) identifies five critical elements for wayfinding: paths, edges, districts, nodes and landmarks. Each of us uses these environmental elements as tools to understand our milieus and for wayfinding and orientation – all-important for comprehensibility. For PLWD, these elements are even more important.

When PLWD know where they are and where they are going, they walk with purpose. Meaningful cues give a sense of being somewhere specific. Visible destinations – particularly those they enjoy and are interested in – at the end of corridors and paths provide PLWD with purpose and knowledge.

Corners and curves in 'wandering loops' obscure destinations and are confusing. PLWD are encouraged to know where they are going and why, by being provided with 'nodes', (that is, when recognisable and meaningful objects including photographs and furniture from people's own lives and spaces overlap with meaningful activities at destinations). This supports the comprehensibility SRR and, as demonstrated in Figs. 48.5 and 48.6, the other SRRs as well.

Lynch (1960) identified landmarks as particularly important for orientation. If you are asked to find your way from where you are now to your car or back to your home, you will find yourself thinking in terms of landmarks – 'turn left at the [landmark] corner store'. Cues along a path and visible destinations serve such a landmark function for PLWD, for whom landmarks need to be more recognisable, regular and meaningful. The result is that in such environments PLWD 'walk' purposefully rather than 'wander' aimlessly. Our curious brains naturally search for purpose and direction. When we are confused about where and why we are someplace, landmarks and destinations provide meaning to this search for purpose.

MOCs that provide attractive engagement opportunities for individual or group activities at visible destinations further support orientation and wayfinding. This MOC intervention also supports the *common space differentiation* design criterion.

Common Space Differentiation

Residents, even those living with dementia, are expected to behave socially and appropriately. To achieve this, designers can organise spaces around another of Lynch's basic wayfinding elements – differentiated areas – the residential equivalent of 'districts'. Common space design emphasises 'local' [district] qualities and opportunities for engagement. Interior 'districts' with thematically associated nodes and landmarks combine to create 'behaviour settings'. To an extraordinary extent, the language of behaviour settings determines the acceptable limits of behaviour in an area, especially when people are uninhibited (children) (Barker & Wright, 1954) or disinhibited (a common feature of dementia) (Golembiewski, 2013b). Some common space interior 'districts' might be more sociable, others quieter and more contemplative, others will communicate specific activities. Kitchens, dining rooms, music rooms and other shared com-

Fig. 48.5 Memory boxes on walls and a decorated Christmas tree at end of a corridor makes a corridor a meaningful and social space. (Photograph © J. Zeisel 2005. Published with permission. All rights reserved)

Fig. 48.6 Familiar museum portraits, furniture and open doors leading to engagement spaces support the comprehensibility SRR. (Portrait (left): Migrant Mother, Library of Congress, Prints & Photographs Division, FSA/OWI Collection, LC-USF34–9058-C. Photograph © J. Zeisel 2005. Published with permission. All rights reserved)

mon spaces, designed with the appropriate character, messages and landmarks, communicate and reinforce their intended uses (Figs. 48.7, 48.8, 48.9 and 48.10). Scale, furniture and built-in features and fixtures communicate to residents what is appropriate in these spaces – preparing meals in the kitchenette, serving and eating meals in the dining area, films on a video screen in the living room, planting seedlings in the greenhouse. When there are two or three such places in a shared residence, each with a different character, residents can choose between clearly different common areas rather than unnaturally spending all day in only one or in more than one of several places that all feel the same.

Private Spaces and Personalisation

If a person's bedroom – their personal territory – is to support a salutogenic sense of coherence (SOC), it must provide visual and audio privacy. Bedrooms provide an opportunity for refuge and respite. While the need for privacy is the same for all humans, the need is redoubled when people require more time to process sensory and emotional information.

No one's memory is perfect. All of us use cues in our environment to remind us of the memories we want to recall. Papers on the desk remind us to work on something. Leaving our umbrella near the front door reminds us to take it when it rains. We use personal mementoes to remind and reinforce our 'sense of self'; who we are, where we live and work, and what we care about. Items we choose to surround ourselves within our living and work environments sharpen our memories about events and times we consider important. They also communicate to others a sense of who we are. The same is true for people with dementia – only more so, yet unfortunately, institutional residences sometimes remove possibilities for personalisation. The more PLWD are surrounded by photos of family, mementoes from trips, or artwork they have created or collected, the more they remember the people and events involved and the more they are aware of their creativity (Figs. 48.11 and 48.12).

MOCs that respect the identity and abilities of each person support personhood just as personalised private spaces do, for example, when residents are addressed as they wish to be addressed – 'Dr. Watson', 'Bill', 'Mrs. Jones', 'Reverend Judith' and so on. It stands to reason that these communication approaches reinforce each individual's sense of self. Care staff who make it a point to be familiar with and purposefully use in conversation a person's personal, family, and professional history, further support personhood and related SRRs.

Fig. 48.7 Kitchen-like décor as shown here indicates what functions a room serves. (Photograph © J. Zeisel 2005. Published with permission. All rights reserved)

Fig. 48.8 Kitchen-like décor indicates that it is appropriate to wash dishes and set the table there. (Photograph © J. Zeisel 2005. Published with permission. All rights reserved)

Fig. 48.9 Music room. (Photograph © J. Zeisel 2005. Published with permission. All rights reserved)

Fig. 48.10 Hairdresser salon. (Photograph © J. Zeisel 2005. Published with permission. All rights reserved)

Access to Accommodating Secure Gardens

In residences for PLWD, gardens are a necessary fourth common area – albeit without a roof. Being outdoors in sunshine sets our diurnal clocks, thereby reducing time disturbances and 'sundowning', a phenomenon where reactive behaviours intensify as the sun sets in the evenings (Gnanasekaran, 2016), when they are reminded 'it is time to go home from work' or 'it is time to plan for evening activities'. To achieve these ends, outdoor areas for

Fig. 48.11 Memory shadow boxes outside residents' rooms. (Photograph © J. Zeisel 2005. Published with permission. All rights reserved)

people with dementia must be safe to use, include imaginative and engaging elements, provide clear direct walking paths with no ambiguous choices, and be secure from potential public dangers beyond the garden such as car traffic (Fig. 48.13).

The more gardens are accessible and inviting, and the more staff understand just how important gardens are, the more people with dementia will get outside and maintain their sense of time and the seasons. In residences for PLWD, garden design and enclosure decisions are intimately linked to the garden's governance which also has to be carefully planned, including decisions such as when the door to the garden is unlocked; who controls the key; and whether residents or staff do the gardening. Decisions like these are ultimately as important for accessibility for PLWD as providing ramps for wheelchairs.

Gardens often serve as the main outside place to which PLWD have ready access (Fig. 48.14). When a garden is truly secure and safe, it can be used independently without a care partner present. Security is essential for staff to feel comfortable leaving the door open and providing access. If security is not 100%, when fences are too low, or if there are attracting views out to parking areas, busy streets, or nearby affordances, staff members who naturally want to protect those in their charge understandably restrict residents' access to a garden except under tight supervision. The more a garden is designed safely and therapeutically, the more the person with dementia feels comfortable and in control of herself there.

Fig. 48.12 Personal furniture, photos and mementoes all give the person as well as others who visit a sense of the person as a whole person. (Photograph © J. Zeisel 2005. Published with permission. All rights reserved)

Fig. 48.13 Landmarks, self-evident walking path, and patio furniture all help define therapeutic gardens. (Photographs © J. Zeisel 2005. Published with permission. All rights reserved)

Fig. 48.13 (continued)

Fig. 48.14 Public parks such as Riverside Park in New York City can provide enough interest to make it a therapeutic garden venue. (Photograph © J. Zeisel 2005. Published with permission. All rights reserved)

An MOC that encourages freedom of access to the outdoors and nature is also more likely when passive surveillance of the entire garden is possible from inside. To achieve this, carers must be trained to be vigilant to what is happening in the garden – on the lookout for both positive interactions and possible falls or upsets. Even when there is good outdoor access, benefits of gardens can be further enhanced with affordances organised outdoors such as barbeques, family gatherings, playgrounds for children, and harvests that continually remind PLWD about their outdoor spaces.

Nature and Internal Clocks

The Biophilia Hypothesis (Wilson, 1984) holds that our brains are hard-wired to respond to nature. A baby does not have to be taught to enjoy the warmth of the sun on her skin in the summer or the pleasure of looking at and even caressing a tulip in the spring. Similarly, no one needs to teach us to be afraid and protect ourselves during a ferocious thunderstorm. Being outdoors gives people with dementia the opportunity to use their hard-wired understanding of nature.

A basic and well-accepted principle of design for care environments is to invite sunlight and 'views of nature' into a residence; the effect of nature on health outcomes being amongst the most well-known and evidence-based effects (Hartig et al., 2014). Due to safety concerns, low staff levels, or lack of interest, gardens are too often kept in sight but out of bounds (Golembiewski, 2013a). An inability to access nature while a person is often ambulatory causes frustration, eroding the meaningfulness SRR; such an affordance denial ultimately conflicts with our very will to live. Access to these spaces, on the other hand, feeds the same SRR with a sense of joy. When a garden is kept locked, the message of hope that the garden conveys is dashed, leaving a clear message that the person is being restrained and that staff are there to obstruct movement rather than provide help. While views of nature are essential, if a garden is glazed in, yet inaccessible, it may be better if there were no garden at all (Golembiewski, 2010).

Residential Quality

When the environment is familiar and PLWD personalise their personal space with their objects and mementoes, it helps them feel at home and in control. Rooms of a residential scale, not institutional in scale, homelike furniture and fixtures, and residential rather than institutional decorations and colours all help achieve this end. Families of residents, as well as those care partners working at the residence, must reinforce this message: the residence where PLWD live is residents' *'home'* which staff and visitors must respect. Family and staff understand this best when the environment is designed to look like a home from the outside (the typology might be that of a large family house); and when family members are welcomed and accommodated. Feeling guilty about 'putting parents into a place that looks an institution' may even keep them from visiting or behaving appropriately. The many shifts in life associated with a condition like dementia are disconcerting enough without the physical environment and MOC reminding us of these changes. One of the ways the environment can soothe transitions and 'normalise' new living arrangements is to look like and feel like 'home' whenever possible (Fig. 48.15).

MOCs that emphasise homelike affordances such as pets, accessible kitchens, and a hearth reinforce residential quality. Most important, however, is the way care partners themselves feel and act – for example, making a habit of knocking on the door of a person's personal space and asking if they might enter, and respecting that the entire residence is 'home' to PLWD and as carers behave as guests rather than entitled users in their workplace.

Comprehensible Sensory Environment

Residents feel most comfortable in settings where they comprehend what they see, hear, smell, and touch. This does not mean designing environments that match long-term memories, but rather that the messages sent by the colours, sounds, smells, and textures are coherent and multifactorial (Fig. 48.16). Like anyone else, PLWD comprehend their environments through all their senses – sight, feeling, the sense of smell, hearing, and even taste – not just one sense. People in old age (and especially with dementia) are even more reliant on multimodal perception because age and illness weaken sensory perception and cognition unevenly, and alternative modes of perception are used to compensate for these losses. Design can be used to intensify the senses that speak of wholesome normalcy. The greater the coherence amongst sensory inputs, the greater the understanding a person has of their environment.

MOCs that offer a full calendar of special affordances such as celebrations, special foods, and holidays further foster comprehensible engagement. To be most effective, these must be carefully individualised according to the cultures and life narratives of residents. Religious holidays do not have to be the only drivers of such events. Positive emotions can also be summoned with rituals like ceremonially raising a flag in the morning, and bringing it down in the evening (Perkins, 2013).

Support for Independence

Most of the aforementioned details relate to the comprehensibility and meaningfulness SRRs, but manageability is also significant in contributing to a strong SOC. Manageability, closely linked to the degree of a person's independence, is improved by such elements as lean rails along corridor walls, toilets high enough to rise from without help, and chairs with arms to lift oneself by (Fig. 48.17). The failure to provide such simple affordances is akin to restraint. If people with arthritis are put into deep recliner chairs, they require help to get out, and without such help, they may as well be chained in place (The Royal Commission into Aged Care Quality and Safety, 2019). When environmental conditions and MOCs

Fig. 48.15 Family photographs (top), personal furniture and pets (bottom) provide a strong and recognisable sense of 'home'. (Photographs © J. Zeisel 2005. Published with permission. All rights reserved)

support people's use of the capacities they still have, they remain as independent as possible for as long as possible, whether or not they are living with dementia.

To deliver independence-supportive care is not easy because carers tend naturally to balance risks that accompany such independence – the risk of a person catching a cold in the garden when the weather is poor, falling when walking independently, getting upset when they try to do something and then discover they cannot. Rather than restrict activity that might cause such consequences or blankly accept these consequences, care partners must be ready to respond when such setbacks happen – rather than predicting the problem and pre-emptively protecting the PLWD by reducing their independence. This strategy built into the

Fig. 48.16 The smell of recently baked muffins remain a coherent sensory experience for PLWD. (Photograph © J. Zeisel 2005. Published with permission. All rights reserved)

MOC, can even be documented in a shared risk agreement with the PLWD and their families.

Support Verbal Communication with Non-verbal Communication

When happy and settled, PLWD appear to others quite normal; in many ways, they genuinely are. Unfortunately, this often leads visitors and carers to test the PLWD to check 'how bad' or 'how improved' their condition is. Verbal communication generally can be treacherous for PLWD and is so much worse when someone attempts to plumb the depths of a person's memory loss. PLWD may drift when speaking and attempt to recall specific memories that are not readily accessible. This can be stressful. Visitors and carers can make communication less stressful by filling unavailable memory gaps with relevant information before asking a question, having a laugh with the person, or ignoring or making light of simple mistakes. Visitors and family who dig in and challenge the PLWD by asking them to remember something specific on cue set the PLWD up to fail. Typical examples include, *'Do you know who I am?'* or *'Where do you live?'* Such challenges are extremely stressful in salutogenic terms – like pulling the comprehensibility rug from under a person's feet.

Communication is often most effective when multifactorial and supported by contextual aids. For example, visual cues and delicious smells together are better at suggesting it is dinner time than just telling someone to come to dinner. Emotionally salient contextual cues are especially important. The daughter of a PLWD who does not want to create anxiety must not ask, *'Do you remember who I am?'* Demonstrating who you are by introducing yourself by name to your mother (although it may seem silly to you, it is no less odd than asking a parent if they remember who you are). Being kind and affectionate also reduces anxiety, which makes remembering easier. Carers, therefore, should be caring (Zeisel, 2009). Similarly, if you know what a PLWD has done in their earlier lives, this can be celebrated with them. When visiting an art gallery with a retired ambassador, for instance, the question, *'What artworks would you select for a new embassy building?'*

Choices, 24 Hours a Day

Choices of good things to do is a key meaningfulness SRR – it is more than just nice to be offered a choice of good things to do. Throughout our evolutionary history, we have been kept busy much of the time doing what our immediate needs require. But once the grain has been harvested and all other tasks have been completed, we are presented with a rare moment of choice: What would we like to do now? These moments allow us to stop, consider, and dream, engaging the anterior regions of the frontal cortex – an action, which in positive circumstances is strongly associated with health and the development of meaning (Golembiewski, 2012).

Fig. 48.17 Lean rails along corridor walls provide sufficient support for many residents to walk independently (top); as do walks on public streets, accompanied by care partners, friends, or family members (bottom). (Photographs © J. Zeisel 2005. Published with permission. All rights reserved)

Providing options as to what a person can to do in a residence for PLWD is well within the control of such a residence – and it is an excellent way to foster meaningfulness (Zeisel, 2009).

When elders have trouble sleeping as they often do, choices need to be offered 24 hours per day and be appropriate for the time of day or night. During the day, residents might be offered choices including gardening, cooking, or looking after pets. In the evening, they might choose to dance, watch a movie, or play music. Late at night, they might be offered the choice to watch movie trailers and decide tomorrow's movie programme or a restful activity like drawing.

How Improving the Comprehensibility SRR Supports Manageability and Meaningfulness

Environmental innovations such as those described above aim specifically to support the comprehensibility SRR, perhaps the most critical SRR for dementia. But such interventions also support manageability and meaningfulness – the other SRRs. The freedom to move around purposefully, for example, translates as meaningfulness; PLWD empowerment, seen in self-directed action, is a feature of manageability. Similarly, access to nature and the freedom to garden or enjoy birds and other animals also supports the meaningfulness SRR, not only because of our evolutionary relationship with nature (Wilson, 1984), but also because the stories we associate with such environments are difficult to perceive as pernicious (Golembiewski, 2017a). Caring for anything (even just for plants) generates meaning (Francis & Murtha, 2021). Being a field of action, involvement with nature supports manageability. If the plants produce food as a result that PLWD can use themselves or give to visitors, the sense of meaning and manageability is richer still (Golembiewski, 2019).

Family and friendships are critical to meaningfulness; providing engaging affordances for visitors and family are therefore essential. If family and friends feel welcome and have something to do when they visit, the guilty feelings many already have will be reduced, visiting will be more pleasurable, and they may choose to show up more frequently (Golembiewski, 2017b).

With the prison-guard responsibility taken off care partners' shoulders, they can focus their attention on the person rather than on safety and security. This enriched relationship maximises available salutogenic resources, which in turn leads to more intimate and informed person-centred care. Care partners can truly treat PLWD less as 'patients' and more like the people they are.

The more comfortable and settled PLWD are, the less they exhibit the four 'A's of Alzheimer's – anxiety, agitation, aggression, and apathy. Not only does this reduce reactive behaviours, but it may also slow the progressive increase in such reactive behaviours.

In sum, a good place to begin employing salutogenic principles to reinforce the capacities and personhood of PLWD is to include these salutogenic principles and guidelines into environmental design and communications.

Salutogenic Design for Treatment, Not Management

A primary salutogenic goal of residential facilities is to treat the behaviours that are considered by white-coat medicine as 'symptoms'; to help residents help themselves and contribute to their quality of life. The pivot point lies in a positive approach, focused on how opportunities are offered and perceived: Are they given generously? Are they offered as choices? Are they presented with love, affection, and even drama? Are they associated with fond memories? Or are they presented as obligations obscured with risk-aversion?

Salutogenic healthcare design takes design's contribution to treatment with the same seriousness as safety and functional operational concerns. This point is clearly made in the 2020 Annual Report of Alzheimer's Disease International – Design Dignity Dementia – which emphasises the role of salutogenesis in design for dementia and makes the important distinction between design goals, principles, approaches and design responses (Fleming et al., 2020).

To treat dementias using salutogenic principles means providing an abundance of appropriate and positive choices of things to do, 24 hours a day, gardens that are accessible and productive and so, too, kitchens and bathrooms. Institutions can do better than just being generically homely. A cluster of homes, rooms, or apartments might allow for shared facilities and activities like a steam room, a massage room, a cinema, restaurants instead of dining halls, multisensory rooms, and rooms for music and art – the kinds of things most houses do not have. They can also be far more considered (and research-driven) in bringing appropriate stimulus into bedrooms, dayrooms, courtyards, and other facilities that are offered.

To assess the salutogenic success of a place people living with dementia call home, the degree that the design reinvigorates self-efficacy, self-esteem, power, community activism, righteous anger, optimism, and sense of control over the future must be measured. These salutogenic goals require a commitment to each person's sense of purpose and a significant growth of understanding.

Environments make a real difference to healing outcomes with designers increasingly able to achieve this as they continue to learn about salutogenesis and the forces that underlie the salutogenic model. Residents deserve health support when living in residential care. Salutogenesis does this – it supports health. It also does so much more for PLWD, especially in an institutional setting. Salutogenic guidelines keep everyone concerned in lockstep to maximise residents' free will, happiness, and sense of well-being, while at the same time limiting the expression of reactive behaviours. Salutogenesis can be used broadly; not just as a tool for the design of residential homes, but also for designing psychosocial approaches and MOCs to enable people to manage themselves (as much as they can), to invest in residents' sense of agency (in salutogenic theory–comprehensibility) and, most importantly, to help PLWD develop and maintain a sense of meaningfulness.

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Salutogenesis as a Framework for Social Recovery After Disaster

49

Mélissa Généreux, Mathieu Roy, Tracey O'Sullivan, and Danielle Maltais

Introduction

The Salutogenic Model of Health is well established in health promotion, and the links between community assets and positive health outcomes are well recognized. Making the link between positive health and salutogenic factors in a disaster context, however, requires more discussion, as the field of disaster risk reduction (DRR) is often associated with risk and vulnerability and how to protect the population. In this chapter, we discuss how salutogenesis is relevant in disasters and how it can be incorporated into post-disaster recovery strategies to promote resilience. We present a case study from a small community in Quebec, Canada, where a salutogenic approach was used to help the community of Lac-Mégantic in its recovery from a profound tragedy.

What Happened on July 6, 2013, and How Was Public Health Involved Initially?

On July 6, 2013, in the middle of the night, a train carrying crude oil derailed in the heart of Lac-Mégantic (Quebec, Canada). This municipality has a population of 6000 residents and is the seat of the Granit area, one of seven areas in the Estrie region of Quebec, Canada. This charming small town is situated on the shores of Lac-Mégantic, from which the community derives its name.

The train, with no engineer at the controls, spontaneously rolled downhill from its night stop location near Nantes toward the town of Lac-Mégantic approximately 11 km away. With a relatively constant downhill slope between its initial location and Lac-Mégantic, the train's descent accelerated to almost 100 kph by the time the locomotives encountered a sharp curve in downtown Lac-Mégantic and most of the trailing cars derailed. As they derailed, 63 tank cars ruptured and escaping crude oil ignited, leading to a succession of powerful explosions and a major conflagration. The fire spread rapidly to nearby structures, destroying 44 buildings. The derailment, the explosions, and the subsequent fire also resulted in 47 deaths and necessitated the mass evacuation of 2000 persons, equivalent to one-third of the town's population.

This tragic, sudden, and unprecedented event has therefore generated significant impacts on the social, environmental, and economic levels. Indeed, coupled with the human suffering and the environmental degradation, the Lac-Mégantic derailment caused serious psychosocial and economic consequences, including the relocation of many families forced to leave their homes, the loss of many jobs, and the closure of many local businesses for weeks before relocating elsewhere in town (Généreux et al., 2015).

Given the impact of this technological disaster on this local community, the involvement of public health personnel and resources was critical throughout the emergency response operations. The Public Health Department (PHD) for the Estrie region responded immediately, within the first hours, to provide direct services that were needed to protect the citizens of Lac-Mégantic and the on-site responders from several health hazards. The priority at that time was to assess, communicate, and manage immediate risks to public health associated with exposure to chemical, physical, and biological agents (Généreux et al., 2015).

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In the face of disasters, and despite the short-term health issues that can be of great concern in such settings, it is important to recognize that the operational domain of the public health in affected communities extends beyond health protection and disease prevention, to include the promotion of health and well-being. It is with this in mind that Estrie PHD, in collaboration with researchers in the field of psychosocial recovery, conducted a population health survey entitled "*Enquête de santé populationnelle estrienne*" (ESPE) in 2014. Unknowingly, this was the first of a long series of promising initiatives to mobilize the local community in this post-disaster landscape.

Quantitative Methods in Addressing Challenging Environments: Monitoring the Psychosocial Impacts of Disasters

Disasters (either technological or natural), as well as other types of collective trauma, often lead to adverse impacts for community health and well-being over the short and long term; as well as on the personal, conjugal, family, social, and professional lives of those involved. Tragic events like the Lac-Mégantic train derailment affect people and communities by causing extensive stress, as well as human and material losses. Fortunately, not everyone exposed to such events faces long-term psychosocial issues, a wide range of pre- and post-disaster-related factors being positively or negatively associated with the risk of developing such problems (Généreux et al., 2019a). It is now well understood that the recovery period can take many months, if not years, following such an event. Numerous studies indicate that physical and psychological health problems following disasters are substantial in affected communities and can persist over time in the absence of adequate support (Goldman & Galea, 2014; Galea, 2007; Maltais et al., 2005). On the other hand, according to a number of studies, exposure to a disaster can have a positive long-term effect on the beliefs and values of certain individuals and create a stronger sense of family and collective solidarity. Some individuals may even discover personal strengths which were left untapped until then (Généreux & Maltais, 2017; Maltais et al., 2020).

Public health organizations have to intervene and help citizens and communities to cope in the aftermath of disasters. Monitoring the physical and psychological consequences of a community struck by a disaster can help to raise awareness, tailor interventions aimed at supporting citizens, communities, and inter-sectoral partners (e.g., municipalities, schools, community organizations), and promoting resilience and recovery processes. This can serve as a powerful lever for the development and the implementation of health promotion measures that can properly respond to the evolving needs of the individual and wider community while considering local assets and capacities. It is in that spirit that Estrie PHD, in close collaboration with the "*Université du Québec à Chicoutimi*" (UQAC) and the "*University of Sherbrooke*," has spent the first 6 years tracking the evolving health of those living in the Granit area using repeated cross-sectional population-based surveys.

One year following the tragedy, in summer 2014, the PHD conducted a first health survey using a population-based sample of about 800 respondents from the Granit area and additional 8000 respondents elsewhere in the Estrie region. Recruited at random, this representative sample of the Estrie population responded to a telephone or web survey covering a variety of physical and mental health outcomes. The second phase of the ESPE was carried out in the fall of 2015 and sought to better understand the local population's health and well-being, along with its possible link to the July 2013 railway disaster. In total, 1600 adults were recruited randomly in 2015 to take part in this large-scale telephone survey. These included 800 from the Granit area and 800 from elsewhere in the Estrie region. In the fall of 2018, a third survey, similar in nature, was conducted. Each of these three studies is composed of a separate sample of adults residing in the Granit area or elsewhere in Estrie. In other words, the participants were not monitored in time. A fourth study, funded by a federal research funding agency, was conducted in 2016 by UQAC. This additional study used a different sampling strategy, with a final sample composed of 400 adults in Lac-Mégantic, 400 adults elsewhere in the Granit area, and no "control group" from elsewhere in the Estrie region. For this reason, results from the 2016 survey are hardly comparable with those from the three other surveys (Maltais et al., 2019a, b).

Adults who agreed to participate in any of these studies were asked to answer an anonymous questionnaire, which lasted an average of approximately 30 min. A number of questions were identical across all three surveys, allowing for the comparability of results over time (years 1 to 5 following the tragedy). Various psychosocial outcomes were examined over time, including not only adverse effects of disasters (e.g., psychological distress, depressive episodes, signs of post-traumatic stress, diagnosed anxiety or mood disorders, social worker or psychologist consultation, anxiolytic drug use, alcohol abuse) but also positive ones (e.g., resilience, positive mental health, sense of coherence, sense of community belonging, social support) (Généreux & Maltais, 2017; Généreux et al., 2019b).

In each survey, three types of losses were examined: human losses (i.e., loss of a loved one, fear for one's life or that of a loved one, suffering injuries), material losses (i.e., home damage, permanent or temporary relocation, job loss), and subjective losses (i.e., perception that the event was stressful, that something important was lost, that something important was interrupted, or that harm will potentially occur

in future). Respondents were then classified according to the following categories, and each outcome was compared to these specific levels of exposure (Généreux & Maltais, 2017, Généreux et al., 2019b):

- High exposure: All three types of losses (human, material, and subjective) reported
- Moderate exposure: One or two types of losses reported
- Low exposure: No loss reported

Findings from the first two surveys, conducted in 2014 and 2015, were quite disturbing. In the Granit area, human losses were the most common type of loss following the tragedy with almost two-thirds of citizens experiencing such type of loss. Furthermore, about one in six adults in this area (i.e., 16.7% in 2014) reported being intensely exposed to the disaster (Fig. 49.1).

In 2014 and 2015, steep gradients were observed in the prevalence of adverse psychosocial outcomes in the Granit area as a function of the intensity of exposure to the train derailment. In 2014, adults reporting intense exposure were four times more likely to report excessive drinking as compared to those with low exposure (15.2% vs. 3.5%, $p = 0.001$). Similar gradients were observed for various psychosocial outcomes, both 1 year and 2 years after the train derailment (i.e., psychological distress, depressive episode, anxiety disorder, and anxiolytic drug use). Some adverse psychosocial outcomes were examined in 2015 only. Findings from the 2015 wave notably revealed that three quarters (76.1%) of adults in the Granit area intensely exposed showed moderate to severe signs of post-traumatic stress 2 years after the disaster. Interestingly, in 2015, environmental problems were still perceived as more frequent among intensely exposed adults in the Granit area as opposed to less exposed ones (Fig. 49.2).

Finally, some significant time trends from year 1 to year 2 post-disaster were also observed. While most psychosocial outcomes did not show any statistically significant improvement among these adults (Fig. 49.3), the use of psychosocial services decreased by half among intensely exposed adults between 2014 (26.9%) and 2015 (15.9%) (Généreux et al., 2019b).

In addition to adverse psychosocial outcomes, a diverse set of asset-based outcomes should be considered in post-disaster contexts. Several health asset indicators were assessed both in ESPE 2014 and 2015 (i.e., resilience, positive mental health, sense of community belonging). In 2014 and 2015, regardless of the intensity of exposure to the tragedy, about half of respondents had a high level of resilience score based on the Connor and Davidson resilience scale (score ≥30; Connor & Davidson, 2003). Regarding positive mental health, based on Keyes' scale (Keyes, 2002, 2005), it was observed that intensely exposed adults were less likely to report optimal mental health in 2015 (as opposed to low exposed ones), while no such differences were observed in 2014. These findings suggest that the stock of health assets can weaken with time among people directly impacted by a

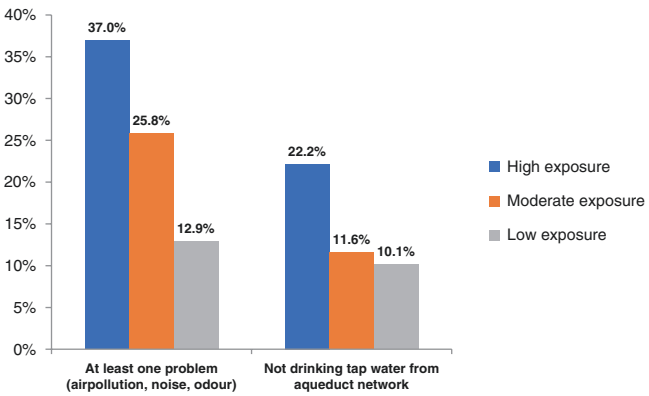

Fig. 49.2 Perception of various environmental problems as a function of the intensity of exposure to the Lac-Mégantic 2013 train derailment, ESPE 2015 (Granit area, 800 adults)

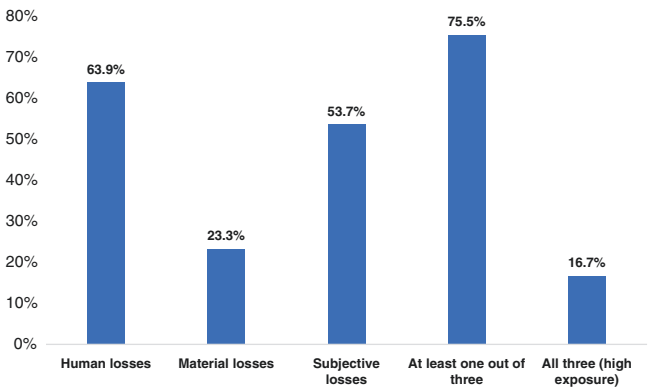

Fig. 49.1 Type and intensity of exposure to the 2013 Lac-Mégantic train derailment, ESPE 2014 (Granit area, 811 adults)

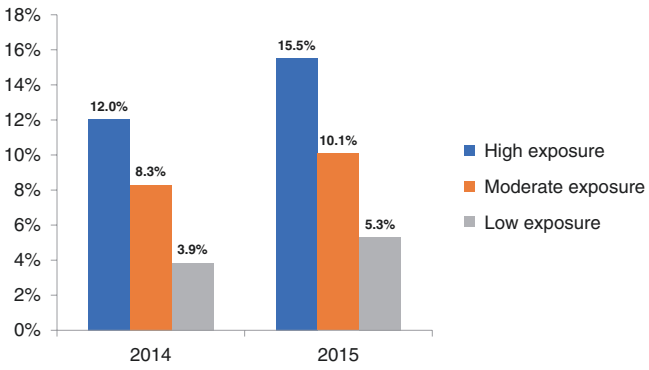

Fig. 49.3 Diagnosed anxiety disorders as a function of the intensity of exposure to the Lac-Mégantic 2013 train derailment, ESPE 2014 and 2015 (Granit area, 811 and 800 adults, respectively)

disaster, especially in the absence of adequate support and services.

The short version (3 items) of the sense of coherence was also measured (Lundberg & Nyström Peck, 1995), but only in 2015. A low sense of coherence was observed among 24.5% of adults residing in Lac-Mégantic, regardless of the level of exposure, and this proportion was significantly lower than that observed elsewhere in the Estrie region (13.6%). Interestingly, a low SOC-3 score was found to be one of the strongest predictors of severe signs of post-traumatic stress, even stronger than having suffered human or material losses. Overall, the use of asset-based outcomes was judged as useful, not only to take into account the strengths and capacities of the community but also to point out strategies specifically targeting these protective factors.

Qualitative Methods in Addressing Challenging Environments: Asset Mapping and Co-construction of an Action Plan After Disasters

Over the past decades, many positive health concepts emerged in science (e.g., self-efficacy, resilience, social support or participation, civic engagement). From Antonovsky's original theory, a salutogenic orientation emerged. This orientation goes beyond the sense of coherence or any other positive health concepts with a perspective that unites measures on capacities. Extensive research has shown that having a higher stock of assets has a positive influence on health. This assertion is true directly and indirectly as studies have identified direct associations between assets and better health; as well as indirect associations in which assets moderated the effects between unhealthy states or behaviors and undesirable outcomes (Levasseur et al., 2017; Roy et al., 2018).

There is currently a paucity of knowledge on community-level strategies that enhance health, well-being, and resilience in a post-disaster landscape in an effective manner. While much is known about strategies targeting vulnerabilities following disasters and emergencies, less is known about what could activate resilience. This tendency to focus on what is going wrong after a collective trauma requires significant resources and could promote dependency on limited services (Kretzmann & Mcknight, 1993; Ziglio et al., 2000). This leads to interventions working on needs and problems (i.e., deficit-based approach) rather than fostering capacities and resources (i.e., asset-based approach) (Morgan & Ziglio, 2007; Lindstrom & Eriksson 2010). An asset-based approach was proposed, to shift the focus toward what could produce health and well-being instead of diseases and psychosocial problems in Lac-Mégantic. This approach draws inspiration from the salutogenic theory (Antonovsky, 1987, 1996).

The release of the ESPE 2015 data (i.e., in February 2016) stimulated the emergence of health promotion and advocacy interventions for the local population. Given the magnitude of the tragedy, it was necessary to take a step back to understand and situate ourselves in relation to the normal process of community recovery. It was in this context that in March 2016, the Estrie PHD intensified its work with community partners, first by organizing a day of collective reflection. The purpose of holding a collective reflection day was to work together to gain control of the situation and reverse the cycle. During this day, no fewer than 50 key actors (decision-makers, stakeholders, citizens, and experts) gathered. The reflection day was divided into two parts: (1) conference and workshops on resilience and lessons learned from the past, and (2) conference and workshops on levers for long-term recovery and priorities for the future. A defining moment was the asset mapping activity through which participants were invited to construct together a historical timeline that traces key milestones in the recovery of their community and to recognize the progress made (Fig. 49.4). By highlighting a series of interventions and initiatives previously implemented by social workers and other partners, the group was

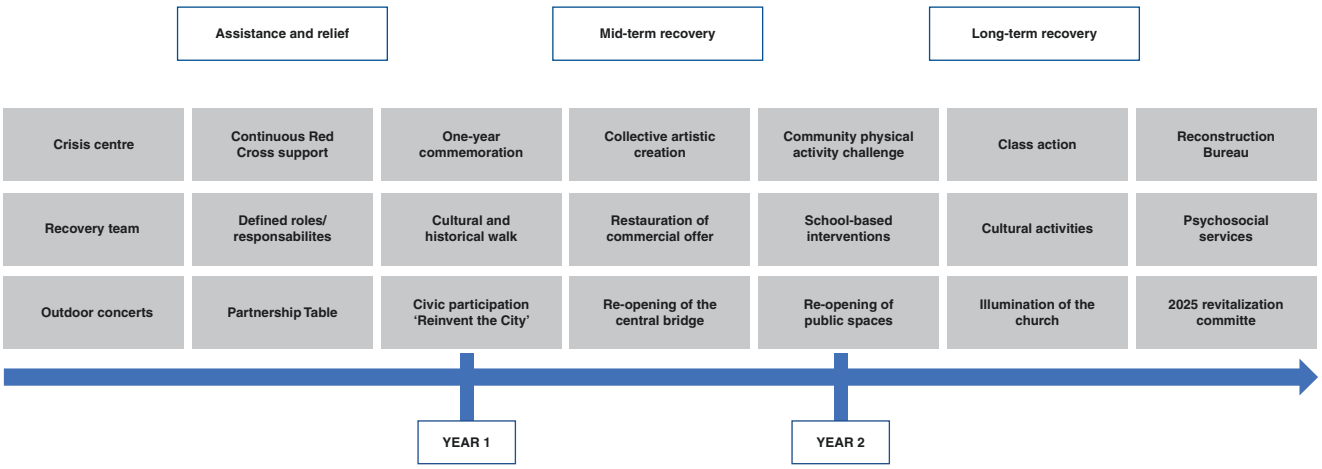

Fig. 49.4 Historical timeline tracing key milestones in the recovery of Lac-Mégantic community (March 2016)

able to identify benefits at the individual and community level, as well as features common to the actions that created positive effects.

Throughout the "*collective reflection day*," a common vision of the desired future emerged and priorities for action and research were identified, leading to the co-construction of what would become the "Plan for the Recovery and Development of a Healthy Community in Lac-Mégantic and the Granit area." This plan pursues the following objectives:

- Maintain and adapt psychosocial services to the needs of individuals and the community (outreach services).
- Stay connected with the community.
- Promote community involvement.

In the weeks following the elaboration of the plan (i.e., April 2016), Estrie PHD advocated for additional funding to support its implementation. In June 2016, the "*Ministère de la Santé et des Services sociaux*" (MSSS) and the Canadian Red Cross announced substantial investments that would serve as financial levers to implement the adopted action plan. The ESPE data were an important contribution supporting an informed decision, based on a fair understanding of the long-term psychosocial impacts of the 2013 tragedy.

In sum, holding such a day of reflection, which brought together key players from the community, contributed to the development of a common vision of solutions and the transmission of a clear, coherent, and positive message to decision-makers and the community.

> "*Building a project together is really motivating. Especially since everyone feels involved: from citizens to elected officials. It was a very inspiring day!*"
>
> - A participant of the collective reflection day

This positive experience supports the fact that beyond traditional surveys, qualitative methods are valuable for listening to, learning from, giving voices to, and engaging local partners and high-risk citizens. Through inclusive and empowering approaches, public health practitioners and researchers can better integrate members of the community as assets rather than victims and take into considerations their capacities in addition to their needs (O'Sullivan et al., 2014).

A Community Outreach Team, Based on a Multilevel Approach

One of the components of the action plan was the creation of a permanent community outreach team in Lac-Mégantic in the summer of 2016. Located outside formal clinical settings (i.e., in the downtown area), this unique multidisciplinary team aims to bring psychosocial services closer to the population. It is composed of four full-time professionals (two social workers, one outreach worker, and two community organizers) and two part-time professionals (a kinesiologist and a nutritionist).

The following principles guided the entire Lac-Mégantic outreach approach: global health, prevention, scientific rigor, a strengths-based approach, empowerment, inter-organizational and intersectoral collaboration, and inclusion. Citizen participation and community development were at the heart of this approach. A wide range of services are offered, ranging from daily interactions with citizens and local organizations (in the form of psychosocial support, response to service requests, rapid detection and response to emerging needs, collaboration with the organization of activities, etc.) to involvement in various projects emerging from the action plan (Généreux & Maltais, 2019).

Promising Initiatives to Mobilize the Local Community in a Post-disaster Landscape

The *EnRiCH community resilience framework for high-risk populations* (O'Sullivan et al., 2014) inspired the strategies developed within this community to promote community resilience, health, and well-being (Généreux et al., 2018a, b). Based on qualitative research conducted in five Canadian communities and a review of scientific literature, this framework advocates for an integrated upstream and downstream approach to disaster risk. With the development and use of adaptive capacities as a central element, it advocates three pillars and four areas of intervention, as described in Fig. 49.5, all in a cultural context and working with the complexity specific to disasters.

In line with this reference framework, several promising initiatives have been implemented in recent years within the Lac-Mégantic community to activate community resilience, social cohesion, and citizen participation in a post-disaster setting. Committed to keeping track of local innovations and sharing them in formats that are suitable for both experts and practitioners, a synthesis of some of these promising initiatives has been produced and updated on an annual basis by the Outreach Team since 2017 (Généreux et al., 2018). These initiatives (e.g., social animation, Photovoice, Greeters, walking club) all contributed significantly to empowering citizens and mobilizing the community of Lac-Mégantic and surrounding areas. These initiatives also appear to have had a positive impact on the mental health and well-being of the citizens of this community.

As is generally known, organizing community projects or collective events, increasing opportunities to become involved as citizens, as well as other elements that strengthen social capital contribute to building resilience in a post-

COMPONENTS	DESCRIPTION
Adaptation capacity	Flexibility in changing environments
Mainstay	
Empowerment	Power to activate forces
Collaboration	Relationship with a common vision
Innovation	Emerging new practices
Fields of intervention	
Awareness and information	Collective sharing and learning
Strength-based management	Mapping and linking forces
Upstream leadership	Proactive resource investing
Social connectivity	People and group networking
Complexity	Dynamic, non-linear context
Culture	Local community context

Fig. 49.5 *EnRiCH* framework components. (Source: O'Sullivan et al., 2014)

disaster context. The data collected in this regard from 800 adults in MRC du Granit in the framework of ESPE 2018 speak for themselves (Fig. 49.6) (Généreux & Maltais, 2019).

Concrete Examples of Promising Initiatives

Photovoice

In 2017, in collaboration with the University of Ottawa EnRiCH research team and PHD of Estrie, the citizens of Lac-Mégantic took part in a Photovoice Initiative to map the assets of their community and develop a positive campaign and vision for the community looking forward to 2025. Over a 6-month period, the Lac-Megantic Photovoice Group met monthly to take photos of community assets and ideas to support their vision for the community. They met to discuss their photos with the group, and share their ideas around issues that matter to them. The Lac-Mégantic Photovoice Group planned and hosted two exhibitions to facilitate knowledge mobilization and foster dialogue with decision-makers in Lac-Mégantic and Ottawa, including local and federal politicians. The Photovoice Initiative was highlighted as an inspirational example of community engagement in resilience initiatives in a report by the World Health Organization (The Lac-Mégantic Photovoice Group et al., 2018).

> "*We could express our sadness, our emotions openly because we were welcomed, without criticism. At first, it was quite emotional, but over the meetings, this overflow was transformed into something lighter. It did me good. It made a big difference.*"
>
> - A participant of the Photovoice Initiative

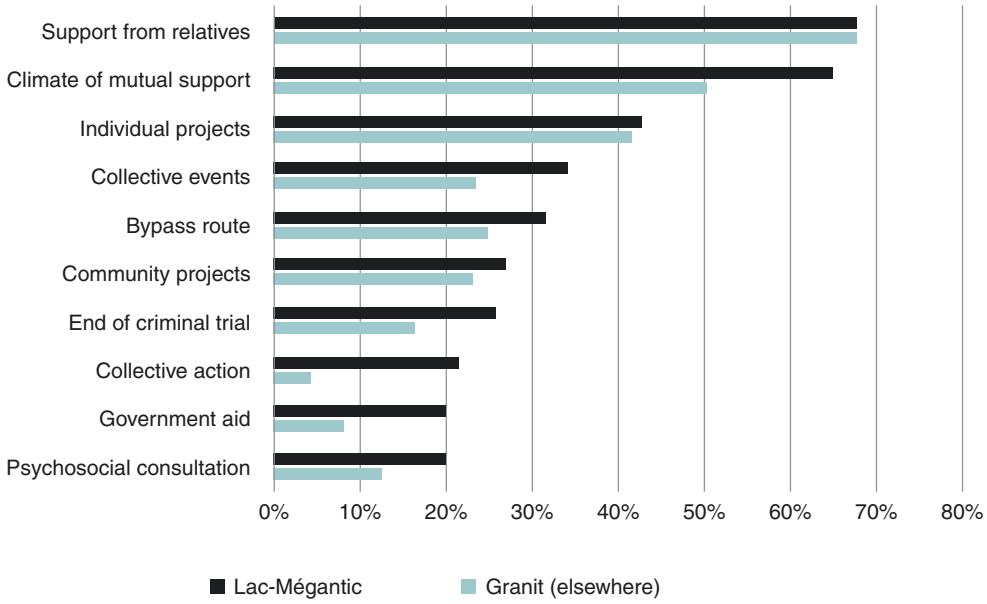

Fig. 49.6 Elements that have significantly improved personal well-being over the past 12 months, ESPE 2018 (Granit area, 800 adults)

Ephemeral Place

The population is struggling to reclaim the downtown area of Lac-Mégantic, which was largely destroyed during the railway tragedy of 2013. Being under reconstruction, this new place, full of meaning and memories, constantly recalls the loss of landmarks, but also the loss of gathering places. At the same time, there is a desire among citizens to get involved and to revitalize their living environment. In 2018, the concept of Ephemeral place in the heart of the city arose from this desire, a space promoting social activities, networking, and gatherings. This outdoor venue, under the responsibility of the Outreach Team, allows the involvement of citizens of all ages and all horizons, as well as their participation in various activities aimed at bringing people together and developing meaningful links. Since these are temporary installations, it is an opportunity to experiment with concepts or ideas, while creating positive experiences. Through its free and varied leisure activities offered to citizens (5 to 7 with musicians, barbecues, outdoor film screening with popcorn, laughter yoga, intergenerational karaoke, etc.) and its unique approach, Ephemeral place undeniably supports the long-term recovery of the Lac-Mégantic community (Généreux et al., 2018).

Lessons Learned from a Citizen's Perspective

Inspired from a similar initiative following the bushfires which swept across Victoria, Australia, in 2009 (McAllan et al., 2011), the idea behind this project was to collect the statement of people who experienced the tragedy through one-on-one and/or group interviews and to identify overriding themes. This initiative provided a voice and brought together people who wished to contribute in this way, naming what could be changed or improved as a way of managing future disasters. Through their experience, citizens could thus make recommendations to the different bodies with which they interacted during the rail tragedy of July 2013 but also during the months and years that followed it. A semi-structured interview guide was developed based on the CHAMPSS Functional Capabilities Framework (O'Sullivan et al. 2013). The acronym stands for the following categories of functional capabilities: Communication, Awareness, Mobility/Transportation, Psychosocial, Self-Care & Daily Tasks, and Safety & Security. A dozen interviews were conducted with citizens that would not have been reached otherwise, in order to make their voice heard. Data collected through these interviews were then pooled and analyzed to draw emerging themes that were sent to participants for further validation. By being inclusive and by recognizing the various experience lived, this project gave citizens a different opportunity to contribute following the tragedy.

Long-Term Trends in Psychosocial Outcomes Following a Disaster

As in many other disaster settings, huge efforts have been made in Lac-Mégantic over the past few years to foster resilience and well-being, but has there been any progress in terms of psychosocial outcomes? With regards to all the data collected from our surveys, major findings emerge. First, the psychosocial impacts observed in the years following the Lac-Mégantic rail tragedy in 2013 seem to be receding. For

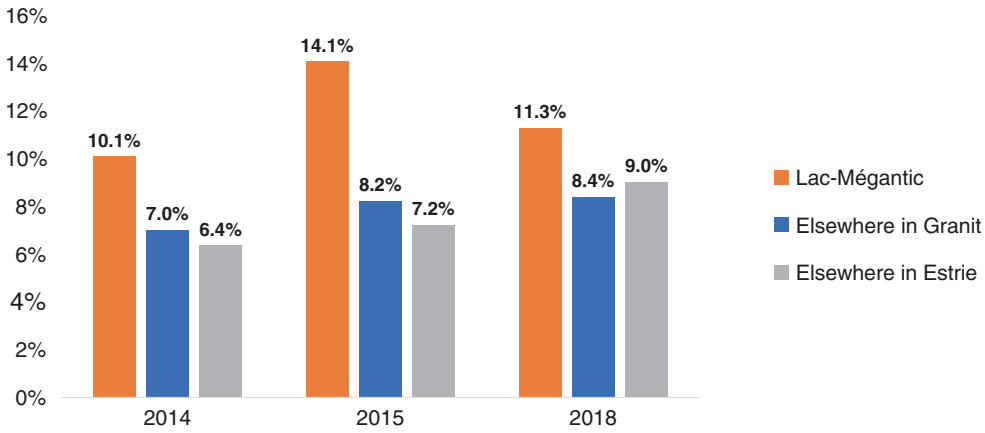

Fig. 49.7 Diagnosed anxiety disorders following the 2013 train derailment, ESPE 2014, 2015, and 2018 (Estrie region; 8737, 1600, and 8830 adults, respectively)

example, after reaching a peak in 2015, the proportions of adults reporting an anxiety disorder diagnosed by a doctor stabilized in 2018 in Lac-Mégantic. On the other hand, these proportions increased significantly elsewhere in Estrie from 2014 to 2018 (Fig. 49.7). In other words, the gap that had developed between Lac-Mégantic and the rest of Estrie in the first 2 years after the tragedy is no longer, in many respects.

Second, there is still a high prevalence of signs of post-traumatic stress. Despite a gradual adaptation of citizens to the losses and stressors experienced during and after the 2013 tragedy, the local community seems to have been deeply affected by the traumatic event and its aftermath. These marks could persist for many years, without preventing the proper functioning of individuals and their community. Finally, protective factors are also increasingly observed in Lac-Mégantic, particularly high social support and a strong sense of belonging to the community (Généreux & Maltais, 2019). These factors may act as powerful moderators of the adverse effects of primary and secondary stressors typically arising from large-scale disasters.

Conclusion

Our various population studies, combined with our continuous on-the-ground presence, indicate that the psychosocial impacts resulting from the 2013 Lac-Mégantic rail tragedy decreased over time. Although this tragedy has left its mark, the local community is gradually adapting to its new reality. The asset-based approach that has been promoted seems to have contributed to this "new reality" and emphasizes the importance of social capital to activate individual and community resilience in post-disaster contexts.

This rich experience in Granit over the last 6 years enabled us to identify three key ingredients for success in supporting the recovery of citizens and social reconstruction of their community following a disaster:

1. Acknowledging the strengths of the community and promoting citizen participation
2. A strong political commitment to support the community through preventive actions, upstream of problems
3. A public health team able to support the development and implementation of these actions

To conclude, let us recall the importance of understanding, preventing, and reducing psychosocial risks in the months and years following a disaster, whether natural, technological, or intentional. In any case, concerted action to promote community resilience is required during, after, and ideally before the occurrence of such an event. As advocated by the United Nations, we must move from a disaster management logic to a risk management logic associated with these events, in partnership rather than silos for the good of the community (United Nations, 2015). The positive development of the psychosocial situation in Lac-Mégantic demonstrates the importance of developing a common understanding of risks and working together in finding solutions.

Climate change, urbanization, and the aging of the population are here to remind us that the frequency and intensity of disasters, as well as the exposure and vulnerability of the Quebec population to this type of event, are expected to increase in the years to come. Therefore, it is best to prepare for it now.

Key Messages

1. Monitoring long-term physical and psychosocial consequences through health surveys is relevant, if not essential.
2. The voices of diverse groups, including the highest-risk groups, must be heard in order to promote concrete social measures and psychosocial support tailored to their needs.

3. The search for a balance between a deficit-based approach and an asset-based approach must be prioritized.
4. Professionals, researchers, and public health decision-makers need to work closely with local organizations and citizen groups.
5. Lessons from past experiences should inspire the actors involved in the recovery of individuals and their communities, to implement effective strategies and interventions that are effective, while avoiding reinventing the wheel.

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Salutogenesis and the Mental Health of First Responders

50

Avishai Antonovsky

Introduction

Pictures of beautiful sunsets, crystal-clear lakes surrounded by lovely forests, snowy mountains, rocky canyons, pastoral meadows, and exotic beaches often create an emotional, sometimes even sensory, experience of tranquility and peace of mind. Likewise, a quiet evening spent in one's living room with a few good friends, a glass of wine, and a burning log in the fireplace is a perfect recipe for what would be termed "hygge" in Danish – the feeling of coziness, togetherness, comfort, and contentment.

However, while at times, nature can be a source of relaxation, health, and well-being (Bodman, 2017), and being in a group of people whom you know and value can produce feelings of joy and security, at other times the opposite may occur. Natural and human surroundings can be the places where disastrous and fatal events occur. During the decade between 2008 and 2018, an annual average of 1.35 million people around the globe died in automobile accidents (World Health Organization, 2018); more than 20,000 were killed in terrorist attacks (Ritchie et al., 2019); about 140,000 lost their lives in fires (Ritchie & Roser, 2019a); and 60,000 fatalities were caused by natural disasters each year (Ritchie & Roser, 2019b). As of September 2021, the death toll of the coronavirus (COVID-19) pandemic has crossed 4,500,000 victims worldwide (www.worldometers.info).

These unfortunate circumstances will be the context of the discussion in this chapter. However, the focus will not be on those who died, but rather on those who were there to help and save lives: the *first responders*. First responders (FRs) are people who are first to arrive and provide care at emergency sites like fires, terrorist attacks, or natural disasters. FRs may be professionals such as firefighters, paramedics, body handlers, search and rescue teams, mental health professionals, forensic examiners, or police officers. Still, they may also be nonprofessional volunteers in their communities. Or, in the words of Allison McCullough from the US First Responders Association, "A first responder is any individual who runs toward an event rather than away" (USFRA, 2019).

There is a large body of literature on psychopathological consequences among FRs and the treatment of them following disastrous or potentially traumatic events. Despite this, structured programs for mental preparation of FRs before these events are relatively scarce, and most of them are pathogenically oriented (i.e., aimed at preventing psychopathology). In this chapter, I will first review the mental effects that repeated exposure to emotionally challenging scenes may have on FRs, and some protocols used following disasters for what has been generally termed "helping the helpers." Then, I will present what I have found about programs designed to enhance FR's mental fitness. Finally, I will suggest an outline for a salutogenic model of mental preparation for FRs, based on what has been done in the Israel Defense Forces (IDF) in the last few years.

Mental Hazards in the Work of First Responders

As part of my job as civilian researcher in the IDF's Department of Health and Well-being, I worked with a military unit of body handlers that is in charge of taking care of bodies and bodily remains of people who were killed in unnatural circumstances (automobile accidents, terrorist attacks, fires, etc.). One of these FRs told me about his 2-year-old daughter and how he sings to her every evening before she goes to sleep. "But," he said, "I cannot bring myself to cover her with her blanket and tuck her in." Covering someone with a blanket is part of what he does at work, and this physical act is something that he cannot manage, emotionally, to transfer from one context to another.

Most of the literature about crisis intervention, which is where FRs are usually needed, focuses on the needy – those

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who get hurt physically or mentally. Many intervention models for these circumstances have been developed all over the world. This is not the main topic of this chapter, but I will mention just two, to set the context for the reader.

Over the past 30 years, Israel has experienced several bomb and missile attacks on its northern and southern borders. The work of mental health professionals during these events – usually social workers – has been important in the treatment of mentally injured people, usually suffering from anxiety. Two well-known models for crisis intervention by FRs that were developed in Israel are BASIC-Ph (Lahad, 2017), which is intended for professional FRs, and the Six-C model (Farchi et al., 2018; Hantman & Farchi, 2015), which is intended for nonprofessionals who find themselves with victims of a disaster or catastrophic event. Farchi's Six-C model addresses the need to provide immediate standardized mental first aid to a person who is exhibiting an acute stress reaction (ASR) and to shift the person from being a helpless victim of functional breakdown to becoming a coping survivor. This can be in the face of a terrorist attack, or a flood, or a fire, or any other unexpected human or natural disaster. Theoretically, the protocol is based on the concepts of sense of coherence (SOC) (Antonovsky, 1979, 1987), self-efficacy (Bandura, 1997), and hardiness (Kobasa, 1979), as well as on neuropsychological processes involving the relation between the limbic system and the prefrontal cortex during stressful events (Farchi et al., 2018). In a few meetings I had with Farchi over the years, he would always mention the salutogenic model and how important it is for health promotion. Still, his Six-C model is focused on *emergency treatment* of ASR to prevent the *reaction* from becoming a *disorder*. In other words, the Six-C model, while being quite helpful (Farchi et al., 2018; Svetlitzky et al., 2019), is about diagnosis and treatment, not about salutogenic health promotion. People with ASR are those who experience functional breakdown during an emergency – characterized by detachment, shaking, loneliness, confusion, emotional shock, and helplessness. This is a normal reaction to an abnormal situation and can occur to anyone. If 48–72 hours pass without treatment, people who have exhibited an ASR may develop an acute stress disorder (ASD). ASD is diagnosed by the existence of a variety of posttraumatic stress disorder (PTSD) symptoms (intrusion, avoidance, and alterations in cognition, mood, and arousal; see American Psychiatric Association, 2013). For some people, spontaneous recovery may occur. For others, ASD may evolve over a few months, stabilize, and crystalize into chronic PTSD.

For FRs to witness or treat people with an ASR, or to see death and serious bodily injury repeatedly, is emotionally draining. Thus, FRs are prone to mental difficulties in two ways. One is through experiencing direct trauma because of being exposed to a life-threatening situation of self or others, and the other is by the recurring witnessing of death and destruction. Either way, psychological distress and PTSD can develop within emergency FRs (e.g., paramedics, body handlers, police investigators, and firefighters; see Donnelly, 2012; Ramey et al., 2016; Smith et al., 2018; Zerach & Levin, 2015, to mention just a few). The occurrence of these outcomes is usually related to the frequency of exposure and severity of exposure to critical incidents (Weiss et al., 2010). The prevalence of PTSD among FRs can reach 10% and is relatively high in developing countries and among ambulance personnel. This is very high (up to 20 times as much) compared to the prevalence in the general adult population (American Psychiatric Association, 2013; Berger et al., 2012; Bezabh et al., 2017). For example, Bezabh et al. reported that 19.9% of FRs working in the Fire and Emergency Control and Prevention Authority in Addis Ababa, Ethiopia, were diagnosed with PTSD while still on their job. In a recent paper on the prevalence of PTSD among Canadian FRs, the numbers are even higher (Szeto et al., 2019). Considering these data, it is worth supplying the readers with the definition of *trauma*, which is the first and necessary criterion for the diagnosis of PTSD and is relevant to FRs (see criterion A4) (American Psychiatric Association, 2013, p. 271):

A. Exposure to actual or threatened death, serious injury, or sexual violence in one (or more) of the following ways:

   1. Directly experiencing the traumatic event(s).
   2. Witnessing, in person, the event(s) as it occurred to others.
   3. Learning that the traumatic event(s) occurred to a close family member or close friend. In cases of actual or threatened death of a family member or friend, the event(s) must have been violent or accidental.
   4. Experiencing repeated or extreme exposure to aversive details of the traumatic event(s) (e.g., first responders collecting human remains; police officers repeatedly exposed to details of child abuse).
      Note: Criterion A4 does not apply to exposure through electronic media, television, movies, or pictures unless this exposure is work related.

In addition to PTSD, FRs are at higher risk than the general population for anxiety disorders, depression, alcohol abuse, early retirement, divorce, and suicide (Brondolo et al., 2012; Haugen et al., 2017). The reported rates of these cases are probably lower than the actual numbers because shame, stigma, and unawareness prevent many FRs from accessing mental health services (Haugen et al., 2017; Heyman et al., 2018).

The COVID-19 pandemic provided a unique and unusual example of FRs' exposure to threat. Several doctors and

nurses were assigned to take care of coronavirus patients under circumstances that are very different from what they are accustomed to in their routine work. A considerable number of studies have already found that these healthcare professionals experience high levels of anxiety, depression, burnout, and sense of threat, related to their possible exposure to the virus (e.g., Adams & Walls, 2020; Chen et al., 2020; Lai et al., 2020; Tan et al., 2020). Similar findings were reported in an Israeli study among military reserve rescue teams of the Home Front Command. They were recruited and assigned to reinforce Israel's national emergency medical service at its operational call center (Avishai Antonovsky et al., 2021). These are examples of a unique situation in which healthcare professionals were acting as FRs on assignments which they had never been trained for, accompanied by a great deal of uncertainty regarding the proper treatment of patients and the personal security measures that need to be taken.

Like FRs on the site of an emergency, mental health workers in a clinic who treat individuals who have suffered trauma are at risk themselves for compassion fatigue. Compassion fatigue (or the earlier term used, secondary traumatic stress disorder) refers to the influence on mental health professionals of the therapeutic encounter or intervention with victims of disaster suffering PTSD (Lahad, 2000). Here, too, the literature concentrates on interventions for helping the helpers in terms of treatment targeted to alleviate the effects of such mental difficulties that mental health workers go through (Bercier, 2013). Likewise, Brondolo and her colleagues offered a model used to generate worksite intervention strategies to reduce the risk for PTSD among FRs (Brondolo et al., 2008).

In the context of mental preparation and intervention programs, there is a common use of the term "resilience." For reasons I will shortly bring forward, in the current context, I prefer the term "mental fitness" over "resilience." Conceptually, the construct of mental fitness is like that of physical fitness: it is something that can be learned, trained for, and preserved by exercise (see Bolier et al., 2013, and Robinson, 2014, for similar conceptualizations). It is multifaceted in the sense of having a reservoir of various resistance resources and can be measured at a personal as well as a group level. Mental fitness is defined as follows:

> a *learned* and *conservable competency* which is a product of the *social*, *emotional*, *cognitive*, and *physiological* capacities of a *person* or a *group* to cope successfully with mental challenges (Avishai Antonovsky et al., 2017).

Enhancing mental fitness is therefore the process of building mental strength to withstand and cope well with mental challenges. This is different from resilience. Resilience, although intuitively understood, seems to be an elusive concept. As Windle (2011, p. 152) argued, on a conceptual level, "the complexities of defining what appears to be the relatively simple concept of resilience are widely recognized, especially within the behavioural sciences." On an empirical level, she added, "This creates considerable challenges when developing an operational definition of resilience; definitional variation leads to inconsistencies relating to the nature of potential risk and protective processes, and in the estimates of prevalence." According to Windle, resilience is considered a psychological trait, and it seems that the one characteristic of resilience which is agreed upon is its meaning of being able to "bounce back" in the face of adversity. As Zamorski (2008, p. 7) stated, "Psychological resilience … is defined as the 'sum total of psychological processes that permit individuals to maintain or return to previous levels of well-being and functioning in response to adversity'." Eshel et al. (2017), who studied individual attributes as predictors of resilience, opened their article with three different definitions of resilience, after which they offer their own. All four definitions have in common the idea of functioning (or bouncing back) following adversity or a traumatic event. Hence, an operational definition of resilience must include the existence of adversity from which bouncing back can be measured, just as PTSD can be diagnosed only if a traumatic event has occurred. Mental fitness, on the other hand, is not considered a trait, and it can be trained for. It is not narrowed to a unidimensional psychological construct and can be operationalized without the need for adversity to occur. While resilience is important to have once a person has experienced a (potentially) traumatic event, mental fitness is important to have *before* such an event occurs. Taken to the hypothetical extreme, it can be argued that a person with a very high degree of mental fitness does not have to worry about being resilient.

The concept of mental fitness shares two important characteristics with SOC: one is having cognitive, behavioral, and emotional aspects (which parallel SOC's components of comprehensibility, manageability, and meaningfulness). The other is that both are conceptualized and can be operationalized at both the individual and the group levels. Mental fitness is more specific and task oriented than SOC, but the stronger the people's SOC, the easier it will be for them to develop and maintain a high level of mental fitness. For example, in the study described earlier of military rescue soldiers in Israel's national emergency medical service during the COVID-19 pandemic, SOC was the best predictor of (and inversely related to) sense of threat, state anxiety, and burnout (Avishai Antonovsky et al., 2021). In that study, it was also found that a subgroup of soldiers who had been given structured mental preparation based on salutogenic principles of providing information, strengthening resistance resources, and emphasizing meaningfulness exhibited less burnout and a higher degree of subjective well-being than those who had not received such preparation (Danon et al., 2020). Likewise, in a study among volunteer body handlers

who belonged to the Israeli organization ZAKA (Hebrew acronym for "identification of disaster victims"), SOC was found to have a buffering effect on posttraumatic stress symptoms and burnout (Zerach & Levin, 2015). Zerach and Levin recommended that SOC "should be taken into account in the process of recruitment and training of body handlers" (p. 2).

As mentioned earlier, mental preparation for FRs is not common. The literature on "helping the helpers" is mostly devoted to postevent treatment. Large-scale, theoretically driven, and evidence-based programs intended to proactively prepare FRs for coping with mentally challenging and emotionally draining situations are hard to find.

Searching the literature, I found a few papers that recommended "pre-incident training" as a prevention technique for traumatic stress among FRs (e.g., Cochran & Bardi, 2010). Still, this kind of training is usually limited in its scope and centers on generic forms of psychoeducation. One example is the seemingly promising "Road to Mental Readiness" (R2MR) program, developed by Canada's Department of National Defence (Szeto et al., 2019). The R2MR program is intended to reduce stigma and negative attitudes toward those struggling with poor mental health (thus removing barriers from seeking care), to provide FRs with a broad understanding of mental health and wellness, and to use a mental health continuum scale as a self-assessment tool for defining mental health in themselves and others. The R2MR program is usually carried out in one 4-hour psychoeducational session. Szeto and his colleagues reported that the R2MR intervention has increased self-reported resiliency and decreased stigmatizing attitudes at a 3-month follow-up. However, Carleton et al. (2018) studied long-term effects of the one-session R2MR intervention on a series of outcome measures and reported that besides a small short-term decrease in stigmatic attitudes toward mental illness, there were "no statistically significant changes in symptoms of depression, anxiety, stress, posttraumatic stress, and alcohol use, at any follow-up time point, following the training intervention" (p. 521). Although I read a few sources besides the ones cited here, I could not uncover any sound theoretical foundation for the development of the R2MR program, besides the logical assumption that psychoeducation on mental health and stigma has the potential of increasing help-seeking behavior.

I agree with Szeto et al. (2019) who wrote "it seems evident that implementation of a program that addresses resilience and stigma reduction in first responders is warranted and may offer positive impact (e.g., improved mental health)" (p. 19S). However, what they offer in the R2MR program is mainly treatment oriented and may not consider all aspects of what is needed to increase mental fitness, as part of a general health promotion approach toward helping the helpers.

Another example of what at first seemed like a salutogenic approach to enhancing FRs' mental fitness is a web-based training program for medical examiners, which consists of self-paced instruction modules (Brondolo et al., 2017). The training is aimed at developing emotion regulation skills, as a means of reducing the risk of mental problems such as depression and PTSD. Brondolo and her colleagues appeared to be adopting a positive psychology approach when in the last paragraph of their paper they wrote: "a combined program of research and intervention can provide insight into strategies for strengthening psychological capital among the first responder community" (p. 13). But in their study, they had actually relied on social-cognitive models of PTSD (see, e.g., Belsher et al., 2012).

In sum, three points can be made. The first is that FRs are prone to several negative psychological consequences as a result of repeated exposure to harsh circumstances. The second is that there is awareness of these outcomes, and therefore, several treatment approaches have been developed to aid FRs who suffer psychopathological symptoms. The third is that there has been little effort to develop comprehensive health promotion programs for FRs, which could boost their strengths and provide them with generalized and specific resistance resources to help them cope in the face of the mental challenges they confront. Therefore, there seems to be a need for a model of enhancing mental fitness in a salutogenic orientation. Such a model will be offered in the following section.

A Mental Efforts Scale as an Aid in Preparing FRs for Coping with Mental Challenges: Proposing a Salutogenic Mental Fitness Model

Professional FRs are a subgroup of "exposed populations" – groups of people who are repeatedly exposed to aversive details of traumatic events (see PTSD criterion A4) but are not necessarily *responders*. These include, for example, clerks in criminal courts and administrative workers in emergency rooms or police stations. Whether on the site of an emergency or not, these various populations each have a specific list of tasks they fulfill on their job on a routine basis. Let us take firefighters as an example. When we think of a firefighter, the first thing that probably comes to mind is an image of a person in a protective outfit and a helmet, holding a hose and spraying water on flames. But when we examine carefully what firefighters' work consists of, we come up with a long list of tasks, activities, and situations. Here is a detailed, though not exhaustive, list of examples:

1. Leaving home, wife, and kids early in the morning for a day shift
2. Filling out a written report following a fire call

3. Having to sleep at the fire station while sharing the room with other people
4. Carrying the weight of the protective suit, helmet, and tools
5. Having to suddenly switch between lazing out at the station and an emergency call
6. Operating close to the heat of a fire
7. Carrying a wounded person out of a burning building
8. Finding the dead body of a person in a fire
9. Finding body remains in a fire
10. Having a buddy killed in a fire
11. Having to face the family of someone who died in a fire
12. Operating while fearing the possibility of getting hurt or dying in a fire
13. Fearing making a fatal operational mistake
14. Taking daily care of firefighting equipment (e.g., extinguishers)
15. Having to pass the minimum score during training and drills
16. Supervising new recruits
17. Operation while having fear of heights
18. Not being able to breath normally during a rescue mission
19. Passing by a house where a fatal fire has once occurred
20. Searching the bedroom of a missing child during a fire

Which of the above is the most stressful task, activity, or situation? It is hard to say. We might intuitively think that tasks involving presence at a fire scene would be much more stressful (e.g., carrying a wounded person out of a burning building) than tasks done at the fire station (e.g., having to share a room with buddies). But we may be wrong. I have learned that sometimes having to sprint "from zero to one hundred" (leaving your dish full of food which had just been prepared at the station, putting on your protective gear, and jumping into the fire engine) is more difficult, mentally, than fighting the fire itself. How can this counterintuitive rating of stress be explained? One possible explanation is that firefighters are trained continuously for fighting fires and rescuing people; firefighters are *not* usually trained for standing in a safe place away from the fire and talking to a victim's family members, or for maintaining good social relationships with the buddies in their shift. If firefighters are stressed by tasks and situations which are not life-threatening (especially involving developing trust in their chief or buddies), this may have a negative impact on their operational efficiency when they run into a burning house.

The kind of list above can be prepared for other groups of FRs (police investigators, paramedics, etc.). To further elaborate, I will now describe a working model which was developed in the mental fitness branch (established in 2017) of the Department of Health and Well-being of the IDF. The model is still under examination, but so far seems to have promising outcomes. Perhaps, the most distinctive characteristic of the model, in practical terms, is its "tailor-made" nature. While based on the same general salutogenic principles, it is suited differently for every specific kind of exposed population (FRs and others). As an example, I will take the crime scene investigators (CSI) unit in the military police.

Stage 1: Create a list of tasks, activities, and situations

Contact is made with the unit, and we have an informal meeting or a focus group with a small number of soldiers and ask them to describe, in as much detail as possible, all the duties and events they have or may encounter, on their job. We usually end up with a list of 30–60 items. Examples are a search for drugs at someone's home, interrogating suspects of sexual assault, answering a defense attorney's questions in court during cross-examination, lack of sleep, arriving at the scene of an automobile accident, direct exposure to body parts, exposure to difficult life stories, and time management.

Stage 2: Develop a "situation perception" questionnaire

At this stage, we construct a questionnaire to measure soldiers' perceptions of their duties and events in terms of the amount of stress each task or situation elicits, and the amount of confidence they have in performing their duties or coping with the events. Conceptually, it resembles (to a limited extent) the idea of using the critical incident technique (Flanagan, 1954) and qualitative content analysis to develop a job-related self-efficacy scale (see Judge et al., 2007; Lorente et al., 2011). The situation perception questionnaire (SPQ) looks like the example in Table 50.1.

For the CSI unit, we have 36 items. They are ordered *randomly* to prevent order bias or a halo effect. For each respondent, we calculate the median value for each of the two measures and mark very high-stress scores and very low confidence (or job self-efficacy) scores. We do the same for the unit as a whole. Questionnaires are not anonymous, so we can identify those who have difficulty in specific duties more than in others. We explain the importance of identifying difficulties in order for them to be addressed and treated, and we ensure that the soldiers' commanders do not see the results.

Test-retest correlations we have measured so far are high and are evident of the SPQ's reliability (as stability). There is no point in measuring internal consistency because the questionnaire items are not assumed to measure a single construct. We also measured convergent validity using correlational analyses: we examined the relationship between the perceived stress and the confidence ratings, on the one hand, and other variables such as degree of experience as investigators and SOC, on the other hand. The findings in several units we have worked with so far are consistent: first, there is a very high negative correlation between perceived stress and confidence (or job self-efficacy). Second, the more experienced one is on the job, the less stressed and the more

Table 50.1 Example of three items in the situation perception questionnaire (SPQ)

	Task	How much stress do you feel doing the task or in the situation?								How confident are you in being able to perform the task or in dealing with the situation?			
1	Lack of sleep	No stress				Extreme stress				Very little		Very much	
		1	2	3	4	5	6	7	8	1	2	3	4
2	Direct exposure to body parts	No stress				Extreme stress				Very little		Very much	
		1	2	3	4	5	6	7	8	1	2	3	4
3	A search for drugs at someone's home	No stress				Extreme stress				Very little		Very much	
		1	2	3	4	5	6	7	8	1	2	3	4

confident he or she feels (however, this relationship is weak to moderate). Third, SOC is a good predictor of both measures (medium-high negative correlation with perceived stress and medium-high positive correlation with confidence). These repeated results allow us to infer the validity of the SPQ.

Stage 3: Construct and implement a mental efforts scale

With the results of the questionnaire, we can now order the items according to the degree of perceived stress. We usually do it only at the unit level (i.e., sorted by the median unit score), but when requested by the unit's mental health officer (MHO), we can do it for individual soldiers. Mostly, this is done for soldiers who have a history of meetings with the MHO.

After having a picture of what kinds of tasks, activities, and situations are perceived as less or more stressful, we meet with the unit commanders and offer ways to lessen the pressure when needed. For example, in the case of the CSI unit, they were surprised to find out that being cross-examined by a defense attorney (when investigators were called to testify for the military prosecution) was about as stressful as arriving at a suicide scene. Our recommendation was to train investigators for cross-examination using simulations. Another finding (common in most units) was that tasks involving a great deal of uncertainty (including administrative chores) were experienced as stressful, as well as tasks for which soldiers felt they do not have enough tools or resources. In salutogenic terms, they experienced a lack of comprehensibility and manageability. We recommended that whenever possible, give soldiers as much information you can, or build up uncertainty gradually along the training timeline. Also, make sure they know they have the resources they need (e.g., technological devices or commanders' social support).

This does *not* require a change in the professional aspects of training. We believe commanders have the knowledge and experience needed for training their soldiers well. We *do* offer "mental fine-tuning" of the training protocols to overcome mental challenges of which commanders may be unaware. This can be a small change in the way various tasks are taught, or the order in which they are learned, or a change in the general climate.

Stage 4: Offer salutogenically oriented psychoeducational workshops and training techniques

In addition to mental fine-tuning, we have workshops which offer psychoeducation *relevant to the unit's activities,* especially those who were found as most stressful for that specific unit. Although during the workshops we do give room for answering questions which usually pertain to psychopathology (such as fear from PTSD), we give more room for discussion and techniques that are aimed at enhancing mental fitness and psychological strengths. Many groups of FRs are nonacademic (although some have earned a bachelor's degree), so we do not present the salutogenic model or SOC in a strict academic manner. Instead, we talk about comprehensibility, manageability, and meaningfulness in a way that will make sense to the FRs. First, we ask what kinds of knowledge and experiences they have, or would like to have, for them to understand what they need to do in various job-related situations as well as in life in general, and what will help them predict how their life (on the job and in general) will look like in the future. Second, we discuss the kinds of resources that are available for them (and those they are missing) to cope with challenges (on the job and in life in general). The kinds of resources may differ from one group of FRs to another, but what is important is that resources are *relevant* to the challenges; social support is almost always mentioned (and usually described as most important). Third, we discuss the importance of the things they do and the challenges they face (on their job and in life in general) in terms of their meaning and try to find specific factors that create motivation and make coping with the challenges worthwhile.

This discussion of comprehensibility, manageability, and meaningfulness relates to the FRs specific job and life in general. In this way, we keep the workshop directly relevant to their daily work (and to the purpose of having the work-

shop), and also bring to their awareness, and possibly alter, their thought patterns and general orientation to life. It should be reminded that the soldiers we address are usually 18–20 years old, an age at which the sense of coherence is still in its shaping period.

By raising awareness of the three components of SOC, we cover cognitive, behavioral, and emotional aspects of mental fitness (see definition described earlier), as well as conscious and unconscious processes. The social aspect is touched upon when we speak about manageability, but there is also group work as part of the workshop. Also, we have the participants exercise techniques such as Farchi's Six-C protocol for psychological first aid (Farchi et al., 2018). This protocol was adopted by the IDF (called "Magen," which means "shield" in Hebrew; see Svetlitzky et al., 2019) and later by the US Military (called "iCOVER"; see Adler et al., 2019). An 11-minute video (in English) depicting the iCOVER protocol can be found at https://www.youtube.com/watch?v=t84_QvbnIT0.

Besides the workshops, and in line with the underlying principle of the iCOVER protocol, neurocognitive training techniques help shift arousal and attention from the amygdala (part of the limbic system, in charge of emotional reactions such as fight, flight, or freeze) to the prefrontal cortex (in charge of rational decision-making). Some of these are known as attention bias modification (ABM) techniques (see Wald et al., 2016). There are also mindfulness workshops and similar sessions to teach relaxation techniques that we employ. All these together are relevant to the physiological aspect of mental fitness.

In addition, we present the salutogenic model and SOC to senior commanders, both as a description of our approach toward mental health promotion and as a new thought paradigm for them to consider. Most of the senior commanders we have met with expressed a positive attitude toward the salutogenic orientation. They have shown interest in mental health promotion activities and the training techniques we employ.

Stage 5: Accompany the intervention with research

When offering mental fine-tuning in a unit for the first time, we test its efficiency by implementing it in only part of the platoons, while having the others carry out the training as they have done before. We administer the SPQ and the SOC-13 questionnaire at the beginning of training, at its end, and at a follow-up period (usually about 3 months) and compare the change in platoons that received the refined training to the change in those which have not. Unpublished data that have accumulated so far point to the efficacy and usefulness of our model.

Summary and Recommendations

Research has found FRs to be prone to psychological distress and psychopathology resulting from their repeated exposure to potentially traumatic events. Most of the literature is focused on postevent treatment or on pathology-oriented (preventive) preparation. The mental fitness model proposed earlier, which includes an application of a mental efforts scale accompanied by salutogenically oriented psychoeducation and other activities, is intended to enhance mental fitness among FRs and build their psychological strengths as they face adversities on their job. I believe that having a stronger sense of comprehensibility, manageability, and meaningfulness will enable FRs to cope with such adversities in a way that will reduce the chances of suffering mental injuries, thus preventing the need for postevent treatment. One can say that this does not differ from pathogenically oriented preventive medicine. But this can be said of salutogenesis in general: anything that promotes health thereby prevents disease. However, pathogenesis and salutogenesis are not two sides of the same coin. Disease prevention is indeed a favorable consequence of salutogenic health promotion, but while prevention tends to be disease-specific (we take a pill to lower blood pressure; we reduce the amount of fat we eat to protect ourselves from heart problems), salutogenic health promotion is holistic in its nature and is targeted for whole populations and not only for individuals at risk.

Therefore, it is recommended that besides psychopathology-oriented programs intended for providing mental first aid to FRs and to the communities who experience potentially traumatic events, there should be more focus on salutogenically based mental preparation programs. These should emphasize the strengths and resources that could help FRs arrive at scenes of disaster equipped with salutogenic resources, at the strategic as well as tactical levels. This way, not only the FR's coping mechanisms will benefit, but they will also better succeed in helping, and even saving, those who need aid and rescue.

Finally, I should add that the idea of salutogenically helping the helpers is not new. After I had finished writing this chapter, I was looking through a box of old papers and found the first page of a lecture given in 1989 in Sweden by Aaron Antonovsky. The lecture was entitled "Caring for the carers," and this was the opening paragraph:

> In this lecture, I will attempt to apply what I call *the salutogenic model* to a crucial problem that is often ignored: the conditions which facilitate the adaptive survival and fulfillment of responsibilities of those who work in the caring professions.

Therefore, I rest my case.

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Salutogenesis in Prison

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James Woodall, Nick de Viggiani, and Jane South

Introduction

An increasing shift in the international discourse on Prison Health towards a salutogenic perspective has emerged with the ever-expanding interdisciplinary public health movement that recognises prison health to be a significant arm of public health. This shift is reflected in the World Health Organization's (WHO) *healthy prisons* ethos that advocates tackling health and social inequality and harnessing the social determinants of health to create settings where effective health improvement can occur. In the spirit of the Ottawa Charter for Health Promotion, this means "enabling people to increase control over" their health through supportive environments where they can harness key social and structural resources that enable them to attain health (WHO, 1986). The prison public health movement recognises that health inequalities disproportionately impact criminal justice populations (WHO, 2020). Prisoners, in particular, experience comparatively higher prevalence of physical and mental ill-health, disability and preventable communicable and non-communicable disease than their host populations. This is the WHO's (2016: 1) statement on prisoner health:

> The health status of prisoners is almost always inferior to that of people at liberty. The risk of becoming seriously ill tends to be much higher in prison than in the general population

The high levels of health need are associated with a further set of challenges around inequality. Communities with relatively high levels of material deprivation and socioeconomic inequality are significantly over-represented within criminal justice systems and settings (Cavadino & Dignan, 2006; Marmot et al., 2020). "Offenders" are, moreover, highly likely to lack protective predispositions that prevent them from becoming involved in or affected by crime, and to avoid being exposed to criminogenic environments (Morse, 1975). Ewing (2018: 29) furthermore argues that individuals who experience social disadvantage – such as poverty, lack of educational opportunity, racial oppression or interpersonal abuse, particularly in combination – are at higher risk of entering criminal justice agencies or settings. This was recently emphasised by the UK charity Revolving Doors (2017), which argued that "the health, economic and social inequalities faced by the population in contact with the criminal justice system are stark and striking."

Persons who experience "criminogenic disadvantage" (Ewing, 2018: 29) may find it considerably difficult to avoid the adverse health and social consequences of inequality. It is widely acknowledged that this reflects both the relatively poor material and socioeconomic circumstances of prisoners' pre-imprisonment and the harmful and depriving effects of imprisonment and other criminal justice processes.

The over-arching goal for prison health is therefore to develop "upstream" public health strategies that enable salutogenesis – or health creation – and to negate deleterious, harmful and unjust effects of criminal justice processes and reverse criminogenic potential within communities at risk of offending. In this chapter, it is argued that a salutogenic prison health ethos should provide the conditions to develop effective and meaningful public health and health promotion strategies for people in criminal justice or correctional settings. This means developing healthy correctional policies, re-orientating custodial and non-custodial corrections environments and enabling prisoners and prison staff to attain power and agency in accessing resources to improve their health chances and health outcomes. A healthy prisons approach fundamentally draws the focus away from indicators of disease, ill-health and disability and towards a salutogenic perspective (Baybutt & Chemlal, 2016). This is not to say that healthcare management is not important but to suggest that prison-based public health and health promotion are much more than techniques to prevent ill-health.

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This chapter addresses three key objectives. First, it critically reviews the regressive historical, biomedical and individualistic position that prison health has occupied internationally, against which reactive preventive policies and practices have become anchored. It examines how this traditional position has suited the dominant neoliberal political standpoint of western societies, with its limited scope to engage and advance a healthy prisons agenda. Second, this chapter reviews the *healthy prisons* ethos and its embracement of salutogenic principles, emphasising the instrumental role of the WHO in operationalising this agenda. Third, this chapter explores how to practically create salutogenic prisons but being mindful of the inherent challenges of delivering a progressive prison health agenda across an international context, where security and control services to routinely disempower and disable prisoners and undermine attempts to rebuild lives.

The Pathogenic Approach Towards Prison Health Policy and Practice

"Prison health" is commonly understood and interpreted as a biomedical construct pertaining to the commissioning, management and prevention of disease, illness and disability within prison populations. Arguably, this perspective reflects the somewhat outdated paradigm of public health medicine that considers the prevention of communicable and non-communicable disease to be the primary role of public health within prison contexts. Such an approach fails to acknowledge the broad social, economic and environmental context of health and illness, and is individualistic in orientation, associating prison health with the individual prisoner, offender or agent rather than with the circumstances surrounding the individual – the prison, correctional setting, criminal justice system or wider society. A healthy or unhealthy prison, after all, should refer as much to the social and material fabric of the prison, and the experience of imprisonment, as much as to the health of the prisoner. The response of correctional services is logically to treat or manage individual prisoners with respect to their individual criminogenic or pathogenic/healthcare needs. This reactive and reductionist version of prison health draws upon health professionals to intervene at an individual clinical or behavioural level to "fix the problem" rather than to address the underlying causes. It serves to draw resources away from addressing fundamental root causes of poor health and offending – those wider social and criminogenic determinants, inequalities and prerequisites for health. This was aptly summed up by Roberts (2009), who has argued that "the process of criminal justice mystifies rather than clarifies what is harmful in society and might be done about it."

Hence there is a longstanding tradition within correctional services across the world to anchor prison health within the biomedical paradigm and consequently to situate prison health policies and practices within a healthcare context. This was, for instance, reflected in the development of the US correctional health system in the 1930s, with the establishment of the first Medical Center for Federal Prisoners in Springfield in 1933; this service was "dedicated solely" to caring for the diseased and the "broken bodies and minds of offenders" (Bosworth, 2002: 79). This emphasis on medical and psychiatric treatment was highlighted by Sim (1990) in his influential debate on medical power in prisons. It was colourfully illustrated by Morris and Morris (1963: 193) in their study of Pentonville prison in London in the 1960s:

> For the prison, health is essentially a negative concept; if men are not ill, de facto they are healthy. While most modern thinking in the field of social medicine has attempted to go further than this, for the prison medical staff it is not an unreasonable operational definition

In some ways, this adherence to the biomedical and psychiatric paradigms is not surprising given the negative health consequences of imprisonment and correctional processes more generally. Much debate, commentary and evidence have highlighted the harms that imprisonment can facilitate. Indeed, Roberts (2009) argued that criminal justice systems orchestrate harmful effects to society through their negative impacts on the social, material and economic potential of the most disadvantaged and in terms of their health and well-being. As far back as the mid-nineteenth century, the social reformer Jeremy Bentham (1864: 351–352) referred to prisons as pathogenic environments that:

> … include every imaginable means of infecting both body and mind. Consider merely the state of forced idleness to which prisoners are reduced … Want of exercise enervates and enfeebles their faculties, and deprives their organs of suppleness and elasticity

Gresham Sykes (1958: 79), in his ethnographic research of the mid-twentieth-century US penitentiary system, similarly observed how:

> The individual's picture of himself as a person of value – as a morally acceptable, adult male who can present some claim to merit in his material achievements and his inner strength – begins to waver and grow dim

The United Nations' International Covenant on Economic, Social and Cultural Rights (UN General Assembly, 1966) asserted the right to all citizens of the world "to the enjoyment of the highest attainable standard of physical and mental health." This was reflected in Rawls' (1973) egalitarian argument that a socially just society is one:

> … in which basic human needs are met, unnecessary stress is reduced, the competence of each person is maximised, and threats to well-being are minimised; and where value is recognised in enabling each person to have a fair share of benefits and burdens resulting from their participation in society, or 'social cooperation'

This was a position echoed by the WHO Office of the European Region (1985). They asserted that all EU member states should improve the level of health of the most disadvantaged groups within their societies by providing equitable health policies that extend beyond the meeting of basic healthcare needs. This was an interpretation of the notion of "equivalence" that implies not only reducing a population's observed health differences but eliminating those health needs arising from avoidable or unfair societal determinants (Charles & Draper, 2012; Ismail et al., 2019). This was also recently conveyed by the WHO Commission on the Social Determinants of Health:

> The social conditions in which people are born, live and work are the single most important determinants of good health or ill health, of a long and productive life, or a short and miserable one. (Marmot et al., 2008)

These ethical principles apply as much to prisoners as to other vulnerable groups. Indeed, the UN's 1966 International Covenant underpinned its 1990 Basic Principles for the Treatment of Prisoners (United Nations, 1990), stating that prisoners should be provided with access to health services equivalent to those provided for the general population of their respective host countries.

In the United Kingdom, prison health services are commissioned to address prisoners' observed healthcare needs; these are routinely measured through healthcare needs assessments, screening and public health surveillance. This principally reactive approach tends to reflect more the needs of the criminal justice system, of the health services and the State since it seeks to "contain" the problem rather than prevent it and avoids measures to address the deeper-seated needs of society more broadly. Healthcare services are therefore commissioned to respond to acute disease, illness or disability that present within prison populations (HMIP, 1996). They essentially detect, manage and treat morbidity arising from acute and longstanding non-communicable and communicable disease (de Viggiani, 2006a). This reflects a preoccupation with an interpretation of prison health that is fundamentally individualistic, which results in an approach to health promotion that is reactive to and pre-occupied with lifestyle issues. Interventions believed to be effective in tackling risky behaviours are routinely commissioned and located within healthcare services (Department of Health, 2002: 2). This inevitably means that prison authorities interpret prison-based health promotion as an exclusive educational role for healthcare professionals. Consequently, opportunities to engage prison personnel in progressive partnership work across conventional professional boundaries are not explored where there would be potential to promote and improve health at a system-wide level (Meek, 2018). Squires (1996: 1161), moreover, has argued that:

> To focus only on the physical and mental illness of prisoners, which is the likely focus of any agency given the job of commissioning health services for prisoners, would be to ignore the role of non-health professionals and agencies inside and outside prison in promoting prisoners' health and well-being.

Therefore, despite recent and ongoing prison health policy rhetoric, prison-based health promotion remains firmly aligned with prison healthcare services and is led mainly by healthcare personnel, particularly those involved in delivering acute services, rather than being seen as the responsibility for the whole organisation. The majority of male prisons inspected in England and Wales in 2018, for example, were exceptionally proficient at managing and screening for diseases for people in prison. Analysis suggested that 88% of prisons enabled easy access to health checks, disease prevention and screening programmes. There were few instances where support and healthcare provision were deficient in this domain. Where mentioned in the reports, prisons were highly effective at managing outbreaks. They had established clear protocols to minimise any health impacts caused by, for example, communicable diseases and diarrhoea and vomiting (Woodall & Freeman, 2019). Smith (2002) has noted how often normative health need, that is, expert opinion, has governed much prison health policy and planning. Even in Scotland, where policy actively supports the participation of prisoners in health promotion planning, their involvement is limited, and exploration of their views on health is scant (Graham, 2007). The contribution of broader agencies associated with prison governance seems to reinforce a pathogenic approach to public health and health promotion.

Assessment of health provision by Her Majesty's Inspectorate of Prisons for England and Wales (HMIP), moreover, reveals a very narrow and biomedical position (Woodall & Freeman, 2019). This is unfortunate given that HMIP is considered to be an influential body with a highly valued authoritative voice, especially since it has unconditional access to all areas of an institution and can arrive unannounced (Hardwick, 2016). Prison inspections draw on a range of data, including a confidential survey of a representative proportion of the prisoner population; prisoner focus groups; individual interviews carried out with staff and prisoners; documentation analysis and observation by inspectors (Bennett, 2014). This methodology is recognised for its international excellence (Harding, 2006). It has "influence [that] is so pervasive that the HMIP can be said indirectly to regulate prison conditions" in England and Wales (van Zyl Smit, 2010: 532).

As suggested, the current criteria adopted by HMIP convey a very narrow perspective on health and well-being. For example, mental health is not considered within HMIP's criteria for promoting health and well-being (there are specific criteria for assessing mental health care in prisons, but these are focused on the management of mental illness or ill-health rather than the promotion of health and well-being). Moreover, in the evolution of HMIP's inspection criteria, there do not seem to have been discussions with a wide range of stakeholders on the most suitable criteria for assessing health and well-being. Baybutt et al. (2010) have optimistically argued that the approach towards commissioning and delivering health provision in prisons has been reformed. However, the dominant discourse surrounding prison health, particularly efforts to promote health, retain a heavily skewed focus towards disease control, eradication, screening and testing. If health promotion is to be developed further in prison, then the prevention of disease and the promotion of positive health need to be more carefully balanced (Caraher et al., 2002). While it is accepted that preventive measures are included within many conceptual frameworks of health promotion (Downie et al., 1996), some would argue that a more radical approach would be for health promotion to focus primarily on advancing the health of prisoners towards the positive end of the disease-health continuum (Breslow, 1999; Brubaker, 1983; King, 1994). This unwavering fixation by prison services to focus on pathogenesis can be understood as wholly logical. For instance, it could be cogently argued that these interventions are perhaps aimed at the effective management of the prison population, rather than for promoting health benefits per se (Woodall & Freeman, 2019).

The Shift Towards Salutogenesis

The question, "what makes people healthy?" or "what creates health?," is one of the critical pillars of salutogenesis introduced by Antonovsky (1979). A salutogenic perspective on health and well-being represented, for him, an alternative interpretation. He did not perceive a continuum between pathogenesis and well-being, as such, where health is the antithesis of illness, but rather in terms of people's capacity and ability to cope, attain resilience and harness the resources – or *determinants of health* – to have control and agency (Mittelmark & Bauer, 2017; Mittelmark & Bull, 2013).

Antonovsky (1979) introduced the notion of salutogenesis at a time when the dominant paradigm in Public Health focused on disease epidemiology and risk factors in the search for causal relationships between behavioural risk, exposure or susceptibility and ill-health. He argued that essentially the creation of health is not aligned on a continuum with the causes of disease, thereby contesting the established wisdom that health is improved by reducing risk factors for disease. In his view, health is created through biological, psychosocial and material resources (*General Resistance Resources*) that bring consistency, structure and sense to people's lives. These could include money, knowledge, experience, self-esteem, healthy behaviour, commitment, social support, cultural capital, intelligence, traditions and view of life (Hochwälder, 2019). When individuals or groups have these resources at their disposal, there is a better chance for them to cope with the challenges of life. More important is their ability to harness these resources – achieving a strong *Sense of Coherence* (SOC) – and to cope successfully with infinite numbers of complex life events and stressors. Salutogenesis, therefore, concerns the conditions and resources people use to acquire or "create" health. Thus, as Antonovsky emphasised, salutogenesis is not so concerned with the degree to which individuals or groups possess or lack health. The focus is towards the wider system or context of people's lives and how, on the one hand, this furnishes them with resources to attain health and, on the other, enables them to acquire the skills and capability to access these resources. The salutogenic approach, therefore, considers the extent to which people have power and agency to access structural, environmental, social and economic resources to enable them to attain health. It is consistent with the WHO perspective that health and well-being are shaped and influenced by their surroundings (WHO, 1991), fundamental prerequisites and social determinants.

A salutogenic approach towards understanding prison health is particularly pertinent given that prisoners are likely to be challenged in their ability and capacity to cope and adapt to their circumstances. This ability to withstand imprisonment is likely to impact their health and well-being. However, the penetration of such a viewpoint has not been at the forefront of prison health policymakers or practitioners. The WHO has nonetheless been influential in creating policy frameworks that seek not only to tackle the healthcare challenges posed in prisons but also to advise on how to create prisons that foster salutogenesis. To address the inequalities in the prison population, WHO Europe convened a group to consider how this should be tackled (Gatherer et al., 2005). The settings approach to health promotion was recognised as a way of addressing the health of the prison population after observing the effectiveness of the settings approach in schools, workplaces, hospitals and cities. It was suggested that prisons could be regarded as *"another setting in which to advance public health in pursuance of target 14 of WHO's European health for all strategy"* (WHO, 1995: 1). Six key conclusions emerged from the meeting:

1. The prison is a valid and feasible setting for health promotion.
2. Key elements of health promotion in prison include:
   - Prevention of deterioration in health
   - Enablement and empowerment
   - Physical and mental components
   - Duty of care to the whole community
   - A multidisciplinary and holistic approach
3. All participants recognised health in prison as a priority area for action despite limited resources.
4. Prison services have a duty of care for prisoners and prison staff and to take account of the public health of the wider community.
5. It is important to listen to the views of prisoners and prison staff to meet their needs through a range of effective health promotion strategies.
6. A coordinating centre should be established.

The United Kingdom has been one of the leaders in developing health promotion in prison, with the health-promoting prison concept comprehensively outlined in the English and Welsh strategy "Health Promoting Prisons: A Shared Approach" (Department of Health, 2002). This document used the discourse of a "whole prison" approach with a core philosophy of creating environments that were supportive of health, with an emphasis on the wider determinants of prisoner health to enable individuals to take control of their lives (Graham, 2007). Concurrently, the Scottish Prison Service developed its strategic position for the health-promoting prison (Scottish Prison Service, 2002). Based on core values, such as integrity, honesty and justice as well as principles such as empowerment, equity, partnership and sustainability, their approach was aligned coherently with the original WHO rhetoric and resonated with a broader healthy settings philosophy focused on salutogenesis (Brutus et al., 2012).

The rhetoric has demonstrated a distinct shift to a more salutogenic perspective, but changing practice to incorporate that perspective has been more challenging. Indeed, the WHO has itself acknowledged that policy formulation at a strategic level may not always be implemented effectively in practice (van den Bergh & Gatherer, 2010). The chapter now considers two questions. First, what makes people healthy and what features of that environment could be adapted to support prisoners develop a stronger sense of coherence? Second, how can prisons support empowerment as a health goal?

What Makes People Healthy in Prison?

Antonovsky studied the question of what creates health. His answer was formulated in terms of the *sense of coherence* (SOC) and *generalised resistance resources* (GRR). The SOC consists of three dimensions: comprehension, manageability and meaningfulness, reflecting the interaction between the individual and the environment (Eriksson & Lindström, 2008). GRRs can support a person or community to cope effectively. They can include material resources (e.g. money), genetic (e.g. intelligence), knowledge (e.g. coping strategies) and social (e.g. social network) (Hochwälder, 2019). Both the SOC and GRRs interplay to support individuals' health.

In a prison context, SOC and GRRs have not been fully explored. However, evidence suggests that certain factors can create the conditions for prisoners to maintain positive health and can contribute to their well-being, despite the damaging impacts imprisonment can bring psychologically, socially and materially.

In relation to *comprehensibility* – one of the dimensions contributing to SOC – it is clear that prison regimes provide structure, give order and predictability. The paradox of the prison routine is evident as it can be highly monotonous and damaging but can benefit some prisoners' mental health and well-being, as it allows prisoners to feel some control. Giddens (1984) noted the importance of routines for maintaining "ontological security" which allow a level of trust in a social environment and Carrabine (2004) argued that routines within prison are held with some significance in that they can alleviate anxiety and unpredictability. Whilst research shows that prisoners broadly object to the regime provided to them, it provides self-assurance, as prisoners can rely on when they will eat, when they will shower, when they will be paid and, of particular importance, when they will receive family visits and time in the gym. Much frustration is caused when these activities are even slightly altered (de Viggiani, 2006b, 2007; Woodall, 2010a).

Manageability and meaningfulness are the two further dimensions of SOC. Prisoners almost unanimously suggest the need for sufficient time out of their cell and adequate access to the outdoors to feel in good health (de Viggiani, 2006b, 2007). Moreover, maintaining regular bouts of both structured and unstructured physical exercise throughout a prisoner's sentence is significant for sustaining and enhancing health (Woodall, 2010b). Social relationships, especially contact with family members, are also intimately intertwined with prisoners' ideas around being healthy (Woodall, 2010b). Relationships are fundamental in prisons between prisoners and staff and create conditions for health, particularly emotional and mental health, to flourish (Crewe et al., 2015; de Viggiani, 2006b). Prisoners may also derive benefits and develop a sense of purpose from taking on peer education and support roles, as these work from an assumption that prisoners may make a positive contribution to health in prison (South et al., 2017). Generally, where relationships are built productively in prison, this can create a more harmonious system.

Empowerment and Salutogenesis in Prison

The core values of health promotion are equity, participation and empowerment (Tilford et al., 2003). These basic values are also central elements of the salutogenic concept and its perspective on health (Eriksson & Lindström, 2008). Empowerment is concerned with individuals and communities having control and power over their circumstances. The relation to the SOC is clear. A person's capability to see that one can manage any situation, independent of whatever is happening in life (Koelen & Lindstrom, 2005). Indeed, some have argued that *"GRRs and SOC could 'empower empowerment' in a scientific sense, and give it a theoretical base and a clear structure"* (Koelen & Lindstrom, 2005: S13).

In a prison context, the notion of empowerment is complex. While empowering prisoners has never been an accepted pursuit in prison systems, even regarded as *"morally questionable and politically dangerous"* (The Aldridge Foundation and Johnson, 2008: 2), there is a growing recognition that prisons should be *"supportive and empowering"* (de Viggiani et al., 2005: 918). Empowerment is still an idea of significance for health promotion and should be central to the development of the health-promoting prison. This commitment has been demonstrated by the Scottish Prison Service (2002) but is yet to transfer to other countries. While there is no consensus on what empowerment should entail in the prison context, it is not about jeopardising security or endangering the public. Indeed, Reuss and Wilson's (2000) approach to empowerment within prisons concerns "enabling" and "giving ability to" individuals. This could be through providing education, vocational skill development, parenting skills and managing health conditions. That said, prisons remain settings of tremendous power inequalities (Bosworth & Carrabine, 2001), rendering empowerment, a primary construct for health promotion, devoid of meaning or even obsolete.

The disempowering nature of prison life is perhaps inevitable, given the absolute mandate to protect the public. That said, some prison reports suggest levels of disempowerment in some establishments being disproportionate and unnecessary. This should be curtailed and, in some instances, can be resolved relatively cost-effectively. Poor relationships tend to be found in prisons – there are examples whereby relationships can be challenging and fraught and where actions towards prisoners by staff (and of course vice-versa) creates health-damaging and pathogenic effects (de Viggiani, 2006b; Woodall, 2020). These relationships can go beyond prisoners and staff and can include how interactions occur with families and prison visitors. For most prisoners' families, prison staff are regarded as the public face of the prison service, embodying the power to punish their relatives (Codd, 2008). Visitors can be treated as a nuisance, a disruption to the routine and a security threat. Prison staff can see visits between a prisoner and his or her family simply as an opportunity to violate prison rules and pass drugs, and sometimes do not attach importance of the visit to the prisoner's and family's well-being and long-term future (Dixey & Woodall, 2012).

Consequently, staff may be unable to build up extensive rapport or trust with prisoners or their families and therefore resort to a default position which prioritises safety and security. It is the case, of course, that visits have been, and are, an opportunity to breach security, and clearly, prison staff must maintain their remit for control and surveillance. However, the way this is implemented could be reconfigured to foster more supportive environments.

Nevertheless, there are elements of prison life that encourage empowerment, and these should be embraced, continued and replicated where they can be (Woodall, 2020). These include the promotion of people in prison in democratic features of prison life – as the benefits of such civic engagement and participation in prison have been noted elsewhere (Cheney, 2008). In addition, peer support can be an empowering intervention in prisons. Community empowerment and support are at its strongest often when prisoners act to support each other; thereby addressing individuals' personal concerns and fostering a more conducive environment for help-seeking and sharing. The Listener scheme in prisons in England and Wales has a body of evidence which shows individual health gains for those trained as Listeners or befrienders. In several studies, trained prisoners reported that they were "giving something back," doing something constructive with their time in prison and being of benefit to the system, which consequently affected mental health indicators, such as self-esteem, self-worth and confidence (Bagnall et al., 2015; Dhaliwal & Harrower, 2009; Edgar et al., 2011; Hall & Gabor, 2004; Levenson & Farrant, 2002).

Prison architecture and the role of architecture more generally in secure institutions (Golembiewski, 2010) has long been known to have empowering effects. Allies in related areas, such as design and architecture, also support moving health improvement further up the prison agenda, with prison design policies that include health impact assessments (Awofeso, 2011). The Halden prison in Norway is perhaps the most well-known example of a prison designed to be more humane, with health improvement an explicit goal (Woodall et al., 2014). There is much to be transferred from other contexts – other researchers have shown how the design and architecture of psychiatric settings can provide SOC (Golembiewski, 2010). As an example, prison designs should consider:

1. *Comprehensibility*: Controlling the size of spaces and the numbers of people interacting within them, which is highly pertinent in prisons in relation to overcrowding.

2. *Manageability*: Allowing people in prison to exercise control over their environment, such as providing space for recreation and access to natural light.
3. *Meaningfulness*: Enriching the environment with aesthetic considerations as well as providing good spaces for visitors.

Conclusion

This chapter has sought to present and debate how prison health rhetoric, policy and practice have for too long been skewed by a long-standing pre-occupation with a pathogenic view of prisoner health. This position – principally informed by epidemiology, medicine and psychiatry – has informed and driven how prison health has been commissioned and delivered internationally. This reactive *healthcare* orientation is perhaps unsurprising given the poor health status of many people in prison. There is, however, growing recognition of the need to advance a more sophisticated salutogenic approach towards prison health policy and practice, as a strategy that begins to tackle the root causes of health, criminality and inequality synergistically. Several agencies are beginning to advocate and subscribe to this position. The chapter has emphasised that while the health of prisoners is influenced by material and social factors beyond their control, a salutogenic approach offers an alternative way of delivering public health and health promotion in prisons. It does require political commitment, nonetheless, to acknowledge the health-limiting effects of purely preventive prison healthcare policies and the fundamental impact of social inequality and material deprivation as determinants of ill-health and criminality. Providing communities and societies with agency over their health and well-being, and endowing them with the human, cultural and material capital to achieve this, is the only genuine way to begin to develop meaningful public health strategies that transcend all social settings. Undoubtedly, the application of salutogenesis to the prison setting is in its infancy. We therefore anticipate and hope that future research, policy and practice are framed by this valuable theoretical perspective, leading to more sustained and effective measures to improve the health of people in criminal justice settings and to reduce inequalities encountered by these populations.

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Part VIII

Salutogenesis Theory and Methods: Developments, Innovations and Next Steps

Salutogenesis Theory and Methods: Developments, Innovations and Next Steps

52

Lenneke Vaandrager

Part VIII of this book presents ideas for the future development of salutogenesis theory, research methodology, practice, teaching and capacity building. This overview chapter highlights several theoretical issues in further developing the sense of coherence (SOC) construct, followed by how we can use qualitative approaches to study the SOC, including a wide range of examples. Another important future field discussed in Part VIII is how to strengthen the salutogenic capacity of health professionals. The rapid growth of communication digitalization is also taken up in a chapter on the digital lifeworld and salutogenesis. Part VIII concludes with a chapter written by all editors of the Handbook, wrapping it up under the title *Salutogenesis for Thriving Societies*, which I suggest is a 'must read' for all.

Theoretical Issues in the Further Development of the SOC Construct

Chapter 53 by Jacek Hochwälder discusses theoretical issues, including:

- The dimensionality of the SOC scale, questioning whether the three components of comprehensibility, manageability and meaningfulness can be measured separately or not.
- A plea for longitudinal data to study SOC as the causal variable.
- Whether or not SOC can be strengthened and thus function as an outcome variable or not.
- The concept of domain-specific SOC.
- The concept of a boundary in the measurement of SOC.
- The dichotomization and trichotomization of SOC to investigate more thoroughly if a weak SOC or a strong SOC is crucial for health and well-being.
- The importance of relating SOC to salutogenic outcome measures such as perceived wellness or a healthy lifestyle.
- Additional issues such as the collective SOC, measuring other central constructs in the salutogenic model and the importance of literature reviews and meta-studies.

In this chapter, excellent recommendations are given for ways forward.

Qualitative Approaches to the Study of the SOC

Antonovsky's short- and long-form SOC questionnaires have been validated in numerous languages. Therefore, there are many studies available worldwide that have used these quantitative measures. Additionally, in recent years, there has been rapid growth in qualitative studies of the SOC, as taken up in Chap. 54 by Avishai Antonovsky, Gillie Pragai Olswang, and myself. This chapter aims to address the following questions: how is the SOC measured qualitatively, when is such measurement relevant or preferable and what should we strive to achieve as we continue developing qualitative approaches? Based on our search of the literature, we report on four types of research:

- Studies that intentionally and directly measured the SOC using qualitative methodologies.
- Studies designed within the salutogenic framework that were open to analysing people's life stories or artwork and which looked for expressions which reflect the SOC.
- Studies interpreting their findings in hindsight in terms of the SOC.
- Studies that did not originate with salutogenesis in mind, and came to appreciate that something akin to the SOC had been measured.

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In the diverse array of qualitative studies, many were carried out in Scandinavian countries. Most of the qualitative researchers employed traditional research methodologies, while others applied more pioneering methods. Qualitative salutogenic research is expanding. Its theoretical and empirical contributions include demonstrating the utility in SOC research of thick descriptions of microanalytic behaviours and methods to document SOC development. An important step for the future is to develop quality criteria for qualitative salutogenic studies.

Promoting Salutogenic Capacity in Health Professionals

Eva Langeland and her colleagues have many years of experience building health professionals' salutogenic competence, as summarized in Chap. 55. From a salutogenic perspective, relational and reflective competencies are key to the success of competence building. Reflecting on and exploring one's (life) experience in a continuous learning process can enhance salutogenic competence. This learning process is also discussed in Chap. 7, where we review many years of experience teaching health promotion in postgraduate summer schools.

Chapter 55 is nicely illustrated with teaching and coaching examples drawn from: (a) a master's programme for students in various health professions, (b) salutogenic talk-therapy groups, (c) students in health promotion training programmes and (d) on-the-job training of healthcare professionals working in childcare services.

The chapter discusses the concept of 'self-tuning', referring to habitual self-sensitivity, reflection and mobilizing of resources, which can play a central role in all types of training. This chapter and Chap. 7 emphasize that trainers should strive to 'live the talk', developing their personal salutogenic capacity – in other words, *do* what you teach and *be* what you teach.

The Digital Lifeworld and Salutogenesis

In Chap. 56, Luis Saboga Nunes and colleagues explore salutogenesis in the context of the 'digital world', concerning both high- and low-resource countries. The digital world is rapidly developing and can transcend physical and financial barriers of health care and health promotion. The digital world also has many challenges, especially for equity. On the one hand, digitalization carries the risk of excluding many people – also healthcare workers – because they cannot access the digital world or do not have the technical skills to understand it (make sense of it). On the other hand, the digital world offers both new generalized resistance resources (GRRs) and specific resistance resources (SRRs) to improve population health and promote healthy lifestyles and health literacy. The authors nicely illustrate how the SOC helps people find a balance in the digital world's stress-rich environment. Important steps forward in this field include work to strengthen the evidence base and to document the preconditions for a digital world that supports decision-making in health care, health behaviour change (e.g. quitting smoking) and – above all – supports empowerment and social justice.

Salutogenesis for Thriving Societies

Chapter 57 is the Handbook's 'Grand Finale', addressing the potential of salutogenesis to nurture thriving societies. The Handbook's editors reflect on the advancement of salutogenesis concerning theory development, applying the salutogenic model in community settings and helping society tackle crises such as COVID-19:

- Concerning theory development, we have come far, as illustrated in many chapters of the book, and suggestions for further theory development abound in every part of the book.
- Concerning practice, we recognize that we have not yet sufficiently realized our ambition to trigger a paradigm adjustment in the health professions, in the direction of balance between pathogenic and salutogenic orientations. Yet, there is progress in recent years, as almost a dozen chapters in the Handbook attest.
- In building salutogenesis as a transdisciplinary academic arena, an essential task for the near future is nurturing the growth and spread of the *Society for Theory and Research in Salutogenesis.*

Finally, in Chap. 57, we ask, is salutogenesis relevant for tackling the COVID-19 crisis? Our answer is YES because salutogenesis positively focuses on what might be seen only as a big problem. It helps us to identify individual and collective resources and imagine sustainable futures and thriving societies.

Theoretical Issues in the Further Development of the Sense of Coherence Construct

53

Jacek Hochwälder

Introduction

Kurt Lewin (1951, p. 169), one of the founding fathers of social psychology, famously surmised, there is nothing so practical as a good theory. A tenet of philosophy (see, e.g., Chalmers, 1982) is that empirical research without some guidance from a theory or model may result in insensible observations. On the other hand, a theory or model that is not exposed to rigorous theoretical scrutiny and empirical testing risks becoming dogmatic and incorrect. Therefore, although it is highly valuable to have a theory or model that guides research, it is imperative to examine and test it empirically.

Antonovsky (1979) introduced the salutogenic model of health, in which the sense of coherence construct is a core concept. This chapter aims to discuss some issues that need to be further explored in future research on the sense of coherence construct. The chapter starts with a brief overview of the salutogenic model and the sense of coherence construct. After that, issues related to the construct will be discussed, and directions for future research suggested.

A Brief Overview of the Salutogenic Model and the Sense of Coherence Construct

Antonovsky (1979, 1987) introduced the salutogenic perspective as a complement to the well-established pathogenic perspective. An overview of the main characteristics of and contrasts between the two perspectives is shown in Table 53.1. In brief, the salutogenic perspective aims to explore the origins of health and focus primarily on how to promote health, while the pathogenic perspective deals with the causes of diseases and mainly focuses on how to cure and prevent ill health. For a comprehensive discussion of the differences between the two perspectives see, for example, Becker et al. (2010) and Vinje et al. (2017).

Table 53.1 Some characteristics of, and contrasts between, the salutogenic and the pathogenic perspective

Salutogenic perspective	Pathogenic perspective
Health is *heterostatic*: Relatively changeable	Health is *homeostatic*: Relatively static
Health is subjected to *entropy*: Spiral down towards disease and death	Health is a normal state: Ill health and disease are an *anomaly* or an abnormal state
Health is a *continuum*: The health ease – Disease continuum	Health is a *dichotomy*: The healthy/sick dichotomy
Holistic: The focus is on the whole history of the person	*Specific*: The focus is on a specific disease or diagnosis of the person
Salutary factors: The focus is on factors that create health	*Risk factors*: The focus is on factors that create disease
Stressors and tension might be *pathogenic*, *neutral* or *salutogenic*	Stress and tension are *pathogenic*
Active adaption: In a therapeutic or treatment situation, the important factors are the person's ability to adapt and make use of the available resources actively	The 'magic bullet': In a therapeutic or treatment situation, the important factors are to give the person the 'right' diagnosis and find the 'right' treatment
The 'deviant' *case*: Look for the deviant case(s). For example, attending and noting in the data that some of the people that have been through horrible conditions (e.g. concentration camp) stay well and healthy (and asking what makes them stay well and healthy)	*Hypothesis confirmation*: Try to confirm hypotheses. For example, just searching and looking in the data if most of the people that have been through horrible conditions do not feel well and do get sick (in order to get the assumed relation confirmed)
Health-oriented Enhance and strengthen health Approach potentials for health Create/maximize salutary factors Oriented to all people	*Disease-oriented* Cure and treat diseases Avoid causes of diseases Eliminate/minimize risk factors Oriented only to those having disease
Proactive: Create conditions for health and Well-being	*Reactive*: React to indications of disease

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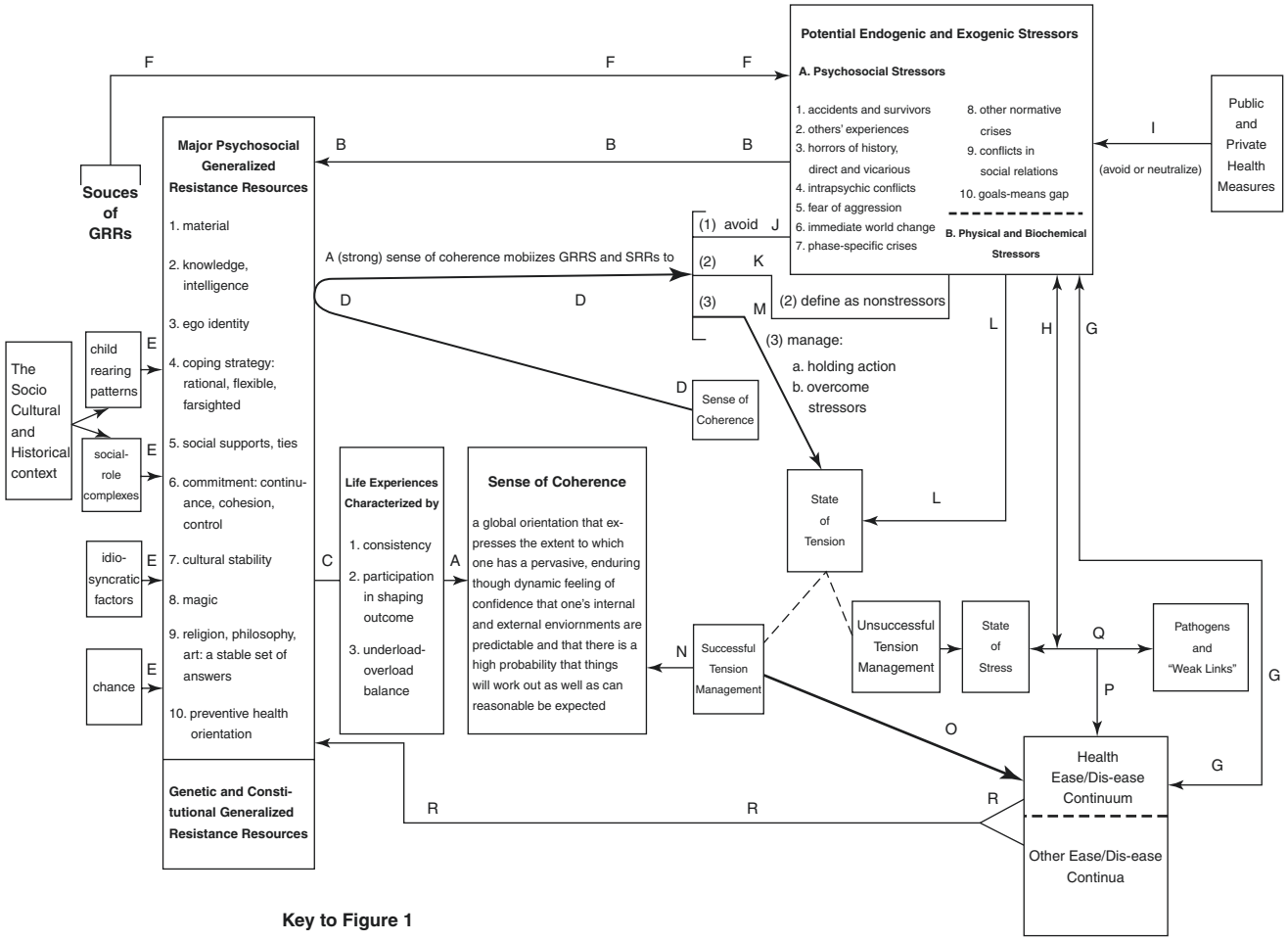
Antonovsky (1979, 1987) described his salutogenic model of health in the form of a flowchart, and by formulating numerous postulates, which are scattered throughout his writings. The flowchart is presented in Fig. 53.1, and some of the postulates, which are of relevance for this study, will be described later on in this chapter.

Throughout the years, the theoretical relations described in the flowchart and the various postulates in his texts have inspired and guided many theoretical discussions and much empirical research. In this chapter, the focus will be on some issues related to a limited number of concepts and relations in the salutogenic model. Before discussing these issues, it is



Key to Figure 1

Arrow A: **Life experiences shape the sense of coherence.**

Arrow B: Stressors affect the generalized resistance resources at one's disposal.

Line C: **By definition, a GRR provides one with sets of meaningful, coherent life experiences.**

Arrow D: **A strong sense of coherence mobllizes the GRRs and SRRs at one's disposal.**

Arrows E: **Childrearing patterns,social role complexes,** idiosyncratic factors, and chance **build up GRRs.**

Arrow F: The sources of GRRs also create stressors.

Arrow G: Traumatic physical and biochemical stressors affect health status directly; health status affects extent of exposure to psychosocial stressors.

Arrow H: Physical and biochemical stressors interact with endogenic pathogens and "weak links" and with stress to affect health status.

Arrow I: Public and private health measures avoid or neutralize stressors.

Line J: A strong sense of coherence,mobilizing GRRS and SRRs, avoids stressors.

Line K: A strong sense of coherence,mobilizing GRRS and SRRs,defines stimuli as nonstressors.

Arrow L: **Ubiquitous stressors create a state of tension.**

Arrow M: **The mobilized GRRs (and SRRs) interact with the state of tension and manage a holding action and the overcoming of stressors.**

Arrow N: **Successful tension management strengthens the sense of coherence.**

Arrow O: **Successful tension management maintains one's place on the health ease/dis-ease continuum.**

Arrow P: Interaction between the state of stress and pathogens and "weak links" negatively affects health status.

Arrow Q: Stress is a general precursor that interacts with lhe existing potential endogenic and exogenic pathogens and "weak links."

Arrow R: Good health status facilitates the acquisition of other GRRs.

Note: The statements in bold type represent the core of the salutogenic model.

Fig. 53.1 The salutogenic model of health, from Antonovsky (1979, pp. 184–185)

necessary to give a brief overview of the relevant parts of the model.

The salutogenic model rests on two main postulates: (a) that we humans are always under the attack of various stimuli, which often leads to heterostasis or a state of imbalance and (b) that unless we can cope with these stimuli, they will result in entropy or a movement towards disorder and disease (Antonovsky, 1979, 1987). According to Antonovsky, a stimulus can be evaluated as neutral (irrelevant), positive (beneficial) or harmful. Furthermore, he stated that a stimulus can be defined as a stressor if it elevates entropy and that stressors can be classified into chronical stressors (e.g. a disability), main life events (e.g. death of a loved family member) and daily hassles (e.g. an argument with one's boss at work).

The generalized resistance resources (GRRs) play a central role in the model and a GRR is defined as a 'physical, biochemical, artefactual-material, cognitive, emotional, valuative-attitudinal, interpersonal-relational, macro sociocultural characteristic of an individual, primary group, subculture, society that is effective in avoiding, combating a wide variety of stressors and thus preventing tension from being transformed into stress' (Antonovsky, 1979, p. 103). Antonovsky assumed that what GRRs have in common is that they relate to a sense of consistency, possibility to affect underload-overload and to be able to shape outcomes in life experiences (see Fig. 53.1, arrow C). Furthermore, he suggested that the repeated use of available GRRs in various life experiences will result in a relatively stable dispositional orientation, which he called the *sense of coherence* (*SOC*) (see Fig. 53.1, arrow A).

The SOC is the central concept in the model and is defined as 'a global orientation that expresses the extent to which one has a pervasive, enduring though dynamic feeling of confidence that: (1) the stimuli deriving from one's internal and external environments in the course of living are structured, predictable, and explicable; (2) the resources are available to one to meet the demands posed by these stimuli; and (3) these demands are challenges, worthy of investment and engagement' (Antonovsky, 1987, p. 19). From this definition, it follows that SOC comprises three components: (1) a cognitive component, labelled comprehensibility, representing the extent of the belief that the problem faced is apparent; (2) a behavioural component, labelled manageability, representing the extent of the belief that one will be able to cope with the problem successfully and (3) a motivational component, labelled meaningfulness, representing the extent of the belief that one wishes to cope with the problem. A strong SOC indicates that life is being perceived as highly comprehensible, manageable and meaningful. According to the model, a person with a strong SOC should be able to avoid stressors better than one with a weak SOC, appraise stressors as less stressful than a person with a weak SOC and be able to cope more successfully with a stressor (see Fig. 53.1, arrows J, K and M).

SOC is usually measured with a self-rating scale – The Orientation to Life Questionnaire (hereafter referred to as the SOC scale) – developed by Antonovsky (1987, 1993). The scale was constructed using facet design (Guttman, 1974; Shye, 1978). Five aspects or facets were varied between the questions. More specifically, the respondents were asked to rate (a) the degree of experienced comprehensibility, manageability or meaningfulness (SOC facet); (b) when confronted with an instrumental, a cognitive or an affective stimuli (modality facet); (c) which derives from the persons internal world, external world or both worlds (source facet); (d) which constitutes a real, an ambiguous or an abstract demand (demand facet) and (e) takes place in the past, the present or the future (time facet). The full version of the scale consists of 29 questions (where 11, 10 and 8 of the 29 questions measure comprehension, manageability and meaningfulness respectively) and the short version consists of 13 questions (where 5, 4 and 4 of the 13 questions measure comprehension, manageability and meaningfulness respectively). Responses to each question are given using a seven-point scale, ranging from 1 to 7. Responses to 13 of the 29 questions in the full version and 5 of the 13 questions in the short version must be reversed before a subtotal index is computed. A higher numeric value represents a stronger SOC. The psychometric properties of the SOC scale have been systematically reviewed in two studies (see Antonovsky, 1993; Eriksson and Lindström, 2005), and from these reviews, it can be concluded that the SOC scale is (a) reliable and (b) valid, but that (c) the factorial structure of the scale is not clear and (d) the scores on the scale over time are moderately stable. Also, systematic reviews have shown that SOC is positively related to mental health (Eriksson and Lindström, 2006) and quality of life (Eriksson and Lindström, 2007), weakly related to physical health (Eriksson and Lindström, 2007; Flensborg-Madsen et al., 2005) and negatively related to mortality (Surtees et al., 2003, 2006a, 2006b).

Some Issues for Future Research on the Sense of Coherence Construct

Since SOC was introduced, various criticisms have been levelled against the construct (see, e.g. Eriksson, 2015a; Geyer, 1997; Griffiths, 2010; Kumlin, 1998a, 1998b). The aim of this chapter is not to review and discuss all the criticisms, but to briefly indicate some essential issues that have not received enough attention and to give some directions for future research on SOC.

The issues that will be discussed in this chapter are as follows: (1) the dimensionality of the SOC scale; (2) SOC as the causal variable; (3) SOC as the outcome variable; (4)

Table 53.2 The dynamic connection between the three SOC components (Antonovsky, 1987, p. 20)

	Component			
Type	Comprehension	Manageability	Meaningfulness	Predicted change
1	High	High	High	Stable
2	Low	High	High	Unusual
3	High	Low	High	Press upward
4	Low	Low	High	Press upward
5	High	High	Low	Press downward
6	High	Low	Low	Press downward
7	Low	High	Low	Unusual
8	Low	Low	Low	Stable

general SOC and domain-specific SOC; (5) the concept of boundary in the measurement of SOC; (6) the dichotomization and trichotomization of SOC; (7) the importance of relating SOC to salutogenic outcome measures; (8) various kinds of additional issues: (a) studying the collective SOC, (b) measuring other central constructs in the salutogenic model and (c) the importance of literature reviews and meta-studies.

The Dimensionality of the SOC Scale

Antonovsky (1987, 1993) was very clear that only one single total score should be calculated based on answers to all the questions of the scale and not three separate scores for each of the three components of comprehensibility, manageability and meaningfulness. The somewhat unclear, theoretical argument for this is that Antonovsky (1987) *assumed* that *every single* GRR contributes to *all three* components, which, according to him, implies that the three components are insolubly interlaced with each other. The methodological argument is that using facet theory in the development of the scale makes it impossible to separate the three components because, besides the SOC facet, there are, as previously mentioned, four additional facets that affect the factorial structure of the scale (see Antonovsky, 1987). As referred to previously, psychometric evaluations of the SOC scale have not given univocal results concerning the scale's dimensionality (see Antonovsky, 1993; Eriksson and Lindström, 2005).

The problem – which Antonovsky was very much aware of – is that although the SOC concept is defined as consisting of three distinct components, the three components cannot be measured separately by the SOC scale. In the article where he first thoroughly described the scale and its psychometric properties, he concluded that 'It would indeed be a contribution were separate measures of the components to be developed, with relatively low interrelations' (Antonovsky, 1993, p. 732). Also, in his last article, where he discussed SOC from a historical and a future perspective, he suggested that one of the tasks for future research is to construct a scale where the three components can be measured separately (Antonovsky, 1996a). However, such a scale has not yet been developed.

There are numerous fundamental assumptions/postulates and interesting questions/problems in Antonovsky's writings that could be tested if the three dimensions could be measured relatively independently of each other. Here are four examples. *Firstly*, two fundamental questions that could be answered are: (a) how strongly are the three components related to each other and (b) the relative importance of the three components, when related to various criterion measures (e.g. health, ill health, happiness and various types of performance). *Secondly*, as mentioned earlier, Antonovsky (1987) *assumed* that *every single* GRR contributes to *all three* components. This assumption cannot be fully and correctly explored using the SOC scale because it does not measure the three independently. *Thirdly*, a central and fundamental assumption in Antonovsky's salutogenic model is that life experiences (e.g. in the family, at school, at work) characterized by (1) consistency or predictability should enhance comprehensiveness, (2) underload-overload balance should enhance manageability and (3) participation in shaping outcomes should enhance meaningfulness (Antonovsky, 1979, 1987). Also, this fundamental postulate in the salutogenic model cannot be tested using the SOC scale because the three components are not independently measured. *Fourthly*, Antonovsky (1987) hypothesized that meaningfulness was the most important dimension, followed by comprehension that in turn was followed by manageability. He reasoned that if the three dimensions could be measured separately and the scores on each dimension dichotomized, then respondents could be divided into eight types, as shown in Table 53.2 (Antonovsky, 1987, p. 43). He then hypothesized that: types 1 and 8 have a stable SOC; types 2 and 7 are unusual because high manageability presupposes high comprehension; types 3 and 6 are pressed for change, but if the change will result in lower or higher SOC is dependent on the level of meaningfulness, where the high meaningfulness of type 3 should in the long run lead to high manageability and, consequently, a higher SOC. The low meaningfulness of type 6 should, in the long run, lead to a low comprehension and, consequently, a lower SOC. Types 4 and 5 also illustrate

the importance of meaningfulness, where the low meaningfulness of type 4 will in the long run lead to low comprehension and manageability and, consequently, a lower SOC. The high meaningfulness of type 5 implies a good chance of an increase in comprehension and manageability, and consequently, a higher SOC. This is an example of another part of Antonovsky's salutogenic model that cannot be tested unless a scale is constructed that independently measures the three SOC components.

In sum, one task for future research is the development of a scale where the three SOC dimensions are measured relatively independently of each other. The procedure which can be used to construct a SOC scale with three uncorrelated or only modestly correlated dimensions is well known and straightforward (cf. e.g. DeVellis, 1991). In brief, the first step is to generate items, where each given item refers only to one of the three SOC dimensions (and where the four remaining facets are not taken into consideration when generating these items). The second step, using factor analysis, is to sort out and retain those items that clearly and consistently produce the three SOC dimensions.

SOC as the Causal Variable

The central postulate in Antonovsky's model is that SOC protects against ill health and, more importantly, promotes health (Antonovsky, 1979, 1987). To prove that SOC has a causal effect on health, at least the following four conditions must be met: (1) the measurement of SOC should precede the measurement of health in time, (2) there should be a statistically significant relation between SOC and health, (3) the relation between SOC and health should not be due to a third variable and (4) there should be a reasonable theoretical explanation of the relation between SOC and health (e.g. Taris and Kompier, 2003). Due to the reciprocity between SOC and health (Antonovsky, 1979, 1987; see also Fig. 53.1, e.g. arrows R, O and P) and as SOC also can be perceived as one of the indicators of (mental) health (e.g. Geyer, 1997), the causal effect of SOC on health is extra tricky to investigate. Given Antonovsky's assumption that SOC is a quite stable *disposition* after 30 years of age (Antonovsky, 1979, 1987), then cross-sectional data analysed with simple statistical methods can only at best give preliminary results on the causal relation between the trait-like SOC and state-like measures of health. A less strict view would be to describe and treat SOC as a determinant, moderator and mediator variable of health (e.g. Albertsen et al., 2001; Hochwälder, 2013). Also, the different possible types of relationships (e.g. simple, causal, reciprocal) between SOC and various health indicators should be more precisely specified and studied empirically. To rigorously study the causal effect of SOC on health, longitudinal data must be collected and properly analysed, preferably by structural equation modelling analysis (e.g. Bollen, 1989; Byrne, 2001; DeLange et al., 2003; Taris and Kompier, 2003). Furthermore, it should also be noted that experimental studies to investigate the causal effect of SOC on other variables (e.g. stress, performance) are scarce (e.g. Kimhi, 2015; McSherry and Holm, 1994) and badly needed.

SOC as the Outcome Variable

Antonovsky (1979, 1987) assumed that SOC becomes a stable disposition around 30 years of age, especially for those with a strong initial SOC, and that it is difficult to change the SOC permanently in adults. However, empirical studies have shown that SOC is not as stable as Antonovsky assumed and that SOC increases slightly with age (see Eriksson and Lindström, 2005). Also, SOC can be improved through various interventions (e.g. Griffiths, 2009a, 2009b; Hojdahl et al., 2013; Kähönen et al., 2012; Langeland, 2007; Langeland et al., 2007a, 2013). According to the salutogenic model, a straightforward way to affect SOC is by (1) strengthening people's GRR; (2) by enhancing the environment with regard to (a) comprehensibility, by increasing predictability or consistency, (b) manageability, by creating an underload-overload balance and (c) meaningfulness, by increasing the participation in shaping of outcomes and (3) by improving people's tension management (see Antonovsky, 1979, 1987, 1996b; see also Fig. 53.1, arrows C, A and N). Langeland and coworkers (e.g. Langeland, 2007; Langeland et al., 2006, 2007b; Langeland and Vinje, 2013, 2017; Langeland and Wahl, 2009) have performed some promising interventions to strengthen SOC by targeting crucial GRR (e.g. social support, self-identity) and in various ways to enhance comprehensibility, manageability and meaningfulness. There is also evidence that improving tension management (e.g. through a mindfulness-based stress reduction programme, see Kabat-Zinn, 1982; Kabat-Zinn et al., 1985) can strengthen SOC (e.g. Weissbecker et al., 2002). Finally, there are also empirical findings indicating that various factors, such as personality (e.g. neuroticism, conscientiousness: see, e.g. Hochwälder, 2012; Feldt et al., 2007; Pallant and Lae, 2002), environment (e.g. life events, work conditions: see, e.g. Feldt et al., 2005; Kivimäki et al., 2002; Volanen et al., 2007), various types of social relationships and support (e.g. parent-child relationship, peer-group relationship: see, e.g. Garcia-Moya et al., 2014; Volanen, 2011; Volanen et al., 2004, 2006) as well as various types of behavioural and perceptual mechanisms (e.g. empowerment, reflection processes: see Super et al., 2016) are related to and can affect the SOC. Thus, even though it contradicts Antonovsky's original assumptions that SOC is a generalized disposition which is not susceptible to change in adult age, there are, as mentioned earlier, studies that have

shown that various interventions can have positive effects on SOC, even though the permanence of these effects has not been established (see also, e.g. Eriksson, 2015b; Eriksson and Lindström, 2007; Lindström and Eriksson, 2005). Due to the positive relationship of the SOC to (mental) health – for a review, see Eriksson and Lindström (2006) – and to quality of life – for a review, see Eriksson and Lindström (2007) – more research is needed regarding *how or in what way*, *to what degree* and *how permanently* SOC can be strengthened in various groups and settings (e.g. Eriksson, 2015b; Suominen and Lindström, 2008).

General SOC and Domain-Specific SOC

The SOC scale is a general and trait-like measure because it was constructed to measure the generalized and dispositional way in which we perceive the world and life (Antonovsky, 1987). SOC – as measured by this scale – is often used to predict or explain various variables in specific domains (e.g. work; Albertsen et al., 2001) or to study how SOC is affected by an intervention on some variables in specific domains (e.g. work; Kähönen et al., 2012). In these cases, both the predictive power and the sensitivity to change would be enhanced if a domain-specific state measure of SOC were to be used (cf. Bandura, 1997; Quittner et al., 2012). Thus, when studying the predictive power or sensitivity to change in specific domains, it might be advisable in future research to use some of the existing domain-specific measures of SOC (e.g. work: Vogt et al., 2013; family: Antonovsky and Sourani, 1988; Rivera et al., 2012) and also, if needed, to develop new measures for some other domains (e.g. school, leisure time, spouse relation, parent-child relation).

The Concept of Boundary in the Measurement of SOC

Antonovsky (1979) stated in the salutogenic model that SOC can mobilize GRRs (e.g. coping strategies) to deal with various challenging life events (see Fig. 53.1, arrow D). Furthermore, Antonovsky (1987) also stated that the boundaries we set regarding parts of the world and life we consider to be important, influence our SOC. By restricting the boundaries, so that a particular sector (e.g. academic education) is considered as unimportant, that sector will no longer affect our SOC. By widening the boundaries, so that a certain sector is considered as important, that sector will affect our SOC. Furthermore, he suggested that the boundaries can never be restricted so much that the following four sectors are excluded: (1) the person's own inner feelings, (2) the closest interpersonal relations, (3) the main occupation and (4) the main existential themes. The SOC scale was constructed to include elements from these four sectors. However, Antonovsky (1987) proposed that in the future, it would be wise to include a measure of the boundaries, or in other words, a measure of which sectors of the world and life a person takes into consideration when assessing that person's SOC. Such a measure of boundaries of SOC has still not been developed and remains a task for future research.

The Dichotomization and Trichotomization of SOC

Antonovsky (1987) sometimes treated – both theoretically and empirically – SOC as a dichotomized or trichotomized variable. To dichotomize or trichotomize a continuous quantitative variable has well-known disadvantages (see Cohen, 1983). However, if there is an imperfect or not very strong linear correlation between SOC and another variable, such as mental ill health, the question arises as to whether it is a *strong SOC* that *protects* against mental ill health or a *weak SOC* that is a *risk factor*. Antonovsky (1996b, p. 16) formulated this problem in the following way: 'Is there a linear relationship between SOC and health, or is having a particularly weak (or a particularly strong) SOC what matters?' Lundberg (1996) also asked if it could be the case that a strong SOC is not necessarily better for health than a moderate one and that a weak SOC that is especially detrimental for health.

Results from two studies are relevant to these questions. In a longitudinal study by Hochwälder (2015), the results indicated that persons with a weak SOC at Time 1 experienced (approximately 1 year later) at Time 2 more negative (conflict separation, integrity offensive and financial) life events than persons that had a moderate SOC or a strong SOC at Time 1. However, no differences between persons with moderate and strong SOC were found. A similar pattern was found in a study by Super et al. (2014), where the results showed that persons with weak SOC had a higher all-cause mortality risk compared to persons with moderate SOC, but that there was no difference between persons with moderate SOC and strong SOC. Thus, the findings from these two studies give some preliminary support to Lundberg's hypothesis (1996).

This gives rise to the following question – if it can be accepted that SOC should be dichotomized or trichotomized in order to be able to answer specific questions – how is this dichotomization or trichotomization to be carried out? One often-used strategy is to obtain relative, or sample specific cut-off values (e.g. Magnusson, 1967), which means that for a given sample or study the SOC scale is dichotomized by setting the cut-off value at the 50th percentile or trichotomized by setting the cut-off values at the 33rd (or 25th) and the 67th (or 75th) percentile on the SOC scale (e.g. Anson et al., 1993; Karlsson et al., 2000; Ristakari et al., 2008; Surtees et al., 2006a). The shortcoming with this approach is that the cut-off points vary between studies and that the dif-

ferentiation between the SOC groups in a given study depends on the distribution on the SOC scale in that study. This means that if, for example, most subjects in the distribution have similar values on the SOC scale, then there will be no apparent differences between the different SOC groups. Another strategy is to set absolute or non-sample specific cut-off values (e.g. Magnusson, 1967), which means that the dichotomization or trichotomization is based on previously established cut-off values for the SOC scale (e.g. Langius and Björnvell, 1996). Concerning this approach, it should be noted that there are no well-established cut-off values for the SOC scale (Eriksson and Lindström, 2005, 2006), and also, that when this approach is used, the cut-off points are usually not established through rigorous psychometric analyses to ensure discriminant validity between the different groups (e.g. Magnusson, 1967; Murphy and Davidshofer, 2001). Thus, one task for future research on the SOC scale is to use psychometric analyses to establish absolute cut-off values for the SOC scale that clearly and distinctively separate the different SOC groups from each other.

In sum, even though there are disadvantages in dichotomizing or trichotomizing SOC, it is suggested that it can be justified in order to be able to investigate more thoroughly if a weak SOC or a strong SOC is crucial for health and well-being. Furthermore, it should also be investigated whether it is a weak SOC or a strong SOC that is crucial, depending on the variable being studied, for example, whether the variable is pathogenic (e.g. hassles or depression) or salutogenic (e.g. uplifts or happiness). Finally, an additional issue is to establish absolute cut-off values for the SOC scale, which could be used generally and universally. These three types of issues deserve more attention in future research.

The Importance of Relating SOC to Salutogenic Outcomes Measures

Antonovsky (1979, 1987) stated that the salutogenic perspective should be a *complement* to the older and more established pathogenic perspective. Even though it is noteworthy that the latter had a dominating position over the salutogenic perspective for a long period, this is quite understandable from a psychological and evolutionary point of view. The research on prospect theory by Kahneman and Tversky (1979; see also Kahneman, 2011) has showed, among other things, the principle of loss aversion, which states that when the same objective losses and gains are compared with each other, the losses are usually subjectively perceived as 1.5–2.5 times larger than the gains. This means that we are driven more strongly to avoid losses than to achieve gains or that bad is stronger than good (see also, e.g. Baumeister et al., 2001). In the present context, this could be interpreted to mean that we humans are more motivated to avoid becoming worse or 'unhealthy' than better or 'healthy,' as we value this more highly.

Table 53.3 Mapping sentence definition of the health ease/dis-ease continuum (Antonovsky, 1979, p. 65)

	A. *Pain*	
Breakdown is any state or condition of the human organism that is felt by the individual to be:	1. Not at all 2. Mildly 3. Moderately 4. Severely	Painful
	B. *Functional limitation*	
That is felt by him or her to be:	1. Not at all 2. Mildly 3. Moderately 4. Severely	Limiting for the performance of life activities self-defined as appropriate
	C. *Prognostic implication*	
That would be defined by the professional health authorities as:	1. Not acute or chronic 2. Mild, acute and self-limiting 3. Mild, chronic and stable 4. Serious, chronic and stable 5. Serious, chronic and degenerative 6. Serious, acute and life-threatening	Condition
	D. *Action implication*	
And that would be seen by such authorities as requiring:	1. No particular health-related action 2. Efforts at reduction of known risk factors 3. Observation, supervision or investigation by the healthcare system 4. Active therapeutic intervention	

According to Antonovsky (1979, 1987), a person's health is not a dichotomy but should be conceptualized as a position on an ease/dis-ease continuum. More specifically, he presented a definition of the health ease/dis-ease continuum, which is mapped in Table 53.3 (Antonovsky, 1979, p. 65). As can be seen from the table, a person's health could be assessed by ratings on four facets or domains (pain, functional limitation, prognostic implication and action implication), where the rating in each domain is placed into a number of categories (4, 4, 6 and 4 categories respectively), which results in 384 (= 4 × 4 × 6 × 4) possible health profiles. It should be noted that this definition is pathogenic, because: (a) it focuses on the *absence* of ill health in terms of pain,

functional limitations, prognostic implications and action implications, where at best the person has 'not at all' pain, has 'not at all' functional limitation, has 'not acute or chronic' prognostic implications and has 'no particular health-related action' with regard to action implications; (b) of the 384 possible profiles only one (the 1-1-1-1 profile) is characterized by the total *absence* of problems. Thus, it seems that Antonovsky also focuses asymmetrically more on ill health or the dis-ease part in his definition of health.

In Antonovsky's defence (see Antonovsky, 1979, 1987), it must be said that to him, the *movement* on this continuum was the primary concern and not the *position* per se. Furthermore, his salutogenic perspective focuses primarily on what makes people move towards health and not about how to avoid ill health. As presented previously (see Table 53.1), while the salutogenic perspective focuses on promoting better health, gains, growth and maximizing potentials, the pathogenic perspective focuses on treating or preventing diseases, pain or loss, becoming worse and minimizing problems. It is then logical that the pathogenic approach uses pathogenic outcome measures such as burnout, anxiety, depression, the prevalence of various diseases (e.g. cancer, coronary heart diseases) and mortality. It would be equally logical that the salutogenic approach would more frequently use salutogenic measures of positive health and well-being as outcome variables.

The problem is, however, that in the majority of the salutogenic studies or studies having had the intention to follow in Antonovsky's footsteps, pathogenic variables are measured as outcome variables, with the consequence that the core idea of the salutogenic perspective is not adequately investigated (see Becker et al., 2010). In order to adequately study the fundamental thought that SOC promotes movement towards the positive side of the ease/dis-ease continuum or in other words, the existing salutogenic variables – such as, for example, perceived wellness (Adams et al., 1997), wellness promotion (Becker et al., 2008, 2009), mental *health* (Keyes, 2005) and healthy lifestyle (Berger and Walker, 1997; Walker et al., 1987) – should be used more frequently as outcome measures and, if necessary, new scales should be developed to measure various types of salutogenic outcome variables.

Additional Issues of Various Kinds

There are additional issues of various kinds that are highly relevant to Antonovsky's salutogenic model and which should be given more attention in future research. Three such issues will be mentioned briefly here. First, SOC is usually measured for individuals (*individual SOC*), but could also be measured for other entities, such as groups (e.g. families) and places (e.g. workplaces) (*collective SOC*). The study of collective SOC is an avenue with many theoretical challenges (e.g. concerning its development and stability) and empirically, relatively sparsely investigated (e.g. the study of, and comparison between, different workplaces, where the multilevel analysis seems particularly well suited to analyse the data, see, e.g. Bickel, 2007; Twisk, 2006), which deserves more attention in future research (see, e.g. Antonovsky, 1996b; Bauer et al., 2019). Second, when Antonovsky introduced the scale for measuring the SOC construct, it generated much research related to the salutogenic model (see, e.g. Antonovsky, 1987, 1993). It should be noted that there are no established scales to measure many of the other central constructs (e.g. GRRs, tension management) in the salutogenic model (see Fig. 53.1), and if scales could be developed to measure these constructs, it would probably stimulate much research related to this model. Third, as the number of studies relating to parts of the model grows, it becomes important to summarize these findings in the form of literature reviews and meta-studies. Many valuable reviews have already been done (e.g. Eriksson and Lindström, 2005, 2006, 2007; Flensborg-Madsen et al., 2005; Mittelmark et al., 2017), and hopefully more such studies will be done in the future to summarize findings on issues relating to Antonovsky's salutogenic model of health.

Conclusions

Antonovsky's salutogenic model of health, with its core construct of SOC, has become an important complement to the pathogenic model. Throughout the years, the salutogenic model has provided valuable guidance and stimulated much research. However, several theoretical and methodological issues need to be addressed. The aim of this chapter has been to discuss some issues that need to be further explored in future research. More specifically, the following issues were discussed: (1) the dimensionality of the SOC scale; (2) SOC as the causal variable; (3) SOC as the outcome variable; (4) general SOC versus domain-specific SOC; (5) the concept of boundary in the measurement of SOC; (6) the dichotomization and trichotomization of SOC; (7) the importance of relating SOC to salutogenic outcome measures; (8) various kinds of additional issues: (a) studying the collective SOC, (b) measuring other central constructs in the salutogenic model and (c) the importance of literature reviews and meta-studies.

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Qualitative Approaches to the Study of the Sense of Coherence

54

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Introduction

Quantitative measurement of the sense of coherence (SOC) has been highly productive. However, the SOC ("orientation to life") scale as we know it, with its high reliability and validity (Antonovsky, 1993; Eriksson & Lindström, 2005), is actually based on a series of in-depth *qualitative* interviews conducted by Aaron Antonovsky, from which the wording and structure of the questionnaire were derived (Antonovsky, 1987). The interviews explored people's experiences and life stories (see Fig. 54.1).

The people who were chosen for the interviews had all undergone severe trauma and had expressed high or low levels of SOC components – comprehensibility, manageability, and meaningfulness. The purpose was to identify elements in the orientation to life that were common in people with a high level of functioning but absent in people with a low level of functioning. Later on, short expressions were written, reflecting the themes that had emerged in the interviews. Each expression belonged to one of the three SOC components but at the same time expressed the general idea of SOC, which Antonovsky (1979, 1987) viewed as a unidimensional construct (an assumption that was later challenged theoretically and empirically, see, for example, Eriksson & Lindström, 2005; Hochwälder, 2019). The expressions that were found in the interviews were later translated to 29 questionnaire items, and birth was given to the original *Orientation to Life Questionnaire*, which has later been used in tens of thousands of salutogenic studies.

43. SOC: 8

Despite the angina pectoris, strong SOC. After all, losing son and daughter do have effect. But nonetheless, the picture is so consistent of a woman who knows reality, with its ups and downs, its tragedies, and yet one must go on, without forgetting. Must be realistic. She sees her life as having been full of joy, and one must and can overcome tragedy. Man is flesh and blood, not iron.
There is a great wholeness about her, her family life, her work, her friends.
Total rejection of looking for someone to blame for what happened.

Fig. 54.1 Card typed by Antonovsky summarizing interview #43. The interviewee was evaluated as having a "strong SOC" (Antonovsky, 1987)

Nevertheless, Antonovsky wrote: "I must emphasize that there are many alternative ways of legitimately measuring the SOC…. We can only learn and advance by use of different methodologies" (1987, pp. 63–64). But studies that have employed a qualitative method to measure SOC are relatively scarce, and in many instances, their specific methodologies were used intuitively, "getting a feeling" of measuring SOC. Therefore, there is a need for a systematic review of qualitative methods used to measure SOC. Thus, the main purpose of this chapter is to try to answer the question of how SOC is qualitatively measured and when such measurement is relevant or preferable. In addressing this general question, it is useful to break it down into four interrelated issues. The first two touch upon "how SOC is qualitatively measured" and the last two touch upon "when such measurement is relevant":

1. Do qualitative measures of SOC (mainly unstructured or semi-structured interviews) measure the same *theoretical construct* as the quantitative questionnaire measures?

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2. The orientation to life questionnaire has good predictive value toward several measures of physical and mental health. Using qualitative thinking and terminology, are there underlying mechanisms discovered by qualitative research that can explain how people cope with stressful physical or mental life experiences?
3. Given that in recent years salutogenic research has gone beyond the healthcare arena, are there specific domains in which qualitative measures are preferred over quantitative ones?
4. Are there certain populations (e.g., adolescents at risk, retirees, trauma victims, marginalized societies, particular cultural groups) for whom qualitative measures of SOC are more appropriate than quantitative ones?

As a first attempt to sort out the issue of qualitative measurement of SOC, we want to explore "what is out there." Our purpose, then, is to try and uncover a diverse set of circumstances in which the SOC has been measured qualitatively and to bring our findings to the awareness of the salutogenic research community. Depending on what we find, we may be able to offer a loose form of (qualitative) meta-analysis, leading to a conclusion regarding when and how qualitative measurement of SOC is most useful. But this will only be an initial grounded theory. Like Winnie the Pooh (Milne, 1926) going hunting with his friend Piglet, we will be tracking something, but we shall have to wait until we find it to know what it is.

Qualitative Versus Quantitative Research

Without going into the historical roots and developments of both types of research, it can be said that unlike quantitative studies, qualitative inquiry:

(a) Assigns importance to the researchers' conceptual perspective (rather than idealizing objectivity).
(b) Recognizes the existence of different truths, or realities, held by different people or cultural groups (rather than an unbiased, factual, and quantifiable "truth" out there waiting to be discovered).
(c) Focuses on holistic and multifaceted descriptions of overt and covert behaviors and circumstances that can form a theory of relationships between various human phenomena (rather than measuring numerical associations between specific controlled variables in an attempt to infer previously hypothesized causal relationships).

These contrasts have given birth to different kinds of research methodologies. With the possibility of overgeneralizing, it can be said that quantitative researchers are interested in *outcomes* and use deductive methods that focus on *quantities* of phenomena ("when?", "how much?") like true experiments (randomized controlled trials), quasi-experiments, correlational survey designs, and big data statistical analysis. Qualitative researchers are interested in *processes* and use inductive methods that focus on *qualities* of phenomena ("what?", "how?") like observations, focus groups, interviews, and discourse analysis.

The scientific principles and criteria of good psychometric properties such as reliability, validity, and generalizability are equally relevant to quantitative and qualitative research. However, the methods for assessing these properties may differ, and qualitative research uses terms that better describe its character: confirmability, credibility, and transferability (Lincoln & Guba, 1985). Nevertheless, despite the conceptual, philosophical, and methodological differences between the quantitative and qualitative paradigms (see Kendler, 2006), the combination of the two approaches in what has been called "the mixed-methods approach" may provide a better understanding of the human phenomena under consideration (Creswell, 2014). Mixed-methods research does not mean eliminating or hiding differences between the qualitative and quantitative methods. On the contrary, it means using different methods that complement each other (Greene, 2001). This understanding will come in handy when we later explore a few studies which have used mixed methods.

We will now turn to describe the body of literature that was the basis for our findings and discussion of qualitative approaches to the study of SOC.

Method

In an attempt to understand how researchers examined SOC qualitatively throughout the last 12 years, we searched the PsycINFO and Medline electronic databases in September 2019. Based on a preliminary search, we used several search terms concerning the salutogenic theory (salutogen*, sense of coherence, comprehensibility, manageability, meaningfulness) and our interest in qualitative methods (qualitative study, qualitative research). We limited the search to papers (not including books) that were published between 2008 and 2019 in English or Hebrew, without any other limitations (with very few exceptions of papers published earlier, which we came to know about). In addition, during the process of writing the chapter, we became aware of a few more papers through word of mouth. The search resulted in 224 papers after excluding duplicates. Of those, six papers were excluded due to the inability to access the full text. Thus, we had the opportunity to read through 218 diverse papers.

Of the papers we reviewed, 102 turned out to be irrelevant. Either they came up in the search because they had

words like "qualitative" and "coherence" and "sense," but no connection with the sense of coherence (or salutogenesis), or they measured SOC *quantitatively* while something different and *unrelated* was measured qualitatively, or they were not close to meeting the criteria for a good qualitative study. Consequently, our final selection of papers included 116 studies to be classified.

The reason for the decision to limit our review of papers to full text in English or Hebrew is twofold. First, although salutogenic research is ongoing worldwide, almost all studies are published in English. Therefore, we searched only in English and Hebrew, languages in which the first two authors are fluent. Second, we decided to read only full-text articles after reading "misleading" abstracts of articles about studies relating to coherence in various contexts, which people may sense, but not to what we mean by "sense of coherence."

Data Analysis

As we first examined the papers, we classified them into three preconceived categories:

(a) Studies that were specifically designed to measure SOC (and its components) by directly addressing the concepts of SOC, comprehensibility, manageability, meaningfulness, and generalized resistance resources/deficits (GRRs/GRDs) while explicitly operationalizing them in a particular measurement tool.
(b) Studies which were designed within the salutogenic framework and aimed at measuring SOC or identifying GRRs, but doing so by means of unstructured methods such as analyzing people's life stories or artwork or looking for behaviors or expressions which reflect SOC and its components, or studies interpreting the findings in terms of SOC.
(c) Studies that did *not* originate with salutogenesis or SOC in mind but have ended up with a hindsight understanding that, in effect, SOC (or its components) has been measured (or expressed), even if it wasn't part of the terminology.

In the process of reviewing the papers, we found papers that justified a fourth category:

(d) Studies which had salutogenesis as their starting point, or a theoretical framework of health promotion, but did not measure SOC at all.

The classification was done by the first two authors. For a large part of the papers, there was full agreement between us. When it wasn't clear-cut, we discussed it between us until agreement was reached. As we further analyzed the papers and subclassified them according to specific methods, populations, scientific disciplines, and countries, we ended up moving a few papers from one main category to another or agreeing on some papers as being "in-between" categories. Regarding the "in-between" papers, we finally placed them in one category or another, keeping in mind that the categories (especially a and b) are not distinct but rather on different points on a continuum.

The reader might ask why we included categories c and d, which do not address the *main* focus of this chapter (the qualitative measurement of SOC). We have two reasons for doing so. One is that their inclusion reflects a *holistic* approach, which characterizes the qualitatively oriented nature of our chapter. It reflects the idea that a comprehensive and *thick description* of the life patterns of the population (in this case, the population of studies) helps to understand better the behaviors (in this case, literary-academic "behavior") and their inter-relationships. A second reason is that while categories a and b are quite obvious, categories c and d are somewhat unexpected and are, therefore, at least as interesting as categories a and b. Category c offers a look into studies which, in effect, are salutogenic, done by researchers who are not necessarily involved in salutogenic work. Category d is a result of *internal categorization* (i.e., not preconceived), which emerged along the way, and here, too, we found something unlikely to happen in quantitative empirical salutogenic research: data collection without measuring SOC. We feel it is worth noting that there are empirical works pertaining to salutogenic theory as a guiding principle in health promotion research, which allow for the measurement of variables besides SOC. Also, reading these studies gave us some ideas that may turn out helpful in answering some of the questions we presented at the outset of this chapter.

In sum, although we began with three main preconceived categories, we did go along with what Strauss and Corbin (1990) called "open coding" and followed a process in which papers (our study "participants") were re-categorized and subcategorized according to dimensions that were uncovered during the analysis (see Strauss, 1987).

Although we have ended up with almost all papers carefully fitting into specific categories and subcategories, the main unit we relate to is the category. Therefore, for the purpose of understanding the scientific approaches to the qualitative measurement of SOC, it is not diagnostically critical to know to which category a certain paper belongs. The importance of sampling several papers and categorizing them lies in the empirical validation of our general predetermined classification. In other words, we had assumed there are a

few kinds of qualitative studies pertaining to SOC, and we needed enough corroborating evidence. Now that we have it, it is the big picture that counts.

Results

We will now describe the four main categories of studies by pointing out characteristics of the studies in each category, followed by two to four specific examples. Unlike in quantitative research, where the most important piece of data is a measure of central tendency (e.g., mean or median), in qualitative research, it is important to give room to unusual or exceptional cases (Lincoln & Guba, 1985). Therefore, we will give examples of common as well as uncommon kinds of studies. The full list of studies for each category can be found in the Appendix. Lastly, it should be noted that while we will mention or describe the *methods* used to collect data (in line with the purpose of this chapter, which is about measurement), we will usually (but not always) leave out details of the analytic strategies (structural or thematic content analysis, text condensation, etc.) or the findings, as these are outside the scope of this chapter. Although we did consider criteria for good qualitative studies, we are aware that some of the studies we chose as examples do not fully meet the criteria or do not report enough information to evaluate them fully. In our opinion, it is important in this chapter to expose the readers to methodologically and content-wise diverse studies. Keeping this in mind, readers who wish to engage in qualitative salutogenic research in a specific area should rigorously apply quality criteria when relying on research literature.

Category (a): Studies Which Were Specifically Designed to Measure SOC and Its Components

Twenty-seven papers belong to this category. More than half of them are studies done in Scandinavian countries (Finland, Norway, Sweden). The rest are from Australia, Austria, England, Israel, South Africa, Switzerland, and the USA. A fairly large proportion of studies were done among people who were diagnosed with serious or chronic illness (e.g., cancer, lupus, rheumatoid arthritis). Most of them employed mixed methods, usually quantitative SOC questionnaires and qualitative in-depth interviews or focus groups. In the qualitative measurement, researchers used one or more open-ended questions pertaining to each of the three SOC components (comprehensibility, manageability, meaningfulness) in the context of the research topic.

As a first example, we offer a study conducted in Denmark by Midtgaard and her colleagues (Midtgaard et al., 2012). Employing the focus group interview method, they studied expressions of self-determination and illness resistance among 23 posttreatment cancer survivors who engaged in the long-term maintenance of physical activity. They wrote (pp. 2000–2001):

> Inspired by salutogenesis, this study was built on the idea that cancer survivors are able to provide substantial accounts of their own health status, including which and how resources help them to maintain physical activity in the recovery from the disease. Therefore, the purpose of the present investigation was to describe cancer survivors' lived experience of postintervention maintenance of physical activity, and thereby to gain an understanding of adherence-enhancing (resistance and health-promoting) resources and strategies…. In accordance with the salutogenic approach applied in the study, we developed a semi-structured interview guide on the basis of the term sense of coherence (SOC)…. Nine questions acted as triggers for discussion of the relevant components included in Antonovsky's formulation.

Midtgaard et al. (2012, p. 2002) gave examples of the open-ended questions they used as triggers to facilitate storytelling, thus enabling the measurement of respondents' comprehensibility, manageability, and meaningfulness:

- Comprehensibility (The perception of the world as being understandable, orderly, and consistent rather than chaotic, random, and unpredictable): How confident are you that you will continue to exercise regularly?
- Manageability (The recognition that the resources required to meet the demands are available): What and who allows you and support you to maintain physical activity?
- Meaningfulness (The emotional experience of life as making sense and thus coping being desirable): In what ways is maintaining physical activity worth the while?

It should be emphasized that the reference made by Midtgaard et al. (2012) to the components of SOC is specifically related to physical exercise and not to a "global orientation to life" (Antonovsky, 1987, p. 19). The issue of a context-specific vs. general SOC will be elaborated on later in this chapter.

Regarding the qualitative method of focus groups, Midtgaard et al. (2012, p. 2006) concluded: "By using a salutogenic approach, we were able to point out important resistance and health-promoting resources, which may be translated into effective physical activity behavior change interventions to benefit cancer survivors in general."

The second example of qualitative research that explicitly measures SOC or its components is a study by Engeli et al. (2016). They measured resilience "as per Antonovsky's sense of coherence" (p. 122) among eight recently diagnosed malignant melanoma patients and their spouses (note that Engeli et al. use SOC and resilience interchangeably, which in our opinion is a conceptual mistake). In semi-structured

interviews, participants were asked open-ended questions pertaining to the sense of coherence. For example, "Do you have any explanation as to why you/your partner has fallen ill?" "What helps you when things appear to be at their worst?" "Do you think about the meaning of life?" (p. 124). Content analysis resulted in codes that were allocated to response categories of comprehensibility, manageability, and meaningfulness. Engeli et al. found that the most significant theme that emerged was manageability of the disease, while the themes of comprehensibility and meaningfulness were much less prevalent.

A third example of qualitatively measuring SOC is the art-based method used by Huss et al. (2018). Huss and her colleagues explained the need for such a method by a mismatch between Western and non-Western societies with regard to conceptualization and understanding of SOC. This mismatch, manifested by relatively low SOC scores in non-Western cultures, may be a result of using Western-centric measures like questionnaires, thus not being able to capture the culturally embedded nature of collectivistic and indigenous SOC.

In their study, Huss et al. (2018) wished to reveal the way SOC is manifested among 14- to 16-year-old youth from the indigenous Bedouin ethnic minority living in the Negev desert in southern Israel. They did so by asking 80 respondents to draw pictures of a stressful situation and then transform the drawing to fix the situation. Specifically, the respondents were asked to "1. Draw an image of a good day that went bad and write an explanation of the drawing on the back of the page. 2. Now add or change the image to show how you made the day better" (p. 65) (thus "fixing" the situation). This kind of art-based method is "cited as culturally relevant for non-Western groups in that it helps shift away from abstract verbal concepts to more metonymic and person-in-context-rich types of descriptions" (p. 65).

By means of triangulation (drawings, verbal explanations, researchers' inter-rater interpretation agreement), Huss et al. (2018) defined themes that have emerged from the data, and those were phenomenologically analyzed. This enabled reaching answers to the research questions in terms of SOC components. It was learned, for example, that the manifestation of manageability reflects a non-Western, collectivistic value system, which would seem to Western eyes as lack of management.

Huss et al.'s (2018) study was exploratory and preliminary. They did not administrate SOC questionnaires for the sake of comparison and convergent validation, and they did not collect data in other marginalized groups for the sake of assessing the transferability of the findings. Nonetheless, this study seems to open the way not only to the use of art-based methods in cross-cultural salutogenic research but also to new insights regarding the conceptualization of SOC as a universal construct, as Antonovsky (1987) postulated.

Finally, the fourth example, of a study measuring SOC through semi-structured interviews, is worth mentioning mainly because of the way the results were reported. In 2007, Ozanne and her colleagues conducted a study among Swedish people with amyotrophic lateral sclerosis (ALS) and their spouses. The purpose of the study was to illuminate life experiences in terms of comprehensibility, manageability, and meaningfulness, and they used open-ended questions similar to the aforementioned ones used by Midtgaard et al. (2012) in the context of ALS. The results were published in a series of papers (Ozanne et al., 2011; Ozanne et al., 2013, 2015; Ozanne & Graneheim, 2018). Each component of SOC was reported in a separate paper (with meaningfulness reported separately for patients and for their spouses).

With regard to manageability, Ozanne et al. (2011) found fluctuations between factors that facilitated manageability (such as acceptance, support from family and friends, and living in the present) and factors that hindered this ability (complex relationships with family members, friends, and authorities). Most of these themes were common to both patients and next of kin. The next two papers (Ozanne et al., 2013, 2015) treated meaningfulness. Here it was found that patients and spouses shared common worries about the disease and its consequences. For example, they reported feelings of loneliness and isolation. However, despite the illness, patients found meaning through family and friends, which strengthened their will to live. Spouses expressed a sense of meaningfulness due to several strategies: an ability to live in the present, cherishing one's own life, gaining strength from fellowship, and believing in meaning after the partner's death. Finally, concerning comprehensibility, Ozanne and Graneheim (2018) reported that while diagnosis reduced patients' and spouses' feeling of uncertainty, it also increased their feeling of losing their foothold. These findings suggest the importance of support and information for both patients and spouses during the process of diagnosis.

The reason for reporting the results in a series of separate papers, as Ozanne et al. (2011) explained, is the very large amount of data that made it impossible to report the results for all three SOC components in one paper. Including all the extensive interview data in one report would have been superficial, and therefore there was a need to divide them into separate reports, said Ozanne and her colleagues.

This is not only a technical issue. It has important methodological and theoretical implications. From a methodological viewpoint, this is to teach us that qualitative studies are many times much more complex than their quantitative counterparts. The qualitative approach used in many of the studies we encountered in our search has its roots in constructivist theories (Guba & Lincoln, 1998), and the data collected in them tend to be multifaceted and complex. Unlike the isolation of variables in quantitative research, qualitative

data become interwoven, and the task of sorting out all the pieces and then solving the puzzle sometimes takes tremendous effort and much time. The advantage of this is a thick description we end up with, a rich body of data and insights based on a wide network of information. All this is something that salutogenic researchers should keep in mind when setting out for a qualitative study of SOC. You may not be able to cover everything in one time and may need to deconstruct SOC and reconstruct it at a later time.

This brings us to the second, theoretical implication: the need to revisit the question of dimensionality. Is SOC a unidimensional construct, or can its three components be looked upon as separate (although related) dimensions or variables? Is it theoretically meaningful to discuss the findings of a study without having ends meet, that is, without discussing how all three components connect to a final result, and perhaps a conclusion, in terms of SOC as a whole? This question is especially relevant regarding the papers of Ozanne and her colleagues, which were published years apart from one another. We shall return to the question of SOC dimensionality toward the end of this chapter.

Category (b): Salutogenic Studies Which Attempted to Identify SOC Components or GRRs or Interpret the Findings in Terms of SOC

This category included 52 papers. Like the first category, many of the studies that belong to this category were done in the Scandinavian countries, as well as in countries in western Europe and in the UK. Other studies in this category were done in Africa (Eritrea, Ghana, Sierra Leone, and Uganda), Israel, Canada, and the USA. Most of the studies we classified into this category examined populations exposed to stress that is a result of chronic illness (e.g., cancer, heart problems, or diabetes) or with certain vulnerabilities or disabilities. However, there is also a decent number of studies in this category that focused on nonclinical populations such as nurses, immigrant women, and other minorities. Most researchers used interviews as a main method (either in-depth open interviews or more structured ones). In some of the studies, interviews were used in addition to another method such as quantitative SOC questionnaires (Drageset et al., 2016), drawings (Bodman, 2017), or photovoice sessions (Bonmatí-Tomás et al., 2016).

An example of studies belonging to this category is that of Husby et al. (2019), done in Sierra Leone. Their research aim was to explore the birth experiences of women undergoing cesarean section (CS) and their experiences with care during pregnancy, birth, and the postpartum period. Interviews were conducted with 16 healthy women over the age of 18, delivered by CS. An interview guide was prepared in order to cover as many topics as possible regarding the goal of the study.

We believe that this paper is an excellent representation of the idea of this category of studies because of the way Husby and her colleagues described it: "During the data analysis process, it became apparent to the research team that the theory of salutogenesis could be clearly related to the emergent themes. The theory of salutogenesis was developed by Aaron Antonovsky…" (p. 88). Thus, this study wasn't a salutogenic one from the start but became one *during analyzing the data* (this is why it belongs to this category of studies and not to category c, which we saved for hindsight understanding of SOC measurement). Also, SOC wasn't measured directly by specific questions (see quote above from Midtgaard et al., 2012, p. 2002) but instead was examined according to the themes that emerged from the interviews.

A second example from this category is a study conducted in Israel by one of the authors of this chapter (Pragai Olswang, 2018). In light of the salutogenic theory, this study examined personal resources and coping strategies of teenage girls at risk who had experienced severe stress as a result of neglect, violence, or physical, verbal, or sexual abuse. The girls stay in a unique boarding school for a short-term 3-month intervention during a crisis. A mixed-methods design was applied. Quantitative questionnaires (in which both SOC-13 and community SOC) were filled out by 200 girls. In addition, individual in-depth interviews were conducted with 12 girls aged 13–17. The girls were interviewed toward the end of their stay in the boarding school. Thus, they described the way they perceived their life stories before entering the boarding school, as well as following their experience there.

The qualitative part in this study fits category b, because the researcher, rather than composing specific questions in order to examine SOC directly, analyzed the findings according to themes related to each of the three components of SOC, namely, comprehensibility, manageability, and meaningfulness. The findings enabled the researcher to propose that girls in this boarding school perceived themselves as having a fragile, unstable SOC due to several factors that weakened each of the three components. For example, frequent violence from significant others and from peer group members, as well as many unpredictable changes and crisis events, contributed to the girls' perception that the world is incomprehensible; the suddenness of changes and poor personal resources, combined with the girls' feeling that they are all alone, resulted in a weak sense of manageability. These experiences were triggers to several suicidal attempts, expressing helplessness, no hope or motivation for change, hence a lack of meaningfulness. Analyzing the data through the themes and categories resulted in a deeper understanding of the girls' SOC.

The in-depth interviews in this study (Pragai Olswang, 2018) provide more than just a static "still shot" of the participants' SOC. Following a general request to describe their life stories, the researcher asked probing questions directed toward different points on the timeline of the life stories.

Thus, the interviewees could go back and forth in time, enabling the researcher to get a picture of changes (even small ones) in their perceived SOC. When the girls were interviewed toward the end of their stay at the boarding school, they described what their life has been like before, but now all of them described a strong will to have a better future and a motivation to work hard in order to achieve their goals. These descriptions hint at the strengthening of comprehensibility and meaningfulness of the girls. It has been argued that SOC is a fairly stable orientation to life and, therefore, cannot be changed in short periods of time (e.g., Antonovsky, 1987). However, it is possible to strengthen SOC through diverse interventions (e.g., Fagermoen et al., 2015), which might be the case in this example. Alternatively, the findings from this study may not reflect a change in the girls' SOC but a change in the way they perceived themselves and expressed their wills. The relevance of these inferences to qualitative measurement lies in the fact that narrative inquiries like the ones employed here through in-depth interviews enable examining *processes*, not only outcomes. Similar conclusions stem from two studies done in the Netherlands: one is a study by Dell'Olio et al. (2018), who used the timeline method in collecting data among 11 female university students with disabilities for understanding "how their SOC… developed over time" (p. 75). A second is a study by Schreuder et al. (2014) among 11 youngsters with behavioral problems who participated in an experiential program on a care farm. Following in-depth interviews, the "analysis revealed that several resources… of the experiential learning programme on the youth care farm… contributed to their personal development and to their SOC (p. 148).

The third example in this category is a study done in Belgium in a sample of young people with congenital heart disease (CHD) (Apers et al., 2016). The aim of their study was to gain insights regarding CHD patients' resources and life events as building blocks of SOC. What the researchers measured qualitatively wasn't actually SOC or its components. Rather, they asked questions about life experiences that are known to build up SOC, such as coping experiences from the past and social support. In other words, they tried to identify GRRs. They compared the findings between two groups of CHD patients who had previously scored high or low on a quantitative SOC questionnaire, as explained below. Thus, this can be considered a qualitative validation of the "orientation to life" questionnaire, which is used to quantitatively measure SOC, as well as an attempt to understand the development of SOC.

Apers et al. (2016) used their previous findings in order to select the best match for the qualitative measure. They explained: "These patients with marked [clearly high or low] scores on SOC were selected because they were believed to be information-rich cases from whom we can learn most" (p. 2–3). This is in line with the purposeful sampling method, which is common in qualitative research, in which informants are selected for being experienced in the phenomenon under investigation, articulate, and cooperative (Fetterman, 1989; Mason, 1996). Apers et al. ended up with 12 participants who had either weak or strong SOC. In "quantitative language" regarding the need for the researchers to be objective, the interviewer "was blinded for participants' respective level of SOC during all interviews to avoid bias" (p. 3). The researchers used a limited number of open-ended questions to explore participants' resources and how they cope with challenges in life. An example for such a question was: "can you tell me about a situation or a moment that was difficult for you; can you describe what helped you to deal with it?" (p. 3). The researchers found six common themes: (1) self-concept, (2) social environment, (3) daytime activities, (4) life events and disease-related turning points, (5) stress and coping, and (6) illness integration. They then discussed the differences in the expressions with regard to these themes, between people with a weak SOC and those with a strong SOC. They found that those who had previously scored low on SOC had shown life experiences that characterize people who develop a weak SOC and those who had previously scored high on SOC had, in fact, shown life experiences that characterize people who develop a strong SOC. These findings suggest the conceptual validity of SOC by means of triangulation.

Category (c): Studies Which Were Not Conducted Within a Salutogenic Framework, but in Effect Have Retrospectively Measured SOC or Its Components

This category had only ten papers. This scarcity is understandable. If salutogenesis or SOC were not mentioned in the paper, they should not show up in our search. The papers we did include in this category belong here for one of two reasons: either (a) the expression "sense of coherence" was used in an unrelated way to "our" SOC (e.g., people had a sense that their project at work was coherent) and we found it as relevant nevertheless or (b) the researchers themselves became acquainted with salutogenesis after completing the study and thus related to the salutogenic model in the Discussion section of their paper. The first reason mentioned above correctly implies that most of the papers we found and later classified as irrelevant belong to this category. The second reason, "salutogenesis in hindsight," implies that there are probably several researchers out there in the world who are doing salutogenesis without even knowing it.

Seven out of the ten studies in this category were carried out in Scandinavia. The three others were done in Germany, Israel, and the USA. All but one study employed unstructured or semi-structured interviews, and most of them focused on clinical populations, such as people diagnosed with heart problems, arthritis, chronic kidney disease (CKD), or cancer.

The first example is an American study with people with CKD (Kahn et al., 2015). The authors did not mention salutogenesis or SOC at all. However, they did find thematic components resembling SOC:

(a) Coherence (developing knowledge and understanding) which reflects making sense of CKD and information seeking (resembling *comprehensibility*).
(b) Cognitive participation (organizing resources to obtain care and support), which reflects family support, social network support, church, and belief in God (resembling *manageability*).
(c) Collective action (engaging in self-management tasks), which reflects altering diet, increasing exercise, and managing medications (resembling *meaningfulness*), as expressed in the following quote of a CKD patient for whom stopping to drink and smoke remained a challenge: "But if it's either that or go on dialysis, I'm throwing that out the window…. I'm going to do it because I want to live." (p. 178).

The second example of this category is a study in which the first author was involved in its last stages of writing (Ohayon et al., 2018). In a mixed-methods study (questionnaires, focus groups, medical records), 114 observation systems operators (OSOs) in the Israeli Defense Forces (IDF) were asked about factors that enhance their operational performance and well-being. They reported that the better they understand their mission (what we need to do and what will come next), the more they feel they have resources (such as proper training or commander's support), and the more they believe in the mission's importance (we can save lives), the better they will perform and the better they will feel in general. What are these, if not comprehensibility, manageability, and meaningfulness? Until the study was completed and the first author of this chapter was asked to help in writing the paper, the principal investigator had never heard of SOC or salutogenesis. The model was introduced in the Discussion part of the published article. Following this study came other similar research projects in the IDF that were salutogenically oriented from the start and included SOC measurements (mostly quantitative, like the SOC-13 orientation to life questionnaire, but also qualitative, using focus groups).

Category (d): Studies Which Had Salutogenesis as Their Starting Point, or a Theoretical Framework of Health Promotion, but Did Not Measure SOC

In this category, there were 27 papers. Here, too, most papers came from Scandinavia, and the rest came from Australia, Canada, England, Germany, Israel, New Zealand, and the USA. Unlike in other categories, here most studies involved healthy populations (in pathogenic terms, people who have not been diagnosed with a specific disease; in salutogenic terms, people relatively close to the "ease" pole of the ease–dis-ease continuum). Among them were studies in the following populations:

- Young people traveling abroad and their attitudes toward sexually transmitted disease
- Mental health workers and post-traumatic growth
- Midwives' communication techniques
- The well-being of young students living in rural areas
- Teachers
- Nurses
- Pakistani immigrants
- Refugees from Bosnia-Herzegovina
- Incarcerated people in rehabilitation
- Occupational therapists' attitudes toward health promotion
- Farmers and masculine health practice
- Lesbians coping with being a minority

Studies on "pathological" populations included cancer patients receiving music therapy, patients after heart transplantation, and people who have suffered mild traumatic brain injury (MTBI). Almost all studies used personal interviews or focus groups.

As a first example, in a recent study in Canada (Roy et al., 2017), the researchers set out to learn about strategies and masculine health practices that are used by men farmers to cope with the stress they experience in their work. Data were collected in 32 in-depth interviews and one focus group. According to Roy and his colleagues, in contrast to the traditional representation of farmers as strong, resourceful, and resilient to adversity, they actually face more psychological distress and social isolation and had higher suicide rates than other masculine social groups.

Obviously, Roy et al. (2017) know about salutogenesis. The expression "A salutogenic approach" was part of their paper's title; in their introduction, they wrote, "These issues are considered through the lens of a salutogenic approach that has become commonly understood and used in health promotion" (p. 1537). Toward the end of the paper, they concluded: "the salutogenic approach helped guide the research process toward new results and interpretations about stress-related coping strategies for farming men outside psychosocial-based interventions. It brought attention to key elements of health promotion and the prevention of mental health problems…" (p. 1543). All of this is without even one mention of SOC or its components. Treatment of data consisted of thematic analysis, and the results were presented according to the various coping strategies that formed the content themes. We couldn't find a systematic conceptualization of the findings into theoretically meaningful categories, besides the mention of a health promotion ori-

entation. This is not a criticism, but rather an explanation of how a salutogenic approach can be adopted in an empirical study without an operationalization of its core concept, SOC.

The second example of an empirical salutogenic study without SOC is that of Bjorkman and Malterud (2012), who studied the ways a group of 61 lesbians in Norway coped with minority stress. Unlike in most other studies mentioned above, data were collected through a web-based platform using a questionnaire with two open-ended questions. One was about healthcare experiences, and the other, more salutogenically relevant, was: "Describe your actions when you – in the role of a lesbian woman – successfully coped with a difficult experience – within or outside the healthcare system" (p. 240). Bjorkman and Malterud wrote that the descriptions weren't detailed enough for narrative analysis, but were sufficiently thick for thematic analysis. Using systematic text condensation, the researchers arrived at a coding of content groups which reflected coping strategies that lesbians employ in challenging situations. The authors emphasized the importance of a salutogenic, strength-based approach in reducing the impact of minority stress for lesbians. They specifically wrote that "Our salutogenic framework focused the research question on successful coping, with enhancement of health rather than the management of disease" (p. 243), but their analysis was data-driven rather than theory-driven, and there is no mention in their paper of SOC or its components.

Discussion

The motivation for writing this chapter was a need to raise the awareness of the salutogenic community to the existence of qualitative research in which SOC is measured, or GRRs are identified, either directly or by means of interpretive analysis. Three categories of papers were found, each one hosting a different treatment of SOC, and a fourth category included papers describing salutogenic studies in which SOC was not the main focus. We revealed a diverse array of qualitative studies; most of them employed traditional techniques such as semi-structured interviews or focus groups, while others applied less widespread methods like photovoice or art-based inquiry. One way or another, it seems that the qualitative salutogenic research arena is expanding and is offering several theoretical and empirical contributions, whether in providing thick descriptions of microanalytic behaviors or in documenting people's perception of change processes in their development of SOC (e.g., in the aforementioned study of Pragai Olswang, 2018; also see Morse, 2012, for a detailed examination of the scientific contributions of qualitative health research).

We offered four questions we thought may be relevant to our analysis of qualitative approaches to the study of SOC. We would like to cautiously offer some preliminary answers, though these are at best thoughts and reflections which can be the basis for further exploration. The first question was whether or not qualitative operationalizations of SOC measure the same *theoretical construct* as the quantitative questionnaire measures.

The answer to this question is twofold. First, our findings seem to shed light on the issue of dimensionality of SOC. As we mentioned above, while Antonovsky (1987) had recognized the relative and separate contribution of the three components – comprehensibility, manageability, and meaningfulness – to SOC, he maintained that the SOC is a unidimensional construct. In later years, other scholars (e.g., Eriksson & Lindström, 2005) have argued in favor of conceptualizing SOC as tridimensional. The majority of qualitative studies we found point to the latter. This is implied by the separate consideration of each component, reflected in the Discussion section in several papers and in one case devoting separate papers to each component while relating to the same study.

Second, the nature of qualitative inquiry brings us to question the appropriateness of operationalizing SOC, which is defined as a "*global* orientation" (Antonovsky, 1987, p. 19), in a specific context. The orientation to life questionnaire, which is the quantitative operational definition of SOC, is universal in its wording, not confined to a specific context. However, people's perceptions of their comprehensibility, manageability, and meaningfulness, as measured in qualitative methods, are always given in a specific context. For example, Midtgaard et al. (2012, p. 2002) asked: "In what ways is maintaining physical activity worth the while?" It seems impossible to conduct an in-depth interview that measures the three SOC components (among other things, directly or otherwise) without relating to the specific context of the study. This suggests the possibility that study participants do not base their responses on a *global* orientation to life and do not consider the stimuli they face in "the course of living" (Antonovsky, 1987, p. 19). Rather, they reply *in context*. For example, they may express a weak sense of manageability because they lack resources for coping with the stress arising from being a minority (see the study on lesbians mentioned above; Bjorkman & Malterud, 2012), but in other areas of life, they feel differently. In other words, perhaps what is measured in qualitative studies on SOC is not a global orientation to life, but rather something that may be termed CSSOC – context-specific SOC. This idea was expressed recently in the framework of the work environment in organizations and was termed Work-SoC (Jenny et al., 2017). Of course, even when people fill out the orientation to life questionnaire (e.g., SOC-13 or SOC-29), they may reply within a certain context that is salient for them at that moment (whether they are aware of it or not). Still, the items in the questionnaire do not relate to a specific situation, while questions in an in-depth interview (or most other qualitative measures) relate to specific circumstances. Put

differently, the difference we are pointing out between qualitative and quantitative measurement of SOC (context-specific vs. global orientation) lies in the measurement tools themselves, regardless of people's responses to the measurement[1].

This context-specific measurement fits well in the salutogenic framework but is perhaps an offspring of the general SOC concept. Therefore, it seems that the answer to the first question – whether or not qualitative and quantitative operationalizations of SOC measure the same *theoretical construct* – is negative, at best inconclusive, at least when considering Antonovsky's definition of SOC. In order to qualitatively measure SOC as a global orientation, data should be collected about several areas in a person's life before something can be said about his or her SOC. While conceptually, this may make sense, it is usually beyond the scope and not the aim of the qualitative research paradigm.

The second question we posed was whether or not qualitative measures of SOC have a predictive value toward criteria of health and well-being in the same way that was found for the quantitative orientation to life questionnaire. Here the answer seems to be yes. Our impression is that in several clinical and other areas that were the topics of the studies we described, researchers have found that people who expressed a strong SOC (or its components) tend to be better off (in various health measures, satisfaction with life, etc.) compared to people who expressed a weak SOC.

Qualitative research is holistic, meaning the data gathered pertain to several aspects of human behavior. Thus, the general nature of theories constructed in qualitative research is usually descriptive and does not measure causal relationships. For example, when studying life stories or when performing a-chronic ethnographic research, there is no initial interest in focusing on specific variables. However, while several studies mentioned in this chapter were qualitative because of the data collection methods they employed, the questions that drove the research were like "Is the specific phenomenon that is qualitatively measured related to a certain health outcome?" The readers should keep in mind that when we say that SOC has predictive value toward this or that outcome measure of health (or functioning of some sort), we mean there is a correlation (to borrow a quantitative term), or some explanatory power, not causation. In this context, there is an interesting study that comes to mind. In the late 1980s, when salutogenic research was at its beginning, Dahlin et al. (1990) set out to learn about salutary factors among people who had coped successfully with the handicapping background of a high-risk childhood. Within the setting of an in-depth qualitative interview, they measured SOC quantitatively (as well as quality of life and psychological distress). Independently, they gave each of their 148 interviewees a health status score based on their life story, taking into account the tone, content, and behavior of interviewees. SOC scores were highly and positively correlated with qualitatively measured health scores. This mixed-methods study offers early evidence of construct validity of the orientation to life questionnaire by using a separate qualitative measure. Although a cross-sectional design was used, the authors (one of whom was Aaron Antonovsky) proposed SOC as a powerful explanatory variable toward health outcomes and recommended further, longitudinal, studies to corroborate their assumption. The 30 years that have passed since then seem to have met these expectations.

It is noteworthy that, like in any other kind of empirical study set out to identify relationships between theoretical entities, we may have faced a publication bias. Namely, perhaps studies in which SOC didn't seem to make a difference had less of a chance of being published in the first place.

Our third and fourth questions concerned the research areas of qualitative SOC inquiry and the kinds of populations for which qualitative SOC measurement is especially appropriate. We found a great variety of research topics, from farmers' well-being through lesbian's quality of life to coping strategies of spouses of ALS patients. It seems that qualitative research of SOC is not limited to a specific domain of human behavior. Nonetheless, in the papers we reviewed, there seems to be a greater number of studies with clinical populations, elderly people, marginalized groups, and minorities, compared to current trends in quantitative SOC research. This is a personal impression of the first author of this chapter, based on reading hundreds of papers on quantitative measurement of SOC in the last few years, but not on a systematic literature review. One explanation for this is that in certain populations (e.g., girls who have suffered traumatic life experiences, see Pragai Olswang, 2018), there is a need for a less formal, more personal method of data collection in order to fully understand their sense of comprehensibility, manageability, and meaningfulness with regard to their living conditions or their cultural characteristics. For example, the art-based method in the study among Bedouin youth (Huss et al., 2018) was used to overcome a mismatch between Western and non-Western cultures in the understanding of SOC. This is in line with the importance that Abu-Kaf et al. (2017) attributed to cultural and ethnic factors in the study of coping resources. We believe that qualitative interpretive inquiry of SOC can shed light on cultural shades of gray that are not visible through the prism of quantitative measurement.

[1]An anecdote: Just a few weeks before the publication of this Handbook, the first author of this chapter was looking for something in an unpublished newsletter Aaron Antonovsky had written in 1991, when his eyes fell upon a passage containing reflections of measuring SOC at the family and community levels. Aaron Antonovsky wrote: "I have insisted on seeing the SOC as a global orientation; the questionnaire is designed to be cross-cultural and cross-situational. May there not be a place, however, for proximal instruments to measure a 'situational' SOC?... Such proximal measures may predict better to coping in the specific situation. But the approach raises the problem of comparability of data from different studies."

As noted, this is only an impression, and a much larger body of papers would be needed to verify it. One thing we can say for sure is that a disproportionally large part of the studies we found was undertaken in Scandinavian countries. But this is true, we believe, with quantitative research as well. It is understandable, considering the fact that Scandinavian researchers have been a major force over the past few decades in the development of global salutogenic research.

Conclusions

The literature concerning the qualitative measurement of SOC that we have reviewed in this chapter leads to a few initial conclusions, which serve not as undisputable contentions but rather as a starting point for further inquiry:

1. Regarding the question of dimensionality of the SOC construct, qualitative inquiry seems especially appropriate for examining comprehensibility, manageability, and meaningfulness as interrelated but separate components of SOC, which can be operationalized and studied independently. Qualitative research is characterized by focusing on *processes* rather than outcomes; this allows for a deep understanding of what each component means for people and for insights that are difficult to arrive at when using a quantitative questionnaire.
2. The perception of SOC as a global orientation to life seems less relevant in qualitative studies of SOC, compared to quantitative research. Qualitative research, while being holistic in nature, is usually confined to specific cultural or personal contexts. Therefore, the question of generalizability is of less importance.
3. Although qualitative measurement of SOC seems to have predictive value toward physical and mental health and well-being, it is at a disadvantage compared to quantitative measurement when the focus is on outcomes, especially when seeking causal explanations, which are never the aim of qualitative research. The holistic approach usually does not allow for control of intervening variables or for assessing their relative weight in the prediction of coping with adversities.
4. Although very informative, qualitative SOC research may not be suitable for large-scale, time-limited studies, such as those conducted during the COVID-19 pandemic. Numerous studies employing the SOC (orientation to life) questionnaire have been planned, executed, and published in a matter of weeks during the years 2020 and 2021 in an attempt to predict several physical and mental Corona-related consequences. Conducting interviews and performing qualitative content analyses would usually have been much less productive in such a context.
5. Compared to quantitative SOC studies, qualitative research allows for more flexibility in the theoretical and operational treatment of the SOC construct. On the one hand, this encourages freedom of thought, which may lead to new and exciting opportunities in advancing and implementing salutogenic models in health promotion and other disciplines. On the other hand, these added degrees of freedom make it harder for researchers to compare research findings and may hinder the continued advancement of a unified, universal theory of salutogenesis. In this regard, we should note that our literature review, although formal and systematic, was in itself characterized by subjective interpretive inquiry. This means that had other writers set out to examine qualitative approaches to the study of SOC, they may have chosen a different sample of articles, classified them differently, presented different examples, and reached somewhat other conclusions. Also, it is probable that we have overlooked some relevant papers in our search, as is usually the case in literature reviews. We, therefore, encourage other scholars to carry the mission further and shed light on the places we have missed.

Epilogue

Perhaps the most important motto that the first author of this chapter learned from his father, Aaron Antonovsky, is that questions are more important than answers. In one of the presentations at the IUHPE conference in Trondheim in 2018 (regretfully, we cannot recall the author), there was a slide that said something like, "Having a good answer is knowledge; Having a good question is intelligence." In light of these words, we hope this chapter will help in formulating some good questions about the ways qualitative research can help to create new ideas and understandings in salutogenic research and theory. Clearly, qualitative inquiry of SOC is a path worth walking on. We recommend that salutogenic researchers who choose to march down the qualitative road keep in mind some of the concerns and insights that we offered here and address these issues as they discover new findings on their way. In qualitative research, one should be prepared for an odyssey in which personal involvement, sometimes even a degree of intimacy, is needed for the researcher to feel comprehensibility, manageability, and meaningfulness. Antonovsky (1996, p. 11) wrote that "It is wise to see models, theories, constructs, hypotheses, and even ideas as heuristic devices, not as holy truths." This is especially true in the realm of qualitative research on salutogenesis.

Appendix

Tables 54.1, 54.2, 54.3, and 54.4 listing the studies that belong to the four categories referred to in the Results section.

Table 54.1 References, methods, country, and sample of studies included in category (a)

#	Reference	Methods	Country	Sample	Comments
1	Aho, A. C., Hultsjö, S., & Hjelm, K. (2015). Young adults' experiences of living with recessive limb-girdle muscular dystrophy from a salutogenic orientation: An interview study. *Disability and Rehabilitation, 37*(22), 2083–2091. https://doi.org/10.3109/09638288.2014.998782	Semi-structured interviews	Sweden	14 participants	
2	Ali, M. A., Zengaro, F., & Zengaro, S. A. (2018). Spirituality and sense of coherence in Muslim students: A mixed methods study. *Journal of Research Initiatives, 3*(3), Article 2.	Mixed methods: SOC questionnaires + four open-ended questions	USA	53 Muslim students in Tennessee universities	Qualitative data explains diverse relationships among quantitative variables
3	Bergland, A., & Slettebø, Å. (2015). Health capital in everyday life of the oldest old living in their own homes. *Ageing & Society, 35*(10), 2156–2175. https://doi.org/10.1017/S0144686X14000877	Interviews, followed by a semi-structured guide focusing on SOC scale	Norway	Ten women, 90+ years old	
4	Cilliers, F. (2011) Individual diversity management and salutogenic functioning, *International Review of Psychiatry*, 23:6, 501–507. https://doi.org/10.3109/09540261.2011.637911	Mixed methods: questionnaires + sequential question for each of the three components of SOC	South Africa	33 senior financial managers	
5	Dunleavy, A., Kennedy, L. A., & Vaandrager, L. (2014). Wellbeing for homeless people: a Salutogenic approach. *Health Promotion International*, 29(1), 144–154. https://doi.org/10.1093/heapro/das045	Open-ended interviews	England	Nine homeless people	
6	Engeli, L., Moergeli, H., Binder, M., Drabe, N., Meier, C., Buechi, S., Dummer, R., & Jenewein, J. (2016). Resilience in patients and spouses faced with malignant melanoma. A qualitative longitudinal study. *European Journal of Cancer Care*, 25(1), 122–131. https://doi.org/10.1111/ecc.12220	In-depth interviews	Switzerland	Eight melanoma patients and their partners	
7	Ferguson, S., & Davis, D. (2019). 'I'm having a baby not a labour': Sense of coherence and women's attitudes towards labour and birth. *Midwifery*, 79, 102,529. https://doi.org/10.1016/j.midw.2019.102529	Longitudinal design. Two open-ended questions	Australia	753 women who gave birth	Women were sorted into two groups: high and low SOC (based on a former study)
8	Griffiths, C. A., Ryan, P., & Foster, J. H. (2011). Thematic analysis of Antonovsky's sense of coherence theory. *Scandinavian Journal of Psychology, 52*(2), 168–173. https://doi.org/10.1111/j.1467-9450.2010.00838.x	Mixed methods: face-to-face digitally recorded interviews + open-ended, semi-structured questionnaires	UK	20 mental illness service users	
9	Huss, E., Braun-Lewensohn, O., & Ganayiem, H. (2018). Using art-based research to access sense of coherence in marginalised indigenous Bedouin youth. *International Journal of Psychology: Journal International De Psychologie, 53 Suppl 2*, 64–71. https://doi.org/10.1002/ijop.12547	Drawings, art-based methods	Israel	80 drawings of Bedouin youths	

10	Huss, E., & Samson, T. (2018). Drawing on the arts to enhance salutogenic coping with health-related stress and loss. *Frontiers in Psychology, 9*, 1612. https://doi.org/10.3389/fpsyg.2018.01612	Art as main methodology to express SOC. Action-based activity	Israel	Support training group for women dealing with and recovering from cancer	Participants were asked to present something that was causing stress, and the group helped to think of meaningfulness, manageability, and comprehensibility components that could help to cope with the stressor
11	Kier, A. Ø, Midtgaard, J., Hougaard, K. S., Berggreen, A., Bukh, G., Hansen, R. B., & Dreyer, L. (2016). How do women with lupus manage fatigue? A focus group study. *Clinical Rheumatology, 35*(8), 1957–1965. https://doi.org/10.1007/s10067-016-3307-9	Semi-structured interviews in focus groups	Denmark	27 women with lupus in four focus groups	
12	Lillekroken, D., Hauge, S., & Slettebø, Å. (2015a). Enabling resources in people with dementia: A qualitative study about nurses' strategies that may support a sense of coherence in people with dementia. *Journal of Clinical Nursing, 24*(21–22), 3129–3137. https://doi.org/10.1111/jocn.12945	Mixed methods: observations + focus group semi-structured interviews	Norway	16 nurses in two nursing homes with dementia care unit	
13	Lillekroken, D., Hauge, S., & Slettebø, Å. (2015b). 'Saluting' perceived sense of coherence in people with dementia by nurses. *Journal of Public Mental Health, 14*(3), 149–158. https://doi.org/10.1108/JPMH-10-2014-0042	Mixed methods: observations + focus group semi-structured interviews	Norway	16 nurses in two nursing homes with dementia care unit	
14	Lillekroken, D., Hauge, S., & Slettebø, Å. (2017). The meaning of slow nursing in dementia care. *Dementia (London, England), 16*(7), 930–947. https://doi.org/10.1177/1471301215625112	Mixed methods: observations + focus group semi-structured interviews	Norway	16 nurses in two nursing homes with dementia care unit	
15	Loeppenthin, K., Esbensen, B., Ostergaard, M., Jennum, P., Thomsen, T., & Midtgaard, J. (2014). Physical activity maintenance in patients with rheumatoid arthritis: A qualitative study. *Clinical Rehabilitation, 28*(3), 289–299. https://doi.org/10.1177/0269215513501526	In-depth, semi-structured interviews	Denmark	16 participants with a diagnosis of rheumatoid arthritis	
16	Løndal, K. (2010). Children's lived experience and their sense of coherence: Bodily play in a Norwegian after-school programme. *Child Care in Practice, 16*(4), 391–407. https://doi.org/10.1080/13575279.2010.498414	Mixed methods: observations + interviews	Norway	Observations with 36 children (8–9 years old); interviews with nine children	
17	Löyttyniemi, V., Virtanen, P., & Rantalaiho, L. (2004). Work and family as constituents of sense of coherence. *Qualitative Health Research, 14*(7), 924–941.	Mixed methods: SOC questionnaires + interviews	Finland	30 medical students	
18	Luegmair, K., Zenzmaier, C., Oblasser, C., & König-Bachmann, M. (2018). Women's satisfaction with care at the birthplace in Austria: Evaluation of the Babies Born Better survey national dataset. *Midwifery, 59*, 130–140. https://doi.org/10.1016/j.midw.2018.01.003	Three open-ended questions regarding three components of SOC	Austria	539 women (mean age 31.6) who gave birth within 5 years prior to the survey	

(continued)

Table 54.1 (continued)

#	Reference	Methods	Country	Sample	Comments
19	Maass, R., Lindström, B., & Lillefjell, M. (2017). Neighborhood-resources for the development of a strong SOC and the importance of understanding why and how resources work: A grounded theory approach. *BMC Public Health, 17*(1), 704. https://doi.org/10.1186/s12889-017-4705-x	Mixed methods: focus groups + in-depth interviews	Norway	About 15 participants in three focus groups; general population	
20	Mayer, C., Surtee, S., & Barnard, A. (2015). Women leaders in higher education: A psycho-spiritual perspective. *South African Journal of Psychology, 45*(1), 102–115. https://doi.org/10.1177/0081246314548869	Semi-structured interviews	South Africa	28 women working in higher education resource services	
21	Midtgaard, J., Røssell, K., Christensen, J. F., Uth, J., Adamsen, L., & Rørth, M. (2012). Demonstration and manifestation of self-determination and illness resistance--a qualitative study of long-term maintenance of physical activity in posttreatment cancer survivors. *Supportive Care in Cancer: Official Journal of the Multinational Association of Supportive Care in Cancer, 20*(9), 1999–2008. https://doi.org/10.1007/s00520-011-1304-8	Longitudinal study. Interviews followed by qualitative semi-structured focus groups	Denmark	23 cancer survivors	
22	Milberg, A., & Strang, P. (2003). Meaningfulness in palliative home care: An interview study of dying cancer patients' next of kin. *Palliative and Supportive Care, 1*, 171–180	1–3 open-ended interviews	Sweden	19 adults, next of kin of cancer patients	Only meaningfulness was examined and discussed
23	Ozanne, A., Graneheim, U., Persson, L., & Strang, S. (2012). Factors that facilitate and hinder the manageability of living with amyotrophic lateral sclerosis in both patients and next of kin. *Journal of Clinical Nursing*, 1364.	Individual semi-structured interviews	Sweden	14 patients with ALS (age 42–80) and 13 next-of-kin (age 38–87)	Only manageability was examined and discussed
24	Ozanne, A. O., Graneheim, U. H., & Strang, S. (2013). Finding meaning despite anxiety over life and death in amyotrophic lateral sclerosis patients. *Journal of Clinical Nursing, 22*(15–16), 2141–2149. https://doi.org/10.1111/jocn.12071	Individual semi-structured interviews	Sweden	14 patients with probable or definite ALS (age 42–80)	Only meaningfulness was examined and discussed
25	Ozanne, A. O., Graneheim, U. H., & Strang, S. (2015). Struggling to find meaning in life among spouses of people with ALS. *Palliative & Supportive Care, 13*(4), 909–916. https://doi.org/10.1017/S1478951514000625	Individual semi-structured interviews	Sweden	13 spouses (age 38–87) of patients with ALS	Only meaningfulness was examined and discussed
26	Ozanne, A., & Graneheim, U. H. (2018). Understanding the incomprehensible - patients' and spouses' experiences of comprehensibility before, at and after diagnosis of amyotrophic lateral sclerosis. *Scandinavian Journal of Caring Sciences, 32*(2), 663–671. https://doi.org/10.1111/scs.12492	Semi-structured interviews	Sweden	14 patients with ALS (age 42–80) and 13 spouses (age 38–87)	Only comprehensibility was examined and discussed
27	Palm, K., & Eriksson, A. (2018). Understanding salutogenic approaches to managing intensive work: Experiences from three Swedish companies. *Work (Reading, Mass.), 61*(4), 627–637. https://doi.org/10.3233/WOR-182830	Open-ended interviews	Sweden	34 employees from three different companies	

Table 54.2 References, methods, country, and sample of studies included in category (b)

#	Reference	Methods	Country	Sample	Comments
1	Aarthun, A., Øymar, K. A., & Akerjordet, K. (2018). Parental involvement in decision-making about their child's health care at the hospital. *Nursing Open, 6*(1), 50–58. https://doi.org/10.1002/nop2.180	Semi-structured interviews	Norway	12 parents of hospitalized children	
2	Aho, A. C., Hultsjö, S., & Hjelm, K. (2016). Health perceptions of young adults living with recessive limb-girdle muscular dystrophy. *Journal of Advanced Nursing, 72*(8), 1915–1925. https://doi.org/10.1111/jan.12962	Mixed methods: questionnaires + open-ended interviews	Sweden	14 participants with LGMD2	
3	Almedom, A., Tesfamichael, B., Mohammed, Z., Mascie-Taylor, N., & Alemu, Z. (2007). Use of 'Sense of Coherence (SOC)' scale to measure resilience in Eritrea: Interrogating both the data and the scale. *Journal of biosocial science. 39*. 91–107. https://doi.org/10.1017/S0021932005001112	SOC-13 items as a basis for an open interview and discussion. Mixed methods	Eritrea	265 women and men in Eritrea	Questionnaire items were read out loud and respondents were asked to elaborate on the meaning of the questions within their cultural contexts. A unique example of developing an open-interview-like discussion on the basis of responses to quantitative measurement
4	Andersen, L. N., Kohberg, M., Herborg, L. G., Søgaard, K., & Roessler, K. K. (2014). "Here we're all in the same boat"--a qualitative study of group-based rehabilitation for sick-listed citizens with chronic pain. *Scandinavian Journal of Psychology, 55*(4), 333–342. https://doi.org/10.1111/sjop.12121	Semi-structured interviews	Denmark	Seven people living with chronic pain	
5	Anyan, F., & Knizek, B. L. (2017). The coping mechanisms and strategies of hypertension patients in Ghana: The role of religious faith, beliefs and practices. *Journal of Religion and Health*. https://doi.org/10.1007/s10943-017-0517-7	Semi-structured interviews	Ghana	Five Christian participants	"Religion seems to convey a sense of meaningfulness that provided a buffer for the participants against ruminating"
6	Apers, S., Rassart, J., Luyckx, K., Oris, L., Goossens, E., Budts, W., & Moons, P. (2016). Bringing Antonovsky's salutogenic theory to life: A qualitative inquiry into the experiences of young people with congenital heart disease. *International Journal of Qualitative Studies on Health and Well-Being, 11*, 29,346. https://doi.org/10.3402/qhw.v11.29346	Open-ended interviews focusing on resources and life events	Belgium	12 young people with different levels of congenital heart disease	Patients were selected from a preceding study on development of SOC. Six individuals had a weak SOC and six had a strong one
7	Bakibinga, P., Vinje, H. F., & Mittelmark, M. B. (2012). Self-tuning for job engagement: Ugandan nurses' self-care strategies in coping with work stress. *International Journal of Mental Health Promotion, 14*(1), 3–12. https://doi.org/10.1080/14623730.2012.682754	In-depth interviews	Uganda	15 nurses (19 interviews)	Stated that there is no measuring SOC but discussed the findings in relation to each of the components of SOC

(continued)

Table 54.2 (continued)

#	Reference	Methods	Country	Sample	Comments
8	Bielsten, T., Lasrado, R., Keady, J., Kullberg, A., & Hellström, I. (2018). Living life and doing things together: Collaborative research with couples where one partner has a diagnosis of dementia. *Qualitative Health Research, 28*(11), 1719–1734. https://doi.org/10.1177/1049732318786944	Interviews	Sweden	Ten interviews with five couples, with a diagnosis of dementia for one partner	Using the salutogenic concepts and ideas mostly by using the term "self-management." There's no measure of SOC, but rather discussing some of the results with "health" glasses
9	Bodman, G. M. (2017, November). *Nature as health promotion, the "Rug of Life" as a method.* Paper presented at the International and Interdisciplinary Conference IMMAGINI? Image and Imagination between Representation, Communication, Education and Psychology, Brixen, Italy.	Mixed methods: in-depth interviews + visual methodology	Finland	16 respondent who are living close to nature	
10	Bonmatí-Tomás, A., Malagón-Aguilera, M.,Del Carmen, Bosch-Farré, C., Gelabert-Vilella, S., Juvinyà-Canal, D., & Garcia Gil, M. D. M. (2016). Reducing health inequities affecting immigrant women: A qualitative study of their available assets. *Globalization and Health, 12*(1), 37. https://doi.org/10.1186/s12992-016-0174-8	Mixed methods: A focus group + photovoice session + in-depth interview	Catalonia / Spain	Eight immigrant women, 2550 years old.	Analyzing findings from a SOC perspective
11	Bringsén, Å., Andersson, H. I., Ejlertsson, G., & Troein, M. (2012). Exploring workplace related health resources from a salutogenic perspective: Results from a focus group study among healthcare workers in Sweden. *Work: Journal of Prevention, Assessment & Rehabilitation, 42*(3), 403–414. Retrieved from http://search.ebscohost.com.ezproxy.bgu.ac.il/login.aspx?direct=true&db=psyh&AN=2012-17547-012&site=ehost-live	Mixed methods: eight focus groups + semi-structured interviews	Sweden	32–40 healthcare workers	
12	Crowther, S., & Lau, A. (2019). Migrant Polish women overcoming communication challenges in Scottish maternity services: A qualitative descriptive study. *Midwifery, 72*, 30–38. https://doi.org/10.1016/j.midw.2019.02.004	Semi-structured interviews	Scotland	Nine Polish migrant women, midwives	
13	Dahlviken, R., Fridlund, B., & Mathisen, L. (2015). Women's experiences of takotsubo cardiomyopathy in a short-term perspective--a qualitative content analysis. *Scandinavian Journal of Caring Sciences, 29*(2), 258–267. https://doi.org/10.1111/scs.12158	Semi-structured interviews	Norway	14 women	
14	Dell'Olio, M., Vaandrager, L., & Koelen, M. (2018). Applying salutogenesis to the experiences of students with disabilities in the Netherlands. *Journal of Postsecondary Education and Disability, 31*, 75–89.	In-depth, semi-structured interviews	The Netherlands	11 university students with disabilities	
15	Divin, C., Volker, D. L., & Harrison, T. (2013). Intimate partner violence in Mexican-American women with disabilities: A secondary data analysis of cross-language research. *ANS. Advances in nursing science*, *36*(3), 243–257. https://doi.org/10.1097/ANS.0b013e31829edcdb	In-depth interviews	USA	Seven Mexican-American women	

16	Dobkin, P. L. (2008). Mindfulness-based stress reduction: What processes are at work? *Complementary Therapies in Clinical Practice, 14*(1), 8–16. https://doi.org/10.1016/j.ctcp.2007.09.004	Mixed methods: questionnaires + focus groups	Canada	13 women who had completed medical treatment for breast cancer	
17	Drageset, J., Eide, G. E., & Hauge, S. (2016). Symptoms of depression, sadness and sense of coherence (coping) among cognitively intact older people with cancer living in nursing homes-a mixed-methods study. *Peerj, 4*, e2096. https://doi.org/10.7717/peerj.2096	Mixed methods: questionnaires + interviews	Norway	Nine nursing homes, residents with cancer	A qualitative follow-up study to a former quantitative survey
18	Einberg, E., Lidell, E., & Clausson, E. K. (2015). Awareness of demands and unfairness and the importance of connectedness and security: Teenage girls' lived experiences of their everyday lives. *International Journal of Qualitative Studies on Health and Well-Being, 10*. Retrieved from http://search.ebscohost.com.ezproxy.bgu.ac.il/login.aspx?direct=true&db=psyh&AN=2015-55869-001&site=ehost-live	Interviews	Sweden	Eight interviews with 13–16 years old teenage girls	
19	Ekstam, L., Johansson, U., Guidetti, S., Eriksson, G., & Ytterberg, C. (2015). The combined perceptions of people with stroke and their carers regarding rehabilitation needs 1 year after stroke: A mixed methods study. *BMJ Open, 5*(2), e006784. https://doi.org/10.1136/bmjopen-2014-006784	Mixed methods: questionnaires + interviews	Sweden	86 persons with stroke and their informal caregivers	Qualitative data was used to better describe and understand the quantitative results
20	Engström, Å., Rogmalm, K., Marklund, L., & Wälivaara, B. (2018). Follow-up visit in an ICU: Receiving a sense of coherence. *Nursing in Critical Care, 23*(6), 308–315. https://doi.org/10.1111/nicc.12168	Semi-structured interviews	Sweden	Nine people returning for a follow-up visit at an ICU	
21	Fish, J., Williamson, I., & Brown, J. (2019). Disclosure in lesbian, gay and bisexual cancer care: Towards a salutogenic healthcare environment. *BMC Cancer, 19*(1), 678. https://doi.org/10.1186/s12885-019-5895-7	In-depth interviews	UK	30 LGB patients with cancer	
22	Følling, I.,S., Solbjør, M., Midthjell, K., Kulseng, B., & Helvik, A. (2016). Exploring lifestyle and risk in preventing type 2 diabetes: A nested qualitative study of older participants in a lifestyle intervention program (VEND-RISK). *BMC Public Health, 16*(1), 876. https://doi.org/10.1186/s12889-016-3559-y	Semi-structured in-depth interviews	Norway	26 participants with high risk for type 2 diabetes	
23	Furunes, T., Kaltveit, A., & Akerjordet, K. (2018). Health-promoting leadership: A qualitative study from experienced nurses' perspective. *Journal of Clinical Nursing, 27*(23–24), 4290–4301. https://doi.org/10.1111/jocn.14621	Semi-structured interviews	Norway	12 nurses	

(continued)

Table 54.2 (continued)

#	Reference	Methods	Country	Sample	Comments
24	Halabuza, D. (2010). *Understanding family resilience in divorce*. (2010–99,090-526). Doctoral dissertation, University of Manitoba, Winnipeg, Canada. Retrieved from http://search.ebscohost.com.ezproxy.bgu.ac.il/login.aspx?direct=true&db=psyh&AN=2010-99090-526&site=ehost-live	In-depth interviews	Canada	Seven divorced parents	
25	Hammond, A., Homer, C. S. E., & Foureur, M. (2017). Friendliness, functionality and freedom: Design characteristics that support midwifery practice in the hospital setting. *Midwifery, 50*, 133–138. https://doi.org/10.1016/j.midw.2017.03.025	21 in-depth, face-to-face photo-elicitation interviews	Australia	16 midwives working in a hospital	
26	Harrop, E., Noble, S., Edwards, M., Sivell, S., Moore, B., & Nelson, A. (2017). Managing, making sense of and finding meaning in advanced illness: A qualitative exploration of the coping and wellbeing experiences of patients with lung cancer. *Sociology of Health & Illness, 39*(8), 1448–1464. https://doi.org/10.1111/1467-9566.12601	20 in-depth interviews	UK	Ten patients with advanced lung cancer	
27	Haugdahl, H. S., Eide, R., Alexandersen, I., Paulsby, T. E., Stjern, B., Lund, S. B., & Haugan, G. (2018). From breaking point to breakthrough during the ICU stay: A qualitative study of family members' experiences of long-term intensive care patients' pathways towards survival. *Journal of Clinical Nursing, 27*(19–20), 3630–3640. https://doi.org/10.1111/jocn.14523	Individual in-depth interviews	Norway	13 family members of long-term ICU patients	
28	Husby, A. E., van Duinen, A.,J., & Aune, I. (2019). Caesarean birth experiences. A qualitative study from Sierra Leone. *Sexual & Reproductive Healthcare: Official Journal of the Swedish Association of Midwives, 21*, 87–94. https://doi.org/10.1016/j.srhc.2019.06.003	Semi-structured interviews	Sierra Leone	16 healthy women over the age of 18 delivering by CS	
29	Idan, O., Braun-Lewensohn, O., & Sagy, S. (2013). Qualitative, sense of coherence-based assessment of working conditions in a psychiatric in-patient unit to guide salutogenic interventions. In G. F. Bauer & G. J. Jenny (Eds.), *Salutogenic organizations and change: The concepts behind organizational health intervention research* (pp. 55–74). New York: Springer. DOI https://doi.org/10.1007/978-94-007-6470-5_4	Unstructured interviews	Israel	15 mental health professionals	
30	Iden, K. R., Ruths, S., & Hjørleifsson, S. (2015). Residents' perceptions of their own sadness--a qualitative study in Norwegian nursing homes. *BMC Geriatrics, 15*, 21. https://doi.org/10.1186/s12877-015-0019-y	Individual semi-structured interviews	Norway	12 older people with no dementia residing in nursing homes	

31	Kaisar, J. D., Strodl, E., Schweitzer, R. D., & Radford, D. (2012). A qualitative study of adversity activated development and resilience in young people with CHD and their parents. In K. Gow & M. J. Celinski (Eds.), *Individual trauma: Recovering from deep wounds and exploring the potential for renewal* (pp. 221–238). Hauppauge, NY: Nova Science Publishers, Inc.	Interviews	Australia	Ten patients with congenital heart disease (teens and young adults) and ten parents	
32	Kumsa, D. M., & Tucho, G. T. (2019). The impact of formal and informal institutions on ART drug adherence. *Journal of the International Association of Providers of AIDS Care, 18*, 2,325,958,219,845,419. https://doi.org/10.1177/2325958219845419	Face-to-face in-depth interviews	Ethiopia	25 HIV-infected patients and ten pre-ART HIV-infected patients on follow-up	
33	Kvale, K., & Synnes, O. (2013). Understanding cancer patients' reflections on good nursing care in light of Antonovsky's theory. *European Journal of Oncology Nursing, 17*(6), 814.	Interviews	Norway	20 cancer patients in an oncology ward in a hospital	
34	Lidén, E., Björk-brämberg, E., & Svensson, S. (2015). The meaning of learning to live with medically unexplained symptoms as narrated by patients in primary care: A phenomenological-hermeneutic study. *International Journal of Qualitative Studies on Health and Well-Being, 10*. https://doi.org/10.3402/qhw.v10.27191	Narrative interviews	Sweden	Ten patients suffering from medically unexplained symptoms	
35	Lindmark, U., & Abrahamsson, K. H. (2015). Oral health-related resources - a salutogenic perspective on Swedish 19-year-olds. *International Journal of Dental Hygiene, 13*(1), 56–64. https://doi.org/10.1111/idh.12099	Mixed methods: questionnaires + semi-structured interviews	Sweden	Ten 19-year-old participants	Three themes seem to be in line with the SOC components
36	Litvak Hirsch, T., Braun-Lewensohn, O., & Lazar, A. (2015). Does home attachment contribute to strengthen sense of coherence in times of war? Perspectives of Jewish Israeli mothers. *Women & Health, 55*(4), 467–483. https://doi.org/10.1080/03630242.2015.1022688	Mixed methods: three open-ended questionnaires + interviews	Israel	Ten secular Jewish women	In what way did home attachment contribute to SOC? Themes from the interviews were organized according to SOC components
37	Litvak Hirsch, T., Lazar, A., & Braun-Lewensohn, O. (2016). Sense of coherence during female Holocaust survivors' formative years. *Journal of Loss and Trauma, 21*(5), 360–371.	Life story interviews	Israel	Four female holocaust survivors, 75–85 years old	
38	Magistretti, C. M., Downe, S., Lindstrøm, B., Berg, M., & Schwarz, K. T. (2016). Setting the stage for health: Salutogenesis in midwifery professional knowledge in three European countries. *International Journal of Qualitative Studies on Health and Well-Being, 11*(1), 1–12. https://doi.org/10.3402/qhw.v11.33155	Narrative interviews	Switzerland, Austria, and Germany	27 interviews with midwives working in pre-, peri-, and postnatal care	–
39	Makoge, V., Maat, H., Vaandrager, L., & Koelen, M. (2017). Health-seeking behavior towards poverty-related disease (PRDs): A qualitative study of people living in camps and on campuses in Cameroon. *Plos Neglected Tropical Diseases, 11*(1), e0005218. https://doi.org/10.1371/journal.pntd.0005218	Semi-structured interviews	Cameroon	21 workers and 21 students	

(continued)

Table 54.2 (continued)

#	Reference	Methods	Country	Sample	Comments
40	Makoge, V., Maat, H., Vaandrager, L., & Koelen, M. (2018). Health dynamics in camps and on campuses: Stressors and coping strategies for wellbeing among labourers and students in Cameroon. *International Journal of Qualitative Studies on Health and Well-Being, 13*(1). https://doi.org/10.1080/17482631.2018.1435098	Semi-structured interviews	Cameroon	21 workers and 21 students	Cross-sectional study
41	Mayer, C. H., & Boness, C. (2011). Concepts of health and well-being in managers: An organizational study. I*nternational Journal of Qualitative Studies on Health and Well-Being, 6*(4), 1–12. https://doi.org/10.3402/qhw.v6i4.7143	Mixed methods: document analysis + in-depth interviews + collateral talks with employees and managers + field notes + observation	South Africa + worldwide	27 managers in an international organization	
42	Ottosen, K. O., Goll, C. B., & Sørlie, T. (2019). 'From a sense of failure to a proactive life orientation': First year high school dropout experiences and future life expectations in Norwegian youth. *International Social Work, 62*(2), 684–698. https://doi.org/10.1177/0020872817746225	Interviews	Norway	13 high school students who drop out of school	A study that is part of a larger project on young people in Norway
43	Peed, S. L. (2010). *The lived experience of resilience for victims of traumatic vehicular accidents: A phenomenological study*. Doctoral dissertation, Capella University, Minneapolis, Minnesota. (2010–99,200-370). Retrieved from http://search.ebscohost.com.ezproxy.bgu.ac.il/login.aspx?direct=true&db=psyh&AN=2010-99200-370&site=ehost-live	Open-ended questions	USA	Eight individuals, different ages and genders	Individuals who had experienced a traumatic motor vehicle accident. Designed within a salutogenic framework and assessed GRRs although SOC was not directly measured
44	Pragai Olswang, G. (2018). *Personal resources and coping strategies of institution-confined teenage girls-at-risk*. Doctoral dissertation, Ben Gurion University of the Negev, Israel.	Mixed methods: questionnaires + in-depth interviews	Israel	12 teenage girls at risk	
45	Schreuder, E., Rijnders, M., Vaandrager, L., Hassink, J., Enders-Slegers, M., & Kennedy, L. (2014). Exploring salutogenic mechanisms of an outdoor experiential learning programme on youth care farms in the Netherlands: Untapped potential? *International Journal of Adolescence and Youth, 19*, 139–152, https://doi.org/10.1080/02673843.2014.896267	Semi-structured interviews	The Netherlands	11 youngsters with emotional and behavioral problems aged 17–22 on a youth care farm	
46	Starnino, V. R., & Sullivan, W. P. (2016). Early trauma and serious mental illness: What role does spirituality play? *Mental Health, Religion & Culture, 19*(10), 1094–1117. https://doi.org/10.1080/13674676.2017.1320368	Interviews	USA	Three participants	The original study included 18 adult participants. Each participant was interviewed twice. This paper presents findings from three cases taken from a former larger qualitative study

47	Stødle, I. V., Debesay, J., Pajalic, Z., Lid, I. M., & Bergland, A. (2019). The experience of motivation and adherence to group-based exercise of Norwegians aged 80 and more: A qualitative study. *Archives of Public Health = Archives Belges De Sante Publique, 77*, 26. https://doi.org/10.1186/s13690-019-0354-0	Semi-structured interviews	Norway	Seven old people (81–92 years old)	
48	Super, S., Verkooijen, K., & Koelen, M. (2018). The role of community sports coaches in creating optimal social conditions for life skill development and transferability – a salutogenic perspective. *Sport, Education and Society, 23*, 173–185.	Semi-structured interviews	The Netherlands	15 sports coaches working with socially vulnerable youth in local sports clubs	
49	Swan, E., Bouwman, L., Aarts, N., Rosen, L., Hiddink, G. J., & Koelen, M. (2018). Food stories: Unraveling the mechanisms underlying healthful eating. *Appetite, 120*, 456–463.	In-depth interviews	The Netherlands	17 healthy women aged 36–52	
50	Abdul Wahab, S. N. B., Mordiffi, S. Z., Ang, E., & Lopez, V. (2017). Light at the end of the tunnel: New graduate nurses' accounts of resilience: A qualitative study using photovoice. *Nurse Education Today, 52*, 43–49. https://doi.org/10.1016/j.nedt.2017.02.007	Photovoice	Singapore	Nine new graduate nurses	
51	Waldrop, D. P., & Rinfrette, E. S. (2009). Can short hospice enrollment be long enough? Comparing the perspectives of hospice professionals and family caregivers. *Palliative & Supportive Care, 7*(1), 37–47. https://doi.org/10.1017/S1478951509000066	Interviews	USA	56 family caregivers of hospice patients	
52	Waldrop, D. P., Meeker, M. A., Kerr, C., Skretny, J., Tangeman, J., & Milch, R. (2012). The nature and timing of family-provider communication in late-stage cancer: A qualitative study of caregivers' experiences. *Journal of Pain and Symptom Management, 43*(2), 182–194. https://doi.org/10.1016/j.jpainsymman.2011.04.017	Retrospective in-depth interviews	USA	Caregivers of 46 people who died of cancer	

Table 54.3 References, methods, country, and sample of studies included in category (c)

#	Reference	Methods	Country	Sample	Comments
1	Bremer, A., Dahlberg, K., & Sandman, L. (2009). To survive out-of-hospital cardiac arrest: A search for meaning and coherence. *Qualitative Health Research, 19*(3), 323–338. https://doi.org/10.1177/1049732309331866	Interviews	Sweden	Nine participants who experience out-of-hospital cardiac arrest (OHCA)	
2	Fredriksson-Larsson, U., Alsen, P., & Brink, E. (2013). I've lost the person I used to be--experiences of the consequences of fatigue following myocardial infarction. *International Journal of Qualitative Studies on Health and Well-Being, 8*, 20,836. https://doi.org/10.3402/qhw.v8i0.20836	Interviews	Sweden	18 participants who experienced myocardial infraction	
3	Hållstam, A., Stålnacke, B. M., Svensén, C., & Löfgren, M. (2018). Living with painful endometriosis - A struggle for coherence. A qualitative study. *Sexual & Reproductive Healthcare: Official Journal of the Swedish Association of Midwives, 17*, 97–102. https://doi.org/10.1016/j.srhc.2018.06.002	Individual interviews	Sweden	13 women experiencing painful endometriosis	
4	Kahn, L. S., Vest, B. M., Madurai, N., Singh, R., York, T. R. M., Cipparone, C. W., Reilly, S., Malik, K., & Fox, C. H. (2015). Chronic kidney disease (CKD) treatment burden among low-income primary care patients. *Chronic Illness, 11*(3), 171–183. https://doi.org/10.1177/1742395314559751	Semi-structured interviews	USA	34 participants with chronic kidney disease	
5	Lie, N. K., Solvang, P. K., & Hauken, M. A. (2019). From challenges to resources: A qualitative study of cancer coordinators' experiences of barriers and facilitators to enacting their system-focused tasks. *Cancer Nursing, 42*(5), 345–354. https://doi.org/10.1097/NCC.0000000000000617	Interviews	Norway	26 Norwegian cancer coordinators	
6	Midtgaard, J., Hansen, M. J., & Grandjean, B. (2009). Modesty and recognition--a qualitative study of the lived experience of recovery from anal cancer. *Supportive Care in Cancer: Official Journal of the Multinational Association of Supportive Care in Cancer, 17*(9), 1213–1222. https://doi.org/10.1007/s00520-008-0576-0	Interviews	Denmark	16 participants who had completed therapy for anal cancer	
7	Ohayon, O., Shaul, K., Svetlitzky, V., Ben-Yehuda, A., & Antonovsky, A. (2018). Mental challenges and mental fitness among observations systems operators in the IDF. *Military Medicine, 15*, 41–49. (Hebrew)	Mixed methods: focus groups + questionnaires+ medical records	Israel	114 female observation systems operators	
8	Selboe, S., & Skogås, A. (2017). Working fulltime throughout pregnancy - the Grwegian women's perspectives. A qualitative approach. *Midwifery, 50*, 193–200. https://doi.org/10.1016/j.midw.2017.04.012	In-depth interviews	Norway	Ten healthy pregnant women	"When seen in light of Antonovsky (1987) theory, it could seem as though the women had a strong sense of coherence"

9	Söderhamn, U., Dale, B., & Söderhamn, O. (2013). The meaning of actualization of self-care resources among a group of older home-dwelling people—A hermeneutic study. *International Journal of Qualitative Studies on Health and Well-Being, 8*, 1–9. https://doi.org/10.3402/qhw.v8i0.20592	Interviews	Norway	11 people over 65 years old, who took part in a former survey and found to have strong SOC	
10	Teut, M., Stöckigt, B., Holmberg, C., Besch, F., Witt, C. M., & Jeserich, F. (2014). Perceived outcomes of spiritual healing and explanations--a qualitative study on the perspectives of German healers and their clients. *BMC Complementary and Alternative Medicine, 14*, 240. https://doi.org/10.1186/1472-6882-14-240	Semi-structured interviews and participatory observations	Germany	15 healers, 16 clients	"This would mean that spiritual healing may enable clients to use their resources more effectively to better deal with stressors and move on the health-disease continuum toward health"

Table 54.4 References, methods, country, and sample of studies included in category (d)

#	Reference	Methods	Country	Sample	Comments
1	Almgren, M., Lennerling, A., Lundmark, M., & Forsberg, A. (2017). The meaning of being in uncertainty after heart transplantation - an unrevealed source to distress. *European Journal of Cardiovascular Nursing: Journal of the Working Group on Cardiovascular Nursing of the European Society of Cardiology, 16*(2), 167–174. https://doi.org/10.1177/1474515116648240	Interviews	Sweden	14 patients after heart transplantation	Being in uncertainty after heart transplantation means losing sense of coherence
2	Backman, Y. (2016). Circles of happiness: Students' perceptions of bidirectional crossovers of subjective well-being. *Journal of Happiness Studies: An Interdisciplinary Forum on Subjective Well-Being, 17*(4), 1547–1563. https://doi.org/10.1007/s10902-015-9658-0	Open-ended writing tasks: complete a sentence about a good day in school and an idea to make school better	Sweden	200 students in grades 5–9 in rural and urban areas	Perceptions of the role of happiness in school. Subjective well-being and happiness are used as synonyms
3	Balaam, M., & Thomson, G. (2018). Building capacity and wellbeing in vulnerable/marginalised mothers: A qualitative study. *Women and Birth: Journal of the Australian College of Midwives, 31*(5), e341-e347. https://doi.org/10.1016/j.wombi.2017.12.010	Mixed methods: survey + in-depth interviews	UK	11 vulnerable / marginalized women who had received support during pregnancy	
4	Bjorkman, M., & Malterud, K. (2012). Lesbian women coping with challenges of minority stress: A qualitative study. *Scandinavian Journal of Public Health, 40*(3), 239–244. https://doi.org/10.1177/1403494812443608	Qualitative data were obtained as written answers to web-based open-ended questionnaires	Norway	61 self-defined lesbian women (age 18+)	Salutogenesis as a concept theory for analyzing data
5	Björn, G. J., Gustafsson, P. A., Sydsjö, G., & Berterö, C. (2013). Family therapy sessions with refugee families; a qualitative study. *Conflict and Health, 7*(1), 7. https://doi.org/10.1186/1752-1505-7-7	Family therapy was audiotaped and verbatim	Sweden	Three families, refugees from Bosnia-Herzegovina	
6	Boyde, C., Linden, U., Boehm, K., & Ostermann, T. (2012). The use of music therapy during the treatment of cancer patients: A collection of evidence. *Global Advances in Health and Medicine, 1*(5), 24–29. https://doi.org/10.7453/gahmj.2012.1.5.009	Literature review about music therapy for cancer patients			Salutogenesis as a general idea of looking at the research itself
7	Browne, J., O'Brien, M., Taylor, J., Bowman, R., & Davis, D. (2014). 'You've got it within you': The political act of keeping a wellness focus in the antenatal time. *Midwifery, 30*(4), 420–426. https://doi.org/10.1016/j.midw.2013.04.003	Focus groups	Australia	14 midwives	Explore midwives' communication techniques to promote wellness. Salutogenesis as a general framework for research
8	Croot, E., Grant, G., Mathers, N., & Cooper, C. (2012). Coping strategies used by Pakistani parents living in the United Kingdom and caring for a severely disabled child. *Disability and Rehabilitation: An International, Multidisciplinary Journal, 34*(18), 1540–1549. https://doi.org/10.3109/09638288.2011.650310	In-depth interviews	UK	Nine Pakistani immigrant parents of children with disabilities	
9	Dessellier, A. L. (2018). *Health literacy, availability, and the need for educational resources on infertility*. (2018–00727-007). Doctoral dissertation, Walden University, Minneapolis, USA. Retrieved from http://search.ebscohost.com.ezproxy.bgu.ac.il/login.aspx?direct=true&db=psyh&AN=2018-00727-007&site=ehost-live	Open-ended questions interviews	USA	12 women who may or may not have had a known infertility concern	

10	Ebina, R., & Yamazaki, Y. (2008). Sense of coherence and coping in adolescents directly affected by the 1991--5 war in Croatia. *Promotion & Education, 15*(4), 5–10. https://doi.org/10.1177/1025382308097692	In-depth semi-structured interviews	Croatia	17 women who lived in Croatia during the war of 1991–1995 as adolescents	Soc-13 scale was used to divide the participants into three groups of weak-medium-strong SOC scores
11	Edvardsson, K., Garvare, R., Ivarsson, A., Eurenius, E., Mogren, I., & Nyström, M.,E. (2011). Sustainable practice change: Professionals' experiences with a multisectoral child health promotion programme in Sweden. *BMC Health Services Research, 11*, 61. https://doi.org/10.1186/1472-6963-11-61	Semi-structured interviews	Sweden	23 health professionals	
12	Flacking, R., Thomson, G., & Axelin, A. (2016). Pathways to emotional closeness in neonatal units - a cross-national qualitative study. *BMC Pregnancy and Childbirth, 16*(1), 170. https://doi.org/10.1186/s12884-016-0955-3	Forms and written questions	Sweden, England, Finland	23 parents of infants cared for in a NU care	
13	Glavin, K., Tveiten, S., Økland, T., & Hjälmhult, E. (2017). Maternity groups in the postpartum period at well child clinics - mothers' experiences. *Journal of Clinical Nursing, 26*(19–20), 3079–3087. https://doi.org/10.1111/jocn.13654	Focus group interviews	Norway	30 mothers who had participated in maternity groups facilitated by public health nurses	
14	Holmberg, V., & Ringsberg, K. C. (2014). Occupational therapists as contributors to health promotion. *Scandinavian Journal of Occupational Therapy, 21*(2), 82–89. https://doi.org/10.3109/11038128.2013.877069	Focus group discussions	Norway	24 occupational therapists	
15	Hyatt-Burkhart, D. (2014). The experience of vicarious posttraumatic growth in mental health workers. *Journal of Loss and Trauma, 19*(5), 452–461. https://doi.org/10.1080/15325024.2013.797268	Mixed methods: focus group + semi-structured interviews	Pennsylvania, USA	12 mental health workers	
16	Kristjansdottir, O. B., Stenberg, U., Mirkovic, J., Krogseth, T., Ljoså, T. M., Stange, K. C., & Ruland, C. M. (2018). Personal strengths reported by people with chronic illness: A qualitative study. *Health Expectations: An International Journal of Public Participation in Health Care and Health Policy, 21*(4), 787–795. https://doi.org/10.1111/hex.12674	Semi-structured interviews in groups, pairs, or individually	Norway	39 participants with chronic pain	
17	Lagerin, A., Törnkvist, L., & Hylander, I. (2016). District nurses' experiences of preventive home visits to 75-year-olds in Stockholm: A qualitative study. *Primary Health Care Research & Development, 17*(5), 464–478. https://doi.org/10.1017/S1463423615000560	Five group interviews	Sweden	20 district nurses who work with older people	The study is done in light of the salutogenic perspective: "Even though the home visits are often called 'preventive', the overall purpose is to conduct health-promoting activities, prevent diseases and assist older people in preserving or restoring body functions (Vasset al., 2007; Lofqvistet al., 2012). The 'salutogenic' perspective is important in the field of health promotion."

(continued)

Table 54.4 (continued)

#	Reference	Methods	Country	Sample	Comments
18	Lie, N. K., Solvang, P. K., & Hauken, M. A. (2019). "A limited focus on cancer rehabilitation"-A qualitative study of the experiences from Norwegian cancer coordinators in primary health care. *European Journal of Cancer Care, 28*(4), e13030. https://doi.org/10.1111/ecc.13030	Two focus group interviews	Norway	12 cancer coordinators	
19	Lindgren, M. S., & Renck, B. (2008). 'It is still so deep-seated, the fear': Psychological stress reactions as consequences of intimate partner violence. *Journal of Psychiatric and Mental Health Nursing, 15*(3), 219–228. https://doi.org/10.1111/j.1365-2850.2007.01215.x	Mixed-methods: SOC-13 questionnaires + interviews	Sweden	14 women who suffered violence from their partners and left these abusive relationships	SOC scale was used only as a reference to explain and discuss the results of the interviews
20	McCuaig, L., & Quennerstedt, M. (2018). Health by stealth—Exploring the sociocultural dimensions of salutogenesis for sport, health and physical education research. *Sport, Education and Society, 23*(2), 111–122. https://doi.org/10.1080/13573322.2016.1151779	Theoretical paper			"Combination of Antonovsky's ideas on healthy living and Foucault's ethical fourfold can be seen as one fruitful way to operationalise explorations of health salutogenically, without disregarding either the river or the swimmer"
21	Mienna, C. S., Johansson, E. E., & Wänman, A. (2014). "Grin(d) and bear it": Narratives from Sami women with and without temporomandibular disorders. A qualitative study. *Journal of Oral & Facial Pain and Headache, 28*(3), 243–251. https://doi.org/10.11607/ofph.1180	Interviews	Sweden	Ten Sami women with TMD	A salutogenic perspective of analyzing findings, by means of looking for health, resources, and strengths
22	Morris, B., & Shakespeare-Finch, J. (2012). Psychosocial experiences of cancer: Surpassing survival and recognising posttraumatic growth as well as distress. In K. Gow & M. J. Celinski (Eds.), *Individual trauma: Recovering from deep wounds and exploring the potential for renewal* (pp. 261–276). Hauppauge, NY: Nova Science Publishers. Retrieved from http://search.ebscohost.com.ezproxy.bgu.ac.il/login.aspx?direct=true&db=psyh&AN=2013-20879-016&site=ehost-live	Literature review			"Adopting a salutogenic framework within psycho-oncology allows us to capture a holistic picture of how someone adjusts to, takes meaning from, and deals with a diagnosis of cancer and associated treatments"
23	Qvarnström, A., & Oscarsson, M. G. (2014). Perceptions of HIV/STI prevention among young adults in Sweden who travel abroad: A qualitative study with focus group and individual interviews. *BMC Public Health, 14*, 897. https://doi.org/10.1186/1471-2458-14-897	Mixed methods: focus groups + individual interviews	Sweden	Young adults (age 20–29) who had traveled abroad	Salutogenic framework of understanding preferences of young adults with regard to prevention of HIV/STI when traveling l abroad
24	Roy, P., Tremblay, G., Robertson, S., & Houle, J. (2017). "Do it all by myself": A salutogenic approach of masculine health practice among farming men coping with stress. *American Journal of Men's Health, 11*(5), 1536–1546. https://doi.org/10.1177/1557988315619677	Mixed methods: interviews + focus group	Canada	32 interviews with farming men + focus group with five informants in the community in rural areas	The research was done in light of the salutogenic concept: "the salutogenic approach... brought attention to key elements of health promotion and the prevention of mental health problems among this group of men"

25	Snell, D. L., Martin, R., Surgenor, L. J., Siegert, R. J., & Hay-Smith, E. (2017). What's wrong with me? seeking a coherent understanding of recovery after mild traumatic brain injury. *Disability and Rehabilitation, 39*(19), 1968–1975. https://doi.org/10.1080/09638288.2016.1213895	Semi-structured interviews	New Zealand	Ten participants who were chosen from a former quantitative study cohort	Understanding and perceptions of participants of their own recovery from MTBI. SOC is an umbrella construct that can facilitate resilience and positive recovery
26	Woodbine, L. (2017). *Coming home: Post incarcerated lived experience of a caring community*. (2017–05709-144). Doctoral dissertation, Fordham University, New York, USA. Retrieved from http://search.ebscohost.com.ezproxy.bgu.ac.il/login.aspx?direct=true&db=psyh&AN=2017-05709-144&site=ehost-live	Mixed-methods: focus groups + interviews. Longitudinal design	International	Incarcerated people returning home. Each program had a different number of graduates	
27	Yinon, H., & Orland-Barak, L. (2017). Career stories of Israeli teachers who left teaching: A salutogenic view of teacher attrition. *Teachers and Teaching: Theory and Practice, 23*(8), 914–927. https://doi.org/10.1080/13540602.2017.1361398	Semi-structured interviews	Israel	34 teachers who had left teaching	

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Promoting Salutogenic Capacity in Health Professionals

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Introduction

Developing a competent health promotion workforce is a key component of capacity building for the future. It is critical to delivering on the vision, values, and commitments of global health promotion (Barry et al., 2009).

Barry and colleagues wrote this in 2009 and presented simultaneously the results from the Galway Consensus Conference on the development of core competencies for health promotion and health education. The core domains of competency agreed to at the meeting were catalysing change, leadership, assessment, planning, implementation, evaluation, advocacy, and partnerships (Barry et al., 2009). At the seventh WHO Global Health Promotion Conference held in Nairobi the same year, Sir Michael Marmot described a dilemma concerning this very issue. He stated that The Ottawa Charter (WHO, 1986) being the mission statement for Health Promotion very clearly describes what to do and how to do it, but that too little is happening. Sir Michael claimed that this was not due to having too few resources or not seeing possible solutions, but due to lacking skills in translating what we know into good use where it is needed (Lindström & Eriksson, 2010). The Nairobi meeting came up with two main strategies for developing the field of health promotion in the following years: (1) translating research findings into practice and (2) building competence in health promotion. Since Nairobi and Galway in 2009, there has been an ongoing effort to clarify what skills a health promoter needs to work systematically and purposefully.

We have been teaching mental health, health promotion, and salutogenesis to students on bachelor, postgraduate, and master levels, and a variety of already trained health professionals for approximately 20 years now. Our teachings are directed primarily at people who are, and have been working actively in their professions for a good while and who want to expand their expertise in health promotion for using it in their professions. Therefore, during their education, they need and want to learn more about how to translate theoretical knowledge into practical skills, and how to engage in health-promoting measures, including both attitudes and activities. As we see it, promoting health is to identify and use the experienced scope of action one perceives to have in a given situation, and to do this in an ethically acceptable way, with emphasis on emphatic concern and social responsibility.

From a salutogenic perspective, health is strengthened or weakened depending on how resources are put into good use, and how everyday activities are organised and carried out. The consequences of health promotion initiatives are not just dependent on the activities in themselves, but also on how one implements them. Alongside gradually expanding their theoretical understanding, the students need to reflect upon and make use of their practical experiences in a variety of exercises. The goal is that the students develop practical skills and relational competence when it comes to supporting and promoting health-promoting processes one-on-one, and at a group- and community level. We find that relational competence is the key to succeeding in this endeavour.

There is a need for more high-quality research and broader distribution of the resulting knowledge, to support health

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professionals in developing their salutogenic understanding and health promotion skills. Such research will potentially advise policy-makers and health service administrators to reallocate resources and make it possible for health workers to expand their competence and fill roles as health promotion practitioners as well (Catford, 2014; McHugh et al., 2010). There is a need for health professionals to take on a more salutogenic (Lindström & Eriksson, 2010) and person-centred approach (McCormack & McCance, 2010; Rogers, 1957), to understand individual needs in light of the contexts they are part of and assist in keeping people well and living healthier lives.

In our experience, really grasping the differences and consequences of working within a salutogenic paradigm is difficult. Antonovsky himself was doubtful of the task: "I have no illusions. A salutogenic orientation is not likely to take over. Pathogenesis is too deeply entrenched in our thinking …" (Antonovsky, 1996, p. 171). We find that exploring and reflecting together with our students about tensions in and between the two different paradigms (salutogenesis vs. pathogenesis) is an important educational task that we return to often. It is also a task to consider how the two perspectives complement each other in public health and healthcare services (see Table 55.1).

However, our aim is that students always return to the understanding of:

- Health as a continuum.
- The normalcy of stressors and tension in everybody's lives.
- The need to understand the person in his/her context.
- The activation and use of resources to counter tension.
- The goal of adaptive coping and enhancement of health and well-being.
- How to do research in a health-promoting salutogenic perspective.

These areas are useful for gradually understanding the important differences between the two perspectives.

Table 55.1 A summary of the main aspects of the salutogenic and the pathogenic orientations as presented by Antonovsky in *Unraveling the Mystery of Health* (Antonovsky, 1987)

Salutogenic orientation	Pathogenic orientation
Heterostasis	*Homeostasis*
Health ease–dis/ease continuum	Healthy/sick dichotomy
The history of the person	The patient's disease/ diagnosis
Salutary factors	Risk factors
Stressors and tension might be pathogenic, neutral, or salutary	Stress is pathogenic
Active adaptation	The magic bullet
The "deviant" case	Hypothesis confirmation

Alongside this, we also stress that taking a salutogenic stance implies exploring what it could mean to apply a settings approach in each situation. The settings approach shifts the focus of interventions from the individual to create conditions supportive of health and health behaviour (Green et al., 2015). However, it does not minimise the need to understand the person in his/her context; the health-promoting activities chosen will always have to stem from such a person-centred approach.

When work is inspired by a thorough understanding of salutogenesis, health professionals will encourage attitudes and actions that reflect knowledge about health, possibilities, and resources. This means, however, that the knowledge has to be integrated into the health professional in a way that reflects that he/she really understands what it means to focus on the promotion of health. We find that working salutogenically means that a health professional is in a continuous learning process in which he/she engages in creative interplay with individuals and groups to identify health determinants and mobilise resources that promote the sense of coherence (SOC), health, and well-being. All the core domains of competency suggested by Barry et al. (2009) are highly relevant. Still, there is a need to add a specific focus on the relational, conversational, and dialogue competency to practice one's professional competency in a fully engaged way.

Teaching Salutogenesis in Different Settings

We will now give three different examples of educational programmes and one educational in-job training project. All four examples are based on the theory and understanding presented above and more fully in the discussions below. In a variety of ways, we teach from this knowledge base. Every hour, every lesson, and every day of a programme only has a tentative plan. The level of success is highly dependent on our ability to read what is at stake and in play in the group of participants and to adjust to it. In other words, we continuously develop our skills in self-tuning (Vinje & Mittelmark, 2006), building our own, and stimulating participants' salutogenic capacity (Vinje & Ausland, 2013) in a continuous gain spiral. Following the examples, we will give a more in-depth discussion of the principles and theoretical ideas presented.

Example 1 Teaching Salutogenesis to Health Promotion Generalists

This is a master's degree programme for students from various health professions. It was initially developed to offer master's students in health promotion a specialization in salutogenesis. The programme has eventually found its way

to students in other master's programme and to health professionals currently working in their specific fields, and we include students from these different areas in a mixed group. The students meet for three days each month for a total duration of three months. The students have two individual reflection exercises during the programme, for example:

Individual Essay: Stress and Coping Narrative in Light of Salutogenesis

Describe one or two situations you usually experience as stressful. Be specific and describe the situation(s) as detailed as you can. Describe thoughts, feelings, and how you feel in your body and what you usually say and do in relation to the people involved. Describe then how you usually handle such situations. Focus again on bodily expression, thoughts, feelings, and relational factors. Reflect about your experiences in light of salutogenesis as described by A. Antonovsky.

These individual reflections are written in an essayistic style suggested by Bech-Karlsen (2003) that we find helpful in developing sensibility, and thus helping in assessing the achievement of learning objectives. The essayistic writing style is about introspection and being able to describe specific situations from own lives and/or practice. It is a goal to learn to discriminate between describing what is, interpreting it, and reflecting on it (ibid). The purpose is to practice receiving signals from own senses, emotions, thoughts, and body reactions and to write these signals down, describing them as detailed as possible, and subsequently reflecting on what one has found and what it means when it comes to coping with one's current situation.

The students work in the same groups of 3–5 members throughout the programme. The groups work together on a topic relevant to salutogenesis, and they also explore how to develop salutogenic group processes, for example:

Group Assignment, the Task Is Twofold

1. Based on a real or constructed health promotion programme, the group considers how to promote the well-being/quality of life in a selected setting (home, school, workplace, or community). The group describes the situation and discusses it in light of the salutogenic model of health as presented by A. Antonovsky.
2. The group aims at developing a salutogenic group process, and describes and reflects on the process in the group during their work on the task presented in (1).

At the last session, the group gives a 30-min presentation of their work *and* the group process. This is discussed with the other students and teachers. After this feedback, the group finalizes their assignment and:

- The thematic part of the assignment is submitted and evaluated separately.
- The groups' joint reflection on the group process is submitted and evaluated separately.
- Individual reflections on the group process are submitted and evaluated separately.

An individual home examination is undertaken over three days, building on this same idea. Based on a real or constructed case to initiate and support a health promotion process, working one-on-one, in groups, in a workplace, or in the local community, the student describes and reflects in light of salutogenic theory and discusses their role and influence in the approach selected.

It is a goal that this programme is health-promoting for the students attending it. We therefore strive to live as we preach. We believe students' evaluations show that we have a strategy that supports this goal. Because of students' evaluations, we cannot emphasise strongly enough this notion of being salutogenic in the learning environment; it is said by students to be crucial to their understanding of salutogenesis. Students' evaluation also urges us to place great emphasis on the creation of groups to support the group process from day 1 in the programme, and to have the groups meet every day that we are gathered. Below is an outline of the learning outcomes the programme aims to achieve:

Knowledge

- The student has advanced knowledge of the salutogenic model of health as presented by Aaron Antonovsky.
- The student has an overview of other salutogenic theories and relevant salutogenic research.
- The student has advanced knowledge of the phenomena of health, disease, meaning, well-being, and quality of life in today's society.

The student has a thorough knowledge of health-promoting processes in individuals, relationships, and groups.

Skills

- The student can assess possibilities and challenges by adopting a salutogenic approach in practical health promotion and research.
- The student has skills in using his/her practical experiences as a basis for systematic reflection on health-promoting processes.
- The student has basic skills in supporting and promoting health processes in working with others.

The student can critically evaluate choices of methods and his/her role in health promotion work.

General Competence

- The student knows the salutogenic perspective's relevance and value in relation to the discipline of health promotion.
- The student can critically evaluate values and ethical issues in applying a salutogenic approach in practical health promotion and research.
- The student can critically evaluate moral dilemmas in efforts to promote and support health-promoting processes in others.

The learning activities are a mixture of lectures, practical exercises, reflections, and discussions, teamwork, and individual work between sessions. Except for the first day, each day begins and/or ends with 30 min of reflection about the topics of the day. When this is to be done, the room is rearranged: the tables are removed, and chairs are set in a circle. We focus on descriptive reflection (action/what have I done), analytical reflection (what did I learn), and constructive reflection (planning/how can I improve) (see Table 55.2).

Sometimes we take rounds in the circle of seated students, wherein all are invited to speak (however, it is always possible to pass). Other times we have an "open window," where the one who has something on her/his mind takes the word. The focus is on the day's theme; its contents, understandings, benefits, challenges, processes, interactions, and that may have come into play in the group during the day. The main objectives of these "reflection circles" are threefold:

1. Increasing the learning effect of the current topic.
2. Practicing reflection and practicing putting into words how it is to be part of the group, what one needs to understand more fully, what one needs to feel good in the group, and to progress in one's professional development.
3. Continuously assessing and evaluating the programme to allow for changes to reach the described learning outcomes.

Table 55.2 Example of a reflection note from a student: facilitating brainstorming in a group

Descriptive reflection: action/what did I do?	Analytical reflection: what did I learn?	Constructive reflection: planning/how can I improve?
1. When I finished introducing the theme for the discussion, people began to speak all at once. Some started writing down their ideas, and others started discussing the theme loudly	I felt uncomfortable in the role of facilitator because the process was chaotic, and no one seemed to listen to me or listen to each other. The group did not finish in time	Next time, before I start, I will give instructions to the group on how to do brainstorming, and I will clarify the facilitator's role and the time limit given
2. Before introducing the theme for brainstorming, I handed out instructions for how to do brainstorming (individual time to be aware and self-reflect, taking turns, active listening, noticing each other)	All the members worked individually first, then all members of the group talked, not only the talkative ones. Everyone listened, and everyone talked	Instead of the facilitator giving instructions, the group itself can agree on their instructions for how to do the brainstorming

Example 2: Teaching Group Leaders of Salutogenic Talk-Therapy Groups

Professional salutogenic health care places a special responsibility on health professionals (Oliveira, 2015). Oliveira points out why, explaining that working salutogenically might involve supporting people in uprooting and changing detrimental health situations, counselling in establishing new relationships and activities, and facilitating and joining in dialogues about finding meaning in everyday life (ibid). These practices call for competence in assisting others in developing and activating resources such as social support and identity, arranging for appropriate challenges, thus promoting good coping experiences and subsequently, a stronger sense of coherence (Langeland et al., 2007). In our work with salutogenic talk-therapy groups (Langeland et al., 2007; Langeland et al., 2016), we find Oliveira's claims to be highly relevant. Thus, these claims are important aspects for us to include in training programmes for mental health professionals who wish to lead such groups.

A salutogenic talk-therapy group is an intervention programme developed for people with different mental health challenges and consists of 16 talk-therapy meetings, which last for two hours and 15 min each, as well as homework (reflection note) for 16 weeks (for a detailed description, see Langeland & Vinje, 2013). Leading these groups in a salutogenic way implies special competence. Key is that the health professionals integrate the theoretical knowledge into their therapeutic use of self "the salutogenic way." Accordingly, the focus for the group leader is to help the participant contribute to a positive feedback loop, meant to enable one's use of resistance resources and develop one's SOC. Our experience is that these types of groups need a professional leader, a mental health professional who knows how to build both on their own, and their clients' salutogenic capacity. Further, a salutogenic talk-therapy leader must be highly empathetic and sensitive to the process of relating to people as whole persons. In talk-therapy groups, a central idea is that conver-

sations between participants and between participants and the group leaders should be characterised by being a *dialogue* (Egan, 2002). The aim is to develop a group atmosphere characterised by mutual, egalitarian relationships, in which the tenor of conversations between the group leaders and participants is similar to those between the participants themselves (Antonovsky, 1990; Gilligan & Price, 1993; Rogers, 1957, 1980).

Traditionally, mental health professionals learn to maintain their distance and stay in control. This is important, though research demonstrates that intimacy, spontaneity, and personal engagement may have therapeutic effects (Borg, 2007; Langeland & Wahl, 2009). Antonovsky (1987, p. 9) maintains: "When one searches for effective adaptation of the organism, one can move beyond post-Cartesian dualism and look to imagination, love, play, meaning, will, and the social structure that foster them." In teaching future group leaders, we also find inspiration in Yalom (1975) who identifies 11 interdependent therapeutic group aims: to give hope, to encourage universalisation, to share information, to engender altruism, to try new approaches, to develop social competence, to promote vicarious learning, to promote learning between people, to encourage group solidarity, to achieve catharsis, and to encourage existential viewpoints. Thus, the group leader's job is to focus on creating a conversational and interactional climate that will promote a desirable development in the participants. By acknowledging his or her inability to understand the participant fully, he or she strives toward meeting the participant with an attitude combining unconditional positive regard, empathic concern, and authenticity (Langeland & Vinje, 2013; Rogers, 1957). The idea is to demonstrate person-centredness in practice, actively listening to the participants' story, respecting and acknowledging that the participant is his or her own expert (Langeland et al., 2007). The participant is the one fully knowing his or her unique situation, including experiences of pain, suffering, and concerns (Oliveira, 2015; Rogers, 1957). From a salutogenic perspective, the group leader has a role as a dialogue partner, achieving a balance between listening empathetically to participants' difficulties while taking into account their strengths and resources (Duncan et al., 2010). It is a confidence in people's innate potential for growth and development that should be at the forefront of the group leader's mind. We emphasise in our teachings that the group has the potential for facilitating self-understanding and self-definition. Thus, the group leader holds a considerable responsibility to build the type of relationship that can inspire hope. According to Stanhope and Solomon (2008), this helps bolster against the negative impact of societal stigma and marginalization, an important goal for health promotion.

This specific educational programme consists of four parts: (1) the salutogenic model of health, (2) knowledge translation of the model into mental healthcare settings, (3) practical strategies, and (4) development of clinical salutogenic competence. Our students have evaluated the programme as meaningful and very useful in understanding how a salutogenic health focus may be practiced. Facilitating health-promoting process and supporting others (one-on-one, and in groups) during such processes is central in our teachings. We do this by use of the different theoretical and salutogenic perspectives we have presented above and will discuss further below. We rely heavily on what we describe as dialogue-based lectures. The method is inductive, inviting the students to explore their experience with particular phenomena or topics. The teacher lets what the students find be the starting point of joint reflections and a focus for his/her subsequent lecture. The focus is on interaction processes and on becoming a salutogenic group leader. The aim is that the students develop professional and ethical understanding and that they can choose ethically sound methods in specific situations. Central to our teachings is thus experience-oriented learning, and we arrange for "realistic sessions" in which the students can practice together both as a group leader and as a participant of a talk-therapy group. The teaching methods are lectures, dialogues, individual studies, and practical exercises in groups.

Our research shows that the group leader's salutogenic approach helps increase participants' awareness of and confidence in their potential, their internal and external resources, and their ability to use these to increase their SOC, coping, level of mental health and well-being. The intervention has been evaluated in a randomised controlled trial study, showing positive effects on the sense of coherence, and it has been positively evaluated in its utility for everyday living (Langeland et al., 2006). Other studies confirm that salutogenic talk-therapy groups strengthen the sense of coherence, mental health and well-being; this salutogenic approach increases participants' awareness of and confidence in their potential, their internal and external resources, and their ability to use them, and thus increase their coping and sense of coherence (Langeland et al., 2016; Langeland & Vinje, 2013).

Example 3: Students Practicing Participatory Methods in the Salutogenic Way

Empowering and enabling individuals and groups are fundamental principles in health promotion, and health promotion practitioners need to master different kinds of participatory and partnership methods (Green et al., 2015). However, how do we know that what we do as health promotion practitioners actually work? Traditionally, students in health promotion are trained to use action-learning methodology to increase their ability to practice reflection in action (Reason, 1988; Schön, 1983). Applying a salutogenic orientation to

one's health promotion work should most certainly involve developing skills of reflection about own practice. Yet, the weakness of the traditional training as we see it is that it does not problematise the process that underlies practitioners' reflection in and of practice. Reflection is a cognitive process, which may lose some of its development and improvement power if one does not take into account the pre-reflexive, pre-cognitive mode of sensibility (Vinje, 2007). Participatory methods are often designed to invite people to share their experiences to improve a setting or a situation, and the methods aim at making people feeling secure and empowered in doing so. However, we argue that participatory methods have the power to cause harm if not facilitated with the skills of both sensibility and reflection (Ausland & Vinje, 2010). We find that practicing self-tuning individually and together in groups (for example in a workplace setting) helps bring about changes at a group level, and in doing so, the group's salutogenic capacity may be strengthened. In this third example, we present one example of how students can train and practice introspection, sensibility, and critical reflection in action.This example is a student-led assignment in which the students plan, arrange, and evaluate their own dialogue conference for co-students. The problem they are set to investigate by the use of participatory methods is, "How can a master's program in health promotion promote health for its students?"At the end of the conference, the aims are that the students have gained experience in planning and performing a conference using participatory methods, and that they have made plans for action to improve own situation as master's students. Central to both method and result is salutogenesis. The core of the salutogenic understanding is underpinning every action: (1) health as a continuum, (2) the normalcy of stressors and tension in everybody's lives, (3) the need to understand the person in his/her context, (4) the activation and use of resources to counter tension, and (5) the goal of adaptive coping and enhancement of health and well-being. When these ideas become guiding principles, it becomes clear that every action entails an invitation to every participant to bring forth her experience. The facilitator's ability to ask for, listen to, and really notice what is at stake is vital to the success and relevance of the reflection. The stages in the conference are (1) planning and organising, (2) searching for research questions, (3) planning and performing facilitating participatory methods, (4) continuous evaluation by reflecting on action and reflecting in action, and (5) documenting the process and disseminating the results.During the conference, the students change roles as facilitators and participants, and they all reflect individually on what they experience by writing reflection notes during the process (see Table 55.3). Traditionally, one often moves directly to reflecting in pairs or in groups. Taking the salutogenic principle of understanding the person in his/her context seriously, we suggest using the idea of sensibility, and encourage individual introspection and self-reflection about the subject,

Table 55.3 Content of an educational strategy applying salutogenesis in the training of health professionals

Application of salutogenesis in training health professionals		
Discovering, focusing, vocalising, understanding, being, changing, and theorising		
What to do?	How to do it?	How to be salutogenic?
Build on theories and values in health promotion, the salutogenic model of health and other relevant theories	All core competencies apply, but students also need to know how to engage others, work with others, facilitate democracy and participation adapted to different settings and participants, thus also needing relational skillsd	Striving towards an attitude of mindful presence, non-judgemental positive acceptance, emphatic concern, authenticity, wonder, and open mind
Students read texts, discuss among themselves and with teachers and other lecturers, and write academic assignments	Students explore, assess, reflect on own experience, and practice, develop self-awareness, relational sensitivity, ability to reflect, and skills in carrying out dialogues	Students engage in a variety of activities to heightened own sensibility understood as self-awareness and self-sensitivity and ability to notice and grasp what's at play in a giving situation, to understand its meaning and act accordingly to help mobilise resources and promote ease and well-being
Teachers give lectures, design written assignments, and engage in theoretical discussions with students and colleagues to inspire analytical and rational development	Teachers design exercises that are solved from an **I**ndividual, **G**roup, and **P**lenary (IGP) perspective, teachers arrange reflective circles, (students sitting in a circle) facilitating students' ability to descriptive, analytical, and constructive reflecting about own experience, practice, and activities of the given day	Teachers give students essayistic writing assignments designed to explore their own experiences, feelings, and perceptions. Teachers design lessons to practice active listening, wondering, non-judgemental attitude, and positive acceptance. They include activities such as short meditations, easy yoga, breathing exercises, all with an aim to increase self- and relational awareness and sensitivity. All lessons include activating individual pre-understanding and individual, group, and plenary post-reflection. Teachers do this while demonstrating (being) the salutogenic qualities the tasks are designed to enhance

before engaging in group reflection. Further, we arrange for the students to take time-outs to share their reflection notes in groups during the process (every group consists of both facilitators and participants). At the end of a session, the group develops a new reflection note together, reflecting upon the groups' learning processes, based on their individual inputs into the reflections. Eventually, all reflection notes, both group notes and individual ones, are posted on the students' Virtual Electronic Classroom, for everyone to read and learn from. All stages in the dialogue process are described and reflected on, with the aim of improving the process at both an individual and a group level. This way the students practice self-tuning and may experience ways of promoting one's own and the group's salutogenic capacity. We find that a crucial advantage is that all stages of the students' learning processes are transparent.

Example 4: Towards a More Salutogenic Approach in Child HealthCare Services

The last example illustrates an educational on-the-job training project for healthcare professionals working in the regional child healthcare services in Region West, Sweden. This project was developed in collaboration between representatives from the regional child healthcare services and the Center of Salutogenesis at University West.

The aim is to encourage health professionals in child health care to adopt a more salutogenic approach and attain confidence in focusing on resources rather than risks when encountering children and their families. To accomplish this, the programme builds on the foundation of the experiential learning theory of Kolb (2012) as well as on reflective learning according to Schön (1983). Kolb (2012) stated that learning is an ongoing process where knowledge is created by the transformation of experience. This is illustrated by Kolb's experiential learning cycle, which presents two modes for grasping experiences: concrete experience and abstract conceptualisation, together with two modes for transforming the experiences into knowledge: reflective observation and active experimentation. An ideal learning situation should offer the learner the possibility to learn by a creative tension between all of the four learning modes. The educational programme is designed to contain elements of all four modes to promote lifelong learning. The programme is constructed using the following four themes: (1) the concept of health; (2) salutogenesis and pathogenesis; (3) person-centred care; (4) sensitivity towards oneself and the other. All of the themes are presented through a short theoretical lecture together with practical exercises and reflection sessions. Both the exercises and the reflections draw on the participants' own thoughts and experiences. The programme consists of one full-day session, which is followed up two months later by a half-day session and is designed to be held for approximately 20 participants at the time.

Educational Programme, Day 1

1. The concept of health

Before the first day of the programme, the participants are asked to write down their reflections and experiences related to the concept of health and health promotion. After a short introduction, the first day starts with the participants working in pairs where they get exactly one minute to share their thoughts and experiences regarding health and health promotion. Subsequently, they are instructed to reflect together with another pair (groups of four). Everyone gets to summarise and render the thoughts of their pair mate to the new pair. The group of four then reflects together before the lecturer invites all the participants to reflect together. Issues that the reflections illuminate are, for example, the time aspect. Nurses often feel that because of increasing time pressure at their workplaces, they are unable to focus on other things than the patients' health problems. By exercises like this, it becomes clear that in only one minute, it is possible to get a relatively good insight into each other's lifeworlds. These thoughts are then addressed in the following short lecture about the concept of health and the determinants of health.

2. Salutogenesis and pathogenesis (see Table 55.1)

After a short lecture about salutogenesis and pathogenesis, the participants are divided into groups of four. Fictive journal documentation of an ordinary health visit at a child healthcare unit is handed out to the groups. The small groups are instructed to make two lists, one list with salutogenic aspects and one with pathogenic aspects, based on the information they have access to, and the lists are then presented to the whole group. This exercise aims to illustrate that by using a traditional approach, it is easier to discover pathogenic aspects. To discover salutogenic aspects, additional information about the child and its family is needed. For example, there is a need to focus on the specific lifeworld of the child and family, that is, to be more person-centred.

3. Person-centred care

After a short presentation of person-centred care (Rogers, 1957), the participants are divided into two groups (A and B). The groups A and B are separated and given different instructions. Participants of group A are assigned the role of health professionals at a child healthcare unit who are going

to meet the parent from the case they worked with before. During the meeting, they are instructed to lead the conversation to find as many salutogenic aspects as possible. Participants of group B are assigned the role as a parent of the child from the same case. They are given some facts about their life situation, focusing on resources and salutogenic aspects. The participants are then divided into pairs: one of group A and one of group B. They are instructed to improvise a conversation in their roles of a health professional and a parent. After approximately 15 min, the pairs are instructed to join another pair and together reflect on their experiences in the exercise. The lecturer then facilitates a reflection with all the participants, focusing on how it felt to be in the roles of the nurse and the parent. The participants are encouraged to relate and share experiences from similar situations they have experienced, either in their professional role or as a parent or relative.

4. Sensitivity towards oneself and the other

The fourth theme starts with a short lecture focusing on the importance of self-awareness as well as the ability to be sensitive towards the individual perspective of the participants and their relatives to create a trustful environment and an alliance (Rogers, 1957). Afterwards, the participants are once again divided into two groups (A and B) and given different instructions. Participants of group A are assigned the role of a health professional and those of group B are assigned the role of a single parent who has been looking for a job for some time. Now, the parent has been offered two jobs, is unsure about which one to accept, and is seeking the advice of the health professional. The health professional starts by listening actively to the parent, but after a while begins to take over the conversation. The health professional sticks to the topic, but becomes involved and is talking instead of listening and maybe give advice or tell the parent about a similar situation s/he has experienced.

After 10 min, the exercise is stopped, and the participants reflect in pairs about what happened in the role-play and share their experiences of the exercise. This is followed up by reflection, including all participants in the whole group. Participants of group B explain how they experienced the role of a parent. Did they feel that the conversation was helpful in their decision-making? If not, what would they have preferred from the health professional? What did they find helpful? The bodily, as well as verbal signals of the role-play, are analysed. The participants are encouraged to reflect on how they interpreted the signals and on the actions that followed from their interpretation. Drawing upon the participants' own experiences, the exercises give the participants the possibility to reflect on how they can adapt to a more salutogenic approach in their professional role. Following short discussions in the smaller groups, the participants are instructed to write down reflections on what they have learned, and to enter a "contract" with themselves, focusing on how they wish to implement new knowledge about salutogenesis in their daily work in the future. The participants are encouraged to share their reflections and the contract with the lecturers through e-mail.

Educational Programme, Day 2

Before the second education day, the participants are asked to write down a short reflection on their attempts to implement a more salutogenic approach when encountering children and their families. They are asked to focus on both pros and cons. At the start of the second day, the participants are divided into groups of five. They are invited to share their experiences. They are also invited to create a short scene, illustrating a good experience and one short scene that illustrates a more challenging aspect. After approximately one hour, all participants sit down together and play out their scenes in front of the whole group. This is followed by a reflection session facilitated by the lecturer, focusing on how, based on the participants' experiences, it is possible to integrate the salutogenic theory into the participants' everyday life, both privately and professionally.

At the end of the day, the participants once again write in their journals with a focus on what they have learned, and on how they wish to implement new knowledge about salutogenesis in their daily work. The participants are encouraged to share their reflections and the contract with the lecturers by e-mail.

Teaching by Doing and Teaching by Being

In the four examples above, we have introduced several theoretical concepts that are central to our teaching strategies. Many of these concepts are empirically derived from years of research. In the sections below, we more fully present and discuss these ideas and their relevance to the application of salutogenesis in the training of health professionals.

Health promotion skills of the individual must be understood as part of the setting the health professional is working in. Applying new knowledge is not just an individual exercise, but happens in a broader political and ideological context. All methodologies used in health promotion work can be encapsulated and have limited effect if one does not have a perspective on learning as something ongoing and expanding broader than own practice. Taking the philosophical formula suggested by Lindström and Eriksson (2010) into account, real health promotion is exercised through participant-oriented methodology, for example, in the form

of dialogue or discussion groups of various kinds. Health promotion methods have, therefore, an innate moral goal to facilitate democracy and participation adapted to different settings and participants (ibid).

The overall aim of health promotion is to strengthen the health and quality of life of those involved. However, methods used to promote involvement, participation, and quality of life can be perceived as a stressor by those involved. Like every other stressor, its effect can be health-promoting, health neutral, or health detrimental. No practical method of health promotion is good or bad in itself. It is thus important for the health professional to understand how a particular method changes from idea to practical reality when filtered through his or her identity as a health promoter.

Our educational strategy following this line of reasoning involves a lot of reflection on one's practice. It includes consciously bringing the health professionals' experiences into the classroom to scrutinize them in light of their new knowledge. It also requires us to design practical lessons, so that our students can practice together to build their self-awareness, relational sensitivity, and ability to reflect. Moreover, we aim at helping health professionals further develop their skills in carrying out dialogues. Together, we explore what it means to live a salutogenic life and how to become a salutogenic dialogue partner. We introduce the art of wondering (Schibbye, 2007) and the power of acceptance, emphatic concern and authenticity (Langeland & Vinje, 2013; Rogers, 1957). We find it is necessary to focus not only on *what to do* and *how to do it*. Our experience is that it is vital to focus also on *how to be salutogenic*. Therefore, it all comes down to teaching by doing and teaching by being, the latter being by far the more challenging.

Our education strategy, then, comprises the three perspectives: what to do, how to do it, and how to be it (See Table 55.3).

Different Logics, Knowing Them, and the Skill of Toggling Between Them

Table 55.3 presents a linear outline of the content of our educational strategy. However, knowing that Antonovsky was inspired by the systems theory while developing salutogenesis (Antonovsky, 1979), and taking the settings approach seriously, we would like to point out that such a table, while compatible with rational, analytical thinking, seriously oversimplifies the idea of salutogenic competence.

A more accurate depiction of salutogenic competence would be a dialogical relational model showing how every part of the strategy is linked together, with arrows pointing in every direction, connecting every part, showing how every part affects every other part reciprocally in feedback-loops. Acquiring salutogenic skills involves focusing on theories and values and on the "doing" part and "being" part simultaneously. In real life, there is nothing linear about it. The goal is that the health professional understands these reciprocal feedback-loops and that assessment of a practical situation and resultant acting becomes increasingly reflexive. In our experience, gaining this level of competence requires a lot of reflection and acceptance of the aforementioned stance: learning salutogenesis is a lifelong learning process. It develops skills that enable the health professional to move between different logics such as the rational analytic one versus the relational dialogical one, and the doing versus being aspects of salutogenic work.

Self-Tuning for Building Salutogenic Capacity

Research shows that self-tuning is an important competence for health promotion (Bakibinga et al., 2012; Vinje, 2007; Vinje & Ausland, 2013; Vinje & Mittelmark, 2006). The concept of self-tuning has evolved from exploring in-depth, using inductive qualitative designs, the nature of job engagement among thriving Norwegian community health nurses, and investigating how job engagement is maintained and promoted (Vinje, 2007; Vinje & Mittelmark, 2006). The concept has been further explored among Ugandan nurses (Bakibinga et al., 2012), and in the work-life of nurses and other health professionals in municipal health services in Norway (Vinje & Ausland, 2013). The experience of meaning, particularly in the sense of being useful and experiencing existential significance, seems essential for health professionals' engagement and work-related well-being (ibid). When the inner drive of the healthcare worker resonates with his or her profession and finds its expression in his or her current work, it creates an inspirational force, which sustains and enhances the experience of meaning, zest, and vitality (see Fig. 55.1 for the original self-tuning model).

In our teaching, we link this understanding with the salutogenic concept of boundaries—Antonovsky clarifies that while the sense of coherence refers to a generalized, long-lasting way of seeing the world and one's life in it, one does not need to see one's entire world as coherent, we all set boundaries (Antonovsky, 1987, pp. 22–23):

> The boundary notion suggests that one need not necessarily feel that all of life is highly comprehensible, manageable and meaningful in order to have a strong SOC. (…) I do not think it is possible to so narrow the boundaries as to put beyond the pale of significance four spheres—one's inner feelings, one's immediate interpersonal relations, one's major activities, and existential issues (death, inevitable failures, shortcomings, conflict, and isolation)—and yet maintain a strong SOC

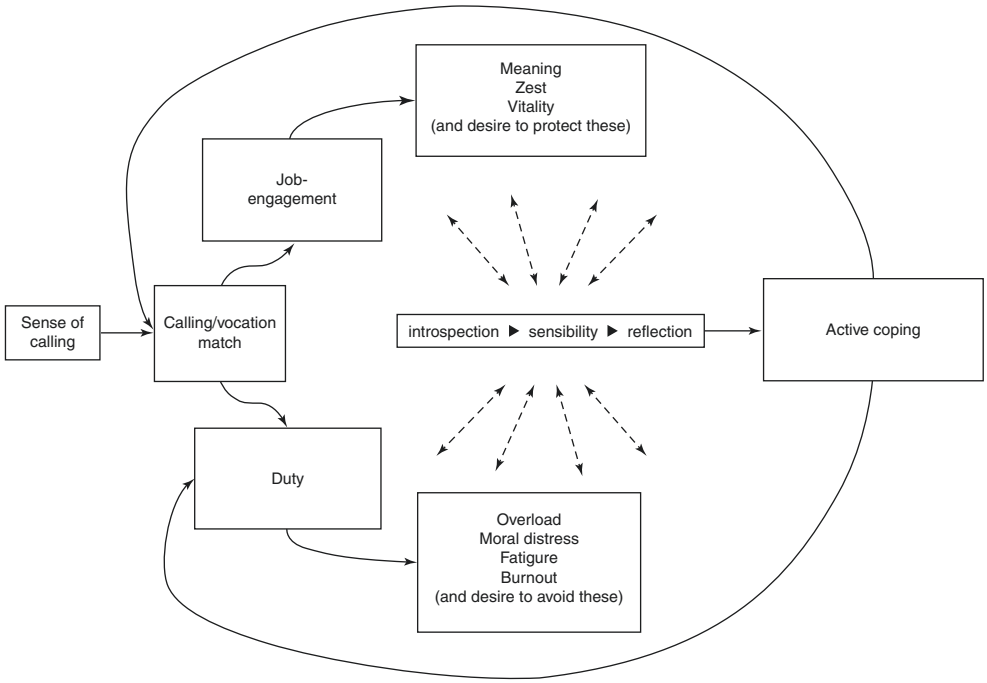

Fig. 55.1 The self-tuning model of self-care. (First published in: Deflecting the path to burnout among community health nurses: How the effective practice of self-tuning renews job engagement, H. F. Vinje & M. B. Mittelmark, International Journal of Mental Health Promotion, copyright © 2006 The Clifford Beers Foundation, reprinted by permission of Taylor & Francis Ltd, http://www.tandfonline.com on behalf of The Clifford Beers Foundation. The model has been slightly revised by the authors since this publication. All rights reserved)

In his discussions of boundaries, Antonovsky also points out that different persons have different breadths to their boundaries, and that a person with a strong sense of coherence might maintain his or her view of the world as coherent by being flexible about the areas included within the boundaries considered significant (ibid). He thereby gives the nod in the direction of existential curiosity, and to wonder and be open-minded, to tune and increase one's ability to know and find one's significant areas of life, and being flexible about them. We have added this insight into the part of the self-tuning model that illustrates the inspirational force, this time of life engagement (see Fig. 55.2).

As illustrated in the original self-tuning model, the match between inner drive/calling and vocation seems to act as a catalyst for processes leading simultaneously to high job engagement and to highly diligent dutifulness, which in turn may inhibit engagement (Vinje, 2008; Vinje & Mittelmark, 2007). In line with a salutogenic perspective, we can thus argue that every person, at all times, will be in a position for health-promoting and detrimental factors to influence his or her situation simultaneously, in line with the ontological stance of heterostasis in salutogenesis (Antonovsky, 1979).

The challenge, which is of relevance to our topic, is to explore the dynamics and to devote attention to understanding positive and negative factors alike (Vinje & Ausland, 2013). Although Antonovsky is somewhat unclear even if extensive in his ponderings about the meaning of health, he seemed to believe that salutogenesis is about focusing on the movement towards the ease pole of the health ease—dis/ease continuum—regardless of how far into the positive that continuum might stretch. We believe, however, giving attention to what actually *is* in a given moment, including detrimental sensations and factors, is important to be able to promote a positive development. In pausing and asking salutogenic questions like: "what now?", "what do I/we need," "what will bring health and ease in this situation," "who do I/we need to talk to?", "what do I/we usually do that works?", "what else is important?" "what makes my heart sing?" "how do I/we feel when it feels right?" "who and what can help?" Movement towards ease can yet again begin and be the object of our concern. We find that the mediating process in the self-tuning model, the actual "tuning" practice is helpful in this process.

In our teaching, we introduce and seek to explore self-tuning as a health-promoting capability. The self-tuning model has proven useful to outline topics in teaching about salutogenesis, and students in our programmes react well to its use. However, they are made to understand that self-tuning is each individual's and group's practice and that it does not hold detailed answers to specific situations. Self-tuning is the process of exploring, sensing, reflecting, and thus reacting to a situation with increasingly more adaptive coping. The self-tuning process can be learned; however, it requires conscious work over time. Our students express that the model is meaningful, and we find that self-tuning provides an essential basis for discussions on and reflections around health-promoting processes and the enhancement of salutogenic capabilities.

Fig. 55.2 The inspirational force of life engagement, searching for meaning through exploration of significant life areas

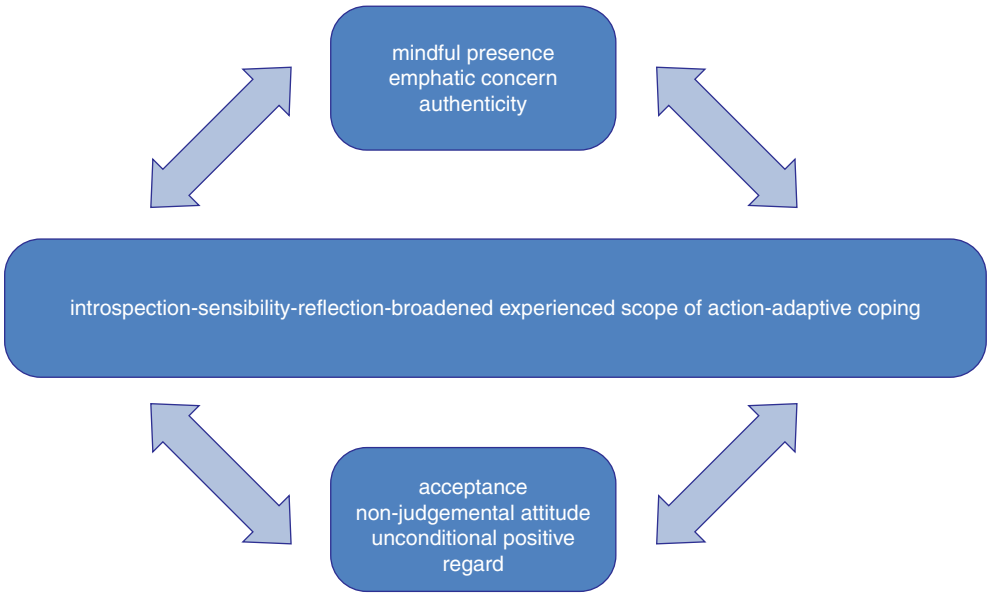

Fig. 55.3 The actual "tuning" practice in self-tuning: sensing, reflecting, and reacting with the aim of adaptive coping and movement towards ease on the salutogenic health-continuum

Therefore, we propose that self-tuning is a tool for sensing what is at play in a particular situation, for reflecting upon it, and for reacting to it in a health-promoting manner. Our teaching experiences show that in combining the actual "tuning" (Fig. 55.3) with the "exploration of significant life areas" (Fig. 55.2), the self-tuning model helps structure and facilitates health-promoting processes when working both one-on-one and in groups. We propose that it relates to enhancing a sense of coherence and health and well-being, as illustrated here:

$$\text{Self-tuning} \rightarrow \text{GRRs} \rightarrow\uparrow \text{SOC}$$
$$\rightarrow\uparrow \text{Use of GRRs and SRRs}$$
$$\rightarrow\uparrow \text{Health and Well-being}$$

This is, once again, not a linear process, but a systemic relational one, meaning that the arrows are double-headed, connecting every aspect of the process.

Teaching Reflection

We will now dive deeper into teaching reflection and sensibility. It is important for the health professional to learn to reflect upon not only what he/she is doing, but why, and how, and the effects on others when he or she is the one doing it. Moreover, it is vital to understand how the persons and the particular setting perceive the method used by the health professional, and how the method relates to the purpose of the initiative. As we see it and aim to teach it, the health professional needs to learn how to include reflection into each initiative. How are the effects of the health promotion activities assessed in the setting? Who assesses the effects, and how can these assessments help to improve and develop the methods used? The learning has its focus on what happens when one is learning, and that learning is ongoing and never-ending, and not so much on any particular results. Our teaching includes understanding the ontological stance that salutogenesis represents, and we move from theoretical understandings of salutogenesis as a body of knowledge, as a continuous learning process, as a way of working, and as a way of being, to reflecting on more or less successful implementation in light of our students' practical experiences. Through learning the skill of reflecting upon one's practice, the initiative undertaken has the potential of becoming health-promoting. In health promotion, through reflection, one aims at developing structures that facilitate systematic contemplation about practice and practical approaches. Reflection is, however, not always innocent and without pain, it can be both painful and energy-draining to discover one's own or one's colleagues' capabilities or lack thereof (Ausland & Vinje, 2010). The ability to reflect critically with others can be health-promoting because it helps identify resources and develop control and oversight of a situation. Being salutogenic entails in this respect demonstrates an attitude of wondering and a will to explore and look at a situation from different perspectives, and to show a will to learn together, and facilitate continual learning processes. All this taken into account, in our teaching as in our research, we keep coming back to the question: how do we know that what we reflect on is relevant for the actual situation?

Teaching Introspection and Sensibility

Although reflection is a vital part of the sensing/reacting process we call self-tuning (Vinje, 2007; Vinje & Mittelmark, 2006), reflection by itself is likely not enough to ensure life experiences being translated into better health and well-being. Engaging in health-promoting processes finds its basis not only in reflection but in talent and the habit of introspection, sensibility, reflection, and a readiness to act when needed, which converts into active, adaptive coping. The "tuning" process is characterized by a person's or group's ability to pause, to concentrate inwardly, and to reflect on one's own situation, and to adapt. Through doing this, one monitors one's personal and environmental states and the degree to which one's situation is characterized by engagement and well-being.

In this way, one attempts to protect meaning, zest, and vitality in an ongoing process. Nortvedt and Grimen (2004) present the construct of sensibility as being a capacity desirable for people in the helping professions to develop, to sense, and to understand the experience of being a patient. Furthermore, Nortvedt and Grimen (2004) claim that sensibility, in its receptiveness towards the expressions of others, also encompasses a moral dimension that involves responding ethically to these expressions. Sensibility, as it is used in self-tuning, expands this understanding to including a precognitive apprehension of one's own inner state and the receptiveness of one's own vulnerability (Vinje & Mittelmark, 2006). We suggest that sensibility may awaken an impulse, a wish, or a sense of ethical responsibility that also calls for the taking care of one's own health (Vinje, 2007). We thus suggest that sensibility is a central feature for health promotion, directed towards both patients/clients and professionals.

To heighten our students' sensibility, we use a variety of exercises, one of which is writing essays (Bech-Karlsen, 2003) based on concrete situations from a student's own life and/or practice. Our students are invited, using introspection, to describe their experiences related to a specific event, in as detailed and nuanced a manner as possible. The task is to practice grasping signals from own senses, emotions, thoughts, bodily reactions, and existential depths that come into play in the situation, and to practice describing these without judging them as good or less good reactions. What one finds only has status as that which *is* right now. What one chooses to *do* with that finding is, however, a matter for reflection. Our students thus practice noting, discovering, and accepting without judgment that which gives content to individual reflection and to reflection in groups. The assumption is that through introspection, one's sensibility will provide relevant and useful reflection processes, which in turn

will provide a broadened, experienced scope of action and relevant active, adaptive coping.

Sensibility has its own language that students learn to access through these descriptive texts. Before essay writing, we sometimes use warm-up exercises such as listening to music, doing easy yoga, meditations, breathing exercises, visualisations, going for walks, etc. We find that there cannot be a fixed plan as to which exercise to use. Each person and each group is different and unique, and every plan is only tentative. The teacher (and health promoter) needs to work on his/her own sensibility to design effective lessons in this respect.

Summing Up

To sum this chapter up, we would like to emphasise that any educational strategy aiming to teach salutogenic practice should be grounded in the ontological stance that salutogenesis represents (see Table 55.1). Education should be comprised of salutogenesis as a body of knowledge, as a continuous learning process, as a way of working, and as a way of being. It is important to remember that the overall objective is to facilitate and support health-promoting processes leading to a person's or group's adaptive coping and enhanced ease and well-being. We find that encouraging people to explore and reflect upon their experiences in light of the two different orientations, salutogenesis and pathogenesis, is best done as an ongoing process.

A key outcome of training people in salutogenesis is that the person develops the capacity to manage and develop *herself* in a salutogenic way. To facilitate this development, we strongly suggest introducing and working on increasing the capability called "self-tuning," which is habitual self-sensitivity, reflection, and mobilising of resources to maintain and improve one's own health ("ease," in Antonovsky's terms). This is a form of self-care, the principles of which can be used by health professionals to assist clients and others to experience good health and well-being. A health professional's "salutogenic capacity" is her degree of skill to coach a person or group examine, mobilise, and deploy sufficient resources to achieve a shift towards the experience of good health and well-being. One's salutogenic capacity can be expanded as part of professional training and after training, such that salutogenic capacity is strengthened and reinforced during one's entire career. There are undoubtedly many ways to achieve this. However, in our experience, the equal emphasis on *what to do, how to do it, how to be it*, is a key factor in succeeding in training health professionals in salutogenesis. Therefore, it all comes down to teaching by doing and teaching by being, the latter by far being the more challenging.

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The Digital Lifeworld and Salutogenesis

56

Luis Saboga-Nunes, Uwe H. Bittlingmayer, and Pauline Bakibinga

Introduction

It has been said that the future is digital. The COVID-19 pandemic is just one pressing example of how digitalization of health care is transforming our societies with an intensity never experienced before (Whitelaw et al., 2020). This crisis has also been a unique opportunity to consider how health promotion has been actively involved in the shaping of responses (Saboga-Nunes et al., 2020). Indeed, there is no question about the way people's personal lives and relationships have been reconfigured by the Internet, social media and digital devices. Building on the 1980 WHO Health for All strategy, the 1986 Ottawa Charter was explicit on harnessing and establishing healthy settings, where people actively use and shape the environment for better health ('Creating Environments Conducive to Health', 1986). Settings are identified as having physical boundaries, people with defined roles and organizational structures (Poland et al., 2009). This was a critical step towards the integration of health promotion and sustainable development (Wailberg et al., 2021). In an increasingly digital world, one's digital life can be identified as a setting, and the need for a multi-sectoral approach is a pressing perspective (Dorner et al., 2018).

Worldwide, the value and use of digital devices to support both medical, social and public health practice and research are increasingly being appreciated (Blaya et al., 2010; Olu et al., 2019; WHO, 2019). The use of digital health technologies has been embraced as a way to promote health and well-being through access to vital health services. In April 2019, the World Health Organization released the first guidelines on digital health interventions, valued for their potential to reduce health inequities and inequalities (WHO, 2019). The COVID-19 pandemic has resulted in disruptions in health services' delivery in many settings (WHO, 2020a). As such, in the responses, the WHO has called for digitalization of health service delivery in a bid to ensure continuity of healthcare delivery in a manner that protects both frontline health workers and the patients they serve (WHO, 2020b). Over the last decade, there has been global enthusiasm and interest among development agencies, researchers and policymakers resulting in the rapid proliferation of digital health promotion (DHP) solutions in many countries (Saboga-Nunes, 2013). Such solutions are appreciated for their ability to transcend physical and, to a certain extent, financial barriers and thus reducing health inequities (Boa-Ventura & Saboga-Nunes, 2010; Olu et al., 2019). To reduce inequities and inequalities, digital technologies must be able to demonstrate long-term improvements over the traditional ways of delivering health services (WHO, 2018, 2019). However, the evidence base for reporting of DHP interventions is heterogeneous in quality, completeness and objectivity, making comparisons across intervention strategies difficult (Olu et al., 2019). This is because DHP lacks a firm theoretical foundation (Iyawa et al., 2016). There is a need to develop a conceptual framework to advance this growing field. Existing conceptual frameworks have focused mainly on reporting and evaluation of digital health technologies in health promotion settings (Iyawa et al., 2016; Kowatsch et al., 2019). Furthermore, many digitized health promotion strategies have been criticized for dwelling on one's responsibility for health without appreciating the role that social, cultural, economic and political influences have on the use of digital technology (Lupton, 2014). Also, new perspectives have been added to this discussion like the discussion of health literacy and health promotion (where digital health literacy, critical health literacy, among others are included) (Saboga-Nunes et al., 2019).

Antonovsky's salutogenic model and its core concept 'sense of coherence' (SOC) focus on the ability of individu-

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als to cope with stressors in life and stay healthy (Antonovsky, 1987, 1996). Salutogenesis, a positive resource for health, has a lot of promise in the development and implementation of digital health interventions, many of which centre on self-care. We posit that digital life is a generalized resistance resource (GRR) onto which specific interventions can be harnessed as specific resistance resources (SRRs) that can be harnessed to improve population well-being and survival.

Against this background, here we explore the potential of salutogenesis to support development in one's digital lifeworld as well as its potential to inform better digital health promotion initiatives, especially in low-resource settings.

The Digital Lifeworld Formally Defined

The digital lifeworld (German: Lebenswelt) (Husserl, 1970) has, for many of us, become a fundamental aspect of one's whole life experience. Therefore, the search for the answer to the salutogenic question 'what explains movement towards the health end of the health/illness continuum?' leads us to the study of the digital lifeworld as a lifeworld where resistance resources (RR) – and the SOC in particular – may be shaped, activated or degraded. The SOC and its constituents (Fig. 56.1) are not a coping strategy, they are a broad orientation to life. The salutogenic hypothesis is that the stronger the SOC, the greater the likelihood of moving towards the health end of the continuum.

Aaron Antonovsky (1990) wrote that 'the important determinants of the SOC are to be found in the nature of the society in which one lives in a given historical period, and the particular social role complexes in which one is embedded'. With the advent of the digital lifeworld, a new historical period is upon us, carrying new, complex social roles that no one can escape. Currently, a life disconnected from the digital lifeworld is almost impossible. But if that were to happen in the life of a person, that is, become excluded from the digital lifeworld, then the digital lifeworld would become a generalized resistance resource deficit (GRR-D). Therefore, the digital lifeworld is among the many roads to a strong SOC.

Fig. 56.1 The digital lifeworld inter-occurrences. (*Source*: Adapted from Saboga-Nunes (2012). With permission of © Escola Nacional de Saúde Pública. All rights reserved)

The Origins, History and Trajectory of the Digital Lifeworld: From Information Technology to a New Lifeworld of Social Interaction

Expressions such as the 'World Wide Web', 'e-mail', 'Internet of things', 'AI: artificial intelligence' are today so much taken for granted that nobody questions their pervasive and ubiquitous para-existence (Hopkins & Crowell, 2015, p. 172), and they constitute a significant general resistance resource. The advent of the 'information age' carries with it innovative opportunities for health promotion, providing new implementation tools.

The Emergence of the Digital Lifeworld as Important in the Salutogenic Model of Health

Digital life emerges from the exponential growth of information and knowledge communication technologies (IKCT), allowing for the development of IKCT-mediated health promotion tools. This growth has been made possible because of the computer revolution and the democratization of the World Wide Web (WWW), from strictly military to public purposes, giving birth to a significant general resistance resource. Patterns drive the Internet. These patterns lead to trends that are less sensitive to individual needs. These trends, based on algorithms, are machine-based learned that increase the lack of control by the person user. Therefore, three domains of this lifeworld may directly affect comprehensibility, manageability and meaningfulness. This suggests we expand the salutogenic model of health to the left, amplifying the socio-cultural and historical context (Fig. 56.2). We could, therefore, find at least three phases in this tension between the (previously referred) two poles (patterns vs. tailoring): information *interpretation*, information *conversion* and information *processing*, before activating any action towards health promotion in the DGW (see Fig. 56.1).

The Digital Lifeworld as a Source of GRRs

The digital lifeworld is a major GRR. If a person is excluded of the digital lifeworld, then we have the digital lifeworld as a GRR-D. The digital lifeworld is built according to patterns (e.g. number of 'likes' will exclude or upgrade an information). These patterns are structured according to a specific user profile (tailoring process) that tunnels to a specific user a bunch of specific information. Because of the ubiquity of the digital lifeworld there is a polarization process: on one side the individual wants to be active, an actor in control. Nevertheless because of the patterns originated on the tailoring process he or she is excluded from this active role being the object of a machine learning automation.

Without a strong SOC, the individual may face high entropy in the digital lifeworld, that is, move towards the disease end of the continuum. Moving on the continuum from the pole of a higher level of entropy (higher level of chaos) to the pole of a lesser level of entropy is a challenge for every person.

To grapple with chaos, the individual needs to be able to *interpret* information, *convert* information to be applied into her or his everyday experiences and consequently acquire a level of information *processing* that originates order and not chaos. These three stages of information management have strong connections with the three dimensions of the SOC: comprehensibility, manageability and meaningfulness (Fig. 56.1).

The Digital Lifeworld as a Source of SRRs

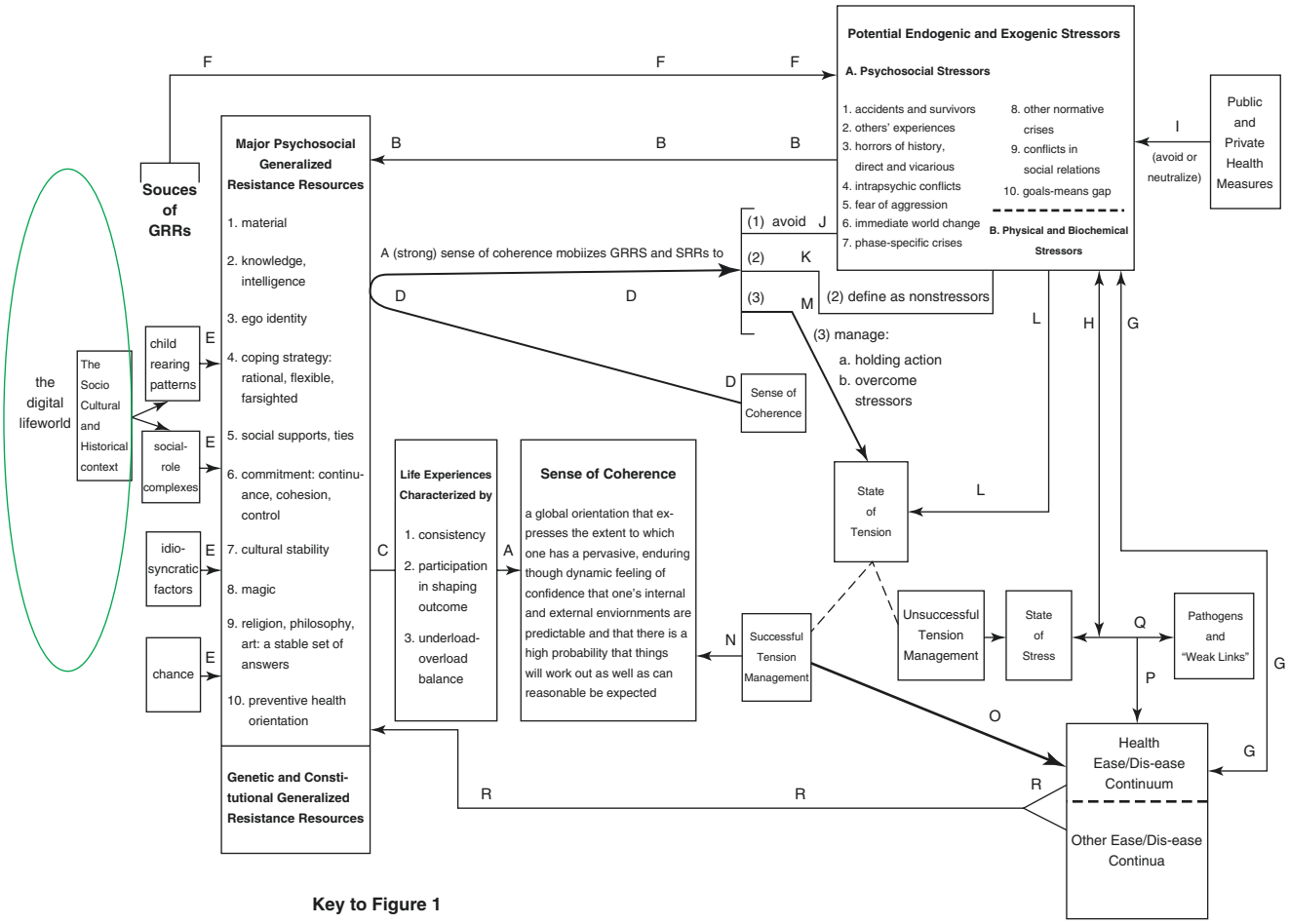
This is where the role of specific resistance resources (SRRs) that can be defined as the 'instrumentalities whose meanings are defined in terms of the particular stressors they are invoked to manage' (Mittelmark et al., 2016) is highlighted.

For Antonovsky, *What the person with the strong SOC does is ... [choose] from the repertoire of generalized and specific resistance resources at his or her disposal...* (Antonovsky, 1987, p. 138).

The critical question, then, is how the digital lifeworld empowers individuals with SRRs (and for those excluded with SRR-D)? Is the digital lifeworld an 'appropriate social condition', or in Antonovsky's words, supportive of health?

The SOC Balancing New Information

The digital lifeworld can be compared to a well-organized library that is continually receiving new 'books'. This creates new challenges to maintain low entropy, as a result of the incremental changes in the digital lifeworld. To cope with this change, *the strong-SOC person seeks a balance …, between stored and new information. There is confidence that sense can be made of the new (information)* (Antonovsky, 1987, p. 28). This way, the overload of potential information that the digital lifeworld impinges on us can be handled in a way that will help keep that healthy balance.



Key to Figure 1

Arrow A: **Life experiences shape the sense of coherence.**

Arrow B: Stressors affect the generalized resistance resources at one's disposal.

Line C: **By definition, a GRR provides one with sets of meaningful, coherent life experiences.**

Arrow D: **A strong sense of coherence mobllizes the GRRs and SRRs at one's disposal.**

Arrows E: **Childrearing patterns,social role complexes,** idiosyncratic factors, and chance **build up GRRs.**

Arrow F: The sources of GRRs also create stressors.

Arrow G: Traumatic physical and biochemical stressors affect health status directly; health status affects extent of exposure to psychosocial stressors.

Arrow H: Physical and biochemical stressors interact with endogenic pathogens and "weak links" and with stress to affect health status.

Arrow I: Public and private health measures avoid or neutralize stressors.

Line J: A strong sense of coherence,mobilizing GRRS and SRRs, avoids stressors.

The salutogenic model of health Antonovsky's 1979 book.

Line K: A strong sense of coherence,mobilizing GRRS and SRRs,defines stimuli as nonstressors.

Arrow L: **Ubiquitous stressors create a state of tension.**

Arrow M: **The mobilized GRRs (and SRRs) interact with the state of tension and manage a holding action and the overcoming of stressors.**

Arrow N: **Successful tension management strengthens the sense of coherence.**

Arrow O: **Successful tension management maintains one's place on the health ease/dis-ease continuum.**

Arrow P: Interaction between the state of stress and pathogens and "weak links" negatively affects health status.

Arrow Q: Stress is a general precursor that interacts with lhe existing potential endogenic and exogenic pathogens and "weak links."

Arrow R: Good health status facilitates the acquisition of other GRRs.

Note: The statements in bold type represent the core of the salutogenic model.

Fig. 56.2 The salutogenic model of health. (*Source*: Adapted from Antonovsky (1979, pp. 184–185). Published with permission of © Avishai Antonovsky, 1979. All rights reserved)

The SOC as a Factor in Coping with the Digital Lifeworld

The configuration of the digital lifeworld could set the stage for increased entropy, thus jeopardizing health. One example referred to by Antonovsky is inconsistency and lack or excess of information. The digital lifeworld is characterized by inconsistency and excess of information, characteristics that may contribute to 'exclusion from participation in decision making' (Antonovsky, 1987, p. 28).

This is most common when, for example, a new update for an operating system (OS) or a browser invades a person/

citizen's digital lifeworld without direct control from him. Facing new tools, functions or layouts can become intensively stressful for the user. What makes the citizen of the digital lifeworld embrace a conversion process, adapt and upgrade himself to fit the new challenge of the digital lifeworld? The salutogenic answer could be his or her SOC.

We are all, in one way or another, confronted permanently with change in the digital lifeworld. This causes disequilibrium that Antonovsky calls *heterostatic disequilibrium* (Antonovsky, 1987, p. 131) and this state is at the heart of the salutogenic orientation. Therefore, as the digital lifeworld evolves so rapidly, new stressors introduce entropy and GRRs and SRR introduce negentropy into the human system and that 'one's SOC orchestrates this battleground of forces promoting order or disorder' (Antonovsky, 1987, p. 164).

To deal with this changing environment of the digital lifeworld, a concession between autonomy and artificial intelligence compromises the 'personhood-as-process'. The digital lifeworld could be included in the pattern specified as an *open-ended and dwelling always at the edge, far from equilibrium. We encounter a decentralized, multifaceted ensemble whose coherence as a being is sustained only by its continuous becoming* (p. 1206, cit in Antonovsky, 1987, p. 169). The digital lifeworld, in its essence, is a permanent call for 'becoming', enacting the actualization of the person so that identity takes shape amid a multitude of bits trying to make sense. The paradox is that to 'become', we accept the totalitarian structure of hierarchically organized units of the digital lifeworld (Antonovsky, 1987, p. 169), accepting to loose autonomy, which in the end compromises health promotion in itself. Loosing autonomy is the consequence of the artificial intelligence based on the algorithms that populate the digital lifeworld and that decrease substantially the autonomy of the 'living' in it.

This permanent need of the digital lifeworld demanding constant new feeds (like posting onto Facebook the picture of the dinner) can become a general resistance resource deficit (GRR-D), leading to unsuccessful tension management, harbouring tools that can become specific resistance resources deficits (SRR-D).

Every individual decides to manage with SRR the meaning that is retrieved out of 'becoming'. But this process is not unequivocally aimed to be a success (e.g. SRR-D). Even if the idea beyond this is the optimist claim that the Internet would change hindrances of accessibility to gods (such as information, e.g., information about health and its promotion), we still face in the digital lifeworld specific barriers to a healthy 'becoming'.

These barriers can be based on the stages of change of *precontemplation*, *contemplation* and *determination* to act (see Fig. 56.1). How a person moves from contemplation to action? According to the SOC dimension (e.g. comprehensibility), this can happen when the *sense-making* phase of *information interpretation* takes place. This will be followed by *manageability* used for information *conversion* towards *knowledge creation*. Determination to 'become' in the digital lifeworld is rooted in the *meaningfulness* that is originated in *decision making* derived from information *processing*.

For Antonovsky, 'Salutogenesis, (…) leads us to focus on the overall problem of active adaptation to an inevitably stressor-rich environment (such as the digital lifeworld) while moving away from chaos' (Antonovsky, 1987, p. 169). This active adaptation will only be a success if the creation of health in the digital lifeworld is achieved in a partnership between citizens, software developers, health promoters, public health managers (to name a few examples) in a co-production and creation process.

The Digital Lifeworld as a Setting for Health Promotion: An Example in the Health Promotion Arena of Tobacco Control

If smoking is considered a 'disease', how smoking is to be cured? In the pathogenesis context, the treatment process is standardized and monitored in the conventional doctor's five-stage work model: (i) measure, (ii) detect (abnormality), (iii) prescribe (treat), (iv) measure (normality) and (v) end intervention. According to this model, the treatment process for the smoker also has five stages, as the parameter to be measured is blood carbon monoxide (CO) levels.

Ultimately, when a condition such as hypercarboxyhaemoglobinaemia is detected, one must ask if the model described earlier is appropriate for terminating or 'curing' the 'disease' of smoking. Unfortunately, the pathogenesis armamentarium to cure smoking and lead to successful smoking cessation is beyond expectations (Saboga-Nunes et al., 2017).

Therefore, another pathway to look at smoking and smoking cessation is from health promotion and the salutogenesis entry point.

Tobacco use is one prized mechanism for fighting social entropy (in a first stage) before it is used to regulate physical and psychological entropy (after nicotine addiction has been established). Many of those who take up the use of tobacco do it for a reason that can be expressed in the equation of the number of friends who no longer *will go along* because a person refuses to use tobacco (Baker et al., 2004).

On the one hand, the fight against chaos is based on smoking (not to lose friends, and be part of the group), while on the other hand, nicotine addiction increases life chaos with unending withdrawal symptoms.

Once the *self* reaches this awareness (with knowledge creation), very often the individual is ready to consider quitting and return to the previous state of a non-smoker. This process is poorly managed by the pathogenic approach to smoking cessation.

Despite this, quit smoking continues to be emphasized, but the uptake of cessation assistance has exceeded the capacity of services in several countries (showing the short-sightedness of the pathogenesis road to life again without tobacco). This is a context to look for another model of health, and consider the potential of digital lifeworld to increment health literacy as a means of empowering people to make behavioural changes (Saboga-Nunes et al., 2019). Also, the trade-off on the use of the digital lifeworld (as a GRR) as a mean to distribute a tool (as an SRR) for smoking cessation [it can reach a vast number of people for a small cost (efficiency)] demonstrating to work in the domain of smoking cessation (efficacy) is worth to be considered.

The fundamental question is, can health promotion and salutogenesis help a smoker quit?

There are different approaches to the problem of people being swept along in the river [a metaphor often used by Antonovsky that compared life to a river (Antonovsky, 1987, p. 90)]. The 'river' could be the smoking behaviour: they can be rescued before drowning, they can be prevented from entering the river by fences or walls, they can be taught how to swim and be rescued before exhaustion. The possibilities vary according to the many health models and theories (for better health or less disease) that can be implemented.

From the salutogenic perspective, starting a smoking cessation process can happen 'in the river of life', that is, amidst all life experiences. With their particular SRR, smoking cessation can be set as an aim despite prevailing conditions. It is, therefore, important to understand how the personality disposition that Antonovsky called the SOC allows people to survive in the water. The normal condition is not balance and health (in the sense of the WHO definition of health), but imbalance, which leads to suffering and sometimes to disease. Therefore, here we have a major difference to support smoking cessation: in the salutogenesis perspective, a smoker does not have to be in a state of positive stress management (as it is said, with low stress) to start a smoking cessation process.

To cope well, people's *readiness and willingness to exploit the resources that they have at their potential disposal* (Antonovsky, 1984, p. 121) is essential, and that could be based at the digital lifeworld.

In this context, it is essential to believe that the input from one's digital lifeworld environment and the feedback is information and not 'noise' or, in simple words, that life (smoking cessation) makes sense. This is called *comprehensibility* (Antonovsky, 1987, p. 16). The belief that stimuli make sense is ordered, structured and predictable is essential but not sufficient for the individual to cope well and stop smoking. One not only has to know the rules for stopping smoking, but must also have confidence in the resources like SRR at one's disposal.

One has to reject the idea that the cards of life are stacked against one and that, consequently, one can never stop. The stimuli, or the stressors, are always there, making demands. But if one is persuaded that a variety of appropriate resources to meet these demands are available, then that person can cope well and stop smoking. This second component of the SOC is defined as *manageability* (Antonovsky, 1987, p. 17). To believe that one understands what it means to stop smoking and that one can manage its process is not enough.

The motivational element is crucial. One must wish to cope with dependency and stop smoking. One must see the demands posed by the stimuli as making sense emotionally. The stimuli may be painful and sad, like the deprivation of nicotine in the brain. One can fall into despair or be determined to continue the struggle. This third component of the SOC is called *meaningfulness* (Antonovsky, 1987, p. 18).

An example of using salutogenesis in smoking cessation can be found at www.parar.net (Saboga-Nunes, 2012). This SRR is structured according to the acronym 'Renasceres' (Saboga-Nunes et al., 2016) (from the *renaissance* perspective of new birth) in a ten-step process – in which each step carries the participant through different stages towards the goal and plays a significant role of self-actualization (Fig. 56.3).

These ten steps (*r*esiliency, *e*xercise, *n*utrition, *a*gua, *s*un, *c*onfidence, *e*quilibrium, *r*est, *e*mpowerment and *sense* of coherence) are organized in two groups: (1) *stop smoking awareness facilitator* and a (2) *relapse prevention stage* (Fig. 56.3).

Therefore, this SRR is built to be a permanent interactive and tailored process, where information computation is intended to promote knowledge creation, leading the person to decision making, before becoming an active agent in his or her life changes. The core content of this SRR strategy is organized around the mnemonic and acronym *renasceres* in ten steps, with two major areas: (1) where diagnostic tools establish the basis for the quit attempt (step 1) and (2) relapse prevention tools (step 2 to step 10).

This SRR is composed of two sources of information. When combined, they allow information and knowledge management of a tailored smoking cessation administration process, based on a user-centric approach. It is aimed at leading the person to aim towards the ease pole of the dis-ease/ease continuum.

The task of this SRR process is to support self-efficacy while unveiling a set of conditions that can facilitate the counselee's willingness to change, by enabling a first small step: establishing a Dday (Fig. 56.3, stage 9). The responsibility for change lies with the counselee (motivation enhancement therapy). Acceptance of small shifts in attitude as worthy of a first step in behaviour change is in accordance with principles of motivational interviewing, a mechanism

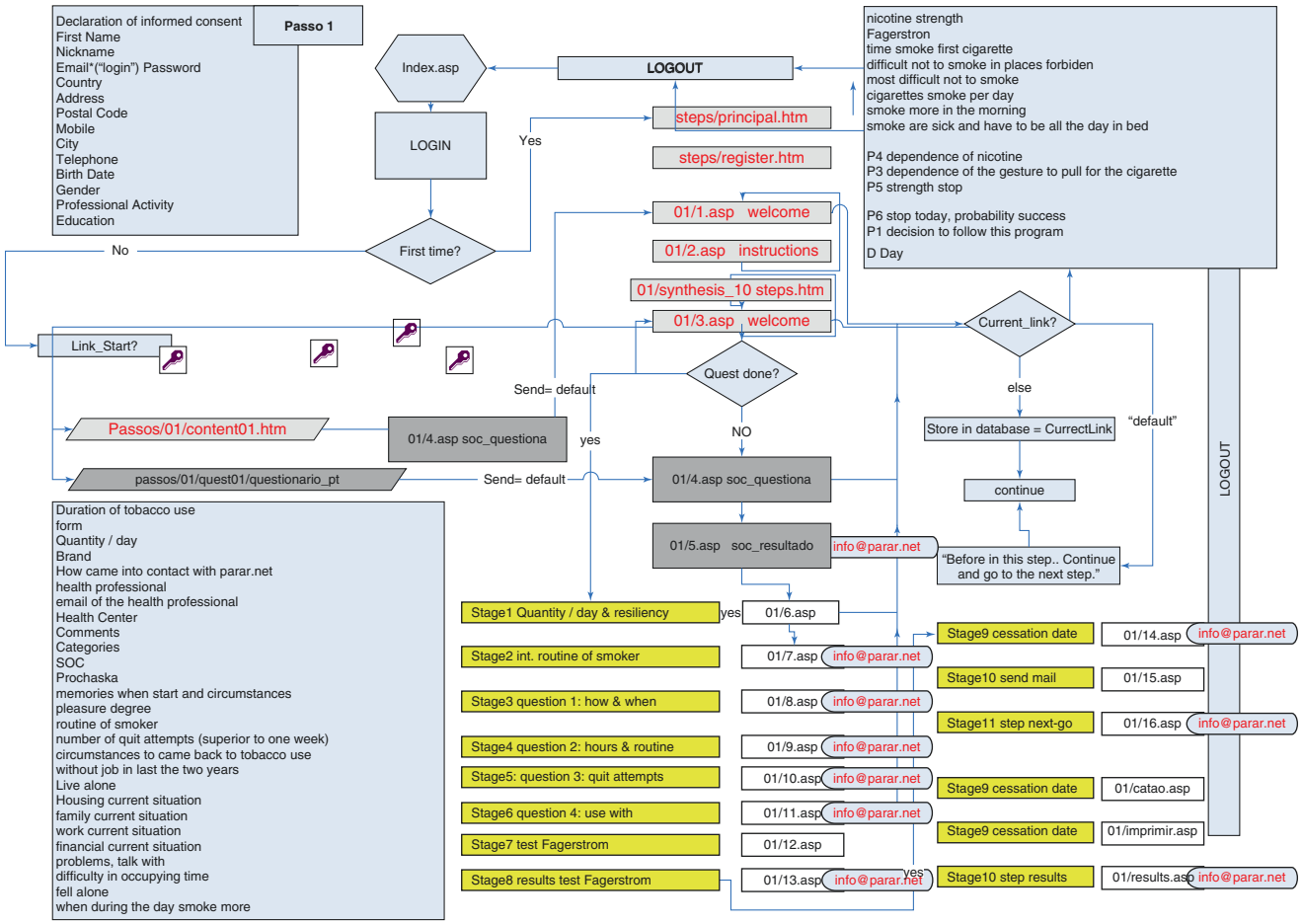


Fig. 56.3 Organogram of a strategy (step 1: resiliency) based on AI, aiming at supporting smoking cessation (parar.net). www.PARAR.net © All rights reserved

that is commonly used to address smoking cessation (Rollnick et al., 1999). An action plan is proposed within the context of an SRR holistic lifestyle perspective (where various aspects of life are interrelated from a health promotion approach).

The concept of entropy (Rifkin & Howard, 1980), although pessimistic, sustains the approach of Antonovsky to health promotion and has the merit of unveiling a pathway to smoking cessation. This concept is at the basis of this SRR. We live in a world that is short of resources for satisfying every human being's needs (as made explicit before within the context of smoking cessation). As a result, without proper management of existing resources, the natural consequence is non-sustainability, increased chaos and/or annihilation of life. Information and energy are examples of these resources, and the digital lifeworld is a GRR that when used may feed an individual's needs: 'The fact remains, that living organisms have the power to build up ordered, coherent perceptions and complex systems of knowledge out of the chaos of sensations impinging on them; life sucks information from the environment as it feeds on its substances and synthesizes its energies' (Koestler, 1967, p. 199).

An Example of Decision Support for Low-Cadre Health Workers in Sub-Saharan Africa

Decision support systems for community health volunteers are an example that explains how the digital lifeworld could be a GRR enabling coping in a challenging context. A decision support system tailored at responding to knowledge and skills' gaps could be an SRR.

Due to the prevailing human resources for health crisis globally, and in sub-Saharan Africa in particular, community health volunteers (CHVs) have been identified as a vital health workforce. They serve to bridge the gap between communities and households with the formal health sector. However, CHVs have limited training before they are assigned roles taking care of the basic health needs of communities. They are a critical part of the healthcare delivery

system, especially in rural and urban poor settings where there are inadequate numbers of formally trained healthcare workers.

Research has demonstrated that CHVs can help in saving many lives if they possess the prerequisite basic skills and equipment. However, given that CHVs receive minimum training, they often experience challenges in making the right decisions on treatment and referral and thus delays and errors are likely to occur. CHVs also lack comprehensive health education skills. Clinical decision support systems have been shown to reduce medical errors and increase healthcare quality, so decision support systems for CHVs would go a long way in improving their efficiency and effectiveness in delivering interventions. Can salutogenesis and health promotion help a CHV thrive in a challenging work environment? Salutogenesis underscores one's ability to use the resources at their disposal.

Such a decision support system has been co-developed and tested with CHVs successfully by Bakibinga et al. (2017). The challenging work conditions can be understood as the 'disease'. The digital lifeworld can be seen as a GRR. The preloaded information can be seen as an SRR such that when CHVs encounter a health condition that is unfamiliar to them, they are supported to make the ideal decision. The information they enter and the support of the in-built algorithms enables a movement towards the ease end of the continuum. However, despite having the decision support system as a resource (SRR), to cope with specific work challenges, not all the CHVs used the system. This was, amongst other concerns, in part due to limited digital literacy/skills, limited Internet coverage and attitudes towards the system (Bakibinga et al., 2018). Although the system was developed to serve as an SRR, such challenges serve to increase inequities (Mittelmark et al., 2016). Lessons from this pilot stress the importance of understanding the individual needs of each user before they are expected to work with the system. This would serve to tailor the intervention to the needs of each individual. For instance, those with limited digital skills would benefit from some form of capacity building before such interventions are implemented. This would entail providing digital literacy training to those without adequate knowledge and skills.

Several other innovations backed by the current high and ever-growing mobile penetration in sub-Saharan Africa have been implemented (Blaya et al., 2010). These are equally supported by investments from technology companies that provide accessible platforms onto which innovations can establish and offer value-based products that can be harnessed to improve population well-being and survival. Innovations have been implemented to support medication adherence, health education, health worker communications, e-health, emergency disaster responses, among others (Folaranmi, 2014). For most digital health interventions, like other health initiatives, they have traditionally been focused on responding to basic needs and/or modifying lifestyle behaviours.

In addition, although the use of digital technologies offers new opportunities to empower and improve people's health (Folaranmi, 2014), available evidence also highlights challenges already referred to (such as weak health systems that prematurely hope to harness the potential of digital technology to improve health access, quality of health services to ultimately improve health and well-being) (Aranda-Jan et al., 2014). As the WHO reaffirms, weak health systems cannot expect to use digital health appropriately, in the path to universal health coverage (WHO, 2019). Some key challenges affecting the implementation of digital health solutions in Kenya and related settings in SSA include scarcity of steady power supply, lack of basic ICT skills by users, low network coverage, stringent government laws about access, use of social media, among others (Bakibinga-Gaswaga et al., 2020; Betjeman et al., 2013; Folaranmi, 2014). These largely reflect the social, cultural and political contexts within which interventions anchored on the digital lifeworld are implemented. Such concerns have to be attended to before digital health solutions can be fully utilized to reduce health inequities. In the responses to the COVID-19 pandemic, digital technologies have been harnessed in different sectors, including health, yet the challenges mentioned earlier make continuity service delivery impossible, thus leaving many behind (Bakibinga-Gaswaga et al., 2020).

Although salutogenesis has not been fully embraced in medicine and social science in SSA, there is a growing body of evidence showing the application of salutogenesis in understanding health and well-being of different population groups on the sub-continent (Bakibinga et al., 2012; Daniel & Mathias, 2012; Rukundo & Daniel, 2016). Such studies could be the backbone on which salutogenic informed digital health promotion is anchored, going forward.

Conclusions and Future Directions

Under the salutogenic framework, the digital lifeworld as a new healthy setting might unleash new GRRs and SRRs. This will not only answer the overall goal of health promotion in the pursuit of the origins of health, but it will also impact disease prevention and cure. This has been made more evident during the COVID-19 pandemic, with many being left behind, especially in low-resource settings as those in sub-Saharan Africa. Salutogenesis has the potential to redefine and guide digital health promotion programs while reducing health inequities. Integration of salutogenesis with digital health promotion in sub-Saharan Africa, as elsewhere, would be possible and serve to ensure better health and well-being for populations.

Before this is achieved, there are two steps necessary, for academia, policy and practitioners. First, appreciation of positive health and resources in research, policy and practice is necessary. As most of the current research on salutogenesis is situated in the West, we need more collaborative international research to advance the knowledge base for guidance of digital health programs. Second, digital health interventions need to focus more on empowering users to take charge of their health and well-being as well as paying attention to the social, cultural and political dimensions of digital technology.

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Salutogenesis for Thriving Societies

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Introduction

In Chap. 3 of this handbook, Mittelmark and Bauer characterise salutogenesis as having several meanings. Salutogenesis may refer to the overall salutogenic model described in Antonovsky's 1979 *Health, Stress, and Coping*. In narrower meaning, salutogenesis is often equated with one part of the model, the sense of coherence (SOC). These first two meanings relate to the *theory* of salutogenesis. In its most general meaning, salutogenesis refers to a salutogenic orientation, focusing attention on the origins of health, assets for health and well-being (contra a pathogenic orientation, which is paradoxically quite prominent in health promotion practice and research).

We envision a three-pronged approach to advance salutogenesis in all three meanings:

- *Theory* development of the overall salutogenic model and continued emphasis on the study of the SOC.
- Sound *application* of the theory of salutogenesis in health services, health promotion and other areas (e.g. community development) leading to a 'salutogenesis of sustainable, inclusive thriving'.
- *Capacity building* for advancement as an academic field (infrastructure, organisations, education).

This approach is aligned closely with suggestions for future directions that we, with other colleagues in the *Global Working Group on Salutogenesis*, have published elsewhere (Bauer et al., 2020). Here, we further address the ambition to advance salutogenesis, inspired by the stimulating experience of working together to undertake this second edition of the handbook.

Theory Development

Emerging theoretical interests taken up in this volume include:

- Salutogenesis at various levels of social organisation (i.e. cities and towns, schools, universities, workplaces, healthcare settings, whole communities, nations).
- Salutogenesis as a framework to understand and promote health at different stages of peoples' lives.
- Salutogenesis in perspectives other than stress and coping theory (e.g. well-being, thriving, attribution theory).
- Salutogenesis applied to societal arenas beyond the healthcare sector (i.e. conflict studies, peace education, architecture, social policy making).

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The question arises, to what degree is our work on these themes contributing to advancing the formal *salutogenic model of health and the concept of SOC?* As Kuhn (1970) famously theorised, scientific revolution follows periods of 'normal science' by pushing paradigms and their theories beyond their limits. That requires communities of scholars to hold to their common viewpoints – to hold focus – pressing to beyond the breaking point. Indeed, Antonovsky (1996) dared to suggest the salutogenic model as potentially triggering a paradigm shift in the health sciences. This is a grand idea, and it is inspirational to us, the editors of this book.

To advance salutogenesis as a theory, we need to be explicit about our core theoretical interest: rigorously developing and testing the salutogenic model of health and salutogenic interventions to create, promote and restore well-being.

A stimulating example of how this might be approached is the emerging *synergy model of health* (Pérez-Wilson et al., 2020). This model integrates key concepts of the salutogenic theory (sense of coherence, generalised and specific resistance resources and deficits), with the assets model of health, within the framework of Bronfenbrenner's ecological health model. The synergy model of health illuminates the feasibility of applying salutogenic theory to achieve *action* for well-being *and* strengthens the theoretical fundament of the assets model.

Besides the concept of salutogenesis, other positive concepts of health have emerged over the years (see, for example, the chapter on positive psychology in this volume). Systematic reviews of such related concepts are a priority. For example, an umbrella metaphor is widely used to illuminate salutogenesis' close kinship with other health resources/assets models (Lindström & Eriksson, 2010). Under the umbrella are a host of related concepts from a wide range of health models and theories, which share a fundamental feature: the concepts focus on resources for well-being (contra risk factors for illness). These concepts need to be theoretically examined to help distinguish similarities and differences. This would open a large field of transdisciplinary research, wherein researchers from diverse disciplines – not just health promotion – would feel at 'home' working with salutogenesis theory and theory-based practice. An example of the research we are calling for here is Haugan and Eriksson's (2021) analysis of concepts such as the SOC, dignity, hope, flourishing, belonging, self-efficacy, and will to meaning and willpower. What are needed are in-depth analyses of how these and related concepts are interrelated from the theoretical standpoint of salutogenesis.

Our coming theoretical explorations should also take us a step back from questions about the relationship of the SOC to health and to probe questions about the genesis of salutogenic processes generally and the SOC in particular. There are indications that experience in infancy, and perhaps even before birth, influences SOC development (Lindstrom, 2017). It seems quite sure – and in line with Antonovsky's theorising – that early childhood is a vital formative period for acquiring resistance resources and SOC development. In line with our interest in a salutogenesis of thriving, public health scholars are advancing the notion of nurturing childcare (Read, 2014). Nurturing care has the goal of moving the child health goalposts from 'surviving to thriving', especially in parts of the world that have until recently been locked onto the prevention of child morbidity and mortality (Urke et al., 2018).

Finally, our collaborative work on theory should address an urgent theoretical issue: adding a positive health continuum and a path of positive health development to the original salutogenic model (Bauer et al., 2020). This expansion is needed to evolve the salutogenic model to a theory for health promotion, also capturing positive human health experience.

Applying the Salutogenic Model

As to headway in applying salutogenesis to address society's practical needs, this volume is a testament to significant progress, showing the possibilities in a wide range of settings – towns, schools, universities, prisons, workplaces, care institutions, whole communities, the military and educational institutions. This illustrates the tremendous diversity of opportunity of a salutogenic orientation to improve virtually all of society's well-being, as expressed, for example, in the United Nation's *Sustainable Development Goals*. Among innovations in applied salutogenesis are new interventions to strengthen 'Sense for Coherence' (Koelen & Lindström, 2016; Lindström & Eriksson, 2010; Magistretti et al., 2019):

> …it is important for the professional to have a sense of how to improve the sense of coherence of the people we work for, in other words the professional should develop a sense FOR coherence. (Koelen & Lindström, 2016, p. 34)

Capacity Building

Here, we consider salutogenesis in the context of building capacity (infrastructure, organisations, education) needed to support its continued development. The feasibility of teaching the practice of salutogenesis in colleges and universities has been amply demonstrated (Langeland et al., 2016). The chapter in this handbook by Vaandrager and colleagues, *Salutogenesis Post-Graduate Education: Experience from the European Perspective on Health Promotion Summer Courses, 1991 to the Present*, demonstrated the feasibility of grounding post-graduate and continuing education on the salutogenic model.

Why not teach salutogenesis at *all* levels and across the breadth of education? Why not in the arts and sciences *beyond* the health arena? Why not in the training of teachers and social services workers? Why not in public safety and rescue/emergency services workers – or even in general manager/leadership training in business schools?

If 'spreading the word' about salutogenesis is a worthy endeavour, should not the lead be in the hands of the *Society for Theory and Research on Salutogenesis*? It will be daunting to stretch beyond the health arena's familiar territory; is our sense of coherence fit to take on this task? Much of what is reported in this volume suggests *we are ready.* As a publication of the *Society*, this handbook is hands-on evidence that we are serious in our purpose. This is a call for the *Society – for us*! – to develop and deploy a full and imaginative array of activities, services and capacity-building enterprises to help advance salutogenesis.

In our efforts to advance salutogenesis, we should seek to learn from others; to take on innovative ideas suggested in other fields. Here are some examples from the far afield community of computational biologists (Ross-Hellauer et al., 2020). Like salutogenesis, it is a field in its infancy, or at least in its formative years, with inspiring ideas that we might learn from:

- Plan for dissemination: define objectives and map potential new audiences. This might be done even more effectively in the future through STARS: Society for Theory And Research on Salutogenesis (https://www.stars-society.org/), which was established precisely to bridge between the Global Working Group on Salutogenesis and the broader scientific community working in areas other than health promotion.
- Keep the right profile: use social media, personal websites, organisational websites and academic networks to highlight salutogenesis. When persons seeking to learn about salutogenesis seek information on the Internet, let us be sure that they are informed not just of publications but also people, places and institutions they can contact to get involved.
- Encourage participation: actively invite and engage others to participate and collaborate.
- Select Open Access: the first edition of this handbook was ranked third in Springer's open access listing in 2020, in terms of the number of downloads. Salutogenesis will enjoy dramatically greater attention if future publishing prioritises open access options over more traditional communication formats.
- Go live: TEDx talks, science festivals and road shows are becoming important dissemination channels for science, and salutogenesis has a long way to go in t aking advantage of these newer communication opportunities.
- Go for deep networking: currently, the global working group puts together an EU funded proposal (COST action) for developing a broad, international network of salutogenesis researchers working towards the vision of 'salutogenesis of just, inclusive thriving'.
- Evaluate: we need to be systematic in disseminating salutogenesis and evaluating how we are doing. Do we have the impact we wish for, what works well, what works less well?

The COVID-19 Crisis: Relevance for the Vision of *Salutogenesis for Thriving Societies*

We are writing this final chapter in the handbook's second edition amid a severe pandemic. COVID-19 has shaken up lives worldwide and has changed perceptions about life for many. Naturally, the present pandemic encourages research on pathogenic questions relating to the disease's aetiology, its prevention and its cure. Is a salutogenic approach to COVID-19 research also relevant? What can be the fruits of employing this approach? Members of the *society* are now addressing these questions with publications soon available (Mana & Sagy, 2020; also https://www.stars-society.org/). A unique role for salutogenesis in tackling COVID-19 – and any future pandemic – is being articulated at present by Maass and colleagues in a publication underway:

> Salutogenesis can make valuable contributions in tackling pandemics by providing a positive focus, identifying individual and collective resources, and by highlighting the importance of coherent measures and communication strategies. (the citation to the published paper will be posted at https://www.stars-society.org/)

This summarises well a niche in the health and social sciences that salutogenesis is uniquely suited to fill. Pandemics are inevitably part of the human experience in the river of life, along with the many other trying experiences that are inextricable aspects of daily living. While many others in science properly tackle the tribulations of living with attention mainly to deficits and risks, salutogenesis' attention is tuned to nurturing the resources, opportunities and strengths that support the strong sense of coherence that nourishes thriving individuals and societies.

Salutogenesis for Thriving Societies

How might we summarise our aspirations? Let us introduce a new vision: Salutogenesis for thriving societies. Reaching beyond salutogenesis' original focus on the origins of individuals' ease/dis-ease in the 'river of life', salutogenesis for thriving calls for supporting individuals', families', neighbourhoods' and communities' strengths and opportunities, in

support of health in its broadest sense. Therefore, the range of our ambition must be enormous, from supporting coping with individual illness and social dysfunction to contributing to a global cultural value supporting thriving (not just surviving) in just, inclusive societies.

The ambitious roadmap that we need for this journey is thankfully already at hand! The salutogenesis community's contributions to achieving the UN Sustainable Development Goals would support planetary thriving (indeed 'health for all').

Are we poised at the start of a transition to a 'salutogenesis of thriving'? The answer lies in our hands as we shape the coming development of salutogenesis theory, research and practice. The expansion of the salutogenic model by a path of positive health and well-being development is essential to advance a salutogenesis of societal thriving. We are sure Aaron Antonovsky would have welcomed this expansion. In *Unraveling the Mystery of Health* (1987), he wrote:

> If the SOC is indeed related to health, should it not then reasonably be expected to be related to a variety of aspects of well-being? If successful coping with life stressors has positive consequences for health, should it not also have positive consequences for satisfaction, happiness, morale, and positive affect? (ibid, p. 180)

Might he just as well have added 'thriving' to his positive consequences list, had the thought occurred to him? We think so.

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