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Directing food practices towards health from a Salutogenic perspective

Exploring food literacy, GRRs and life experiences in students leaving the nest

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Nothing would be more tiresome than eating and drinking if God had not made them a pleasure as well as a necessity.

– Voltaire

Abstract

Background: The obesogenic environment in which societies live today have shaped poor dietary habits, resulting in increased rates of obesity and associated chronic diseases throughout Europe and the world. Health promotion actions aiming at creating enabling contexts in which eating healthfully is the easiest choice have not been effective. Due to this, the European Salutogenic Eating Project (ESEP) attempts to gain insight into how contexts enable people to develop behaviours towards health by focusing on transition stages in life. This study, as part of the ESEP, focuses on how young adults moving out to start life as a student face food challenges related to independent living.

Objective: The aim of this research was to gain insight into the mechanisms underlying independently living students' ability to direct food practices towards health by exploring resources that are used for coping with food-related challenges, and how certain life experiences enable the identification of such resources, as well as exploring food literacy's relation with food practices and health.

Methods: With Salutogenesis and the Life-course perspective as theoretical framework, qualitative methods were used to explore food literacy, resources and life experiences that enable healthy eating among university-aged students. The methods included a literature review, followed by narrative inquiry semi-structured interviews. Categorical–content analysis was used to analyse the data.

Results: Food played a role in student's physical, mental and social health. The main resources enabling healthy food practices were skills associated to food literacy, parents, students' social networks, health beliefs and values, and concern over environmental sustainability. Life experiences that enabled the identification of such resources were related to childhood and family life, moving out of their parents' home, travelling abroad and growing a vegetable garden.

Conclusion: The knowledge and skills that compose food literacy enables students to be in control of their diets. Additionally, it enables them to make adequate food choices by balancing different health dimensions, values, knowledge and experience. This is an ongoing process of active learning enabling them to adapt to different food environments. Recommendations for directing health and nutrition promotion towards healthy food practices are given in terms of development of food literacy, support of social eating, nutrition promotion messages and food policy.

Key words: Salutogenesis · life-course perspective · healthy food practices · students · food literacy · resources · life experiences · nutrition promotion · narrative research

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Sofía Sutherland Borja

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Abbreviations

ESEP	European Salutogenic Eating Project
GRRs	Generalized Resistance Resources
SOC	Sense of Coherence
WHO	World Health Organization

Chapter 1
Introduction

During the last three decades, obesity has escalated to become a global epidemic. This increase in excess body weight has been associated to the current (unhealthy) dietary habits shaped by the 'obesogenic environment' in which modern societies live (WHOEurope, 2007). The greater availability, affordability and intense marketing of processed foods high in sugars and fat are the main dietary factors of this obesogenic environment, contributing to an elevated consumption of energy-dense products, and a consequent reduction in the intake of healthier foods such as fruits, vegetables, legumes and whole grain cereals; particularly in society's most vulnerable socio-economic groups (Swinburn, Caterson, Seidell, & James, 2004; WHOEurope, 2007). Since poor dietary habits elevate the risk for developing obesity and chronic diseases as cancer, diabetes and cardiovascular diseases (WHOEurope, 2007), directing food practices towards health represents a major challenge for public health and health promotion.

1.1 Background

According to the Dutch National Food Consumption Survey 2007-2010, most people of all age groups do not comply with the recommendations of consumption for fruit, vegetables and fish established in the national dietary guidelines (van Rossum, Fransen, Verkaik-Kloosterman, Buurma-Rethans, & Ocke, 2011). For example, over 85% of adults do not eat the 200gr of daily vegetables recommended, and around 98% of children do not reach the 150gr of vegetables they need each day. Regarding fruit consumption, nearly 75% of the Dutch population in the different age groups do not eat the 2 pieces of fruit that are set by the guidelines. Finally, over 90% of youth (i.e. under 19 years old) and nearly 75% of adults do not meet the recommendation of eating fish twice a week (van Rossum et al., 2011).

In order to address unhealthy diets and its health consequences within the European region, The World Health Organization (WHO), through the *Vienna Declaration on Nutrition and Non-communicable Diseases in the Context of Health 2020*, suggests several health promotion actions to be adopted in European countries. These actions aim at creating a healthy food environment which supports and facilitates healthy choices, namely by means of food product reformulation that stimulate availability and affordability of healthier foods, regulations on advertising and marketing of non-nutritious products, access to information through nutrition labelling and health claims, as well as economic incentives that promote eating healthfully (WHOEurope, 2013).

In addition, the Vienna Declaration considers enabling citizens to make informed choices by improving population health literacy and food literacy (WHOEurope, 2013). The concept of food literacy is a new addition to previous regional health promotion strategies. Similarly to health literacy, food literacy refers to the knowledge and skills that are necessary for obtaining, understanding and using information to promote and maintain healthy behaviours; but particularly related to food. One of its latest definitions is: *"The relative ability to basically understand the nature of food and how it is important to you, and how able you are to gain information about food, analyse it, and act upon it"* (Vidgen & Gallegos, 2011, p.33). Furthermore, food literacy is contextual, meaning that the knowledge and skills that it includes are determined by the social and food environment (Vidgen & Gallegos, 2011).

1.2 The European Salutogenic Eating Project

Despite health promotion strategies emphasising in promoting a healthy diet and its health benefits, as well as providing an enabling context in which eating healthfully is the easiest choice (WHOEurope, 2007; WHOEurope 2013), the efforts have failed.

Food consumption data as the one previously mentioned, indicates that healthy eating in today's obesogenic environment is still a challenge that only very few can manage. It may be possible that the strategies and messages for nutrition promotion fail to be applied by people in daily eating situations, because they do not relate to what people perceive as healthy food practices, and the way people actually decide on their own (healthy) food choices (e.g. dietary messages do not apply to their everyday food situations). This suggests that there is still much to be learned in how contexts enable people to develop behaviours towards health.

To make progress in this issue, a research project named the *European Salutogenic Eating Project* (ESEP) is being held in different European countries, namely Spain, Italy, Norway and the Netherlands. Consequently, the purpose of the project is to use those insights in practice and policy for the development of enabling contexts that promote healthy eating behaviours across Europe, and deal with obesity and chronic diseases that affect the region.

The MSc thesis hereby presented forms part of a PhD research project that is embedded in the ESEP. The present research stems from the findings of the quantitative study already performed in the Netherlands, which suggests that on the one hand being female, living with a partner, a good perceived health, flexible restraint of eating, and self-efficacy in relation to eating are resources positively associated to healthy food practices (Swan, Bouwman, Hiddink, Aarts & Koelen, 2014). On the other hand, nutrition knowledge was not associated as a resource for healthy eating practices (Swan et al., 2014).

Because knowledge is a key driver for change, it is suggested that a more comprehensive concept of food-related knowledge should be considered for the research project as a resource for eating healthfully, namely food literacy. Moreover, due to the contextual nature of food literacy and the novelty of the concept in health promotion strategies, it is relevant to study what Dutch citizens define as food literacy, what their food literacy is composed of, how

it is obtained, how they use it for coping with the obesogenic environment, and whether it is a resource for directing their food practices towards health.

1.3 Leaving the nest

Within the framework of the ESEP, three relevant life-course stages are of interest: (i) students moving out of their parents' house and living independently for the first time (i.e. 'leaving the nest'); (ii) becoming parents and/or rearing young children; and (iii) starting retirement and getting older. These three stages in life are major transition moments in which people's food practices are challenged, in the sense that transitioning to a new life-stage brings along new circumstances in which habitual food practices are harder or not possible to maintain (Bisogni, Jastran, Shen, & Devine, 2005). For example, moving out and living with new housemates may mean having a different meal schedule or meal structure than the one used back home. Being a parent may mean having to spend more time looking after children and less time to go grocery shopping or cooking. Retiring from the work force may mean less income, for which the amount of money available for food doesn't allow buying the usual products. Hence, these groups are relevant for studying how people learn to adapt or maintain their food practices to these new circumstances and manage to eat healthfully through such situations in life.

As part of two other larger research projects (PhD study and ESEP), this study was conducted in parallel with two other Health and Society MSc students, each one focusing on a different life-course stage, which together will contribute to the larger research projects. The research presented in this MSc thesis report focuses on students moving out and living away from their parents' home.

A common and natural life-course transition for young people is leaving the parental home for the first time in order to continue their studies after secondary school. This transition towards independent living and adulthood is gradual, since students at this age usually return to the parental home during the weekends and holidays. This life stage provides the opportunity of experiencing autonomy without the responsibilities of being fully independent (Beasley, Hackett, & Maxwell, 2004).

When moving out of the parental home, young people are faced with the challenge of catering for themselves, and have the freedom of making their own decisions regarding food practices (Beasley et al., 2004; Wills, 2005). While students staying at the parental home do not change their food practices significantly when starting higher education, those who move out do change their food practices in both healthy and unhealthy directions (e.g. consuming less full fat dairy; but eating less fruits, vegetables, and more sugar and junk food) (Papadaki, Hondros, A Scott, & Kapsokefalou, 2007). However, leaving the nest is not equivalent to a deteriorating diet. Studies have shown that students living independently do not eat lower quality diets compared to students that still live with their parents (Beasley et al., 2004; Riddell, Ang, Keast, & Hunter, 2011); while some students have better dietary habits than those living at the parental home, and others manage to improve the food practices they had before leaving (Beasley et al., 2004). Furthermore, students who have been living independently for more than two years are more likely to perceive they eat healthier since they first left the parental

home, compared to those who have left the nest for less than two years. This suggests that there is an adaptation to the new life situation (Beasley et al., 2004).

Young adults moving out to start life as a student is an important transition in life for becoming an autonomous adult (Wills, 2005), and is accompanied by several challenges related to food practices, such as making independent food decisions for the first time, buying and preparing meals on one's own without knowing how, etc; hence it is a group relevant to study.

1.4 Objectives and Research Questions

Despite the obesogenic environment, there are people who manage to cope with its challenges and eat healthily. Studying what facilitates learning to eat healthfully and how it is accomplished will add valuable information needed to formulate adequate health-promoting strategies for the European region. Therefore the overall objective of the European Salutogenic Eating Project, the PhD research project, and thus of this MSc Thesis is to gain insight into the mechanisms underlying the ability to direct food practices towards health; more specifically by attempting to:

- Attain knowledge in the concept of *food literacy*, and whether it relates to health and food practices.
- Identify the internal and external resources that are used for coping with challenging eating situations and explore how those resources are applied in directing food practices towards health.
- Explore how certain life experiences through the life course enable to identify resources and learn to apply them to direct food practices towards health.

As the present study focused on students living away from their parents' home; the following research questions were formulated:

General Research Question:

How do food literacy, resources (GRRs) and life experiences enable university-aged students that have moved out of their parent's home to direct food practices towards health?

Specific Research Questions:

1. What is the meaning of food literacy in terms of healthy eating, and what is its role in directing food practices towards health in university-aged students living away from the parental home?
2. What resources (GRRs) enable university-aged students living away from the parental home to direct food practices towards health?

3. What life experiences enable university-aged students living away from the parental home to direct food practices towards health?

4. In what ways does food literacy, GRRs and life experiences relate to directing food practices towards health in university-aged students who have moved out of their parents' home?

1.5 Thesis Outline

In this report, the theoretical framework underpinning the research is explained in chapter 2. It describes both Salutogenesis' and the Life-course perspective's main concepts and their relevance to the study.

The research consists of two parts, which are contained in the following chapters. The first part of the study is a literature review of the three sensitizing concepts that guide this research: *food literacy*, *generalized resistance resources (GRRs)* and *life experiences*. In chapter 3 the methodology used for the literature review is explained and the findings from the literature are presented. The second part of the study is fieldwork interviews. The interview methodology, including the data analysis of the obtained narratives is explained in chapter 4. The results obtained from those interviews are also presented in this chapter.

Chapter 5 includes the discussion of the results, comparing the interview findings with those of the literature review. Finally, conclusions, recommendations and the study's strengths and limitations are presented in chapter 6.

Chapter 2
Theoretical Framework

2.1 Salutogenesis

To study how people successfully deal with an obesogenic environment and manage to eat healthfully, it is necessary to focus on beneficial or protective factors. Therefore, Aaron Antonovsky's *Salutogenesis* serves as an appropriate framework.

Salutogenesis addresses the origins of health by focusing on the question 'what creates health?' (Antonovsky, 1996), or in the case of this particular thesis, 'what creates healthy eating?' According to Antonovsky's framework, health is movement along a continuum between an end of absolute health (ease) and one of absence of health (dis-ease) (Lindström & Eriksson, 2005, 2010). Additionally, Antonovsky stated that life is unpredictable and chaotic due to stressors one is faced during everyday life. Such stressors modify ones position in the ease/dis-ease health continuum by generating tension. Individuals either succumb under the tension and move towards the 'dis-ease' end of the continuum consequently becoming ill; or are able to overcome the tension and move towards health ('ease' end of the continuum) (Lindström & Eriksson, 2006 , 2010), as illustrated in figure 2.1.

Generalized Resistance Resources (GRRs)

In order to answer the Salutogenic question: *"How can we understand movement of people in the direction of the health end of the continuum?"* (Antonovsky, 1996, p.14) Antonovsky attended to the factors and resources that actively promote and create health by enabling people to successfully cope with life's stressors (Antonovsky, 1996; Lindström & Eriksson, 2010), known as 'generalized resistance resources' (GRRs).

GRRs are physical, biochemical, material, cognitive, emotional, valuative-attitudinal, interpersonal-relational and macrosocial characteristics of an individual, group, subculture or society that when put into practice in a health promoting way, are effective in avoiding and/or combating a wide variety of stressors (Lindström & Eriksson, 2010). GRRs are material and non-material qualities found within the individual as well as the environment, for example money, housing, self-esteem, knowledge and intelligence, contact with inner feelings, beliefs, religion and traditions, social and cultural capital, experience, commitment, and healthy orientation and behaviour (Lindström & Eriksson, 2006, 2010).

Sense of Coherence (SOC)

Having GRRs available is not sufficient for moving towards health, one must also be able to identify and use them. Such ability is conceptualized as 'sense of coherence' (SOC), a life orientation that conveys the degree to which someone is capable of understanding and is

confident of responding to situations in which stressors are present (Lindström & Eriksson, 2005, 2006; Lindström & Eriksson, 2010). SOC consists of the three dimensions (Antonovsky, 1996; Lindström & Eriksson, 2005):

- *Comprehensibility*. It is the cognitive component and refers to the extent to which the information received from the environment is clear, structured and makes sense. It is the degree to which someone understands the challenge of coping with stressors.

- *Manageability.* It is the behavioural component and refers to the extent to which the person believes the resources needed to cope with stressors are at his or her disposition.

- *Meaningfulness*. It is the motivational component and refers to the extent to which life makes sense and one wishes to cope with the stressors.

SOC is developed and strengthened by GRRs, while at the same time a strong SOC is necessary for using GRRs for health promoting practices (Antonovsky, 1996; Lindström & Eriksson, 2006), such as healthy eating behaviours. This interaction between them and their role in overcoming tension and moving towards the health end of the continuum is shown in figure 2.1.

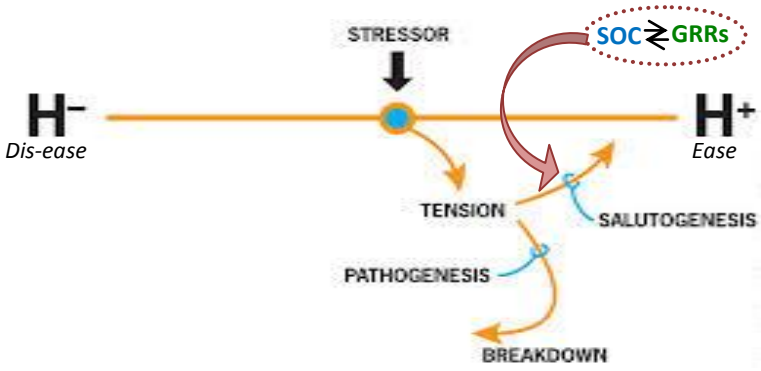

Figure 2.1 'Ease/dis-ease' health continuum (Adapted from Lindström & Eriksson, 2010)

Studies have found an association between SOC and healthful eating. Evidence suggests that adults with a strong SOC have higher fruit and vegetable consumption (Packard et al., 2012), are able to make healthier food choices and stick more closely to dietary recommendations as compared to those with low SOC (Ahola et al., 2012; Lindmark, Hakeberg, & Hugoson, 2011). An association between strong SOC and healthy behaviours related to food and eating has also been observed in adolescents (Mattila et al., 2011; Myrin & Lagerström, 2006) and university students (Suraj & Singh, 2011). It has also been demonstrated that children present healthy eating patterns when their parents have a strong SOC (Ray, Suominen, & Roos, 2009).

Given that a strong SOC facilitates healthy food practices, it indicates that there are GRRs contributing to such behaviours. Hence, Salutogenesis provides a suitable framework for identifying those resources used for directing food practices towards health in different age groups, including the university-aged population.

Finally, GRRs help overcome life challenges and constructing coherent, manageable and meaningful life experiences that promote a strong SOC (Antonovsky, 1996; Lindström & Eriksson, 2006). Therefore within the Salutogenic framework, the *Life Course perspective* allows the exploration of those life experiences that help obtain and use GRRs that contribute to guide food practices towards health.

2.2 Life-course Perspective

The Life-course perspective provides a framework to understand how experiences and events that occur over the lifetime determine present and future food choice behaviours within dynamic contexts (Devine, 2005); and understand how life experiences influence the ways people cope with making healthy eating decisions (Bisogni et al., 2005), complementing the Salutogenesis framework.

The concepts of the Life-course perspective are hereby described (Devine, 2005):

- *Trajectories.* Food choice trajectories are someone's thoughts, feelings, strategies and actions in relation to food and eating that are formed during life. People develop these trajectories within specific situational and historical contexts. Trajectories are rather stable in time, particularly during adulthood, but still are subject to change. They are also cumulative, meaning that new trajectories are incorporated to former ones throughout life.

- *Transitions.* Over the lifespan people undergo through several shifts or transitions that are part of normal life and which signify a change of state, such as becoming an adult, getting married, becoming a parent, entering the labour force, retiring, etc. These transitions offer new situations for which people may need to do minor adjustments to their existing food trajectories in order to adapt to the new life state.

- *Turning points.* As opposed to transitions, turning points are drastic events that impact life deeply and result in a radical change in food trajectories. Often these turning points are accompanied by a change in identity, which is enacted through new food behaviour.

- *Timing.* It refers to the moment in life when a transition or turning point takes place and establishes a food trajectory.

- *Contexts.* Life events and its changes take place within a context, such as a certain social, physical and historical environment.

Figure 2.2 illustrates all these concepts and shows how food trajectories develop and change throughout life.

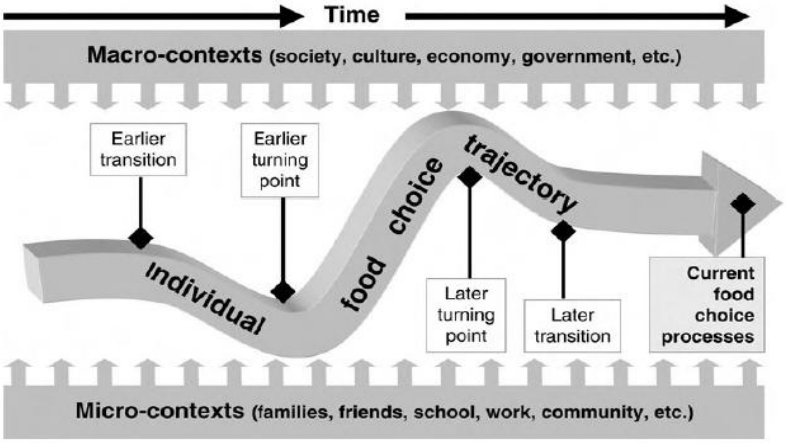

Figure 2.2 Development of food choice behaviours over the life course (Sobal et al., 2006)

All past and current experiences, situations, contexts and events that compose a person's life course contribute to developing both healthy and unhealthy food practices (Devine, Connors, Bisogni, & Sobal, 1998), and it is considered that the life course is the main element that explains food choices (Sobal, Bisogni, Devine, & Jastran, 2006).

According to the Food Choice Process Model, life experiences influence food practices by shaping different factors that guide food choice in particular situations. As illustrated in figure 2.3, the life-course generates *influences* on food choice, which are mainly ideals, personal characteristics, tangible and intangible resources, social factors and contexts or environments. Those influences contribute to personal food systems, referring to the mental processes through which the decisions on food choice are made in each situation. These food systems are guided by specific *values*, namely managing relationships, taste, health, cost and convenience (Sobal et al., 2006). Research has identified how life experiences shape these influences and values that guide food choice in particular situations (Bisogni et al., 2005; Connors, Bisogni, Sobal, & Devine, 2001).

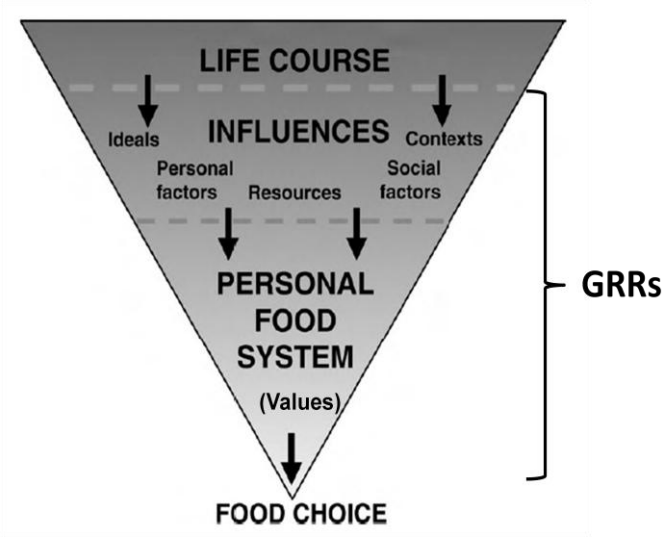

Figure 2.3. Food choice process
(Adapted from Sobal et al., 2006)

From a Salutogenic perspective, the influences and values described in the Food Choice Process Model can be considered as GRRs because they fit in the categories of GRRs provided by Antonovsky. For example, in the case of influences, 'ideals' can be classified as valuative-attitudinal GRRs, 'personal characteristics' can be physical and biochemical GRRs; while in the case of values, 'managing relationships' can be classified as an interpersonal-relational GRR.

Consequently, the Life-course perspective best meets this study's research objectives, since it is a useful salutogenically oriented framework for identifying both SOC-shaping life experiences and GRRs that enable guiding food practices towards health.

Within the framework of Salutogenesis and the Life-course perspective, the sensitizing concepts in box 2.1 will guide the research so as to answer each specific research question.

Box 2.1 Sensitizing Concepts

Food literacy: The knowledge and skills necessary for obtaining and understanding information related to food, and using it in food practices.

GRRs: Material and non-material qualities found within the individual and the environment that enable people to cope with life's stressors, promoting and creating health.

Life experiences: All the past and current events, situations, challenges, changes, roles and environments a person has lived through in relation to food and eating.

Chapter 3
Literature Review

To gain insight into the mechanisms underlying healthy eating among students who have moved out of their parent's house, a review of the literature within the Salutogenic framework was performed to answer the following specific research questions:

1. What is the meaning of food literacy in terms of healthy eating, and what is its role in directing food practices towards health in university-aged students living away from the parental home?
2. What resources (GRRs) enable university-aged students living away from the parental home to direct food practices towards health?
3. What life experiences enable university-aged students living away from the parental home to direct food practices towards health?

The literature reviews for each of the specific research questions focus on the sensitizing concepts of *food literacy*, *resources* and *life experiences,* and are presented in this chapter.

3.1 Methodology

3.1.1 Search criteria

The literature search focused on the theoretical concepts and/or models related to food literacy and the empirical evidence on its relation with health and food practices, as well as life experiences and resources that enable directing food practices towards health in students who have moved away from their parents' and initiated higher education. The following search criteria were used:

- Articles published in scientific and professional journals, reports, conference proceedings, and government documents;
- published between January 1980 and September 2013;
- published in the English language;
- concerning Western developed countries;
- concerning university/college-aged youth (18 – 25 years old)

Each search criterion above mentioned were determined due to the following reasons, respectively: to obtain publications from both relevant and reliable sources; provide a broad time span to ensure a sufficient number of publications, starting from the decade in which the

first publications on Salutogenesis were presented; obtain literature in a language readable and comprehensible to the researcher performing the literature review (the author of this thesis); provide evidence from countries and societies comparable to the Netherlands; and finally provide information applicable to the study population addressed in this research.

The search for literature was performed following a systematic approach. Google Scholar, PubMed, Scopus, Web of Knowledge and EBSCO Host, were the databases used for the search, as well as library catalogues. A separate search was performed for each sensitizing concept: *food literacy*, *resources* and *life experiences;* using the same search criteria mentioned for all three concepts.

For the concept of *food literacy*, the search terms used were 'food literacy' and its related terms (i.e. 'food knowledge', 'food skills', 'food understanding', 'food awareness', 'cooking skills', and 'cooking knowledge'), in combination with terms related to food practices (i.e. 'eating', 'diet', 'healthy eating' and 'healthful eating', 'eating habits', 'eating practices', 'eating behaviour', 'dietary habits', 'dietary behaviour', 'food habits', 'food practices', 'food behaviour', 'food choice', 'food preference', 'food selection', 'food preparation', 'nutrition', 'food', and 'meal preparation'), and terms related to the study population (i.e. 'students', 'college students', 'university students', 'young people', 'young adults', 'transition to adulthood', 'youth', 'college' and 'university').

For the concept of *resources*, the search terms used were 'assets', 'determinants', 'positive influences', 'positive factors', 'salutary', 'qualities', 'tools', 'strategies', 'talents', 'skills', 'enablers', 'predictors', 'competencies', and 'positive health attitudes'; in combination with the same terms related to food practices and study population used for the *food literacy* search. Because the search revealed thousands (>3000) of articles, a second search was performed using the same terms already mentioned but limiting the study population by excluding the terms 'children', 'school', and 'adolescents'. Also, the exclusion of the term 'risks' and the inclusion of the term 'health' were added in the search to make it more specific. This allowed reducing the number of articles revealed to a manageable amount, considering the limited time available for conducting the literature review.

For the concept of *life experiences*, the search terms used were 'life events', 'life course', 'life experiences', 'lived experiences', 'events', 'lessons', 'experiences', 'life lessons', and 'memories'; in combination with the same terms related to food practices and study population previously used.

The terms could be present in the article's title, abstract or key words. Reference lists of relevant articles were used to find additional literature that the search in databases could have omitted.

3.1.2 Inclusion criteria

After the search, the duplicates were removed and the total number of articles was scanned by their title and/or abstract. The ones not matching the following inclusion criteria were excluded:

- Published between January 1980 and September 2013 in the English language;
- research conducted in western developed countries, involving students living away from the parental home and/or aged 18-25 years;
- exploratory research (e.g. surveys, interviews, case studies, etc.) informing food practices from a Salutogenic perspective (i.e. practices that contribute to health)

The remaining articles were verified by reading the full-text. Finally, the literature that complied with the mentioned inclusion criteria was assessed following the basic stages of critical appraisal proposed by Ebrahim & Bowling (2005), which consist of evaluating the articles' message, validity and generalizability. Consequently, the studies with the soundest methodology and the most relevant findings for this thesis were included in the literature review.

The literature review for *food literacy* is presented in section 3.2. The literature reviews concerning *resources* and *life experiences* are presented in sections 3.3 and 3.4, respectively.

3.2 Food Literacy

The search revealed a total of 271 articles, 269 through databases and two identified through citations within relevant articles. The exclusion of most articles was based on their focus on a younger population (i.e. children or adolescents attending school). Others were excluded because they were not conducted in western developed countries, did not consider healthy food practices, did not inform results associated to food literacy, or were intervention studies. The remaining six articles addressed the theoretical concepts related to food literacy, as well as the empirical evidence on its relation with health and food practices, particularly in university-aged students. Figure 3.1 outlines the search process.

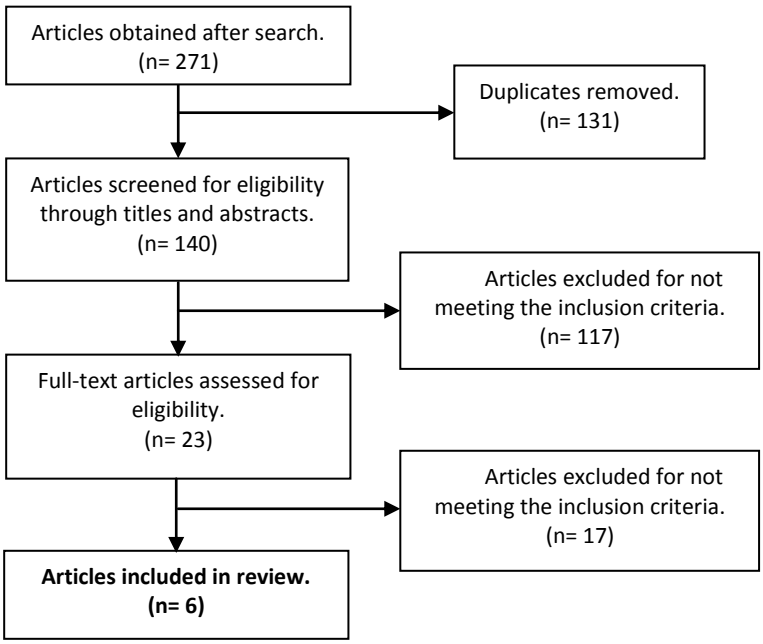

Figure 3.1 Flowchart of the search process – Food literacy

3.2.1 Definition of food literacy

The concept of food literacy is generally used to indicate the competences needed to perform daily food practices associated to health. Among the literature, three specific definitions of food literacy were identified:

- "*A collection of inter-related knowledge, skills and behaviours required to plan, manage, select, prepare and eat foods to meet needs and determine food intake. Food literacy is the scaffolding that empowers individuals, households, communities or nations to protect diet quality through change and support dietary resilience over time"* (Vidgen & Gallegos, 2012, p.72).

- *"Whereas food knowledge is the possession of food-related information, food literacy entails both understanding nutrition information and acting on that knowledge in ways consistent with promoting nutrition goals and food wellbeing"* (Block et al., 2011, p.7).

- *"An individual's ability to read, understand, and act upon labels on fresh, frozen, canned, frozen, processed, and takeout food"* (Fordyce-Voorham, 2011, p.119).

All three definitions coincide that food literacy refers to the food and nutrition information (i.e. food knowledge) one has, and the ability to actively apply it (i.e. food skills) in daily food practices. In the case of Fordyce-Voorham's (2011) definition, it considers food literacy only as an information skill restricted to food selection, disregarding the other activities that compose food practices. Thus it provides a limited scope to the concept of food literacy. Conversely, Vidgen & Gallegos' (2012) definition is more comprehensive in this sense. It also goes beyond the individual level. Furthermore, it takes on a perspective similar to Salutogenesis by proposing food literacy as a factor that supports and maintains diets that are conducive to health. In the same way, Block and colleagues' (2011) definition fits into the Salutogenic framework, since it considers food literacy as a contributor to reaching healthy dietary goals. Based on these definitions, food literacy could be considered therefore as a GRR.

3.2.2 Components of food literacy

Food literacy is a set of knowledge and skills which support people in making food decisions favourable for health. According to Block and colleagues (2011), food literacy is composed by three elements. The first element is conceptual or declarative knowledge, referring to the acquirement of food and nutrition information (e.g. reading nutrition facts). As it is the cognitive component of food literacy, it relates to SOC's cognitive dimension of comprehensibility. The second element is procedural knowledge, which refers to the action of using the obtained food knowledge for making food choices, involving skills (e.g. shopping and cooking skills). Skills compose to the behavioural component of food literacy, relating to SOC's behavioural dimension of manageability. The final element is motivation to apply or use the information and skills one has which, relating to SOC's meaningfulness, the motivational component. For this review, conceptual knowledge (information) is hereby referred to as *knowledge* and procedural knowledge as *skills*.

To identify the specific knowledge and skills young people need to manage healthy eating when becoming independent, Fordyce-Voorham (2011) interviewed experts in the field of food and nutrition, namely dieticians, nutritionists, chefs, home economics and community educators. She also interviewed consumers including home makers and young adults living independently responsible for catering for themselves. Although the author did not research food literacy itself, her study did focus on the two main elements that constitute food literacy. Table 3.1 shows an overview of the food knowledge and food skills that the consulted experts and consumers considered essential for young people to learn when preparing to leave the parental home, as presented by the author. Because they are not grouped in domains or according to the different food practices, knowledge and skills tend to overlap, suggesting that there is an interrelation between them, which matches the definition of food literacy provided by Vidgen & Gallegos (2012).

Similarly, the United Kingdom's Food Standard Agency (FSA) defines specific skills and knowledge that should be taught to adolescents and young people aged 16 years and older in schools and community organizations. According to the FSA experts, these are competences that this age group should possess in order to select, prepare and eat healthy and safe food (FSA, 2013). These competences focus mainly on nutritional aspects of food and eating, which

are categorized into four themes: (i)diet and health; (ii)consumer awareness, referring to food selection; (iii)cooking, and (iv)food safety (refer to Table 3.1).

The knowledge and skills described by Fordyce-Voorham (2011) and the FSA (2013) are comparable to the components of food literacy identified by Vidgen & Gallegos (2012) when they studied a group of socially disadvantaged young Australians who were in charge of catering for themselves. Within this group, four domains of food literacy were recognized: (i)planning and management; (ii)selection, (iii)preparation, and (iv)eating. Each domain is composed of capabilities that describe a food literate person (refer to Table 3.1). However, it is important to note that these food literacy components were based on a group with high socioeconomic disadvantages, and therefore may not be comparable to those of other socioeconomic groups.

The recurrent components of food literacy found in the literature consist of the abilities to (Fordyce-Voorham, 2011; FSA, 2013; Vidgen & Gallegos, 2012):

- plan meals based on available resources (e.g. time, money, products, etc.) and food needs;
- access different food sources;
- identify, select, and use safe and quality foods (e.g. read, understand and apply information from food labels);
- use cooking equipment, cooking methods and ingredients appropriately to prepare a variety of dishes;
- change and adapt ingredients, recipes and cooking methods used to prepare dishes;
- implement food safety and hygiene principles when selecting, handling and storing food;
- understand the effect of food on health, and manage eating practices accordingly to achieve good health

Table 3.1 Competencies associated to Food Literacy

Fordyce-Voorham, 2011	Vidgen & Gallegos, 2012	Food Standard Agency, 2013
Knowledge: ▪ Recognize quality fresh food in season. ▪ Plan meals ahead and make shopping lists based on meals scheduled, accommodating dietary requirements and preferences, household budget and checking home's food stock. ▪ Select and apply the appropriate method to achieve the best product outcome. ▪ Substitute cooking methods so that the nutritional value of a dish is tailored to meet healthy, dietary and budgetary demands. ▪ Know about cheaper or substituted alternatives if the appropriate item of equipment is not available. **Skills:** ▪ Can shop around in different food sources to make purchase decisions based on quality and price. ▪ Able to choose and apply food preparation techniques safely and correctly. ▪ Able to match appropriate technique with the style and purpose of the dish. ▪ Able to adapt meal components and basic food preparation skills to create meal variations. ▪ Can coordinate food timing and task sequences of the cooking process. ▪ Able to safely use and store sharp knives and cooling equipment to prevent cuts, burns, etc. ▪ Manage tasks needed for hygiene (e.g. washing hands, tying hair back, etc.) ▪ Able to transport and store food. ▪ Able to perform pre- and post- food preparation cleaning task.	**Planning and Management:** ▪ Prioritise money and time for food. ▪ Able to access food through some source on a regular basis irrespective of changes in circumstances or environment by planning food intake. ▪ Make feasible food decisions which balance food needs with available resources. **Selection:** ▪ Know that food can be accessed through multiple sources and the advantages and disadvantages of these sources. ▪ Know how to determine what is in a food product, where it came from, how to store it and use it. ▪ Can judge the quality of food. **Preparation:** ▪ Can make a good tasting meal from whatever food is available: - Prepare commonly available foods. - Efficiently use common pieces of kitchen equipment. - Have a sufficient repertoire of skills to adapt recipes and experiment with food and ingredients. ▪ Know the basic principles of safe food hygiene and handling. **Eating:** ▪ Understand food has an impact on personal wellbeing. ▪ Demonstrate self-awareness of the need to personally balance food intake. - Knowing foods to include for good health and restrict for good health. - Knowing appropriate portion size and frequency. ▪ Can join in and eat in a social way.	**Diet and Health:** ▪ Able to apply current healthy eating recommendations, and understanding of peoples' needs, to their own diet and others'. ▪ Able to maintain a healthy weight throughout life, understanding the relationship between diet and physical activity, as well as taking into account other factors. **Consumer awareness:** ▪ Consider a wider range of factors when making food choices. ▪ Apply costing skills to make good food selections for health when eating out or cooking at home. **Cooking (food preparation and handling skills):** ▪ Apply skills and understanding competently to plan, prepare and safely cook dishes for a healthy, varied and balanced diet. ▪ Able to change recipes and dishes to make them healthier by altering ingredients, and/or by using different cooking methods. ▪ Apply good food safety principles when buying, storing, preparing and cooking food. **Food safety:** ▪ Implement good food safety when handling, preparing, cooking and serving food, ▪ Apply food safety information on food labels when buying, storing and consuming food.

3.2.3 Development of food literacy

Food literacy develops over the life course (Block et al., 2011; Vidgen & Gallegos, 2012). Young people initially learn their food-related abilities from the household's primary meal preparer, generally the mothers; although male figures were also considered a learning source (Vidgen & Gallegos, 2012). Later on, young people learn from other people they consider 'food competent', such as siblings, peers, their partner, or housemates (Vidgen & Gallegos, 2012). Additionally, Vidgen & Gallegos (2012) noticed that young disadvantaged people used their 'eating out' experiences to learn new dishes and try new ingredients in order to increase variety in their diets, instead of recurring to recipes. Only those who had been living independently for a longer time and needed to organize their eating practices turned to recipes and opened to different food options. Yet, this was done by those who already had more experience with food. The same occurred with seeking formal ways of developing food literacy. Nutrition courses and cooking lessons were only a relevant source for those who already possess a certain level of competence and were interested in improving and expanding them (Vidgen & Gallegos, 2012). This supports the motivational component of food literacy mentioned by Block and colleagues (2011).

According to Vidgen and Gallegos (2011), not all components of food literacy are present simultaneously and in the same depth. They are influenced and developed depending on social and environmental factors that need to be dealt with when making food choices. For example, for someone living in an isolated area, the ability to plan meals becomes more relevant, compared to someone who lives next to a supermarket. Therefore, developing food literacy requires the ability, opportunity, and motivation to identify, understand, and use food-related knowledge and skills in different contexts (Block et al., 2011). In other words, the development of food literacy requires SOC.

3.2.4 Food literacy and food practices

Little research has been done on food literacy per se and its implication in food practices among young people living away from the parental home. A reason for this could be that the concept of food literacy and what it entails is rather recent.

The research carried out by Vidgen and Gallegos (2012) among Australian disadvantaged youth was the only one found in the literature addressing the issue within this particular population. According to Vidgen and Gallegos (2012), people with an adequate food literacy level are capable of managing the quality of their diet. The interviews revealed that those disadvantaged young adults that presented more food literacy components (e.g. prioritized time for eating, planned their meals, and valued eating socially), ate a more varied diet, ate at least three meals per day following a planned schedule, and regularly shared a meal with others, despite their precarious situation (Vidgen & Gallegos, 2012). This evidence supports food literacy fitting into the salutogenic perspective, since food literacy helps coping with the challenges of the food environment and allows managing food and eating. However, whether it contributes to the healthfullness of diets could not be determined from this study.

The other studies that were found do not mention nor describe food literacy itself, though they do focus on the different components of food literacy and their relation to food practices and health. For instance, a qualitative study aiming at identifying individual factors that

influence the ability to achieve health through healthy food choices among college students working at a fast food establishment, identifies knowledge derived from 'food preparation know-how' as a factor enabling healthy food practices (Mulvaney-Day, Womack, & Oddo, 2012). What the authors identify as food 'know-how' meets the description of the concept of food literacy previously mentioned in this review. The in-depth interviews carried out among the students revealed that although they possessed knowledge and information about the nutritional content and unhealthiness of fast food available in the restaurant, they continued to eat it. However, those students who knew how to cook and preferred to prepare their own meals at work and at home were enabled to eat healthier. This is explained by the hands-on experience of cooking which allowed them to know what ingredients went into their food, influencing their food choices positively (Mulvaney-Day et al., 2012).

Interestingly, Larson, Perry, Story, and Neumark-Sztainer (2006) found that most of the young adults participating in their study reported having adequate resources, cooking appliances, variety of food available at stores, and food selection and preparation skills, yet there was no association between these perceptions and healthy food practices. Only those young adults who applied their food skills more often were more likely to comply with dietary guidelines and have healthier diets (Larson, Perry, Story, & Neumark-Sztainer, 2006); supporting Mulvaney-Day and colleagues' (2012) findings of hands-on cooking experience, and also highlighting the importance of the motivational component of food literacy described by Block and colleagues (2011).

In conclusion, food literacy is a tool for informing (healthy) food choices and practices depending on individual needs within a changing and complex food context, and therefore allows coping with the obesogenic environment in order to achieve quality and healthy diets (Block et al., 2011; Vidgen & Gallegos, 2012). Box 3.1 summarizes food literacy's role in healthy food practices. Within the Salutogenic framework, this description of food literacy matches that of a GRR, and as such, requires SOC for its development and application.

Box 3.1 Role of food literacy in directing food practices towards health

- Enable control or self-determine diet quality.
- Inform food choices accordingly to needs and context.
- Enable having healthy and adequate diets.

3.3 Resources

The search revealed a total of 1704 articles, 1698 through databases and six identified through citations in relevant articles. A total of 1508 articles were excluded because they did not meet the inclusion criteria in terms of study group or country; they were intervention studies or studies that only described eating behaviour and dietary intake; and because their main focus was on barriers or on unhealthy eating practices and nutritional problems. The remaining 23 articles were reviewed focusing on the different factors that enabled health and healthy food practices in university-aged young adults. Figure 3.2 outlines the search process.

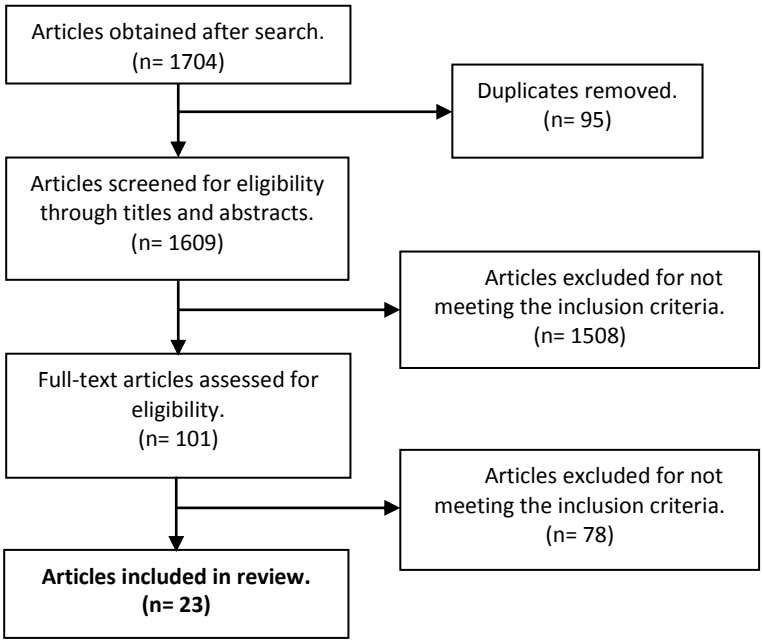

Figure 3.2 Flowchart of the search process – Resources

Health-oriented food practices mentioned in the literature are mainly food selection and consumption. The consumption practices refer mostly to intake of healthful foods such as fruit and vegetables, as well as intake of foods in compliance to dietary guidelines. Additionally, social eating was a food practice found in the literature also related to consumption. Eating socially is associated to healthy dietary habits and consumption of nutritious foods (Larson et al., 2007, 2009). Food selection practices were addressed in terms of making food choices and the use of food labels.

3.3.1 Internal resources

Following the Salutogenic definition of GRRs, internal resources are those resources that are found within the individual, such as physical, biochemical, cognitive and emotional characteristics (Lindsröm & Eriksson, 2010). The internal resources found in the literature which enable healthy food practices in university-aged youth are described in this section.

Knowledge & Awareness

Within the literature, knowledge entailed having and understanding information and concepts related to food and nutrition. It ranged from knowing the dietary guidelines, to more specific nutritional knowledge about nutrients, food labels and the effect of diet on health. Whereas awareness referred mainly to being familiar with a concept or fact, but without having complete information and understanding about it; although in some studies awareness and knowledge were used interchangeably.

According to the literature, knowledge contributes to students' food practices, independently of the complexity of the knowledge they possess. For example, students who possess high levels of complex knowledge, such as information about nutrients, food choice, what foods are recommended by experts to eat more and less often, and the relationship between diet and disease, are more likely to eat the amounts of fruits, vegetables, and protein rich foods recommended in the dietary guidelines in comparison to those students with low knowledge levels (Krešić, Kenđel Jovanović, Pavičić Žeželj, Cvijanović, & Ivezić, 2009). In the same way, students with a high level of more basic knowledge, as recalling the dietary guidelines, also were more likely to eat the recommended amounts for those same food groups (Kolodinsky, Harvey-Berino, Berlin, Johnson, & Reynolds, 2007).

Besides the consumption of particular foods associated with a healthy diet, students with more knowledge also refer selecting healthier food options (e.g. choose cuts of meat with lower fat content, prefer skimmed milk instead of whole milk; choose low fat cheese, ice cream, and salad dressing over the regular versions), compared to the students with low levels of knowledge (Kolodinsky et al., 2007). Additionally, young people that have more knowledge concerning basic concepts of nutrition and how to read food labels, use the labels for nutrition, weight and health purposes more often when selecting food products (Rasberry, Chaney, Housman, Misra, & Miller, 2007).

Awareness about what foods one should eat and not eat is considered important among university students (Greaney et al., 2009). Also, research suggests that being aware of the effects of the diet over one's health enables favorable food practices. Firstly, in a large scale study carried out in several European universities, young adults that were aware of the relationship between salt intake and hypertension, and animal fat and heart disease, reported limiting salt and avoiding foods high in animal fat, respectively (Wardle et al., 1997). Secondly, focus groups among university students suggest that although not all students have the specific knowledge of why eating fruits and vegetables is healthy, most of them are aware of it. They refer to eating fruits and vegetables because they are healthy, and are able to mention the benefits of eating fruit and vegetables in terms of preventing diseases and recovering from them (Hartman, Wadsworth, Penny, Assema, & Page, 2013). Eating healthfully is also related to the awareness of the physical effects certain foods produce, where students refer to feeling good after eating nutritious foods (Mulvaney-Day et al., 2012), and not feeling well after eating unhealthy foods (House, Su, & Levy-Milne, 2006).

Nevertheless, other studies present conflicting findings. A qualitative research among students working in fast food restaurants revealed that, although having access to the nutritional

information of the food and being aware that it is not beneficial for them, the students frequently ate fast food and made justifications for this behaviour (Mulvaney-Day et al., 2012).

Lastly, Krešić and colleagues (2009) noticed that females, senior students, as well as students living independently and in charge of their own meals were the most knowledgeable, and also were the ones that ate healthier diets; in comparison to males, first year students and non-independent students (Krešić et al., 2009). Whereas other studies only found a positive association between knowledge and fruit and vegetable consumption in males, yet not in females (Dissen, Policastro, Quick, & Byrd-Bredbenner, 2011).

Beliefs

Another internal resource is student's beliefs towards foods and food behaviours. Beliefs within the literature referred to personal opinions about something regarded as true. In the study by Wardle and colleagues (1997), students across Europe were asked whether they believed different food practices (moderating the consumption of red meat, fatty foods and the addition of salt to foods, as well as eating adequate amounts of fruits and foods with fiber) were important to health. The study showed that those students, both male and female, who performed the mentioned food practices more frequently believed that they were important for health (Wardle et al., 1997). Another study showed that students who believed there is a relationship between diet and certain diseases tended to regularly use food labels when selecting their food (Rasberry et al., 2007). Similarly, in De Bruijn's (2010) study among Dutch students, those who believed that eating at least two daily portions of fruit would keep them healthy had higher intakes of fruits per day. Thus, the evidence suggests that believing that certain food practices have a beneficial effect on health is a resource which enables directing food practices towards health in university-aged youth.

Attitudes

Attitudes are an individual's evaluation towards and object, person or behaviour; evaluation which can be either positive or negative (Koelen & Van Den Ban, 2004). Within the literature found, having a positive attitude towards a certain food practice was associated to the frequent execution of that practice in university-aged youth. For instance, high intake of healthy foods such as fruits (De Bruijn, 2010; Dissen et al., 2011), and vegetables, as well as a reduced intake of fatty foods (Dissen et al., 2011) are associated to a positive attitude towards those behaviours in both female and male university students. Conversely, a study comparing a German and Australian population of students found that a positive attitude towards healthy eating enabled only the German females to consume more fruits and vegetables (Sharma, Harker, Harker, & Reinhard, 2010). This suggests that attitude towards healthy eating is subject to differences in context (e.g. countries, cities, etc.) and gender.

Another food practice that contributes to health enabled by a positive attitude is social eating. In Larson and colleagues' (2009) study, the students who had a positive attitude towards eating with other people, in their majority females, were more likely to eat socially. Sharing meals with others was associated to healthier dietary habits, such as eating more fruits and vegetables and maintaining healthy food patterns (Larson et al., 2009). A similar association between attitude and food practices was found for food label use. Students with a positive

attitude towards food labels use them more often to guide their choices when selecting food, especially for health purposes (Rasberry et al., 2007). However this study did not measure an association between using food labels and actual healthy eating.

Intention

The intention to perform certain food behaviours was identified as a factor that facilitates healthy food practices. In a qualitative study, most students reported that if they wanted and needed to eat healthily, they were perfectly willing and capable of doing so (LaCaille, Dauner, Krambeer, & Pedersen, 2011). Quantitative studies aiming to explain fruit and vegetable consumption among undergraduate male and female students observed similar results. One of the studies found an association between the intention of eating the recommended five-a-day portions of fruits and vegetables and the actual behaviour of eating that amount (Blanchard et al., 2009). Another study found that a positive intention towards eating fruit was associated to higher fruit consumption, particularly in students who did not have a strong habit of eating fruit (De Bruijn, 2010).

Behavioural control & Self-efficacy

Self-efficacy and perceived behavioural control are two separate but complementary concepts related to perceptions of behaviour performance. Self-efficacy refers to the individual's perception of own capability to perform a behaviour in order to achieve a goal (Koelen et al., 2004). Perceived behavioural control is how easy or difficult the individual perceives it is to perform a specific behaviour (Koelen et al., 2004).

University students with high self-efficacy are more likely to engage in health and nutrition promoting behaviours (e.g. eat a balanced diet), particularly when they perceive less barriers that impede the behaviour (Von Ah, Ebert, Ngamvitroj, Park, & Kang, 2004). This is supported and illustrated by Hartman and colleagues' (2013) focus groups findings. Students perceived high self-efficacy for fruit and vegetable consumption in given conditions, for example, when these require little or no preparation (e.g. frozen vegetables, peeled and chopped fruit) (Hartman et al., 2013). Additionally, students perceived higher self-efficacy for eating vegetables when they were in charge of cooking for themselves and others, but low self-efficacy when it was someone else's responsibility to cook the meal (Hartman et al., 2013).

Regarding behavioural control, students who consider it is easy to eat the recommended amount of daily fruit during the weekend, on weekdays, during the winter, and even when in a hurry, stressed or low on money, actually consume more fruit per day compared to those who think it was difficult (De Bruijn, 2010). Although other studies did not find an association between high perceived behavioural control and meeting the recommendations of five servings of fruits and vegetables a day (Blanchard et al., 2009).

Although the evidence suggests that self-efficacy is a resource for eating healthy foods and behavioural control may be one, no studies were found addressing self-efficacy or behavioural control for other food practices (i.e. buying, selecting or preparing healthy foods).

Skills

Few food-related skills that enable directing food practices towards health are mentioned in the literature. Firstly, students working at fast food restaurants identified having cooking skills as an aid for healthier eating (Mulvaney-Day et al., 2012). However, these findings are disputed by Larson and colleagues (2006), who did not observe better quality diets among students who perceived their food preparation skills as adequate in comparison to those who did not. Secondly, food selection skills, in terms of making food choices according to the ability of evaluating and identifying the most adequate food among an array of choices, also was perceived by students as enabling healthy eating (Mulvaney-Day et al., 2012). Lastly, time management was named by students as a skill that helps them achieve healthy eating practices (LaCaille et al., 2011).

Self-control

Another resource identified in the literature is self-control, which had to do with the ability of regulating eating behaviours and restraining from temptations. In several studies, both male and female university students mentioned self-control as a facilitator to maintain their weight in a healthful way and carry out healthy food practices (Greaney et al., 2009; LaCaille et al., 2011; Mulvaney-Day et al., 2012). According to Greaney et al (2009) focus groups, self-control consisted of the ability to eat with moderation, controlling portions sizes. Whereas for Mulvaney-Day and colleagues' (2012) interview respondents, self-control relies in the ability to not over eat, by eating when feeling hungry and stopping when feeling satisfied. It also entails the ability to delay immediate gratification in order to privilege healthier food choices (Mulvaney-Day et al., 2012). Among the studies mentioned, this particular resource is related mainly to the food practice of consumption.

Personality

Certain personality types have been associated with food practices that can contribute to health, particularly in women. For instance, female students that have an intuitive personality and a judgment type personality have both high quality diets (Horacek & Betts, 1998). Intuitive females are future oriented, view things from a broad scope and rely on principles of balance and moderation; and tend to eat breakfast more frequently, consume more portions of fruit during the day and eat fewer sweets (Horacek & Betts, 1998). Female students with a judgment type personality are goal oriented, self-controlled and tend to follow an organized scheduled life. In terms of food practices, this translates into them eating breakfast more often and consuming little alcohol (Horacek & Betts, 1998). Horacek and Betts (1998) also found that both male and female extraverts, referring to people that rely on others and are goal oriented, have high quality diets, with adequate intake of fruit, grains, and consume less fat. According to the evidence, it is suggested that each personality type is a resource, by enabling specific food practices that contribute to a healthy diet in different ways.

Motives and values

According to the literature, food practices are based on the importance given to different food-related motives and values. Studies identify health (Hartman et al., 2013; Rasberry et al., 2007), taste preferences (Hartman et al., 2013; House et al., 2006), weight control (House et al., 2006; Rasberry et al., 2007), and cost (Levi, Chan, & Pence, 2006) as relevant motives and

values that guide both male and female university students' food selection and consumption. Other studies identify a difference between sex, where university-aged females give more importance than males to health, mood, nutritional content (Levi et al., 2006; Sharma et al., 2010), quality, taste and appearance of foods (Levi et al., 2006), as well as weight control (Sharma et al., 2010).

Some of the mentioned motives and values enable guiding food practices towards health. According to Hartman and colleagues (2013), the most frequent motives for New Zealand students to eat fruit and vegetables were taste preference and health (Hartman et al., 2013). Whereas for German and Australian women, it was health, mood, nutritional content, and weight control that was associated to the consumption of more fruits and vegetables (Sharma et al., 2010). Just as attitude towards healthy eating previously mentioned, food-related motives and values are contextual and gendered.

Food involvement

Food involvement refers to the importance given to food in a persons' life, in terms of how much they think about food, enjoy talking about food, and engage in all food practices (Eertmans, Victoir, Vansant, & Van den Bergh, 2005).

Some studies suggest that high food involvement facilitates healthy eating practices. For instance, in a large scale American study, Larson and colleagues (2006) assessed food involvement among 18 to 23 year olds based on the frequency in which they engaged in different food practices, such as writing a grocery list, buying fresh vegetables, preparing a green salad, preparing a dinner with vegetables, fish or chicken, and preparing dinner for other people. Those young adults who presented higher food involvement, particularly in preparation practices, were more likely to meet the dietary guidelines; although all food practices measured did not reach weekly frequencies even in the highly involved (Larson et al., 2006). However, these findings are disputed by Eertmans and colleagues (2005), who did not find food involvement to be directly related to general healthiness of students' diet; although they did observe a relation between food-related motives and food involvement, in which food motives guide healthy food choices differently according to the degree of food involvement. For example, importance given to weight control influenced healthy food practices such as less sweet snack consumption in students who were both low and moderately food involved, but it only influenced higher fruit consumption in the moderately involved. In the same way, general healthfulness of the diet was higher in the moderately food involved students when health was considered an important motive, while for the highly involved it was weight concern. In the low involved, importance to both health and weight concern was associated to better general healthfulness of the diet (Eertmans et al., 2005). This suggests there is an interaction between the resources of motives and food involvement that influence specific food practices in different ways.

Female gender

A last internal resource enabling directing food practices towards health is the female gender. An American study examining sex differences in eating habits among undergraduate students observed that females engaged in healthier food practices, such as having breakfast, reading

food labels, and eating less fast food more regularly than males. Engaging in these practices lead females to a higher consumption of fruit and vegetables (Li et al., 2012). However, the effect of being female appears to be indirect, and the authors suggest that gender-related beliefs and values have an influence (Li e al., 2012). This is supported by other studies that imply that women give greater value than men to eating healthily (LaCaille et al., 2011), and give greater importance to health and nutrition content, allowing them to make food choices that promote health (Levi et al., 2006).

Furthermore, being female is associated to resources related to healthy food practices more often than males, such as the ones already mentioned in this section: higher knowledge (Krešić et al., 2009), positive attitude towards healthy eating (Sharma et al., 2010) and social eating (Larson et al., 2009); specific personality traits (Horacek & Betts, 1998), food-related motives and values of health, weight and nutrition (LaCaille et al., 2011; Levi et al., 2006; Sharma et al., 2010) and higher food involvement (Larson et al., 2006; Levi et al., 2006). Therefore the evidence suggests that being female is a resource in itself, since it allows identifying and using other healthy eating resources. In other words, being female would be an advantage over being male in terms of healthy food practices. From a Salutogenic perspective, it may be related to SOC; yet no studies exploring this issue were found.

3.3.2 External resources

External resources refer to material and non-material elements found within an individual's physical and social context, (Lindsröm & Eriksson, 2010). The external resources found in the literature which enable directing food practices towards health in university-aged youth are described below.

Physical-Environmental resources

Food availability is the main environmental resource mentioned in the literature that was found. Having healthy food options available enables students living independently to carry out healthy food practices, namely selecting and consuming nutritious foods (Greaney et al., 2009; Hartman et al., 2013; LaCaille et al., 2011). All three studies were focus groups; therefore food availability was approached as perceived rather than actual food availability.

A first contributor to food availability is the university canteen, although there are conflicting findings between and within studies. The focus groups conducted by Greaney and colleagues (2009) in different universities in the US found that some students, on the one hand, consider the university canteen as a provider of healthful food options, and is therefore considered a resource; while on the other hand, some students identify the canteen as a barrier, since it offers food perceived as unhealthy (Greaney et al., 2009). Individual perception of what is healthy and unhealthy, and the type of foods offered in the different canteens may be reasons for this study's conflicting results.

Living arrangements are a second contributor to food availability. Hartman and colleagues (2013) found that students still living with their parents referred constant availability of fruits and vegetables; while sharing the house with other students limited their availability because they consumed everything before grocery shopping was done again. Additionally, living off-campus was also perceived as either enabling or impeding healthy food practices (LaCaille et

al., 2011). Students living off-campus perceived university food as unhealthy and therefore not living at university dorms enabled them to shop in stores with more variety and cook for themselves healthier options. However, other students thought of living off-campus as a barrier to healthier diets because they had to rely on convenience foods instead of freshly made meals (LaCaille et al., 2011). Nonetheless, this evidence is based on the American context, which differs from the Dutch context. In the Netherlands, students do not live in on-campus dorms as American students do, but live in independent student housing or privately rented accommodations. Because of this, Dutch students are not subscribed to meal plans provided by the university as it is customary in the US; instead, they are responsible for purchasing and/or preparing their own meals.

In terms of material resources, firstly recipes are identified as a resource by the student population, because preparation and inclusion of vegetables in meals is made easier (Hartman et al., 2013). Secondly, kitchen appliances, particularly the fridge and freezer, were considered as resources by Danish students, since they allowed purchasing expensive food products when on sale and storing them for later eating occasions (Blichfeldt & Gram, 2013). Similarly, Larson and colleagues (2006) found that most young adults in their study perceived their cooking appliances as an adequate resource for preparing foods, nonetheless this was not associated to the consumption of a quality diet (Larson et al., 2006).

Finally, young adults identify time as a resource that enables them to eat healthfully (Mulvaney-Day et al., 2012), although time available for cooking is likely to be perceived as insufficient (Larson et al., 2006). For students, eating healthy foods such as salads were perceived as requiring more time to prepare and eat. However, others considered that time was not an issue for the consumption of fruits and salads as long as they required little preparation and could be taken easily with them (Mulvaney-Day et al., 2012).

Within the literature, there are contradicting findings regarding what physical-environmental characteristics students consider as resources. While one characteristic is identified as a resource by some students, others identify that same characteristic as a barrier. These differences could be probably influenced by individual perceptions. From a Salutogenic perspective, it may be influenced by the individual's SOC level; however this has not been attended to in the literature so far.

Social resources

Several studies exploring social determinants of food behaviours agree that most young adults identify other people in their lives as resources for directing food practices towards health.

Firstly, parents are recognized as a source of healthy food practices, instilling good eating habits through conversations about healthy foods, encouraging to consume nutritious foods and to avoid non-healthy products, and ensuring a healthy food environment (Barnes, Brown, McDermott, Bryant, & Kromrey, 2012). More specifically, mothers are pointed out as the provider of balanced meals and as the ones who verify whether students are eating adequately (Blichfeldt & Gram, 2013). Additionally, parents exhibiting healthy food practices served as healthy food role models (Barnes et al., 2012; Hartman et al., 2013). For example, young adults who mentioned eating fruits and vegetables on a daily basis referred to it as

"part of the normal behaviour passed on from their parents" (Hartman et al., 2013, pg 38). Parents were also perceived as providers of positive food-related values which play a role in college students' healthful food choices (LaCaille et al., 2011).

Secondly, friends, peers and housemates become a more direct influence on independently living students' food practices. Interestingly, peers (e.g. friends, housemates, colleagues) can be an influence for healthy as well as unhealthy food practices. For example, focus groups addressing fruit and vegetable consumption found that housemates were considered a positive influence (and therefore a resource) as long as housemates ate fruit and vegetables themselves, and included them in the shared groceries and cooking; but turned into a negative influence for fruit and vegetable consumption when the groceries and cooking was shared with housemates that had unhealthy eating habits (Hartman et al., 2013). In the same way, students working at fast food restaurants would eat the unhealthy foods available if other workers did so, while others would try the healthier options when encouraged by their colleagues (Mulvaney-Day et al., 2012). Other studies focusing only on positive influences of healthy food practices found similar results. For instance, a large scale study carried out among the nineteen year old Swedish population observed that both males and females are more likely to engage in healthy eating behaviours if they have friends that eat healthily as well, especially when the relationship between them is strong (Barclay, Edling, & Rydgren, 2013). Similarly, female students in LaCaille and colleagues (2011) focus groups referred being encouraged to make healthier food choices when having meals with friends who eat healthily and having housemates who shared their own healthy foods with them.

Parents, friends, housemates and peers influence students' food practices by acting as role models as well as providing social support. Social support is identified by students as useful for eating healthfully (Greaney et al., 2009; Hartman et al., 2013 LaCaille et al., 2011), particularly in female students (Greaney et al., 2009; LaCaille et al., 2011). However, the utility of social support in contributing to directing food practices towards health has been disputed by Von Ah and colleagues' (2004) research, which did not find an association between social support and protective nutrition behaviours in university students.

As the evidence suggests, students' interrelations encourage healthy food practices, particularly housemates. For the Dutch student population, in which it is common that students share accommodations, further understanding of how this social resource is employed for directing food practices towards health is of interest.

To summarize, table 3.2 provides an overview of both the internal and external resources described in this section which have been supported by the literature as facilitating healthy food practices in university-aged youth, and therefore can related to the concept of GRRs. Other resources which show conflicting evidence in contributing to healthy eating are also shown in table 3.2

Table 3.2 Resources for directing food practices towards health based on evidence

	Internal Resources	External resources	
		Physical-environmental	Social
GRRs **(Supported by evidence)**	Beliefs† Food selection skills* Time management skills* Intention to eat healthy†* Positive attitude† Self-efficacy †* Self-control* Personality† Motives & values†* *Health* *Weight concern* *Taste preference* Female gender†*	Recipes*	Social influence†* *Parents* *Housemates* *Peers*
Resources with conflicting evidence	Knowledge† Awareness †* Cooking skills†* Intention†* Behavioural control† Food involvement†	Food availability* Time†* Cooking appliances†*	Social support†*

† Eating behaviour was measured. Resources for healthy eating determined through quantitative analysis.
* Eating behaviour was *not* measured. Resources for healthy eating determined qualitatively based on subjects perceptions and opinions.

Compared to the vast literature concerning unhealthy eating habits and barriers for healthful diets in university-aged youth, the amount of literature identifying different factors that enable healthy food practices (GRRs) in people in this particular life stage is limited. Furthermore, none of the studies address how such resources are identified, obtained and applied by independently living students in order to direct food practices towards health in their daily lives.

3.4 Life Experiences

The search revealed a total of 937 articles, 933 through databases and four identified through citations found in relevant articles. The majority of the articles were excluded because of two main reasons. Firstly, they focused on disordered eating or other unhealthy food practices. Secondly they did not match the required criteria in terms of age and country.The remaining five articles that were included addressed experiences related to how students living away from the parental home managed food practices in a healthy way. Figure 3.4 outlines the search process.

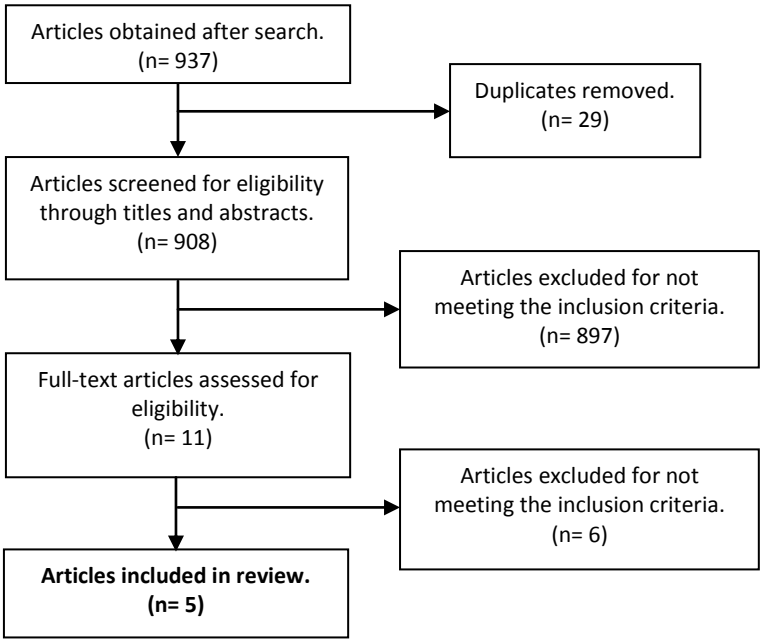

Figure 3.4 Flowchart of the search process – Life experiences

Life experiences that have previously been studied in university aged youth concentrate on childhood experiences related to food situations, mainly those involving parents. Box 3.2 summarizes the life experiences found in the literature to be associated with healthy eating behaviours among young university students, and are further described in this section.

Box 3.2 Life experiences that enable directing food practices towards health

- Sharing family meals during childhood.
- Having parents cook homemade meals for them during childhood.
- Growing up in a health oriented family and having healthy lifestyle role models.
- Having parents talk about nutrition during childhood.
- Parenting style (authoritative/responsive or cooperative: parent and child share the feeding responsibilities).
- Experience and responsibility with feeding themselves while living at the parental home.

Experiences related to food within the family context are the most recurrent life experiences in the limited literature addressing the topic. For example, Cluskey and Grobe's (2009) focus groups among first year college students revealed that maintaining or adapting food practices during the transition to independent living is easier for those growing up in families in which a healthy lifestyle role model was present and health values were taught. These findings are supported by large scale quantitative studies that found associations between students' childhood recollections about their parents' food practices and their own current practices, related to both healthy and unhealthy eating. In terms of healthy food practices, students who recall their parents talking to them about nutrition during their childhood refer taking nutrition into consideration when selecting their own food (Branen & Fletcher, 1999). Additionally, students living independently, particularly females, are more likely to cook for themselves if during childhood their mother prepared home cooked meals. In the case of male students, they are more likely to cook for themselves if they recalled their father cooking (De Backer, 2013). These experiences relate to the resources of social influence and social support provided by parents earlier described in the *Resources* literature review.

Family meals were also found to be experiences that influenced food choice during the transition to adulthood in a positive way. Students who regularly shared breakfast and dinner with their families during young childhood and adolescence maintain the habit of eating breakfast and dinner during their university years (Larson, Neumark-Sztainer, Hannan, & Story, 2007). What is more, they continue to regularly eat those same meals in company of other people (De Backer, 2013). This ongoing practice of social eating could be explained by the high priority given to meal structure and social eating by those students who shared regular family meals during adolescence (Larson et al., 2007). Therefore the evidence suggests that family meals are a positive life experience that enables directing food practices towards health, since frequent family meals during adolescence have been associated with healthier eating practices, such as eating more fruit, vegetables and low consumption of soft drinks (Larson et al., 2007), and the socialization of meals (De Backer, 2013) in university students.

Parenting style experienced during childhood is also related to food practices during student life, although there are contradicting findings among the literature. On the one hand, a study carried out among American college freshmen did not find any association between the students' perceived parenting style and their eating practices (Barnes et al., 2012). While on the other hand, a similar older study implies there is an association between a cooperative parenting style and healthier food practices (Branen & Fletcher, 1999). For example, those students who's food practices were controlled externally as children (i.e. their parents had control over their eating), such as being forced to eat all the food on their plates or being rewarded with food are more likely to continue to eat all the food or use food as a self-incentive during their early twenties. Conversely, those students who during their childhood exerted internal control over their eating practices in terms of being allowed to stop eating when feeling full, continued to do so at their current life stage (Branen & Fletcher, 1999).

Branen and Fletcher's (1999) findings may be linked to why first year students recognize independence and responsibility in feeding themselves before moving out of their parents' home as an experience enabling them to handle food practices properly during the transition to independent living (Cluskey & Grobe, 2009). These findings also relate to those studies that

identify self-control as a resource for healthy eating among university-aged youth (Greaney et al., 2009; LaCaille et al., 2011; Mulvaney-Day et al., 2012) in the previous literature review concerning *Resources* (see *self-control* in section 3.3.1). This connection implies that life experiences may contribute to the ability of identifying and using certain resources in order to promote health, as it is proposed by Salutogenesis.

Besides childhood experiences in relation to family life and food, additional studies accounting for how other type of life events, challenges or current experiences enable directing food practices towards health during the life stage of moving out of the parental home were not found.

3.5 Gaps in the literature

The existing literature for all three sensitizing concepts focuses on nutritional aspects of food and health, and on the physical dimension of health. By doing so, it neglects other dimensions of health that can be affected by food, such as mental and social wellbeing; and disregards non-nutritional aspects of food.

Another issue in the current literature is that it defines healthy eating as the adherence to dietary guidelines and the adequate intake of nutrients established by experts; whereas consumers' meaning of healthy eating and healthy eating behaviours are overlooked. What consumers understand as healthy eating, what food practices they perform and how they are able to perform them in order to achieve health accordingly to their context should be explored.

Finally, literature addressing life experiences that enable identifying and using resources for healthy food practices is lacking, specially research addressing SOC. Thus it is of great interest to explore SOC-developing experiences that contribute to healthy eating.

Chapter 4
Interviews

With the purpose of understanding the mechanisms underlying the ability to direct food practices towards health among students that have moved out of their parent's home, a qualitative study was carried out by means of face-to-face in-depth interviews aiming to answer specific research questions 2 to 4:

2. What resources (GRRs) enable university-aged students living away from the parental home to direct food practices towards health?

3. What life experiences enable university-aged students living away from the parental home to direct food practices towards health?

4. In what ways does food literacy, GRRs and life experiences relate to directing food practices towards health in university-aged students living away from the parental home?

Both the interview's methodology and findings are presented in this chapter.

4.1 Methodology

To explore from a life course perspective the ways in which GRRs, life experiences and food literacy relate to directing food practices towards health, qualitative narrative research was carried out by means of face-to-face semi-structured interviews. Narrative research consists in collecting stories or accounts (i.e. narratives) from the study's participants for later evaluating and analyzing those narratives in a systematic way, looking for themes over a certain topic or research question (Overcash, 2003). This method was chosen as narratives of lived experiences provide rich data that allows exploring and understanding meanings of people's inner world in terms of interpretations of lived realities, beliefs, and identity (Lieblich, Tuval-Mashiach & Zilber., 1991). Additionally, a qualitative method was chosen because it allows identifying and understanding people's perspectives, experiences and interpretations on healthy food practices; the reasons and factors behind their eating behaviour, and their development throughout life (Bisogni, Jastran, Seligson, & Thompson, 2012).

The research population and the methods used for sampling, data collection and data analysis are described in detail in this section.

4.1.1 Sampling strategy

The population of interest for this research are Dutch female students who had moved out of their parents' home and were living with other people. A purposive sampling strategy was used in order to recruit participants that complied with these specific characteristics. The reasons for selecting this specific study population are explained as follows:

- *Dutch population.* This thesis research is embedded in the European Salutogenic Eating Project, which intends to study the mechanisms underlying people's ability to manage healthy eating within the context of each of the countries involved. Due to the fact that this thesis research takes place in the Netherlands; only participants of Dutch nationality were chosen so as to represent the Dutch context.

- *Students.* In the Netherlands, the secondary education curriculum requires students to learn at least one foreign language (Government of the Netherlands, 2014), from which English courses are followed by the highest percentage of secondary students (Eurostat, 2010). This implies that all higher education students are able to communicate fluently in English. Therefore the student population was selected for practical reasons, that is, to facilitate the interview process since the interviewer (author of this thesis) does not speak Dutch.

- *Living away from their parents' house.* Young people who have 'left the nest' to start living independently have gone through an important transition in life (Devine, 2005) in which they face several challenges related to food practices while adjusting to their new living situation (Beasley et al., 2004; Wills, 2005). This particular feature in the study population goes in line with theoretical framework that guides this study (refer to chapter 2) and provides a rich source for exploring the ways in which these food challenges are overcome.

- *Females*. Previous quantitative research from the European Salutogenic Eating Project suggests that being female is a factor that predicts healthy eating practices among the Dutch population (Swan et al., 2014). Consequently, this study focuses on females to further explore the ways in which they are able to manage food practices successfully.

- *Living with other people.* Similarly to being female, living with a partner was also positively associated to healthy eating practices among the Dutch population (Swan et al., 2014). Hence participants living with other people (e.g. partners, friends, housemates, etc.) were chosen to further explore the ways in which food practices are successfully managed.

Furthermore, participants were recruited from universities (WO) and institutes for higher professional education (HBO) located in the cities of Wageningen, Delft, Utrecht, The Hague and Nijmegen. These cities were chosen on the one hand based on convenience (i.e. existing social networks and travel feasibility); and on the other hand due to the diversity in the fields of study each university and institute focuses on. This way, a sample with variety in socioeconomic and educational backgrounds was ensured.

Advertising posters (see Appendix 1) were placed at the institutions' sport centre, cultural centre, library, canteen and/or main education buildings. The advertisement was also posted online on the different Facebook groups related to the educational institutions (e.g. university group, student organization groups, etc.), since social media platforms are of common use among people in this particular life stage (98% of the Dutch population aged 18 – 25 (CBS, 2013)). The advertisement was also emailed to interested students who were contacted via word of mouth through personal social networks (friends and colleagues). Due to the difficulty in recruiting the amount of participants that was required, snowballing sampling was also used (Ebrahim & Bowling, 2005).

The targeted sample size was determined on a minimum of 10 and a maximum of 15 participants, the total depending on when data saturation was reached. These limits were set based on the feasibility of carrying out the interviews and processing the information within the period of time established for the study. Due to this limited sample size and the purposive nature of the sampling, it is not possible to claim that the sample is representative (Silverman, 2001).

4.1.2 Data collection

The data collection process consisted of two stages. In the first stage, an *Interview preparation package* (see Appendix 3) was sent to the participants via email. The package included: (i) a informative letter concerning the purpose of the study, the aim of the interview, confidentiality and anonymity issues, and a set of instructions for their participation; (ii) a short questionnaire regarding general background information, such as age, socioeconomic background, type of study, living arrangements and frequency of general food practices; and (iii) a reflection activity for which participants were asked to complete at home a few days prior to the interview. The reflection activity consisted in creating a visual representation of the role of food in their lives. The purpose of this activity was two-fold: act as a warm-up activity for participants to begin thinking about food in their lives before the interview; and to act as a visual prompt during the interview for generating narratives from the respondents (Ebrahim & Bowling, 2005).

A follow-up email was sent to the participants to confirm the reception of the preparation package, ensure that the instructions were clear, answer any questions, and to set the interview appointment within a 5 – 7 day timeframe. Participants were also requested to send the completed activities prior to the interview or hand them to the researcher on the day of the interview.

In the second stage of data collection, face-to-face semi-structured interviews were carried out. This type of interview was chosen for it allows to obtain rich data by letting participants speak extensively about the topic asked, yet allows the researcher to contain and guide the conversation with prepared but flexible questions (Ebrahim & Bowling, 2005). Hence, performing interviews provide narratives of the participants' life stories which can then be analysed and quoted. The interview was designed to discuss the role of food in their life, past and present experiences with food and their influence on food practices, as well as the resources used for managing eating and food practices in both challenging situations and everyday life. The interview also included a section of questions addressing the reflection

activity and the interview itself. These questions were intended for feedback purposes. (Refer to Appendix 4 for the Interview guide)

The interviews were carried out between December 2013 and January 2014. All interviews were held face-to-face at either the participant's home or study place, and were conducted in English. Before the interview started, the returned questionnaires were checked to verify any unclear or incomplete background information provided by the participants, followed by the signing of the informed consent (see Appendix 2).The interviews in average had a duration of 30 minutes, the shortest lasting 14 and the longest 45 minutes. A digital voice recorder was used to record the interviews, which were then transcribed verbatim. When participants had difficulties expressing specific ideas in English and communicated them through words or short sentences in Dutch, these were translated with help from a native Dutch speaker.

4.1.3 Data analysis

A categorical–content analysis was used to analyse the data, as it is the "*classical method for doing research with narrative materials*" (Lieblich et al., 1998, p.112). It consists in classifying and grouping excerpts of text under a category system in order to identify themes emerging from the data (Hiles & Cermak, 2007; Lieblich et al., 1998).

With the help of qualitative data analysis software *Atlas.ti*, interview transcripts were analysed accordingly to the research questions to explore participants: (i) meaning of eating and food practices; (ii) meaning of significant life-experiences across the life course; and (iii) resources for managing daily food practices within their narratives. The steps of the process followed in this research are described in detail below.

Step One: Data familiarization

To start the analysis, the transcripts were read through as many times as needed in order to become immersed in the text and become familiarized with the content of the narratives and consider its thematic relevance in relation to the study's specific research goals, questions and theoretical framework (Burnard, 1991). Notes on initial impressions and topics within the transcripts were made and were discussed with the researchers carrying out this same study in other populations of interest for the Salutogenic Eating Project in the Netherlands (i.e. mothers of young children and retirees). A list of topics was created based on the study's sensitizing concepts and interview topics (shown in Box 4.1). The list was then used to guide the next step, coding.

Box 4.1 Topic list guiding coding

- Meaning/role of eating and food practices;
- significant life-experiences/challenges across the life course related to food practices;
- resources and components of food literacy that guide eating and food practices

Step Two: Coding

To facilitate the coding process in this study, a modified version of open coding was performed using the qualitative data analysis software Atlas.ti. Open coding, as described by Burnard (1991) consists of freely generating and assigning codes to fragments of the text so as to describe all aspects of its content. In this study, coding was done in a structured way by assigning codes to segments of the transcripts based on the topics list created in step one. This allowed concentrating the coding process on topics relevant to the research objectives and questions (Lieblich et al., 1998).

Step Three: Emerging themes

Once the transcripts were coded, the list of generated codes was reviewed and similar codes were merged. Then, related codes were grouped into categories (Burnard, 1991; Lieblich et al., 1998). After this, categories were collapsed into broader thematic groups from which emerging themes were obtained.

Step Four: Inferences on the data

The content within the emerging themes was used to describe and make inferences regarding how students give meaning to food, life experiences and resources among independently living students within the Dutch context. The themes were then compared to what was found in the literature review.

To ensure robustness and good data interpretation, codes, themes and inferences from the data were discussed with other researchers involved in the Salutogenic Eating Project in the Netherlands throughout the analysis stage. With these discussions, consensus could be reached on conflicting interpretations of the data, reducing subjectivity of the results (Burnard, 1991; Lieblich et al., 1998).

The themes from the interviews are described in section 4.2.2; and their comparison to what was found in the existing literature is discussed in chapter 5.

4.2 Results

4.2.1 Population characteristics

A total of 11 female students were interviewed. Their ages ranged from 20 to 23 years. Nine of the participants lived in student housing with two or more other students, and two participants lived with their partners in rented apartments. Among the participants, three were HBO students, five WO bachelor students and three WO master students. All interviewees followed diverse study programs either in the fields of social sciences, engineering or life sciences. Besides studying, nine out of the 11 participants had part-time jobs which included: student assistant, waitress, receptionist, or caregivers for children and elderly people. Table A in Appendix 5 provides more details on the participants' demographic characteristics.

In terms of food practices, all participants were in charge of selecting, buying and cooking their own food. The frequencies in which they were involved in each food practice are shown in Appendix 5 – Table B.

All participants stated they had started selecting and buying their own food once they moved out of their parents' house. Only four out of the 11 participants had started cooking for themselves a couple of years before they first engaged in selecting and buying food on their own.

4.2.2 Emerging themes

In the interviews, participants talked about how they learned about food and the different elements that helped them to manage different food practices throughout life, particularly during the transition from living at their parent's home to living independently as college students. From these narratives, four major themes were identified: *'Food for mind, body & soul'*, *'Food is a social affair*, *'Learning along the way'* and *'In touch with food'*. A summary of these themes is presented in table 4.1.

Each theme is described in this section. Quotes from the interview transcripts are provided to portray what participants said within the themes and to support the findings. Participants were assigned a pseudonym that was used in the quotes to ensure their anonymity.

Appendix 6 shows all the topics that were addressed within the themes and sub-themes identified in the interviews, and their occurrence among participants.

Table 4.1 Summary of themes and subthemes

Themes	Subthemes
Food for mind, body & soul	***Emotional roles of food*** ▪ Buying, preparing and eating nice tasty foods is something pleasurable that participants enjoy and is part of pleasant moments. ▪ Food provides mental and emotional health as cooking and eating pleasurable foods is used as a form of relaxation, comfort and a source of happiness. ***Physical roles of food*** ▪ Foods are viewed as a source of energy required for performing in daily activities and staying alive. ▪ Nutritious foods are important for maintaining physical health, managing weight adequately and avoiding health problems. ***Strategies for wellness*** ▪ Students apply different strategies that help them guide their food practices aiming for both emotional and physical health, such as paying attention to their bodies' responses to food, adapting preparations to their needs and realizing the need to prioritize health.
Food is a social affair	***Eating together*** ▪ Eating with other people is important for social interaction, is enjoyed more and is an incentive for preparing healthier meals.. ▪ Sharing meals is viewed as an opportunity for distributing time in shopping, cooking and food costs among housemates and friends. ***Social context*** ▪ Social environments which accept and encourage healthy lifestyles have a beneficial influence over students' food practices. ▪ Students adapt their eating behaviours depending on who they eat with and where. Others who can't or don't want to adapt their eating behaviour find certain social environments challenging. ▪ Food practices are guided by what students think is normal in society.
Learning along the way	***Interpersonal learning*** ▪ Students learn to deal with food from the interaction with and collaboration from family members during childhood, and from housemates and friends during college years. ***Becoming independent*** ▪ All students struggle specifically with learning how to cater for themselves while dealing with student life and independence. ***Hands on experience*** ▪ Students overcome the challenges of being independent by using different techniques and elements that allow them to learn through practice, such as openness to try new things, trial and error and recipes.
In touch with food	***Informed eaters*** ▪ Students look for nutrition information and use their knowledge to make food-related decision; and are aware of what foods they want, need, and what food does to them. ***Keeping it natural*** ▪ Students show a preference for homemade and organic/biological products since they are perceived as healthier, and take the environment into consideration when choosing foods to eat.

Theme 1: Food for mind, body & soul

Among the interviewed female college students, food played a relevant role in health; health being approached from a broad scope since participants talked about how food helped them feel well both physically and emotionally. Sub-themes within this first theme are: *'Emotional role of food*', '*Physical role of food*', and '*Strategies for wellness'*.

Emotional role of food

For students, food contributed to their emotional health, mainly ascribed to the '*pleasures in food'.* All participants spoke about *enjoying food* as it was something from which they take pleasure from in one way or another. For example, they mentioned liking foods and enjoying eating foods and preparations they find tasty. Furthermore, enjoyment of food was not only associated to eating, but also related to the process of buying and preparing it. Going to the local market for groceries and cooking were activities mentioned as enjoyable and fun. Furthermore, three participants even referred to food as a *hobby*, particularly cooking and baking.

Additionally, food was mentioned as mostly being connected to pleasant moments and occasions, in which eating nice and tasty foods is a way of having fun and enjoying a certain event.

> *Andrea:* *[…] I had an internship of 6 months in Dubai, it was last year. And I worked in a hotel […]. I worked ten hours a day and I had only one day off for weeks, so that means I had do to work very hard and I slept like maybe 6 hours a day or something […]. And in the days I had off, uhm, I only wanted to do nice things and if I do nice things it's always a combination with food, so it means I go to the restaurant and buy nice food [laughing].*

In connection with the enjoyments food provides, food also played a part in students' '*emotional and mental state'*; a second way in which food contributed to emotional health. Here, students referred to food as a source of *happiness*, *relaxation* and *comfort*.

For three of the interviewees food had a relaxation role, since both eating and cooking were considered by students as a moment to take a break from studying or working, stopping what they were doing to take some time to relax. Only one participant mentioned using food – particularly non-nutritious foods such as chocolate or junk food – as a reward after finishing an exam period or a busy school week, or also to comfort herself during bad moments in her life.

For four participants, food also was associated to happiness. On the one hand, enjoying the taste of nice foods and cooking is an activity that made them happy. On the other hand, being happy had more to do with eating healthy foods, since being healthy allowed for being happy.

> *Denise:* *Uhm, I think it's mostly because if I don't eat healthy, I don't feel well. And uhm, if I don't feel well I'm not so happy as I would like to be. And I think that's a really important part of eating healthy and being healthy.*

Physical roles of food

Food also had a physical role, mainly in terms of being essential for staying alive and for maintaining a healthy body. One of the ways in which food played a physical role is that it was perceived by students as *'Necessary for life'*. Seven of the participants talked about how food was necessary for making daily life possible, and this was expressed in two ways. Firstly, food provided *energy for performance*. They considered that food in general played an important role in their lives since it is a source of energy they need to function well during the day and carry out their daily activities. Furthermore 'healthy food' was particularly mentioned as important and necessary for performing well in their studies and having the needed energy for sporting, whereas unhealthy foods (e.g. pizza) was identified as having the opposite effect. Secondly, food was mentioned as essential for *maintaining life.* Three out of the seven participants that talked about food providing energy for daily performance also mentioned that food was necessary because 'or else you'll die'.

A second role of food from a physical perspective was that food is a way of *'Taking care of health'* in terms of bodily health. Almost all participants said that eating healthy was important, since it was a way of taking care of themselves, feeling well, and preventing diseases, but mostly *being healthy*. Having good health was something most participants valued, although they recognized it required effort in giving up certain foods they liked.

> *Kate:* *[…] I think that's a main factor, that if your health is not going well, you value a little bit more about good food and take care of your body. Because if you're just healthy you can do anything you want […].*

Also, three of the participants who dealt with certain health issues (e.g. food intolerances and allergies, heart conditions and digestive problems) mentioned food as relevant for managing their health situation in order to feel well and prevent episodes of sickness.

Another physical role of food was *'Managing weight'*. Only two participants talked about food and its role in managing body weight. Both participants talked about struggling with managing their weight from both perspectives, losing weight and gaining weight. Both agreed that eating healthily was relevant for having an adequate weight which allowed them to be and feel healthy.

Strategies for wellness

In this sub-theme, students talked about the different ways in which they managed their food practices in order to achieve wellbeing in terms of both emotional and physical health.

The first strategy that almost all participants mentioned was '*listening to the body*'. Nine out of the 11 students referred paying attention to their body's needs and their body's reactions to food in order to determine what and when to eat. This helped them adapt their diets by avoiding foods that made them feel bad and consume foods that had a positive short term effect on their energy levels and the way they felt, as well as on long term effects (i.e. avoiding illness).

Interviewer: But you're still a vegetarian?
Emma: Uhm, no. I eat fish and chicken. I enjoy fish and chicken, [laughing]. So that's why I eat them. And uhm, I feel like I need the protein that's in there, then I feel stronger when I eat those 2 meats.

Andrea: […] Well, and, maybe it's a good conclusion like, I listen to my body to what it needs and if I feel some pain or I just try to realize where it comes from and I try to change it with food and try to experience a bit like, if I eat this do I feel something like that. And it makes my life so much more comfortable and I just feel better. Yeah.

A second wellness strategy pointed out by five of the interviewees was '*balancing healthy and unhealthy foods'*. Nutritious foods were mentioned as important for the body and health, but eating pleasurable foods which were not necessarily healthy, such as chocolate or chips, were necessary to include once in a while or in moderation as a way of 'letting go'. Another way of balancing healthy and unhealthy foods was to alternate periods of healthy eating with periods of unhealthy eating as means of compensating each other.

Fran: 'Cause I'm learning more and more how uhm, food is important in our lives and in your health. Yeah. But, sometimes you also have to live a little bit unhealthy. I think that's good for your mind and stuff [laughing]. Yeah.

A third strategy, *'modifying preparations'* by adding nutritious ingredients (e.g. fruits or nuts) to less healthy preparations, or replacing one ingredient for another was mentioned by a couple of participants who for health reasons required to adapt foods to their specific needs, yet enjoy regular foods and dishes they like.

Interviewer: And you also mention that you try to eat healthy, but you also you try to cook normal food. Can you tell me a bit more about that?
Denise: Uhm, well, a couple of weeks ago I made brownies, but not uhm, normal brownies, but with – I don't know how you call that…'dadels' (dates) and 'kikkererwten' (chickpeas) […]. So… and uhm, yeah. I often try to make it uhm, with different products to make it more healthy.

A fourth strategy used by students to achieve wellness was *'realizing the need for change'*. Five of the participants recalled having a period of unhealthy eating habits in which they were not feeling happy nor physically healthy. This made them evaluate between not being well and the need to be well, and the need to start taking caring for themselves. They mentioned that this 'change of switch' was motivated by the realization that health is important to them.

Interviewer: And what do you think helped you to manage this situation and solve it [managing busy student life and eating healthily]?

Helena: Yeah, I think after a while you get the feeling that you're – I don't know the word in English, but that you're not taking care of yourself, that you're not investing the proper amount of time and energy in yourself and that you're asking too much of your body and of your mind and not giving it enough fuel, so after a time then you realize it and you don't feel we – really comfortable, so then you say, "Ok, I really have to take care of my food", and then that idea starts to form. So it's I think – after a while then you realize "Ok, this is not gonna work, I really have to change".

Other strategies were mentioned by individual participants. One of these strategies was *maintaining healthy habits,* such as eating fruits and vegetables daily, even though other aspects of her eating practices became unhealthy when moving out. She felt that this helped her balance eating healthily yet still eating less nutritious foods she enjoyed. Whereas another participant mentioned that her *personality* helped her follow a healthy lifestyle in order to manage her weight. She felt she was disciplined and a perfectionist and that pushed her to perform healthy food practices.

Theme 2: Food is a social affair

Food was considered by the interviewees as a social activity mainly because it is something that is preferably done and shared with others. This was communicated by participants through the sub-theme of *'Eating together'*. Additionally, food practices were viewed by participants as being both influenced by and adaptable to different social elements, expressed in the sub-theme *'Social context'*.

Eating together

The sub-theme of *'Eating together'* was used by participants to communicate how they felt about eating socially. Almost every participant talked about eating and cooking as an activity that is shared with other people, either because it's a fun thing to do, because they don't like eating alone or food is not 'special' when it's eaten without someone's company.

The *'Social role of food'* was a major point within this sub-theme of *'Eating together'*. Besides having physical and emotional roles as described in the first theme, food also had a social role for the participants. Food-related activities were mainly mentioned as a relevant aspect of their social lives. When discussing food's social role, nearly all participants talked about how eating and cooking was considered a *socializing moment,* moments in which the students came together with friends and family around food and take time to talk to each other about their day at work or school, and catch up on their lives if they haven't seen each other in a while. Furthermore, five of the participants mentioned that the reason for continuing to eating socially came from having *family meals* during their childhood. They remembered having breakfasts and dinners with their parents and siblings, which were viewed as moments of communication within the family and as a way of creating a family bond. In addition, four participants felt that food had to do with *showing affection towards others*. Preparing meals

for others making sure it was a dish they enjoyed, or adapting to how their parents or partners cooked were both ways of demonstrating love and care towards people around them.

Another social aspect of food within this sub-theme was expressed through the possibility of '*sharing food practices'*. The majority of students talked about how they distributed the different chores involved in preparing meals (i.e. buying food, cooking and cleaning up afterwards) between housemates and friends. This had different practical functions which facilitated the execution of food practices and also had certain benefits. For example, one student said that cooking for several people was easier than cooking for just one in terms of calculating and using the adequate amount of ingredients. Most of the participants that talked about sharing their meals agreed that it also helped saving money because everyone contributed with ingredients, the costs of the groceries were divided or it allowed buying more and better ingredients. Another student also added that sharing food-related chores helped save time by being in charge of only one part of the preparation process while others take charge of the rest.

> *Helena:* *Uhm, well, I don't prepare all my meals. I also try to combine meals, so for instance I eat with friends and they – then we have one of us uhm, who makes meals, or uhm, or I eat with my boyfriend and he cooks for his house and then I just also eat there and then I don't have to prepare an entire meal because prepar – preparing a meal also includes going to the – going to the shops and then preparing the meal and doing the dishes. And sometimes when I eat at home one goes to the shop, and the other does the meal, and the other does the dishes, so then you divide the work. So in that way uhm, you can reduce time.*

Furthermore, one student felt that preparing meals with and for others was an incentive for preparing 'good food', since she mentioned not being motivated to prepare a whole meal for herself. A couple of participants agreed with this by mentioning that when alone it was easier to end up eating convenience foods.

Social context

A second sub-theme within *'Food is a social affair'* is *'Social context'*. Participants used this sub-theme to communicate the ways in which the social environment and social norms had an effect over their food practices and the ways they adapted them to the social situation.

A first element mentioned within social contexts was the *'Social environment'.* This had to do with how participants viewed who they interacted with and where they interacted with them as influential over their food practices. Four of the interviewed students felt certain social environments were *beneficial* for their food practices. For instance they cited that in environments (e.g. cities and households they lived in and visited) in which people were more open and accepting of healthy lifestyles, it was easier to eat healthily and were even encouraged to do so. What is more, the two participants who lived with their partners mentioned that their current living situation had a positive influence on their food practices, compared to when they lived in a student house.

Barbara: *And before I – well, I'm just married, a couple of months. Before I lived with 5 roommates, we lived with 6, uhm, and then I bought more cheap food, but now I'm alone with my husband. It's also like a feeling of well, we've just now with the 2 of us, he has a job, well, let's enjoy a bit more of all the lovely food there is because we only have to cook for 2 persons, and not for 6, so that differs. So we also started to buy fish more, 'cause fish is also a bit more expensive than normal food. But just because we like a lot to eat fish, and then we also say to each other, "Well, we're just now with two so we should enjoy the things we eat" or something.*

Additionally these participants mentioned that in some occasions they had to adapt their eating practices to those of the people they were eating with. For example, a couple of participants cited being vegetarian at their student home because other housemates were vegetarian, but ate meat at their parent's home since meat was prepared for the entire family. Others mentioned preferring nutritious foods for dinner, but admitted eating non-healthy foods if the group they were eating with chose for that type of meal.

On the contrary, two of the participants viewed social environments as *challenging.* One of the students said the social environment's influence over her food practices had negative effects (e.g eating too much unhealthy food with her housemates made her feel sick) and didn't know what to do about it, while the other participant said she didn't want to adapt her food practices to those of the people in her new environment.

Emma: *Uhm… when I came studying in Delft, you are eating with other people a lot, and you are also very often eating what other people are cooking. And when I first came in Delft I was a vegetarian, and there's a lot of guys in Delft and they really like their meat, so that's difficult. You uhm, it's especially difficult when you go uhm, to uhm, to an event where there's drinks and then you eat afterwards, then uhm, if you're going to eat together – I don't want meat, then there's going to be a conversation about why you don't want meat. And it's simple, because I don't want it. So that's a good reason for me not to eat meat, because I don't want it. Uhm, and uhm, well, I was kind of trying to uhm, hide the fact that I'm vegetarian, sometimes because uhm, yeah [sigh], you feel like you have to explain every time, because people demand and explanation and uhm, yeah, it's just 'cause I don't really need meat.[…]*

Another element within the *'Social context'* was *'Social norms'.* Only two participants mentioned that certain food practices they followed were influenced by what they perceived as 'demanded by society', or eating certain foods because 'everyone does it'.

Andrea: *And of course if you're a woman you want to look nice and skinny so it's just some general picture the world has, which is quite stupid but of course it's important [laughing]. Yeah, that's it, I think.*

Helena: *[…] For instance I don't eat – drink coffee but uhm, I don't know, everyone drinks coffee and it's uhm, it's sometimes very helpful if*

you're really – if your morning isn't working very fine or something, so now I'm just trying to drink coffee because sometimes they don't have tea or something, and I think when I'm at a party later and someone asks me to have a cup of coffee and they don't have tea or something, then I don't want to be the one "Oh no, I don't drink coffee", then I just want to be able to drink it and maybe I will prefer tea when I'm alone, then uhm, yeah. So that.

Theme 3: Learning along the way

During the interviews, participants talked about food-related challenges they faced during the transition towards independent living, what helped them face those situations on their own and how they learned to overcome such challenges as they came along. Within this theme, three subthemes emerged: *'Interpersonal learning'*, *'Becoming independent'* and *'Hands on experience'.*

Interpersonal learning

Through this sub-theme students expressed how they learned about food and food practices throughout the life course as a result of living and interacting with other people. Within this sub-theme, three major ways of learning with and through others emerged: '*Family lessons', 'Role models* and '*People who help'*.

The first way of learning through others was by means of *'Family lessons'*. This had to do with how participants were raised and how family life during their childhood provided several ways in which students learned about food. The most common early learning experiences with food related to *'family lessons'* was *foods while growing up.* The majority of the participants talked about how the foods they were exposed to during their childhood influenced their present eating preferences in different ways. One of these ways was having being forced by their parents to eat foods they disliked, generating a permanent rejection towards those particular foods. Another way was through parents who introduced them to different foods and taught them to try different things, which helped them to be open to new foods once they left home. Also, they mentioned still eating the same or similar foods to the ones their parents made for them eat as children, while one participant explained the opposite; she decided to eat differently once she had become independent.

Andrea: *Well, I can remember of my mom […] that she doesn't really know how to cook, so the food we had as a child was always, came out cans and was already cooked or prepared or, I don't know, came from, I don't know where, but maybe that – maybe because she didn't cook, probably I didn't want to do that so I taught myself how to make nice food and recipes and eat good food and things like that so, I don't know if that has really – is really a relation between those, but I thinks so. So as a child actually I can remember I didn't have that much good food. I mean it as not unhealthy but it was not always fresh and I didn't wanted that so I, yeah, I think that's why I decided also to eat healthy. Yeah.*

A second *'family lesson'* from which students learned about food practices was having *parents who cared for their diet*. Four of the interviewees talked about how their parents taught them about what to eat and instilled in them healthy eating habits. They also mentioned their parents as caring for nutrition in terms of providing a variety of meals, as well as making sure that they ate healthily, had a healthy weight and knew the reasons why it was important.

> *Gaby:* *Well uhm, yeah, I think you also learn a lot from your parents. Uhm, they – when I was younger they told me – when you're young, when you're little you always want candy and stuff, uhm also before dinner, and then my parents say – said like "No, you have to wait, we are going to have dinner, so you're now hungry but later you will get dinner". Like those things I still remember like now on. Uhm, yeah and they al – always, there was always one day in the week that we eat something like fast food and the rest of the week uhm, healthy, like real Dutch meal, like potatoes and vegetables and meat or fish. […] And they also told me to eat fruit 2 days, uhm, 2 times a day. […] And uhm, when I was eating fast food like chips or something […]then my parents gave me like a little bowl and then they put it in, like that's the max, the not – they were not going to eat the whole bag or something, so that's for later, so then you also learn how to uhm, proportion (portion) your meals, like not overeat and that, so, yeah.*

Four participants mentioned that a third *'family lesson'* from which they learned about food during childhood was being actively *involved in food practices* that took place within their family. They recalled being in charge of making food-related decisions from a young age, such as being asked by their parents what they wanted to eat . They also talked about how they were raised to help in the kitchen and were responsible for certain aspects of preparing and cooking meals. The students who mentioned this all felt that being involved in food decisions and processes before moving out of their parents' house helped them in facing food practices once they had become independent.

Finally, three students mentioned their *background* as an influential *'family lesson'* over their food practices. For example, participants mentioned that their family's origin from specific parts of the Netherlands, certain family traditions or even religion where factors during their childhood from which they learned about food, what to eat and when to eat certain foods. For instance, one participant mentioned that her interest in food and enjoyment of cooking originated from her family being involved in the catering industry and having relatives who were restaurateurs. Another participant mentioned adopting vegetarianism during Lent as a form of fasting, guided by the Christian tradition.

A second way of learning through others described within the sub-theme *'Interpersonal learning'* was by means of *'Role models'.* Eight out of the 11 students talked about how food practices from other people they lived with during different stages in their lives influenced their own food practices, mostly in a positive way. For example, family members were mentioned as role models during childhood. Four of the participants pointed out that they were influenced by their parent's involvement in cooking, adopting that practice and cooking

like they did. Memories of fathers cooking are mentioned more frequently than mothers. Female figures (mother and sister) were mentioned as current role models from whom they copied certain aspects of healthy lifestyle to guide their present food practices.

> *Camille: And also the hobby thing I think my father especially likes to cook, so that's also something that he engaged me in, so he always asked me to help him out with things he was making in the kitchen and I always liked to do that because it was something we did together, and yeah, I think that's why I still, still like it.*

Five of the students who were interviewed talked about how leaving their parents house and moving in with new housemates, making new friends and knowing new people when leaving their parents' house offered an opportunity for learning new things about food. For example, students cited being exposed by their housemates, friends and partners to fruits and vegetables they were unfamiliar with, or they started to enjoy and value more taking time for cooking homemade meals, or changed the ways of preparing and eating foods from their childhood. These students mentioned that living together and sharing meals contributed to eventually adopting these new food practices as their own. For instance, vegetarianism was a frequent food practice that rubbed off between housemates.

> *Interviewer: And you mentioned that your friend or roommate also helped you in this change to being vegetarian. In what way did it help?*
>
> *Gaby: Uhm… I think motivation to go on with it. Uhm, but I'm not really a vegetarian […]. Uhm, yeah, to keep on, and uhm, to find new recipes, to uhm, to relate a little bit with the food, that you don't eat the same that kind of meals every day, and also to eat other vegetables, like before uhm, I didn't eat uhm, like uhm, read potatoes, uhm no – sweet potatoes, sorry. Uhm, like 'courgettes' (zucchini) or eggplant, I did not eat it – I don't know, because my parents never made it before – before me, so I was introduced suddenly to a lot of more vegetables, like, "Oh, I can variate (vary) a lot of it" And also with the fruits. We only – my parents mostly only bought uhm, seasonal food, so in the Netherlands you mostly eat like [laughing] apples, bananas, mandarins, and uhm, oranges. So I also learned to eat more like uhm, pineapple and the mango and all other stuff.*

While almost all students mentioned role models that influenced the adoption of healthy food practices, three participants mentioned how housemates, boyfriends and friends acted as *negative influencers* who had a negative and unhealthy influence on their eating practices. One participant recalled eating more fast food and drinking more alcohol while living with a housemate that had unhealthy eating habits. Other two participants mentioned they started dieting to lose weight even though it was not necessary because of their boyfriend or following other friends who were also losing weight.

The third way of learning through interaction with people was mentioned as obtaining *'Help from others'.* This point stemmed from the question about what/who helped them overcome challenging food-related situations in either past or present life stages. This study population learned from other people who helped them face food practices they were unfamiliar with.

Four participants mentioned their family as from whom they learned how to handle independence, manage their living expenses, knowing what to buy, etc. Mothers were frequently mentioned by the participants as providers of recipes, as the ones who taught them how to cook and who they looked for when they needed tips in the kitchen.

> *Denise:* *I didn't cook a lot when I was living at her place. And when I was living on my own I had to cook something every evening and uhm, well, with help for her. I think I called her like twice a week or something, "Mom, help, help! I have some potatoes or I have this or I have – how do I have to cook it" and yeah. So, I think that's really helpful that I just could call her and she would help me […]. Uhm, she told me what to do. And uhm, if I failed anyway, we would try to do it in the weekend together and then I could try it a home again. And uhm… yeah, she wrote down some recipes for me, so that's really nice, because then you already know how it's supposed to be, and it's easier to make. At least that's what I think. Yeah.*

Three of the students mentioned they relied on their housemates, and four mentioned their friends when in need for help in learning how to deal with food practices. Housemates and friends shared recipes, helped each other with learning how to cook new dishes, and supported each other with their chosen eating styles (e.g. being vegetarian). Partners were mentioned by one participant as the person who supported her with her eating style.

> *Isabel:* *Also recipes from roommates and housemates, so […] Yes, one time I was, yeah, alone, and a housemate had some friends over, and they invited me to eat with them, so I didn't have to eat alone, which was really nice. So, and they made some other – some recipe where I thought, "How could it possibly taste together, how did you even think of making this?" And then I made it myself and it was really nice, simple and very tasteful. And so, she gave me the recipe or… I liked it, and that's, yeah. And then I made it for friends of mine, and they, "Oh! How did you get that!" and, so, yeah. It's really fun.*

Becoming independent

When asked about challenging situations that affected their way of eating which they were able to overcome, most of the students recalled situations from when they started managing food by themselves once they had moved out of their parents' house. Challenges and ways of overcoming them mentioned within the sub-theme of '*Becoming independent*' are: *'Learning to select and buy food'*, *'Learning to cook'*, *'Managing their budget'* and *'Managing time & meals'*.

Five of the interviewed students recalled *'learning to select and buy food'* as a challenging food situation. They cited having difficulties with choosing foods among all the choices available at stores, and also with deciding on their own what to eat. The reason they gave for this was that they were used to eating what their parents bought and made for them. Calculating the adequate amount of food they needed to buy (sometimes they bought too much and had to throw it away, or they bought too little and ran out of food quickly) and planning when to buy

food were other parts of '*learning to select and buy food*' on their own they struggled with at first.

> *Interviewer: Ok. Any other situation that you can remember, for example when you have just moved out of your parents' and had to deal with food?*
> *Gaby: […] When I moved here uhm, actually I didn't buy so much candy and stuff when I, yeah, I could buy more what I want, and that was a really nice feeling [laughing]. But uhm, but in the first time I always bought too much and I had so much food in the house and then you have to throw so much away, so… Yeah, later on I learned a little bit [laughing] to buy uhm, to plan a little bit my meals and stuff.*

Other food-related situation students faced when becoming independent concerned *'managing their budget'.* Participants talked about this issue in two aspects. Firstly, they mentioned it as a challenge because they had no experience on administrating living expenses and because eating healthily was considered by them as expensive. Secondly, *'managing their budget'* was mentioned as the different techniques they used to buy the foods they needed on a student's limited budget.

One of the techniques for properly administrating their budget was *looking for best prices*, mentioned by five of the participants. This technique consisted on being aware of the costs of food, setting a grocery budget, buying foods that were on sale, buying foods at different stores depending on which had the most convenient prices and going to the market.

Another technique mentioned also by five of the interviewed students was *storing/leaving out foods*. This technique had to do with ways of saving money, for instance by means of storing leftovers and use them to make another meal, cooking at home instead of going out for dinner. They also avoided buying certain foods that they felt were unhealthy and therefore unnecessary, as well as giving up foods that signified high expenses. The latter was mentioned by most vegetarian students who said the reason they gave up meat was because it was too expensive for them.

> *Isabel: And also with money, not – you have not all the many supplies I have at my parents' house, so, that's, yeah, sometimes challenging to uh, buy and eat decent meal but without the right money for the – and the veggies and the carbs and the meat. You let out the meat, that's my solution. And then I discovered, yes, we don't have to eat meat all – every day. So, and that's – now I love to eat vegetarian stuff because it's cheaper and it's eve – as uhm, tasteful, it's healthier, and, I think that's one.*

In terms of *'learning to cook'*, four of the participants talked about how it was challenging for them to start cooking on their own and for themselves. Those students who had no experience with cooking before moving out of their parents' house mentioned it was particularly challenging since they did not know what to prepare and how to do it.

Similarly, the students who already knew how to cook also mentioned they encountered challenges when cooking once they had moved out. Being creative in order to have variety in their diet, cooking in a student housing kitchen with less equipment and resources than what they were used to at their parents' house, learning to cook adequate amounts of food, and following recipes and package instructions correctly were some of the challenges they cited.

> *Denise:* *[…] When you live in a student house it – yeah, it was especially in my first period as a student it was kind of strange because you don't know how to, well, I didn't know how to cook and uhm, didn't know what to buy exactly, and I was in the kitchen and uhm, it was a bit messy and you don't have the stuff you have at home. So if I tried something with my mother in the weekend, I couldn't do it there [student house] because I didn't have enough uhm, I don't know, herbs or – or, yeah, like that. And I think that makes it harder.*

The ways in which students overcame these challenges and learned how to select, buy food and cook were by learning from and with others and being supported by people around them, as they expressed through the sub-theme '*Interpersonal learning'* already described.

A final challenging situation of independent student life mentioned by participants was *'Managing time and meals'*. This challenge had to do with how they dealt with the time demands of being a college student and the time demands of having to take care of their own meals. Seven of the participants talked about how having a busy student life affected their eating practices, expressed as 'w*hen busy, no time for food'*. For instance, they mentioned that when having less time due to school work and activities, it was easier for them to eat convenience meals. Whereas when they had more time available, they were able to prepare 'good meals' that required more effort and time. Others added to this that sometimes they also lacked the time to do the groceries.

In contrast, three of the participants expressed being capable of '*fitting meals into their schedule'* from different views. One of the participants mentioned that she always had free time to dedicate to food; another one said she put effort into planning her meals based on her schedule, while one participant felt it was all about having time-management skills.

> *Kate:* *[…]But if you start live on your own, I really experienced that you start to eat less healthy, because it's easy just to take for example pizza out of the freezer, supermarket instead of cooking for a half hour. At home you just came home and your mother already finished cooking, so… I think it's – for a student it's easier just to grab a pizza or a lasagna or anything, just put in the oven, than – rather than cooking. […] And I think the way to cook –how long it takes, yeah, you think, like pasta takes like 20 minutes, but to make it good healthy pasta, it takes way longer to make the sauce, so, it's just time management.*

Hands on experience

Through the *'Hands on experience'* sub-theme, participants communicated the ways in which they learned through action how to manage their own food practices while becoming independent. Four types of *'hands on experiences'* were identified: *'New life experiences', 'Experimenting to see what works', 'Openness to try new things',* and *'Using recipes'*.

Participants talked about '*new life experiences'* that allowed them to learn new things about food. For example, a couple of participants talked about how *travelling abroad* was an experience in which they learned how other cultures prepare and eat food, and apply them in their daily life. Here students also referred to the people they met during the travels and how they learned from them new ways of obtaining and preparing food.

> *Andrea:* *I've been traveling around the world already a lot, so I've seen so many cultures and, like, for example in Thailand or China they make such fresh dishes without that much ingredients, or I mean they don't add that much sugar and fat so, I saw that–I've seen that kind of people uhm, preparing their food so I thought, "Whoa, why didn't we do that", we're just living in a western world and we're just lazy to cook but it's not the uhm, energy your body needs so I think that's one aspect as well, yes. Yeah, just realizing that how other people can make food that is really healthy but we, or us in Holland we just cook stupid stuff sometimes [laughing]. Yeah. That's it.*

A second '*new life experience'* mentioned by one participant was starting a *vegetable garden.* She mentioned that the experience of growing her own food allowed her to learn how different the foods taste from those store-bought, and value the effort and time needed for growing food.

Another way in which participants learned how to deal with food practices independently was by '*experimenting to see what works'*. Five of the interviewees said that they mainly learned through trial and error. They mentioned for example trying different foods to determine which one provides more energy when sporting; or when cooking, trying different combinations of ingredients to figure out which ones taste better together. They also mentioned buying too much or too less foods until they figured out the right amount to buy depending on their needs. They also mentioned experimenting with new recipes they found and new ways of eating they heard about, to see how it felt like and determine whether they wanted to adopt them or not.

> *Isabel:* *Hmm, just to, yeah, go to the supermarket and pick some things from the store and think, "Hmm, would they taste together? Let's try it" […]. And if it tastes good, then you'll make it next time or improve, so, that's – then also a lovely thing about cooking, so, combining tastes you never combine together before.*

'Openness to try new things' was a point discussed within the sub-theme of *'Hands on experience'* that contributed to learn managing food practices on their own. Five of the participants talked about how being willing to eat different things and trying new foods helped them adapt their eating practices through time. They also said that being open-minded and having a positive attitude towards exploring new things allowed them to discover new foods, as well as exploring different ways of buying and preparing food that suited their needs.

> *Jenny:* *[…] I used to be quite a difficult eater when I was a child. Uhm, yeah, I was very used to what my parents would make me, and as soon as there was something strange on the table I wouldn't even try it […]. Uhm, yeah, I was very difficult with vegetables. And I think at a certain point I just started trying them and realizing that they are healthy for me. Uhm, and that they're not that bad if you combine them with things, or cook them the right way. So uhm, so yes, now I eat them.*

The majority of the interviewed students agreed that '*using recipes'* was something that helped them learn how to cook, since they could follow the steps to make dishes similar to the foods they were used to eating. They also mentioned using recipes for managing everyday cooking. For instance, recipes were cited as a source of inspiration for giving variety to their diet, for trying new dishes and introducing new ingredients to their regular meals.

Theme 4: In touch with food

During the interviews, participants talked about different issues they were concerned about in relation to food, as well as communicating the importance of understanding what is in their food, where it comes from and what it does to them. Sub-themes within this last theme are: *'Informed eaters'* and *'Keeping it natural'*.

Informed eaters

This study population used information about food in order to make the correct food-related decisions and manage their every day food practices. Within this sub-theme, three major topics were identified expressing that students in this research were informed about food: *'Looking up information'*, *'Food awareness'* and *'Food knowledge.'*

'*Looking up information*' was a mentioned by the participants as a helpful way of knowing what they should buy and eat. Five of the interviewed students talked about using mainly the internet when searching for food-related information. The type of information they were mostly interested was related to food composition (they wanted to know 'what's inside' the foods they eat) and the effects certain foods have on their health. Additionally they mentioned looking for recipes and tips for buying food, cooking and making necessary changes in their food practices. Food blogs were a popular source of information among this study group. Furthermore, one of the participants added that in the internet there is contradicting information about food and nutrition, which makes it difficult to distinguish what is true and what is not, so the ability to evaluate such information was relevant for her. Books about food

and nutrition, as well as recipe books were also mentioned by the students as information sources.

'Food awareness' referred to the consideration students gave to food, and this was expressed in two ways. Being *conscious of what they eat* was the first way in which five students communicated food awareness. Some of these participants said that they actively thought about food, talked with others about food, and took conscious decisions about what to eat and what not to, based on their taste preferences, nutritious value and desired effects of food over their bodies and health. They also said it was important for them to take time and care for preparing and eating 'the right foods' due to the relevant roles food had for them in life (i.e. positive effects on health, performance, etc.).

> *Interviewer: You mentioned that the people that live here think more about their food and the environment. How does that help you?*
> *Fran: Yeah. You have more discussions. So, uhm, sometimes like, when I was in Antwerp and I lived there, I was not even thinking about how my food was produced. I didn't even – there was nobody who was bringing up this discussion. Up here it's like everyday you're confron– confrontated (confronted) with it. Also in my study, like, climate change and uhm, the loss of tropical forest and stuff, and biodiversity, it's like, it's always that you are, yeah, it's always in your head.*

In contrast, others mentioned being aware of food only in terms of what they needed to cook during the day, and said they did not give much thought of the roles food played in their lives.

> *Interviewer: Can you tell me more about why you don't really think about it[the role of food in your life]?*
> *Isabel: In the way of cooking and so I think about it, but in a way of the meaning of food in my life, it's always – it's almost always in – almost yeah, always here and it's always – you have the food, it's not something you ask questions about yourself, because it's available almost always, at all times so you take it for granted.*

The second way students expressed '*Food awareness'* was by showing *concern over food content.* Six out of the 11 interviewees mentioned looking at food labels when buying food, checking for ingredients they wished to avoid such as E-numbers or other substances they believed harmful for them. The felt the need to recognize what they were eating and to know where it originated from so as to ensure that what they were eating was what they actually intended to eat. A few of the participants that talked about this topic also mentioned the importance of buying and consuming quality foods, and that they prioritized quality over other aspects of food such as price or preparation time because they thought that quality foods were healthier.

'Food knowledge' had to do with students being familiar with certain nutrition concepts and understanding aspects of food. SIx participants cited different aspects of food-related knowledge, which were knowledge concerning *nutrition and health*, *dietary guidelines* and the knowledge needed to *identify quality foods*.

Four of the interviewed students talked about the knowledge they had in relation to *nutrition and health*. This type of knowledge referred specifically to nutrients (e.g. vitamins, minerals and fibre), the different foods that contained them, and their function and effects on the body and health. However this was mentioned in general terms, without associating specific nutrients to specific foods or functions. This type of knowledge was acquired from the internet, books, family lessons and also through school education.

> *Jenny:* *Yeah, well, probably – I mean my parents always told me they [vegetables] were healthy, but at a certain point I learned in school that they had important vitamins for us. And I started reading articles about all the uhm, well, yeah, all the uhm, things that they have that are good for you, different things, minerals, and vitamins, but also energy, uhm, that they give you and playing sports or studying. So, yeah. I guess my education helped me.*

Another type of knowledge was expressed through being familiar with the *dietary guidelines*. Only two students mentioned knowing and following dietary guidelines, but also referred to them in general terms.

> *Helena:* *I think it's – I think it's also because they tell you that you have to eat 2 pieces of fruit and 100 grams or something like that of vegetables each day so then you uhm, so then you also do it.*

Only one participant talked about the importance of having the knowledge to *identify quality foods* when selecting and buying ingredients for her meals. She cited knowing specific characteristics foods needed to have in order to distinguish fresh and healthy products.

> *Emma:* *[…]I like to see the colours in the foods. I want to see the colours of this vegetable, the bok choy. I want to make sure that they're good. It has to be dark green bok choy with uhm, white stems and very uhm, very sof – strong, so it's very fresh vegetable, it always comes a little soft when it dries out and when it's old.*

Keeping it natural

The sub-theme *'Keeping it natural'* had to do with the reasons, values and beliefs that guided students to prefer natural, fresh and environment friendly foods over industrialized food products. Within this sub-theme, three major issues were discussed: *'Preference for organic/biological foods'*, *'Homemade v/s convenience meals'*, and *'Environmental concern'*.

Five participants mentioned a *'Preference for organic/biological foods'*. They stated this preference because they perceived organic and biological products as healthier. Students believed those products were more pure in the sense that they had less added ingredients than processed foods. They also believed biological and organic foods were of better quality and they associated quality foods as beneficial for their health.

Six of the interviewed students mentioned preferring '*Homemade meals over convenience meals'* for several reasons. Firstly, they felt that convenience meals were not healthy because

they associated fresh foods with health, whereas processed foods were viewed as unhealthy. Additionally, they valued the use of fresh products. Secondly, they said they wanted to know what ingredients were used for making the foods they ate, and they could control that by making their own meals. Another reason for preferring homemade meals was to avoid certain ingredients used in the food industry.

> *Barbara:* *I also had something about 'no E-numbers'. Uhm, well, it's much in the media now a days, so I'm also trying to use not too much packages because in those packages are often many E-numbers, but I try to make it my own, so, uhm, yeah, if I make wraps then I try to make with some kind of spices, uhm, I just buy wraps and buy meat and vegetables and then with spices I make it my own and not with the package because then you have some kind of salty E-number thing [laughing]. So that's it, I think.*

Four out of the 11 participants talked about following certain food practices due to '*Environmental concern'*. Most of the students who talked about this topic were vegetarians, and decided not to eat meat because they cared about the animals, or because of sustainability reasons. Others chose to eat local and organic products because it was their way of caring for the environment and support a more sustainable and eco friendly way of obtaining food.

Chapter 5 Discussion

The aim of this research was to gain insight into the mechanisms underlying independently living students' ability to direct food practices towards health, for which the following research questions were examined: (1) What is the meaning of food literacy in terms of healthy eating, and what is its role in directing food practices towards health in university-aged students living away from the parental home?; (2) What resources (GRRs) enable them to direct food practices towards health?, (3) What life experiences enable them to direct food practices towards health?; and (4) In what ways does food literacy, GRRs and life experiences relate to directing food practices towards health in university-aged students who have moved out of their parents' home?

From the emerging themes described in chapter 4, resources that students use for coping with food-related challenges were identified, answering specific research question 2. Figure 5.1 provides an overview of these GRRs.

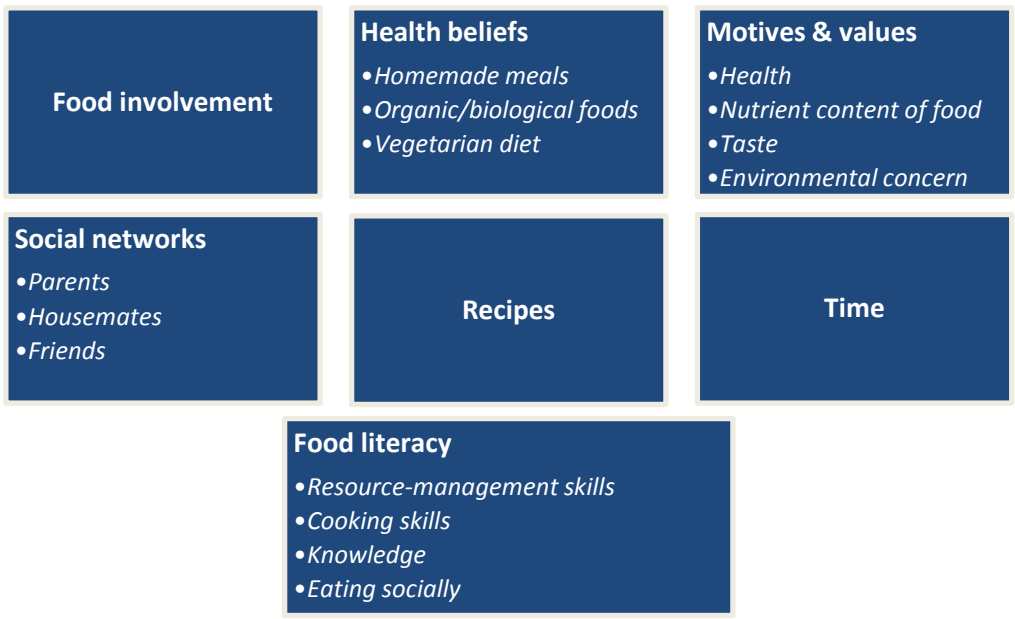

Figure 5.1 GRRs for healthy food practices identified in interview themes

Within the themes in chapter 4, life experiences that enable the identification of resources used for managing food practices were also found, giving an answer to specific research question 3. These life experiences were related to childhood and family life, moving out of their parents' home, travelling abroad and growing a vegetable garden. Figure 5.2 illustrates the GRRs identified and used in each of the life experiences mentioned in the interviews.

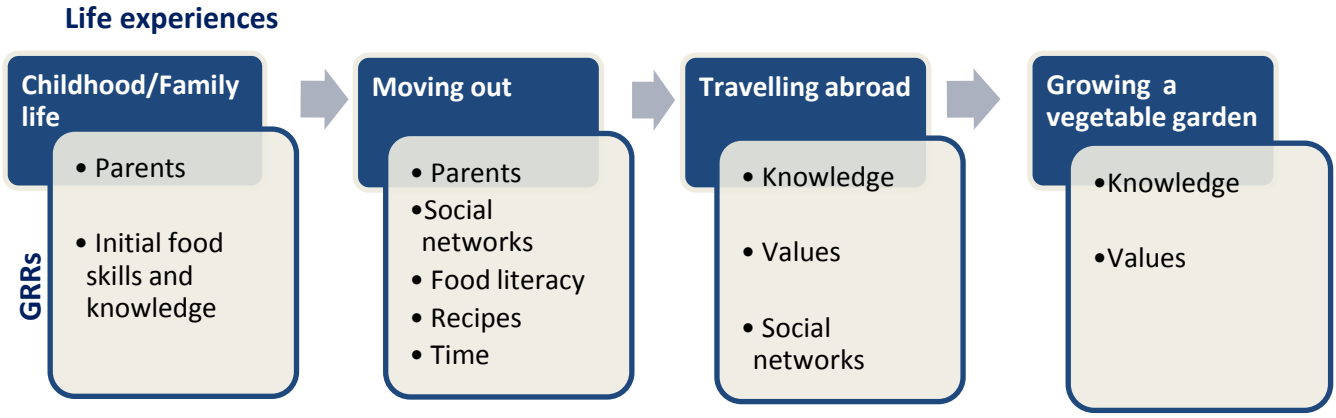

Figure 5.2 Life experiences and the GRRs developed/identified throughout the life-course

The ways in which these resources and life experiences relate to healthy food practices are further discussed throughout the next sections in this chapter, where the main findings of the research are analyzed in order to answer specific research question 4.

5.1 The holistic role of food in health

This study found that food played three roles in participants' life and health. A first role of food was a physical role, providing students the needed energy for carrying out daily activities, and performing in sports and school work. Additionally, healthy foods in particular contributed to health in terms of feeling energized, avoiding illness and feeling well. A second role of food was a mental and emotional role. Moments involving cooking and eating were fun and relaxing for participants. Palatable and less nutritious foods were also considered a source of comfort and happiness. Lastly, food also had a social role. Cooking and particularly eating together with family, friends and housemates was enjoyed and preferred by students, since they rather have company during their meals than eating on their own. All these roles of food address the physical, mental and social dimensions of health mentioned in the definition of health provided by the World Health Organization (WHO, 1948).

This study also found that there are different resources that enable food practices contributing to the different dimensions of health. In the case of physical health, these resources are food involvement and values of health and nutrient content. Participants were highly food involved since as independently living students, they were all engaged in the different food practices several times a week, particularly buying and preparing food. More importantly, students preferred making meals themselves because being healthy was important to them, and they

sustained the belief that industrialized processed foods are unhealthy and contain harmful ingredients; and homemade meals are beneficial for health. Therefore health and food's nutrient content were the main motives that encouraged them to make homemade meals. This is supported by other studies which suggest that food involvement, particularly engagement in meal preparation and cooking, is associated to healthier food choices (Mulvaney-Day et al., 2012) and healthier diets (Larson et al., 2006) in young adults, particularly when food involvement is motivated by health values (Hartman et al., 2013; Sharma et al., 2010). This is further supported by previous studies that have also found a relationship between believing in the health benefits of an eating behaviour and performing that behaviour (De Bruijn, 2010; Rasberry et al., 2007; Wardle et al., 1997). Thus, health beliefs and values of health and nutrient content expressed by participants are resources for students' food involvement, which in turn is also a resource that allows students to eat nutritious foods for physical health purposes. Whereas in the case of mental health, taste preference becomes more important than values of health and nutrient content, guiding the selection and consumption of less nutritious foods.

The interviews show that the roles of food over the different dimensions of health are interconnected. Students ate healthy and nutritious foods in order to be physically healthy, and palatable foods to be mentally healthy; but they also mentioned that in order to be healthy mentally, it is necessary to be healthy physically. Therefore students make food choices by balancing values and the roles of food in order to take care of these two dimensions of health. This interconnectedness is also explained by the positive effects the social role of food has on all dimensions of health. Firstly, it benefited physical healthy as it encouraged students to prepare nutritious homemade meals when they were sharing them with others. Similar results were obtained by Larson et al. (2007, 2009), who found an association between social eating and healthy eating behaviours. Secondly, eating and cooking with others contributed to the strengthening of social bonds. The role of food in the social dimension of health was also identified in another study as benefitting social abilities of young adults (Vidgen & Gallegos, 2012), yet its implications have not been further explored. Thirdly, participants viewed eating with others as fun and enjoyable, contributing to their emotional wellbeing. A focus group in Canadian female students also revealed that the enjoyment of eating with others was considered an element of healthy eating (House et al., 2006).

This study shows that besides physical health, the non-physical dimensions of health are also relevant aspects of wellbeing among young adults. Additionally, unhealthy foods are considered by the participants as part of a healthy diet and having a role on health, as long as they are eaten in moderation. Yet Dutch dietary guidelines and nutrition messages tend to solely focus on the nutrition and physical dimension of health, and advise consumption of healthy nutritious foods (Voedingscentrum, 2014); recommendations that do not fully match students meaning of food practices when aiming for health. During the interviews, the definition of healthy food or healthy eating was not provided, so the participants were able to reveal their own meaning of healthy food practices.

Interestingly in this group, food did not play a relevant role on weight control. It was not an important value for eating healthily as other studies suggest (House et al., 2006; Rasberry et al., 2007; Sharma et al., 2010). One of the reasons for this is that Dutch female students

prioritize other aspects of health such as avoiding illness, being able to perform and being happy (as mentioned in the interviews); rather than looking good or being thin (which was not a significant topic within the interviews). Nutrition messages that address healthy eating for weight management purposes may not be appealing to the Dutch female student population, and should therefore focus on the aspects of health that do matter to them.

5.2 Healthy eating communities

5.2.1 Food–conscious parenting & family life

Participants mentioned learning about food initially from their parents. They adopted their parents' food practices, and also learned healthy eating habits from them due to the fact that parents were mostly in charge of food. Parents who worry and care about food and nutrition are important people in the process of learning how to eat healthily, and are therefore GRRs during early stages in life, as they provide initial knowledge and skills that allow for healthy eating practices during childhood. Parents' role in food during later stages in life is also relevant, as students ask their parents for advice or help in food-related issues once they have moved out.

One way parents taught participants healthy food practices was by eating together as a family. Growing up with family meals allowed participants to learn the ability to eat in a social way which, as it has already been mentioned, benefits all the dimensions of health. Family meals are then maintained once they have moved out in the form of eating together with housemates and friends. Other studies also have shown these same results (De Backer, 2013; Larson et al., 2007).

Another way participants learned to handle food practices during childhood was when they were allowed by their parents to make food decisions and participate in the household's food practices. Participants perceived such experience as enabling them to manage food practices on their own in a better way once they had moved out. Similar results were obtained from a focus group, in which participants who experienced independence and responsibility in food while living with their parents adapted more easily to being in charge of their own meals (Cluskey & Grobe, 2009). This experience could be understood as an opportunity of developing food skills and also as a SOC strengthening experience, since those who already cook from a young age are then able to identify resources that help manage other food practices more easily afterwards.

The food practices learned from parents during childhood are sustained through later stages in life. Although some students modified their food practices through the transition (e.g. adopted vegetarianism) in order to adapt to their new living situation, most of the behaviours learned from parents were maintained even after they moved out of the house. Several earlier studies confirm these findings (Barnes et al.,2012; Blichfeldt & Gram, 2013; Branen & Fletcher, 1999; Clusckey & Grobe, 2009; De Backer, 2013; Hartman et al., 2013; LaCaille et al., 2011).

In view of these results, it is relevant that nutrition and health promotion strategies focus on aiding parents teach healthy food practices to their children from a young age, since food

practices are relatively stable in time (Devine, 2005). In the Netherlands there is an initiative for this from the Netherlands Nutrition Centre[1], which aims at motivating parents to eat healthfully so as to act as healthy examples for their children. However, in modern society where lives are busy with work, parents are hindered from dedicating sufficient time to family and food in which they can set the example. Studies on American families show that working parents report having limited time for family meals and involving their children in meal preparation (Fulkerson et al., 2011). Families in which parents are full-time employed, particularly mothers, are more likely to provide an unhealthy family food environment to their children (e.g. less frequent family meals, less time spent on preparing food, more fast food during family meals, and less encouragement for eating healthfully) than families with half-time or non employed parents. In the case in which fathers worked full-time but mothers worked half-time or were unemployed, family meals became more frequent (Bauer, Hearst, Escoto, Berge, & Neumark-Sztainer., 2012). In the Netherlands, most of the families with children under 18 years have both employed parents, although mostly mothers have half-time jobs, which allows them to spend most of their time taking care of their children and the household (CBS, 2010). In the present study, memories of family meals were common among participants, as well as memories of fathers being involved in food preparation. This argues that in order to develop healthy eating behaviours and the skills required to manage food practices throughout life, families need to be supported so both parents can balance the time dedicated to work and the time required for preparing and eating meals together with their children.

5.2.2 Social networks

Besides parents, housemates and friends are also resources for learning healthy food practices. They act as influencers of eating practices, as also shown in previous studies (Barclay et al., 2013; Hartman et al., 2013; Greaney et al., 2009; LaCaille et al., 2011; Mulvaney-Day et al., 2012; Vidgen & Gallegos, 2012). Additionally, housemates and friends are students' major source of social support, particularly when in need of learning new food practices (e.g. cooking, adopting vegetarianism, etc.). They also provide support by sharing food-related chores, which helps save time and money. These findings of social support as a resource for healthy food practices is contradicted by an American study among female undergraduate students which found no association between social support and healthy eating (Von Ah et al., 2004). Despite of this evidence, social support is a relevant GRR among female students, at least in the Dutch culture. Differences among findings could be due to cultural contexts, as it has been shown that other resources, such as positive attitude towards healthy eating, are context dependant (Sharma et al, 2010).

This study also found that when social networks provide social environments that support and facilitate healthy food practices, students adapt their food practices in a healthy direction more easily than in challenging environments. Consequently, these findings imply that in order to maintain the healthy food practices learned within the family context, it is relevant that all

[1] Give a Healthy Example - http://www.loketgezondleven.nl/algemeen/english/health-promotion-in-the-netherlands/nutrition-voedingscentrum/

other settings (e.g. schools, universities, workplaces, etc.) also promote healthy eating, because individuals learn from and influence each other.

5.3 Food literacy: the food–GRR

Within the resources found in the interviews, food literacy was also identified as one (shown previously in figure 5.1). As already described in Chapter 3, food literacy is a set of skills and knowledge concerning food and nutrition applied in daily food practices with the purpose of making healthy food decisions based on needs, and for coping with the food environment (Block et al., 2011; Vidgen & Gallegos, 2012). The meaning and role of food literacy was not explicitly asked in the interviews since it is a concept that participants may not be familiar with. Nonetheless, several competencies of food literacy were identified throughout participants' interview responses as strategies or elements they used to achieve healthy eating and wellbeing, and are therefore considered as GRRs. This finding helped answer specific research question 1.

The first food literacy competence identified was planning meals based on available resources and food needs. In terms of economic resources, participants were able to provide themselves with the foods they need with a limited student's budget by using budget-management skills. Considering that students in the interviews referred to eating healthfully as a practice that requires economic effort, yet still felt they managed to do so, budget-management skills are therefore a GRR among this group. A previous study among disadvantaged young Australians also validates budget-management skills as one of the food literacy competences required for managing food practices (Vidgen and Gallegos, 2012).

Planning meals accordingly to resources such as time was also identified. According to both the interviews and previous studies, the preparation of healthy and nutritious meals is time consuming; therefore students only cook when they have enough time available (Mulvaney-Day et al., 2012). When they find themselves too busy with study-related activities, the time designated for eating and cooking becomes less, leading to the consumption of convenience meals. Consequently, time is a resource that allows students to eat and prepare healthy meals. In spite of this, the ability to manage time becomes more relevant than time availability itself. The interview findings show that time-management skills enabled students to plan and designate sufficient time needed for eating properly and for preparing healthy meals within their busy student lives, and is thus a GRR. The same was observed in a focus group among American undergraduate students, who said that time-management skills were useful for them to eat healthily (LaCaille et al., 2011).

The second food literacy competence that students revealed was using their cooking skills to change their preparations to make them healthier or to meet their needs. They also adapted recipes through experimentation and depending on the available ingredients in order to provide variety to their dishes. Aiding in this ability were recipes, also a GRR. In the interviews, recipes were not directly associated to healthy preparations as other studies suggest (Hartman et al., 2013), but they were used by students to increase the variety of the meals they prepared and include new ingredients to their dishes. Recipes were also used by those with

none or basic cooking skills to learn how to cook. These findings are contradicted by a previous study which found that only those young adults who had been living independently for longer time and had advanced cooking experience relied on recipes to further improve their cooking skills (Vidgen & Gallegos, 2012). Yet, for the Dutch female students participating in this study, recipes are a useful tool that helps them with their food practices, independently of the level of their cooking-skills.

The third food literacy competence identified within the interview themes was the ability to identify, select and consume quality foods. The knowledge students posses in relation to food ingredients, nutrients and their role in health is used by them when looking at food labels, selecting products and making food choices, although they did not seem to possess specific or in-depth nutrition and food knowledge, and did not acknowledge the dietary guidelines. Participants mainly used labels to identify unwanted ingredients due to food allergies or avoiding E-numbers, but did not mention looking at nutrients, which was an unexpected finding given that food labels, dietary guidelines and nutrition messages are based on nutrients to communicate food's physical benefits on health (Scrinis, 2008).

Students gained food knowledge mainly by information obtained from the internet, and as noted by one of the participants, it is challenging to identify which sources provide accurate information. Consequently, the ability to access food and nutrition information, and most importantly assessing its relevance is an important competence within food literacy; yet current literature does not show any research that has considered this. Given that the student population tend to be major users of the internet and digital information, the development of skills for assessing food and nutrition information is essential, because how young people interpret and use the information affects their food practices.

In terms of the competence related to understanding the effects of food on health and manage food practices accordingly, students mostly pay attention to the physical reactions of their body in order to determine their needs and adapt their diets, and combine it with conceptual knowledge they learned from their families, school and other sources. They balance what they experience with what they know, and act upon that.

Finally, eating socially is not proposed by experts as a competence pertaining to food literacy (Fordyce-Voorham, 2011; FSA, 2013). However, in this study, the ability of eating in a social way was identified by the students as relevant for eating healthfully; finding that is supported by another study targeting young adults healthy eating practices (Vidgen & Gallegos, 2012).

An element of food literacy that was not mentioned in the interviews was knowledge and use of food safety and hygiene principles when managing food. Although it is a recurrent component in the food literacy literature (both form experts and study populations) (Fordyce-Voorham, 2011; FSA, 2013; Vidgen & Gallegos, 2012), the Dutch female students in this research did not consider them. A probable reason for this could be that they associate healthy eating practices only with avoiding nutrition related diseases, given that that is the main focus of health and nutrition promotion messages; and don't think of avoiding infectious diseases or food poisoning as part of healthy eating practices, since it may not signify a risk for them.

When the participants moved out of their parent's home, being in charge of their own meals was challenging since they lacked food selection skills, cooking skills, and budget-management skills, that is, most of the food literacy components. Additionally they had to adapt to new environments and new people with different food practices from their own. Nonetheless they were able to overcome these challenging situations and develop the food skills needed to take care of their meals in a healthy way. Therefore, moving out is a 'food literacy development moment'. This reasoning goes in line with Vidgen and Gallegos' (2012) proposal that not all components of food literacy are present at each moment, but they are developed depending on the context in which food choices are being made.

Learning to eat healthfully in daily life was possible because during the initial period of having moved out, students identified and applied all the resources obtained initially from home and then added those from their social connections. Other elements they also described as helpful were openness to try new things, experimentation and trial and error, as well as realizing the need for change. Although these elements are not GRRs, they could be considered as participants' verbalization of SOC, which led them to be able to identify and use the resources at hand (e.g. housemates, parents, recipes, etc.) and develop the food practices they required. These food practices were developed out of the need to balance taking care of themselves and enjoying themselves, balancing former values with new values, and the need to be in control of their diets and health.

5.4 Active learning experiences

This study shows how learning to manage healthy eating is an active process, learning by doing. Students first watch and do what their parents do, and then what their friends and housemates do; as well as experimenting on their own and learn from their errors. Besides these life experiences that are natural steps in the life course of most young people, there are other experiences. Travelling abroad and growing a vegetable garden were a relevant finding in the interviews and that have not been explored in the literature. These life experiences allowed participants to learn new things about food through meeting new people and gaining new food-related values. These hands-on experiences suggest that they helped them strengthen SOC because after the experiences they were able to identify new resources to improve their food practices. Another possible direction is that in those life experiences they identified new GRRs which helped strengthen their SOC, which in turn allowed them to identify and use other GRRs later for their food practices. These life experiences add to the literature new ways in which young people learn about food and how it helps to improve food practices.

5.5 Sustainability & healthy eating

The present study found that non-nutritional aspects of food are relevant in student's food practices. Environmental concern motivated eco-friendly and sustainability oriented food practices among participants, such as vegetarianism, the preference for organic/biological products and avoiding industrialized processed food products. Additionally this was also

related to health, since participants mentioned believing vegetarian diets and organic/biological products to be beneficial for health. Interestingly, participants mentioning this were from different cities in the Netherlands and following studies in different fields, suggesting that food practices motivated by environmental concern is common in the younger population. Consequently, values and beliefs in non-nutritional aspects of food also guide food practices towards health, probably because the younger generation appeals to sustainability and ecological topics related to food which have a social impact rather than an individual health impact. Among the researched literature in chapter 3, no other study addresses this issue as a resource for healthy eating.

According to Lang and Barling (2012), the link that exists between the environment, the food system, and nutrition and health has been neglected by Nutrition science. Nutrition science has mainly focused on the physiological role of foods' nutrients on health, separating food and health from the social and environmental approaches of nutrition. Additionally, the authors highlight that current nutrition recommendations promote eating habits that further increase the food system's environmental impact (e.g. eat fish twice a week, while natural fish stocks are depleting). Due to this, the authors call for Nutrition science to integrate all three of its approaches (life science, social, and environmental) so as to create sustainable food policies and sustainable dietary guidelines in which diets are sufficient yet have low impact on the environment (Lang & Barling, 2012).

The interview results indicate that young adults are environmentally conscious and acknowledge the connection between what they eat and the impact this has on the environment, responding through their food choices. Therefore the creation of health promotion messages addressing sustainability may contribute to more healthy eating habits among the young population; although research is necessary in order to ensure that sustainable diets are in fact healthy.

Chapter 6
Conclusions

The present study shows the different purposes of food among young female Dutch students living away from their parents' home; including both nutritional and non-nutritional aspects of food and health. It also shows how resources such as time, health beliefs, values of health and nutrition content, food involvement, parents and social networks are used by students to manage healthy food practices on their own. Parents and social networks, namely friends and housemates, are valuable resources for students since they provide other necessary resources, for example recipes and support in developing skills. All these resources are identified, developed and used throughout different life experiences, mainly those related to family life and dealing with independence.

This study contributes to the small amount of literature that addresses food literacy as such and its effects on food practices, as well as adding other competences that are necessary to be included in the concept of food literacy, and need further exploration. Food literacy is a predominant and relevant GRR that allows students to develop the necessary food practices that best fit their requirements and health goals, and help them adapt more easily to new life situations. Moving out of their parents' home is a major 'food literacy' developing moment in which known GRRs are used and new ones are identified and applied to adapt food practices.

6.1 Mechanisms for healthy eating in everyday life

Food literacy is the essential resource that enables directing food practices towards health. The knowledge and skills that compose food literacy permits the ability of being in control of one's diet and make food choices based on needs. Such food choices are made through balancing the different aspects and roles of food accordingly to those needs.

Students balance body and mind by combining healthy and unhealthy foods as a way of taking care of both physical and emotional health. They accomplish this by balancing values of health and taste and enjoyment, and then use their knowledge and skills to access the type of foods that will attend to the dimension of health that is required at the moment.

Food literacy is developed through different life experiences. Balancing knowledge with experience is an ongoing process of active learning which allows them to gain new knowledge and new skills to further improve their food literacy, which in turn gives them more control over their food choices.

6.2 Recommendations

6.2.1 Nutrition promotion

In view of the research findings discussed in chapter 5 and the conclusions presented above, the following recommendations for nutrition and health promotion aiming to enable healthy food practices from a Salutogenic perspective are provided.

- *Development of food literacy.* Provide individuals with opportunities for developing knowledge and skills necessary for cooking, shopping, etc. through active learning methods in schools and community organizations. Initiatives should focus on parents, as they are role models for children; therefore they require the knowledge and skills necessary to pass on to their children in order to create healthy eating societies. Educational initiatives should also focus on children so they develop food literacy from an early stage.

- *Support family time.* In order to enable learning healthy eating, families should have time to make meals at home. Working schedules should allow both parents having time for food and time for involving their children in food.

- *Facilitate and promote social eating.* Education institutions should facilitate communal kitchens in student housings so students cook and eat together, incentivizing healthier meals. Communal kitchens can also be provided in community centres to promote and facilitate social eating among people who live alone.

- *Food industry***.** Policies should integrate sustainability and nutrition and health to create environmental awareness and involvement through food; as well as improving availability and accessibility to healthier and natural foods.

- *Nutrition & health promotion messages.* The mental and social dimensions of health should be considered in dietary guidelines and nutrition messages so as to give them the holistic approach towards health. The approach should focus on enjoyment of food and moderation to make the messages more approachable to the population. Sustainability issues related to nutrition should also be included in messages.

6.2.1 Further research

Interesting points for further research emerged from this study which will allow greater insight into the mechanisms influencing healthy food practices:

- Compare these results with a similar population that has high SOC in order to determine a relationship between the GRRs identified and healthy eating behaviours; as well as verifying these results on male populations and people who live alone to determine if the same GRRs are applicable to all.

- Further explore food literacy's components for their later operationalization. This would allow measuring food literacy in the population as well as creating effective intervention programs for improving food literacy.

- Explore young people's ability to assess nutrition information obtained online before using it to guide their food practices and how this impacts their diet. This could help understand how nutrition messages are interpreted and used.

- Further explore the role of food in emotional and social dimensions of health and how this benefits healthy eating practices; and whether sustainability, animal care and ecological messages in relation to health promotion influence healthy food practices and have health effects.

6.3 Strengths and limitations of the study

The chosen theoretical framework and qualitative methods used (narrative inquiry through semi-structured interviews and categorical-content analysis) permitted the proper exploration of the different elements that contribute to healthy food practices. Additionally, the study was performed in parallel with 2 other researchers addressing different study populations, which allowed the discussion of emerging themes in order to ensure robustness.

Still, this study is not without limitations. First of all, interviews were not conducted in participant's native language. Although this did not present a problem during the data collection phase thanks to interviewees' ability to communicate fluently in English, communication in Dutch could have provided a deeper insight into the mechanism that enable healthy eating. Additionally, the preparation activity to start thinking about past and current food challenges was not the most adequate. Due to the fact that the activity did not directly ask participants to think about challenging situations, participants had difficulties coming up with such memories during the interviews, limiting the sources of life experiences and further data that could have been useful.

Finally, participants responded to the recruitment advertisement voluntarily, which could have resulted in the restriction of the sample to those who are more interested and involved in food, and therefore more willing to participate. This could have excluding people less interested in food who may provide a different insight into what enables their healthy food practices.

In consideration of the small number of participants due to the qualitative nature of the research and its focus on participants of Dutch nationality, this research results are not generalizable to other populations and should be considered within this context.

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Appendices

Appendix 1
Recruitment

Participate in the Food Practices Study

Volunteers wanted:
Students living independently

About the research...

The *Food Practices Study* is part of a research project at European level about people's experiences and behaviour regarding food in different stages in their life.
The **Health & Society** chair group from **Wageningen University** is performing the study in **The Netherlands**, aiming to understand people's ability to manage their daily food practices.

We are looking for...

- ✓ 18 – 24 year old, Dutch females
- ✓ Enrolled as a student
- ✓ Live away from your parent's house
- ✓ Live with other people (partner, friends, housemates, etc.)
- ✓ In charge of your own meals
- ✓ Feel comfortable having an interview in English

You will be asked to...

Answer a few questions at home **and** have a follow up interview about your personal meanings, beliefs, experiences, tools and behaviours regarding daily food practices and situations.

You should know that...

- Participation is entirely voluntary.
- All comments and responses are confidential and your anonymity will be kept.

The benefits for participating are...

- Contributing to a better understanding of how students like yourself learn to make choices related to food in their everyday lives.
- You will receive a summary of the research results and a small gift as an appreciation for your collaboration.

If you are interested in participating in this study or if you have questions, please contact the research team:

Sofia Sutherland, MSc student
sofia.sutherlandborja@wur.nl

H&SO

WAGENINGEN UNIVERSITY
WAGENINGEN UR

Appendix 2
Informed consent form

WAGENINGEN UNIVERSITY
WAGENINGEN UR

Food Practices Study

Consent Form

- The study is part of a research project from the Health and Society chair group from Wageningen University.
- The study will explore how you define the role of food in your life and how you overcome challenges towards your way of eating
- The purpose of the study is to understand how people deal with food and eating in different stages of their lives.
- The interview will be tape recorded.
- Taking part is voluntary and you are free to stop the interview at any moment if you don't wish to continue.
- Your name and identity will remain confidential in any reports, publications or discussions; and your name will not appear on any tapes or transcripts resulting from the interview.

By signing, I give consent to take part in this study and I understand all the details of the study that have been explained to me, all my questions have been fully answered, and I agree to all the conditions of the study.

_____	_____	_____
Name of Participant	Signature	Date

_____	_____	_____
Name of Researcher	Signature	Date

Appendix 3
Interview preparation package

WAGENINGEN UNIVERSITY
WAGENINGEN UR

Wageningen, [date]

Dear [participant's name],

Leaving your parent's home and becoming more independent is an important stage in life, full of new situations and challenges. One of these new situations is being in charge of choosing, buying and preparing your own meals.

The study you have volunteered to participate in is part of a research project from the Health and Society chair group from Wageningen University. It aims to understand how people deal with food and eating in different stages of their lives. The study will explore how you define the role of food in your life and how you overcome challenges towards your way of eating. Your answers will provide valuable information that will help us understand more about how students like yourself learn to make choices related to food in their everyday lives.

The study consists of 3 activities:

A. A short questionnaire to collect your general background information.
B. A preparation activity to start reflecting on the role of food in your life.
C. An interview with Sofía Sutherland, member of the research team, to explore your past and present experiences with food. The interview will take around 45 minutes and will be recorded.

Please complete activities A and B before the interview and hand the forms over to the interviewer.

Your responses will be analyzed and used in a thesis report. All comments and responses are confidential, only the researcher will have access to any personal information you give as part of the study. In order to keep your anonymity, your name will not appear on any tapes or transcripts resulting from the interview. Your name will be replaced with a pseudonym; therefore it will not be possible to identify you directly through your comments and responses. All data collected, including the audio recordings, will be stored in a protected data filing system.

Thank you for your participation!

The research team

Researcher contact information:
Sofía Sutherland Borja
MSc student Health and Society - Wageningen University
✉ sofia.sutherlandborja@wur.nl
☎ 06-19961061

Preparation Activities

Instructions

- Read the instructions for each activity carefully.
- If you have questions, please contact Sofia Sutherland through the provided contact information.
- The activities are meant to show your personal thoughts, so please complete them on your own.
- Please complete activities A and B before the interview.
- Please hand over all forms to Sofia Sutherland on the day of the interview or send them in advance by email.

Activity A: General background information

Please answer all of the following 18 questions. Fill in your answers over the dotted lines and by marking the corresponding box with an X.

1. **Age:** ..... years old

2. **Gender:** ☐ Female ☐ Male

3. **What level of study are you in?**

   ☐ HBO ☐ WO Bachelor ☐ WO Master ☐ Linkage year (schakeljaar)

4. **What is your study program?** .....

5. **Besides studying, do you have a job?**

   ☐ No ☐ Yes → **What type of job?** .....

6. **What is your father's highest level of education, regardless of the degree?**

   ☐ Primary school ☐ HAVO/VWO ☐ MBO ☐ HBO ☐ WO

   ☐ Other ☐ Uncompleted education ☐ No education followed

7. **What is your <u>mother's</u> highest level of education, regardless of the degree?**

☐ Primary school ☐ HAVO/VWO ☐ MBO ☐ HBO ☐ WO

☐ Other ☐ Uncompleted education ☐ No education followed

8. **What is your main source of financial support?**

☐ Parents ☐ Government support ☐ Loan ☐ Scholarship

☐ Own job income ☐ Other *(please specify)*: .....

9. **In what city/town do you live?** .....

10. **In what type of housing do you live in?**

☐ Student housing ☐ Rented house ☐ Rented apartment

☐ Own house ☐ Own apartment

☐ Other (*please specify*):

.....

11. **With whom do you live?**

☐ My partner

☐ Students How many? .....

☐ Other *(please specify)*: ..... How many? .....

☐ Alone

12. **Are you responsible for <u>selecting</u> your own food?**

☐ No → *Skip to question 14*

☐ Yes → **When did you start selecting your own food?** .....

13. **How often do you <u>select</u> your own food?**

☐ 0-1 day per week ☐ 2-3 days per week

☐ 4-5 days per week ☐ 6-7 days per week

14. Are you responsible for <u>buying</u> your own food?

☐ No → *Skip to question 16*

☐ Yes → **When did you start buying your own food?** .....

15. How often do you <u>buy</u> your own food?

☐ 0-1 day per week ☐ 2-3 days per week

☐ 4-5 days per week ☐ 6-7 days per week

16. Are you responsible for <u>preparing</u> your own food?

☐ No → *Skip to question 18*

☐ Yes → **When did you start preparing your own food?** .....

17. How often do you <u>prepare</u> your own food?

☐ 0-1 day per week ☐ 2-3 days per week

☐ 4-5 days per week ☐ 6-7 days per week

18. Would you like to receive a summary of the study results?

☐ Yes, please send this to the following address or email:

.....

☐ No

Activity B: Food & Me

Can you describe the role of food in your life?

Please feel free to write down anything that comes to your mind on the worksheet provided on the next page. You can use a few words, short sentences, drawings, photos or pictures.

Please remember to take the completed activities with you to the interview and hand over all forms to Sofia Sutherland on the day of the interview, or send them in advance by email to **sofia.sutherlandborja@wur.nl**

FOOD & ME

Appendix 4
Interview guide

Introduction

Hi, my name is Sofía. I am working with the Health and Society department of Wageningen University on a research project about how people deal with food and eating in different stages of their lives. I am studying students that live away from their parent's house and are responsible for their own meals.

This interview will be about how you define the role of food in your life and how you overcome challenges towards your way of eating, and it will start with the activity you did at home. It will take around 45 minutes and your answers will be recorded, because it is not possible to write down everything you say. Your name will not be mentioned, so all the information and answers you give will be kept anonymous.

Do you have any questions before we start the interview?

➲ *Sign informed consent form*

Ok, let's start.

Questions

1. Let's take a look at the activity you did at home. By looking at the words/drawing/pictures you chose, can you describe what is the role of food in your life? What does this role entail (values, preferences, ideals etc.)?
    - Can you tell me more? How come?
    - Why does this *(activity sheet)* represent that role? Why did you choose that word/picture to express that role?

> ***Example:*** *For me, food has the role of providing health so I try to eat healthy. This role is based on my values of health and weight concern, and my ideals of living a healthy and natural life taking care of my body. Food also has the role of demonstrating love and caring towards other people. This role is based on family's tradition and the social nature that is given by my family to sharing a nice tasty meal with your loved ones.*

2. Think back about a situation that really challenged your way of eating, but you were able to overcome. Can you shortly describe this situation, telling me when and where it happened, and who was with you during the situation?
    a. What or who helped you through this situation?
        - Was it something inside you (physical, mental or spiritual) or something outside yourself (social and physical context)?
        - How? In what way?

> ***Example:*** *my housemates provided me support, they showed me how to prepare new recipes; I was able to look for and find stores that had similar foods to the ones I used to eat back home; I have the knowledge of what foods are better for me and which ones are bad for me.*

➲ *Make sure interviewee mentions one situation from the far past and one from their present situation that represents their current life-stage.*

3. Let's go back to the 'Food & Me' activity you did at home. Can you tell me why you choose to use words/drawing/pictures to express the role of food in your life?
    a. Did you find it difficult to express the role of food through words/drawings/pictures?
        - Why? How come?
        - Can you tell me more?

4. To end this interview I would like to know your opinion about it. What do you think about the questions I asked you? Were they clear? Were they difficult?
        - Can you tell me more?
        - Why? How come?
        - Would you have asked them differently? How?

Closure

Is there anything else you would like to add to this interview that I haven't asked about? Or that you would like to comment on?

With this we finish the interview. Thank you for taking the time to answer it. It has been very useful.

Appendix 5
Participants' general background information

Table A. Participants' demographic characteristics

Characteristic	N° people (n=11)
Age (years)	
20	4
21	2
22	3
23	2
(mean= 21.3 years ± 1.25)	
Place of residence	
Bennekom	1
Delft	4
Den Haag	2
Nijmegen	1
Wageningen	3
Study level	
HBO	3
WO BSc	5
WO MSc	3
Study field	
Social Sciences	4
Life Sciences	3
Engineering	4
Father's highest education level	
HAVO/VWO	1
MBO	2
HBO	2
WO	6
Mother's highest education level	
HAVO/VWO	1
MBO	1
HBO	6
WO	3
Main source of financial support	
Parents	7
Government support	1
Loan	1
Own job income	1
Other	1
Part time job	
Yes	9
No	2
Type of housing	
Student housing	9
Rented apartment	2
People sharing housing	
With other students	9
With partner	2

Table B. Participants' responsibility and frequency of engagement in food practices

	N° of people (n=11)		
	Select food	**Buy food**	**Prepare food**
Responsible for food practice			
Yes	11	11	11
No	-	-	-
Frequency engagement of food practice			
0 -1 day per week	-	-	1
2-3 days per week	2	4	2
4-5 days per week	4	7	6
6-7 days per week	5	-	2

Appendix 6
Occurrence of themes and subthemes among participants

Themes & sub-themes		Participants											N° of responses
		Camille	Andrea	Barbara	Denise	Emma	Fran	Helena	Gaby	Isabel	Jenny	Kate	
Theme 1: Food for mind, body & soul													
Emotional role of food	Pleasures in food												
	Enjoying food	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	11
	Hobby	✓			✓				✓				3
	Emotional and mental state												
	Happiness				✓	✓		✓				✓	4
	Relaxation									✓	✓	✓	3
	Reward/comfort		✓										1
Physical role of food	Necessary for life												
	Maintaining life				✓	✓		✓					3
	Energy for performance	✓			✓	✓		✓		✓	✓	✓	7
	Taking care of health												
	Dealing with health issues				✓				✓			✓	3
	Being healthy		✓		✓	✓	✓	✓	✓	✓		✓	8
	Managing weight		✓						✓				2
Strategies for wellness	Listening to the body	✓	✓	✓	✓	✓		✓	✓		✓	✓	9
	Balancing healthy & unhealthy foods					✓	✓		✓	✓		✓	5
	Modifying preparations				✓							✓	2
	Realizing the need for change		✓		✓			✓	✓			✓	5
	Maintaining healthy habits				✓								1
	Personality		✓										1

Themes & sub-themes		Participants											N° of responses
		Camille	Andrea	Barbara	Denise	Emma	Fran	Helena	Gaby	Isabel	Jenny	Kate	
Theme 2: Food is a social affair													
Eating together	Social role of food												
	Socializing moment	✓		✓	✓	✓	✓	✓		✓	✓	✓	9
	Family meals	✓		✓	✓		✓				✓		5
	Show affection towards others	✓		✓					✓		✓		4
	Sharing food practices			✓		✓	✓	✓	✓	✓	✓	✓	8
Social context	Social environment												
	Beneficial			✓	✓		✓			✓			4
	Challenging				✓	✓							2
	Social norms		✓					✓					2
Theme 3: Learning along the way													
Interpersonal Learning	Family lessons												
	Foods while growing up	✓	✓	✓		✓		✓		✓	✓	✓	8
	Parents care for diet				✓			✓	✓			✓	4
	Involved in food practices						✓		✓	✓	✓		4
	Background	✓		✓					✓				3
	Role models												
	Family member	✓		✓			✓					✓	4
	Housemates/Friends					✓	✓		✓	✓		✓	5
	Partner						✓						1
	Negative influencers				✓		✓		✓				3
	People who help												
	Family members				✓						✓	✓	3
	Friends		✓	✓	✓	✓							4
	Housemates								✓	✓	✓		3
	Partner											✓	1

Themes & sub-themes		Participants											N° of responses
		Camille	Andrea	Barbara	Denise	Emma	Fran	Helena	Gaby	Isabel	Jenny	Kate	
Theme 3: Learning along the way *(continued)*													
Becoming independent	Learning to select and buy food			✓	✓			✓	✓		✓		5
	Learning to cook				✓			✓		✓	✓		4
	Managing their budget												
	Looking for best prices			✓		✓	✓		✓			✓	5
	Storing/leaving out foods				✓		✓	✓	✓	✓			5
	Managing time & meals												
	Food depending on time		✓			✓		✓	✓	✓	✓	✓	7
	Fitting meals into schedule						✓	✓			✓		3
Hands on experience	New life experiences												
	Travelling abroad		✓			✓							2
	Vegetable garden						✓						1
	Experimenting to see what works						✓	✓		✓	✓	✓	5
	Openness to try new things				✓	✓		✓		✓	✓		5
	Using recipes			✓	✓		✓		✓	✓	✓	✓	7
Theme 4: In touch with food													
Informed eaters	Food awareness												
	Conscious of what they eat			✓		✓	✓			✓		✓	5
	Concern over food content		✓	✓		✓	✓		✓			✓	6
	Looking up information		✓		✓		✓		✓			✓	5
	Food knowledge												
	Nutrition and health				✓	✓					✓	✓	4
	Dietary guidelines		✓					✓					2
	Identifying quality foods					✓							1
Keeping it natural	Preference organic/biological foods		✓	✓			✓	✓		✓			5
	Homemade v/s convenience meals			✓			✓	✓	✓	✓		✓	6
	Environmental concern		✓	✓			✓			✓			4