

**A qualitative study of the determinants of
participation behaviour in health promotion
programs among parents of kindergarten children
in the Rhein-Sieg-Area (Germany)**

**Why Parents (do not) Participate in Health Promotion Programs
to Reduce Childhood Obesity?**

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Best regards,

Johanna

Abstract

The prevalence of overweight and obesity is increasing in Germany and other industrialised countries. Beside the physical problems which arise, this has further consequences: on the one hand there are psychological implications for the individual and on the other hand social and economical problems that effect society as a whole. Health promotion programs to prevent the development of overweight in young children were launched by the government and municipal health services like kivi.e.V. One element is the organisation of information evenings for parents, of which kivi.e.V. and kindergartens face the problem of a low attendance rate of parents. So this research aims to identify the factors that are responsible for the parent's decision not to attend. To approach this problem, studies on parent involvement and behavioural theories were reviewed to develop a theoretical framework for this research. The framework assumes that the determinants of parent's participation are linked with the determinants of child feeding behaviour which then lead to the level of parent's intention to participate at information evenings (e.g. high motivation for healthy child is related to high motivation to participate in programs). Next, semi-structured interviews with parents of children attending kindergartens in the Rhein-Sieg-Area, in Germany, were conducted in order to understand their participation behaviour.

The interviews seem to support the thesis that parent's participation behaviour is strongly related to child feeding behaviour. Especially the perceived level of knowledge and attitude regarding child feeding behaviour determine that a higher or lower level of intention of parents to participate is evident. Furthermore the study identifies that information evenings are not the kind of format that most of the parents believe to learn new things from. Parents prefer to have practical experiences, a cooking workshop for example where their children are also involved.

In sum, one can say that the level of knowledge and the attitude of parents seem to be the main determinants that affect the intention of parents to participate or not, but also the level of self-efficacy and subjective-norm have an influence.

Key words: parent involvement, participation, health projects, childhood obesity

Index

	Page
Index 4	
List of Figures.....	7
List of Abbreviations	8
1 Introduction	9
1.1 Problem Statement	10
1.2 Research Objective	11
2 Background information and theoretical framework	12
2.1 Impact of overweight and obesity	12
2.2 The central role of parents in childhood obesity.....	14
2.2.1 Prevention of obesity through a preventive environment.....	14
2.2.2 Proven efficacy of parent involvement in child weight reduction programs	15
2.3 Theoretical framework: Why would parents (not) want to participate in childhood obesity programs?.....	16
2.3.1 Empirical literature on reasons for parent participation.....	17
2.3.2 Behaviour Theories.....	17
2.4 Integrating the theories to parental participation	20
2.5 Specific Research question	24
3 Methods	25
3.1 Research Design and data collection	25
3.2 Inclusion Criteria and Setting.....	26
3.3 Data Analysis	26
4 Results	27
4.1 Descriptive of the sample	27
4.2 Participation Behaviour	29
4.3 Knowledge about participation behaviour	29
4.3.1 Knowledge about health interventions	29
4.4 Attitude regarding participation behaviour	29
4.4.1 Attitude about the approach to solve problems	29
4.4.2 Attitude regarding the attendance of information evenings.....	30
4.4.3 Attitude regarding the format of a health intervention	31
4.5 Self-Efficacy about participation behaviour	32
4.5.1 Self efficacy to participate in health interventions.....	32
4.6 Subjective Norm regarding participation behaviour	33
4.6.1 Participation behaviour of important others	33

4.6.2	Participation behaviour of the partner	34
4.7	Intention regarding participation behaviour	34
4.7.1	Intention to participate.....	34
4.8	Relationship between the determinants of participation behaviour	35
4.9	Child feeding behaviour.....	38
4.10	Knowledge of child feeding behaviour	38
4.10.1	Knowledge about the identification of overweight.....	38
4.10.2	Knowledge about the causes of overweight	39
4.10.3	Knowledge about the consequences of overweight	39
4.10.4	Knowledge about the relationship between diet and overweight among children.....	40
4.10.5	Knowledge about the influence of regular meals on the weight of the child	40
4.11	Attitude towards child feeding behaviour	41
4.11.1	Attitude regarding the effect of the diet on children’s wellbeing and development	41
4.11.2	Attitude towards the consequences of a fatty diet and too many sweets .	42
4.11.3	Attitude about the diet of their child	43
4.11.4	Attitude about the consequences of their child’s diet.....	44
4.11.5	Attitude about risks and benefits of the diet.....	46
4.12	Self-Efficacy of parents regarding child feeding behaviour	47
4.12.1	Self Efficacy of parents to provide a healthy diet.....	47
4.13	Subjective Norm regarding child feeding behaviour.....	49
4.13.1	Subjective Norm- Partner.....	49
4.13.2	Subjective Norm- Important People	50
4.14	Intention of child feeding behaviour	51
4.14.1	Intention of parents to provide a healthy diet.....	51
4.14.2	Relationships between the determinants of healthy child feeding behaviour.....	52
4.15	The interrelation between child feeding and participation behaviour.....	55
5	Discussion and Conclusion	58
5.1	Discussion of study findings	58
5.2	Study limitations	61
5.3	Conclusions	61
5.4	Recommendations	62
5.4.1	Recommendations for future research	62
5.4.2	Implications for health promotion practice	62

References.....64
Appendix.....69

List of Figures

	Page
Figure 1: Social Cognitive Theory.....	18
Figure 2: Theory of Planned Behaviour	18
Figure 3: Precaution Adoption Process Model.....	19
Figure 4: Model of Parents Participation	21
Figure 5: Descriptive of the sample	28

List of Abbreviations

BMELV	Federal Ministry for Food, Agriculture and Consumer Protection
PAPM	Precaution Adoption Process Model
SCT	Social Cognitive Theory
SE	Self-Efficacy
SES	Socio-Economical Status
TPB	Theory of Planned Behaviour
WHO	World Health Organisation

1 Introduction

According to the World Health Organisation (WHO) one billion people are overweight and at least 300 million of them are obese worldwide (Whitney 2008). Obesity is perceived as an increasing health problem worldwide and referred to as an epidemic (Whitney 2008). The same is to be seen in Germany, where about 70 per cent of men and 50 per cent of women are overweight and almost every fifth person has a BMI above 30 and is therefore obese (MRI 2008). Overweight and obesity does not only affect adults, it can already occur in young children. The National Health and Nutrition Examination Survey concludes that the incidence of child overweight status has doubled since 1980. Moreover, the weight of every sixth child is too high (MRI 2008). Already 32 per cent of children between 6 and 11 years old are either at risk of becoming overweight or are already overweight (Kihm 2008).

Obesity and overweight can have physical and psychological consequences for children and adults. In early childhood excessive weight is a major risk for chronic diseases like diabetes type II, cardiovascular diseases, hypertension, stroke and certain forms of cancer (Whitney 2008). Besides the increased risk for diseases, overweight people suffer from psychological consequences which include social and psychological stress, with increased risk of negative self-esteem and social isolation, which also can have a negative impact on the career and family incomes (Whitney 2008, Davison 2001). Furthermore the mentioned effects of obesity come along with a financial component, it will lead to an increase of the costs for the health care system (Sander 2003). Hence, due to its increasing prevalence and influence on the health and financial situation, obesity is one of the key societal problems our society is confronted with.

Overweight in children and adults occurs when the energy balance is distorted, which means that the energy intake is higher than the energy expenditure of the person (Hunt 1996). In turn, if the energy expenditure is higher than the energy ingested, the person will lose weight. Generally, overweight may be caused by an unbalanced diet and sedentary behaviours such as spending too much time in front of the TV or computer and a lack of physical activity (Davison 2001).

Children cannot decide for themselves to live healthy and to reduce risk factors for overweight and obesity. Therefore parents are responsible to set the basis for a healthy development of their child. Among other things they have to set rules, motivate and facilitate their children regarding a healthy diet and physical activity. Children's eating and exercising behaviour is often related to their parent's behaviour, because children perceive their parents as role models (Davison 2001, Scaglioni 2008). Therefore it seems very important that, besides providing rules, motivating, and facilitating exercise, parents provide appropriate role

modelling regarding eating and activity behaviour through their own behaviour (Davison 2001).

The risk of adult overweight increases about twofold for individuals who were overweight as a child compared to individuals who were not overweight as a child (Dietz 1998).

By reason of this negative societal impact it is paramount to prevent obesity in infants and to offer successful treatment of obesity in childhood (Golan 1998). Therefore European countries are investing in health promotion projects. The Ministry for Food, Agriculture and Consumer Protection in Germany (2010), for instance, has developed networks and projects to support a healthy diet and lifestyle for children and young adults. The objective is that children learn about the natural process of preparing and cooking food, well-balanced diets and physical activity. These projects are mostly conducted in schools and kindergartens, in addition it is also possible for young parents to get information and support.

Health promotion is not only conducted by the ministry, there are also other associations that try to enlarge the awareness of issues involving food and physical activity.

Kivi.e.V. is one non-profit association in the Rhein-Sieg-Area that promotes healthy eating, physical activity as well as relaxation programs within primary and secondary schools as well as kindergartens. Their programs consist of several projects and different events that are organised in cooperation with those institutions. In addition, kivi.e.V. offers information evenings for parents, mostly targeting parents whose children are at risk of having overweight or obesity. They try to reach parents because parents and adult caregivers play an important role in the development of proper eating habits in young children (Golan 1998).

1.1 Problem Statement

Kivi.e.V. tries to reach parents because parents and adult caregivers play an important role in the development of proper eating habits in young children (Golan 1998). Kivi.e.V. observes very low parent's attendance rates at their information evenings for parents. Furthermore, it is the perception of kivi.e.V. and the kindergartens, where the information evenings are conducted, especially parents of the children who are at a risk (e.g. overweight and obese) are absent. Non-attendance is a well-known problem in the implementation of health promotion programs in general (Perry, 1988), yet very little is known about the reasons why parents do not participate in these programs. Therefore, understanding the reasons for (not) participating could be an important step towards designing interventions to increase parents' attendance, and thereby moving potentially successful programs from theory into practice to reduce obesity within our society.

1.2 Research Objective

The research objective of this study is to explore the reasons why parents attend or do not attend health promotion programs. It will especially focus on parents of children at the kindergarten age of three to five. In order to answer the main research question “*What are the main determinants of the intention of parents of kindergarten children at risk for overweight to attend information evenings about healthy eating?*”, first an overview will be presented of empirical studies and behavioural theories that may explain why parents attend or not. The central focus of this study is therefore whether parents participate in information evenings or not. For this reason, important determinants of attendance behaviour will be explored. Additionally, as it is expected that parent’s motivation to participate is strongly determined by their perceived importance of preventing or reducing overweight of their child(ren) in the first place (or the difficulty they experience with that), the aim is also to explore how parents look at and approach their child’s lifestyle in relation to overweight. Hence, the focus will be on determinants of parent’s child feeding behaviour and parents participation behaviour at health promotion programs to see the interrelation between the two behaviours and how they influence each other.

In the following, first an overview will be presented of empirical literature and behavioural theories that may explain why parents attend or not. This overview will build the basis to formulate specific research questions. Then, the research methods will be explained, followed by a chapter dealing with the results as well as the discussion and conclusion.

2 Background information and theoretical framework

This chapter offers, firstly, more background information on the diet and exercise habits that lead to obesity of children and the impact of these factors on the current and future quality of their lives. Subsequently, literature on the influence of parents on childhood obesity is discussed as well as literature about child raising behaviour in relation to overweight. Furthermore, empirical literature on the participation of parents in programs to promote children's exercise and healthy diet will be reviewed, followed by an overview of behavioural theories that can help explain why parents do or do not participate. The theoretical framework shows the factors of parent's participation behaviour as well as parent's child feeding behaviour that may influence parent's attendance in health promotion evenings. The theoretical framework will result in the formulation of specific research questions.

2.1 Impact of overweight and obesity

Overweight and obesity are caused by an imbalance between the energy ingested through food and the energy expended. Much of the excess energy is stored in the fat cells of the adipose tissue. Fat mass is determined by both adipocyte (fat cells) number and adipocyte size, therefore the amount of fat in a person's body reflects both the number and the size of the fat cells. Adipocyte number is a key determinant for the fat mass in adults and is higher in obese individuals (Spalding 2008). Research found out that the total number of fat cells increases in childhood and adolescence, but levels off in adulthood in lean and obese persons (Spalding 2008). The adipocyte number remains stable during adulthood. Hence, the difference in fat cell number between lean and obese individuals develops in childhood. Weight loss reduces adipocyte size, but not the number of fat cells (Spalding 2008). Thus, prevention of obesity is essential during a child's development, because it prevents the building of an increased number of fat cells and therefore reduces the chances of becoming overweight or obese in adulthood (Whitney 2008).

Overweight and obesity cause additional physical consequences in the human body because of the way fat is stored in the body. Excess fat is typically stored in the adipose tissue, but it can also be built up in organs such as the heart or liver. The storage in the adipose tissue may be less harmful compared to the storage in visceral fat which is located between the organs and contributes to belly fat (Spalding 2008). The latter evidently plays a key role in the development of diseases such as heart failure or fatty liver (Whitney 2008). About half of all obese children and youngsters feature at least one cardiovascular risk factor. The number of risk factors grows as one becomes increasingly overweight. The number of risk factors for increased blood pressure, increased triglyceride, a disordered

carbohydrate metabolism, and low HDL¹-values grows as one increasingly gains weight (Whitney 2008).

Because being thin has an enormous beauty value in our society, overweight and obese people often have to stand prejudice and discrimination on the job, at school and in social situations. They are often stereotyped as lazy and lacking in self-control (Whitney 2008). Studies have discovered that obese people are already categorized by children under six as being lazy, dishonest, dirty and stupid and that they are less likely to be a friend or playmate. This leads to low self-esteem in overweight and obese children (Holub 2003). Girls are under even more pressure regarding their weight than boys and therefore tend to have the objective to lose weight. This social and psychological stress can cause an increased risk of negative self-esteem, social isolation, and can also have a negative influence on the career and consequently on family incomes (Whitney 2008, Davison 2001).

Compared to children with other chronic diseases, obese patients are more often diagnosed with a psychiatric condition (e.g., depressive mood disorders, attention deficit/hyperactivity disorder (Holub 2003)). The feeling of being overweight, independent of the real weight status, influences the mental health of individuals. This does not lead to dramatic disorders during childhood and early adolescence (Schulz 2010). However, it can be assumed that overweight and obese children suffer more from psychological distress compared to adult overweight and obese people. Additionally, obese women, on average, make less money, are more likely to be unemployed and they marry only half as often as normal weight women. Similar results were found for obese men. Mocking, discrimination and therewith social outsider positions lead to frustration, reduced self-esteem and depressive moods, which all lead to continued obesity (Holub 2003). Obese children between the ages of 4 and 10 years have a chance of approximately 30 per cent of becoming obese in adulthood. Obese youngsters between 11 and 17 years of age make up 50 per cent of obese adults. Regarding this high transfer rate, it is evident that the obesity-related illnesses and co-morbidities of obesity are also consequences of childhood obesity (Holub 2003).

Besides physical, psychological and social impacts, obesity and the resulting risk for chronic diseases increase health care consumption and create substantial costs for the healthcare sector as well as for the society. In Germany, about 12.24 million adults are obese, of whom an average of 2.9 million suffer from the co-morbidities like diabetes, coronary heart diseases, hypertension and stroke. Obesity alone incurs direct and indirect costs of €216 million and €214 million, but these four co-morbidities account for €1,818 million in direct costs and €1,992 million in indirect costs. Thus, the total costs for obesity and

¹ High density lipoproteins

its co-morbidities account for €1,343 - 2,699 million from the healthcare payer's perspective and €2,709 - 5,682 million from the taxpayers perspective in Germany alone (Sander 2003). It has to be considered that these costs only take into account those patients with a BMI of 30 and higher, meaning that the costs of people suffering from overweight (BMI 25 - 30) and its co-morbidities are not included in the cost calculations. Furthermore it must be considered that there are other related illnesses pertaining to which no data is available, such as dyslipidemia, hyperuricemia, coagulation disorders, carcinomas as well as pulmonary complications (Sander 2003).

In summary, one can say that overweight and obesity implies not only consequences for health, it has also a huge psychological impact on the person concerned as well as social and financial outcomes which have an impact for the individual, but also for the society at large.

2.2 The central role of parents in childhood obesity

The following sections will give an overview of the central role of parents in childhood obesity. Section 2.2.1 will specifically focus on the social factors that are important to prevent overweight and obesity in the closer environment of a child. Section 2.2.2 is about the proven efficacy of parent involvement in health promotion programs. This section shows the interrelations between the overweight child and parent's behaviour and builds the initial point for the theoretical framework.

2.2.1 Prevention of obesity through a preventive environment

The child's development is predominantly determined by the 'ecological niche' in which the child grows up. This niche includes family and kindergarten or school, which are in turn embedded in the wider societal context including the community and society (Davison 2001). Health behaviour and health outcomes develop within this 'ecological niche', with the family environment playing an important role in the developmental process (Crawford 2005). Davison (2001) explains that along this theory parents are social referents, or role models for their children's eating behaviour. This implies that the chance is high that children learn to eat and like foods they see their parents eating regularly (Davison 2001). Additionally the risk for a child to become overweight or obese is grounded in its' lifestyle which is determined by dietary and activity patterns as well as sedentary behaviour (Davison 2001).

Research has conclusively shown how obesity occurs and the disadvantages it has for the individual as well as for society. Therefore, the prevention or reduction of obesity at a young age has major benefits both in the short as well as in the long term. Children's eating and exercising behaviour is essential for a child to grow up healthy and for the maintenance

of a healthy body weight (Crawford 2005). The development of child risk factors for overweight and obesity can be shaped by parenting styles and family characteristics, such as parents' dietary intake and activity patterns, nutritional knowledge, child feeding practices as well as peer and sibling interactions (Davison 2001). Thus, parents have a notable influence on children's lifestyle because they build the close environment in which a child grows up and they determine the eating patterns of a child. Golan (2004) describes it as the parent's responsibility to create a nurturing environment for their children to foster self-esteem by helping children recognize their own value, cultural food practices and family tradition by teaching them body satisfaction and a positive body image and modelling qualities that facilitate health promoting behaviours (Golan 2004).

Parents thus create environments that either foster the development of a healthy eating style or support overweight and unhealthy eating styles (Scaglioni 2008). For example, research has found out that mothers with high weight status are more likely to give their children snacks of low nutrient density (e.g. food with a high energy density but low nutrient density). Likewise children with overweight mothers tend to eat bigger portions of fat compared to non-overweight mothers (Davison 2001). These examples show the close relation between parents nutrition behaviour and child's eating behaviour and that children's food choices and their energy intake are dependent on their parent's eating behaviour (Scaglioni 2008).

2.2.2 Proven efficacy of parent involvement in child weight reduction programs

Evidence of parents influence on childhood obesity, and the importance of active involvement of parents in health promotion programs to tackle childhood obesity, is also provided by intervention studies. Golan and Weizman (1998) carried out a family-based health intervention with the intention to reduce weight of overweight and obese children (age range 14- 19). This study followed two approaches: a conventional approach in which children were agents of change, and a family-based approach in which parents were agents of change. The difference between these interventions is that in the conventional approach the child is responsible for itself and attends the meetings individually. In contrast, in the family-based approach, parents also attended the meetings and thus supported their children. In the latter case, the mean in percent overweight was more successful (20,2% kilograms for the child-only versus 29% for the family intervention) and the dropout rate was very low compared to the conventional approach. This suggests that parents have an additional positive influence on their children if they participate in interventions and act as agents of change.

Golan, Kaufman and Shahar (2006) conducted a similar family-based study, with a health-centred orientation, comparing interventions that were only attended by parents (parent's-only groups) and interventions attended by parents and their children (child-parents groups). The study concluded that the first one was more effective regarding weight loss. This is probably due to the conflict children face if a lifestyle change is demanded of them. Often this leads to the opposite than the intended goal (Golan 2006). This approach suggests that it might be even more effective if parents attend meetings without their children and implement the knowledge and skills learned during the intervention at home to support their child in reducing their weight and becoming healthier. In this way parents can apply the knowledge and skills in a way that the child feels comfortable and not pressured to change their lifestyle.

Kitzman (2010) and Beech (2003) reviewed intervention studies that address health disparities and the increasing risk of obesity in young people from minorities. These studies have shown that the involvement of parents in child targeted health promotion programs is essential for the success of those programs and consequently in enhancing healthy eating behaviour and reducing overweight and obesity. This outcome should be implemented in the planning of future health promotion programs targeted at children.

In summary, research has shown that involvement of parents in health promotion programs targeted at children is fundamental and suggests that it may be more effective to involve only parents instead of parent and child, because parents can implement skills and knowledge at home and children do not feel pressured to change their behaviour.

2.3 Theoretical framework: Why would parents (not) want to participate in health promotion programs?

The studies discussed above provide convincing evidence of the impact of overweight on the quality of life, of the role of children's lifestyle in becoming overweight, the impact of parent behaviour on children's lifestyle, and on the potential effectiveness of parental involvement in programs for childhood obesity prevention. The studies do not explore reasons parents of overweight children have to not participate in health promotion programs. This lack of insight is the focal point of research in this thesis. In order to present the research methods, first, empirical studies will be consulted for previous qualitative or quantitative studies on parental participation in such programs. The empirical studies will be placed in the context of behavioural theories that can further help to develop a theoretical framework of the current study. The findings will be combined to formulate the specific research objectives, and guide the research methods.

2.3.1 Empirical literature on reasons for parent participation

A search of published studies using the key phrases “attendance of parents”, “parent involvement in health promotion programs” and single words of those phrases as well as similar terms in order to find empirical studies on the reasons why parents do not attend childhood obesity programs did not yield any results. It thus seems that there is no literature on this topic yet in terms of the reasons for not participating, or interventions to promote parent participation. Thus, the theoretical framework for the current study has to be based mainly on logical reasoning and behavioural theories.

2.3.2 Behaviour Theories

Behavioural theories can offer a logical framework within which parents’ decision to attend prevention programs can be studied. Three different behaviour theories will be discussed, namely Social Cognitive Theory, the Theory of Planned Behaviour and the Precaution Adoption Process Model.

2.3.2.1 Social Cognitive Theory

The social cognitive theory (SCT) is an interpersonal theory, it integrates determinants of behaviour and the process of behaviour change. SCT explains human behaviour as an interactive determinism; as it is shown in the figure below, behaviour, cognitive and other personal factors, and environmental events all operate as interacting determinants of each other. According to this theory, change is made possible by a personal sense of control. If people believe that they can tackle a problem to their advantage, they feel more willing to do so and decide to make a change (Conner 2005). The central determinants are outcome expectations, self-efficacy, behavioural capability, perceived behaviour of others, and environment. The SCT is based on the assumption that behaviour, motivation and action are guided by expectancies. The SCT distinguishes between outcome and efficacy expectations. Outcome expectation is an individual assessment of the possible consequence that a certain behaviour will cause. For example, “when I attend the information evening I will learn to help my child reduce weight.” Self-efficacy is the assessment of a person’s capability to accomplish a certain level of performance, e.g., “I am confident to provide my child a healthy diet”.

Those examples underline that the SCT interventions are based on active learning that promotes performance during the learning process.

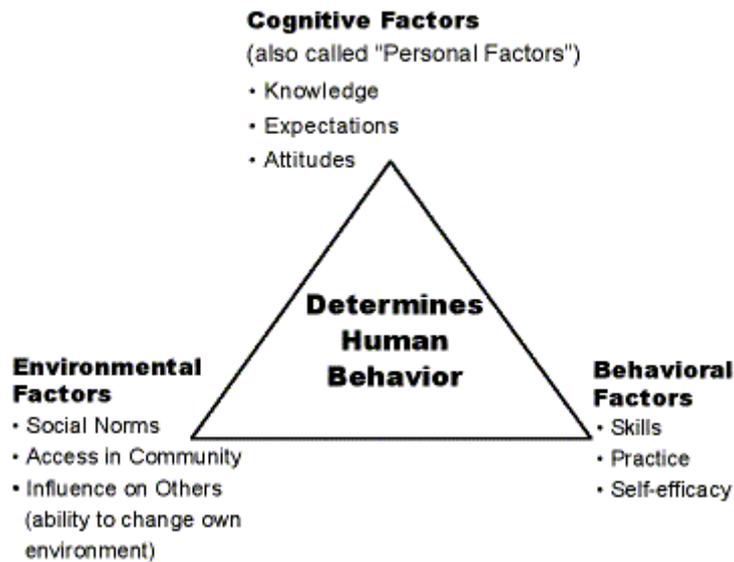


Figure 1: Social Cognitive Theory

2.3.2.2 Theory of Planned Behaviour

Fishbein and Ajzen's Theory of Planned Behaviour (TPB) is a value expectancy model which assumes that individuals decide to undertake a certain behaviour depending on the reasonability. As it is shown in the figure and explained hereafter, the TPB suggests several core concepts that explain how people make decisions about their behaviour (Andrews 2010).

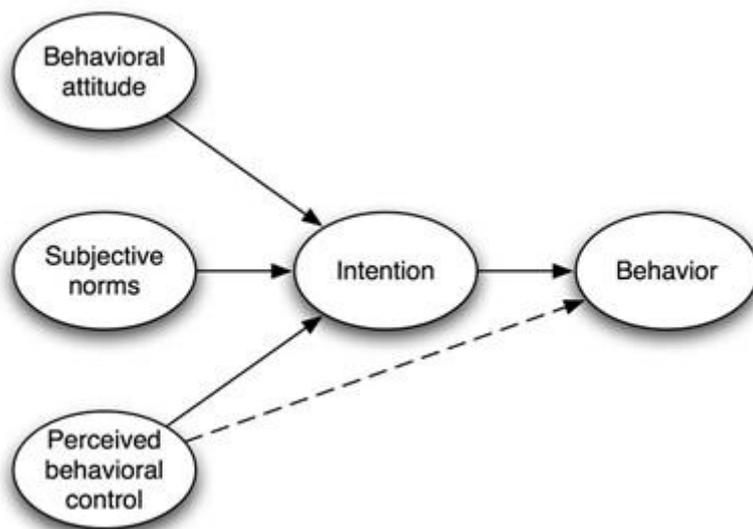


Figure 2: Theory of Planned Behaviour

The TPB states that the best predictor of behaviour is a person's intention to perform (or not to perform) a behaviour. This means that if someone intends to perform a certain behaviour he or she is likely to perform it (Koelen 2002). In turn, behavioural intentions are predicted by three determinants: attitude, subjective norms and perceived behavioural control. Attitude is the individual's evaluation of whether performing a certain behaviour is beneficial or not. It is thus very similar to the outcome expectancies as described within the SCT, thus it seems to be reasonable to use the term attitude for both determinants in this study. The second determinant, subjective norm, also known as perceived social expectations, is a person's opinion about whether important others, in general, believe he or she should perform the behaviour. The third factor perceived behavioural control, basically, has the same meaning as self-efficacy which is an important factor of the SCT, it refers to the individual possibility that a person is able to perform a certain behaviour or action (Bartholomew 2006).

2.3.2.3 Precaution Adoption Process Model

The third and final theory discussed is the Precaution Adoption Process Model (PAPM) by Weinstein. The PAPM assumes a similar decision making process as the TPB, but divides the process of decision-making in more individual steps (Glanz 2002). The PAPM describes seven possible stages from lack of awareness to the action taken (see Figure 3).

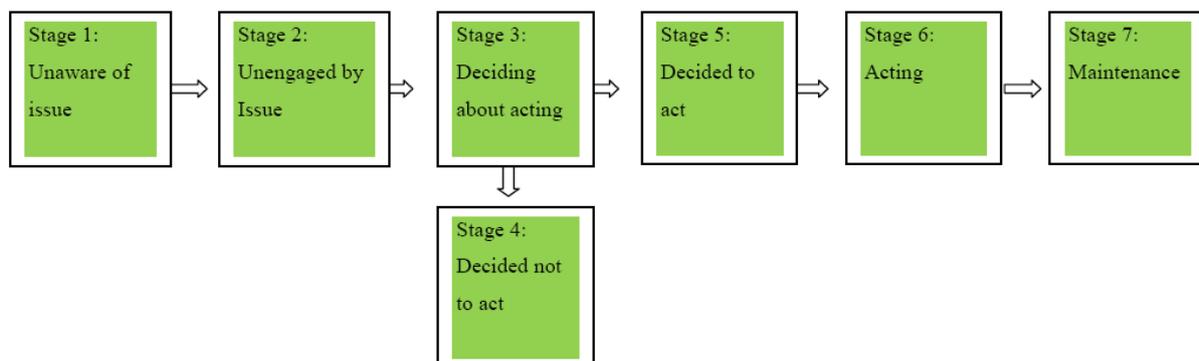


Figure 3: Precaution Adoption Process Model

The PAPM describes the process of behaviour change, it suggests that people may be unaware (stage one) of a certain issue and that they have never heard about it. In stage two they are aware of an issue but they do not think about changing it (Bartholomew 2006). People may be aware of something and at the same time be unengaged (Glanz 2002). From stage two to stage three people think about changing. Stage three is determined by the

difference between people who have already formed their own opinion and those who have not. In general, in stage three, people think about how to deal with an issue and try to make a decision. In the case that they decide not to act they move on to stage four, which means that the decision against any change and against attending information evenings has been made (Glanz 2002). People in stage five have decided to act, that means that they have formed an opinion towards change. Stage six is about acting and adopting behaviour for the first time. The difference between stage six and seven is that in the last one people already took action and they are trying to maintain their behaviour, taking action and implementing it into everyday life (Glanz 2002).

The PAPM theory underlines the way people take decisions. It is not enough to build up awareness for an issue, but to actually change behaviour. People have to be convinced of the importance and relevance of the new issue to implement new behaviour or to change old patterns.

2.4 Integrating the theories to parental participation

The sections above discussed three different theories of behavioural change which form the theoretical framework of this study. In this section those theories will be applied to understand how parents may think and decide in favour of or against attending an information evening. The theoretical framework of this study is illustrated in the following process chart and will be explained in the following section starting with the right box moving to the left box.

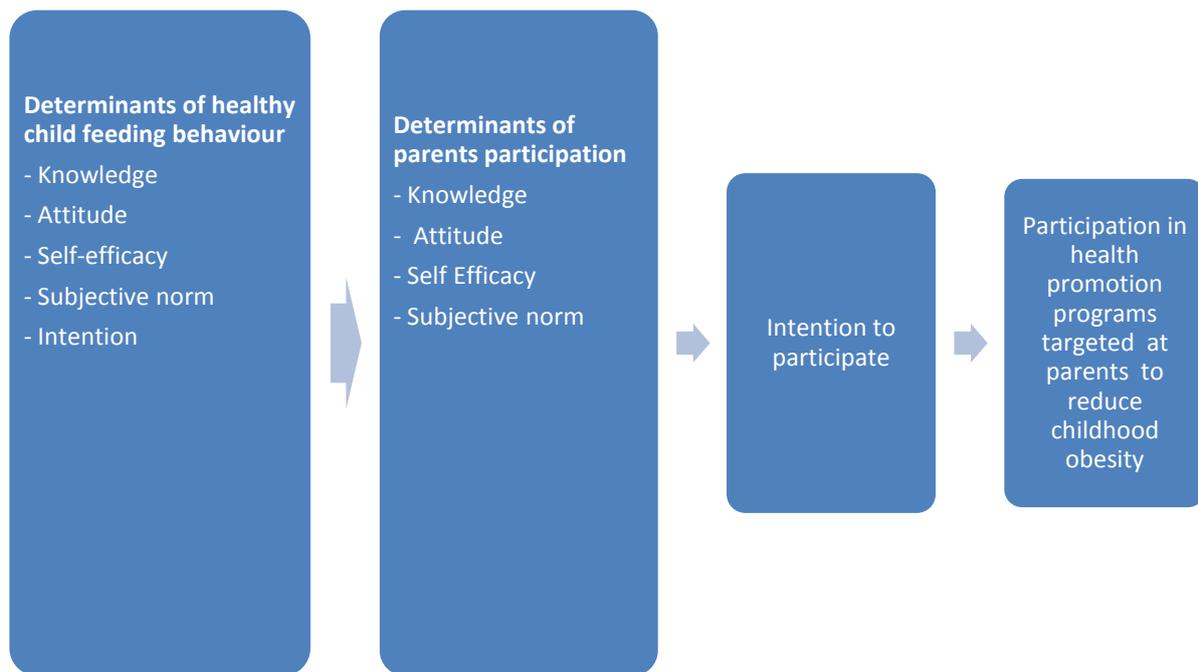


Figure 4: Model of Parents Participation

Figure 4 describes that participation is primarily predicted by parents intention to participate, according to the TPB the intention to participate is primarily predicted by determinants regarding participation behaviour specifically (2nd box from left to right), which in turn are likely to (partially) depend on parents' determinants towards healthy child feeding behaviour (e.g., parents' confidence in their ability to have their child exercise enough and consume a healthy diet). These steps will be discussed in more detail from right (participation behaviour) to left (determinants of healthy child feeding).

As illustrated in figure 2, behavioural intention is dependent on parent's behavioural attitude towards participating in information evenings, subjective norm and perceived behavioural control. Parent's attitude towards attending an information evening is potentially important, since it may influence if parents attend or not, depending on the way they value an information evening and the importance of it (outweighing advantages versus disadvantages). Secondly, subjective norm may be relevant when people who are important to the parents (e.g., partner, friends) are perceived to be in favour or against participating in the information evening. Hence, when parents mainly see advantages that are personally relevant for them (e.g., learning from others and sharing stories about parenting), and minor disadvantages (e.g., the time constraints), it is expected their intention to participate is higher.

Perceived behavioural control or self efficacy (SCT) may be an important factor when parents think about their performance during the information evening. It may be about feeling capable enough to attend in a group of parents discussing a healthy diet and other dietary issues. Before attending an information evening a person might think about how she/he will feel during the evening and if he/she feels comfortable and manage to interact during the evening in a group of parents and experts. If the person imagines feeling comfortable and being able to interact it is likely that the person attends.

But self-efficacy beliefs also affect the amount of effort to change dietary behaviour and the endurance to continue striving despite of barriers and setbacks that may reduce the motivation. This behaviour is a function of efficacy and outcome expectations. It is the confidence that a desired behaviour can effectively be carried out to reach the desired outcome. Response efficacy or outcome belief is, along the lines of the SCT and TPB, the extent to which a given behaviour is seen as effective in achieving a desired goal. In the scope of healthy eating this would be the extent to which providing healthy food and restricting unhealthy food choices are believed to prevent obesity (Kyle 2010). In the context of information evenings, this implies that parents attend information evenings if they believe that the outcome is beneficial. In this theoretical framework outcome expectancies and the attitude of a person will be seen as one, as the attitude is the belief of a person about the outcome of a specific behaviour.

In contrast to the theories mentioned above the PAPM suggests that people may be unaware about a certain issue, meaning that they are not aware of a problem or risk in their behaviour. Either they do not have the awareness that their current behaviour implies a risk or they do not have the knowledge to estimate their current behaviour as a risk. That implies that the risk perception is dependent of the level of knowledge-, and awareness a person has.

Now, as all behaviours that are deemed to be important for parent's participation, such as 'parent's participation behaviour' and 'child feeding behaviour' have been discussed, the focus will be on the last box of the flow diagram which shows the determinants of parent's child feeding behaviour in relation to lifestyle. An issue which has not been discussed in detail yet, but seems to be relevant for this research is the parents perception of their children's lifestyle and health and how they are performing it. In other words, the determinants of parents to perform their child's lifestyle may be interrelated with parent's participation in information evenings. For example parents who have a healthy lifestyle and perceive their child to be at risk for becoming overweight, but do not have the skills to solve the problem, may be very likely to attend. Parents who are in favour of a healthy lifestyle and have the skills, knowledge and motivation to perform it rather decide not to participate in an information evening. The same seems to be reasonable for parents who just do not perceive

the problem. To discuss those issues further, the focus will be on the determinants illustrated in the left box of the flow chart.

The SCT states that a certain level of knowledge needs to be given to be able to perform a certain behaviour. According to the PAPM a person can be completely unaware about a certain issue and therefore does not perceive the risks in child raising behaviour. Knowledge in relation to healthy child feeding behaviour may imply that parents either have the knowledge to nourish their child healthy or not. Having the knowledge or not, in turn has an effect on self-efficacy, the role of the partner as well as the attitude (outcome expectancies). Having a low level of knowledge may mean that parents want to learn more about child feeding skills and they are open to learn more which tends to be the case when parents have a high self-efficacy. Having a low level of knowledge and low self-efficacy can also mean that parents are afraid of new child raising patterns. They are afraid that they cannot handle the new situation and so they are not open for change.

Parents attitude towards child feeding behaviour can be either positive or negative, if parents have a positive attitude regarding the outcome of a dietary change they may be open to learn new child raising approaches or to over think old patterns. If parents have a negative attitude or cannot identify themselves with the expected outcome and consider that all this is not useful and unnecessary they may not be open for child feeding recommendations etc.

The knowledge and skills parents have regarding child feeding behaviour may also influence the attitude, motivation and self-efficacy of a parent. Having skills about child feeding may imply that parents have a high self-efficacy as they are more confident about the behaviour they are performing. This may also influence the motivation and attitude of parents in a positive way.

Self-efficacy, as mentioned above, relates to most of the other determinants of child feeding behaviour and it implies the confidence parents have towards the performance of a healthy child feeding behaviour. If parents have the knowledge, skills, attitude and motivation to provide their child a healthy diet, the self-efficacy may be higher compared to a person whose knowledge, skills, motivation and attitude are comparable low.

The role of the partner, as one specific type of subjective norm, is important to the partner's attitude regarding the child feeding behaviour. If the partner does not perceive a healthy diet with fresh vegetables as important it may be likely that the motivation to change behaviour patterns is lower compared to a situation where the partner is also fond to change those patterns. As a consequence the role of the partner may imply the dependence of one partner to the other in taking decisions regarding food choices, cooking style, parenting style etc.

The intention to change behaviour is dependent on all determinants mentioned above. Parents may intend to change behaviour if they perceive a risk in their child's diet, e.g., the

child gains weight and is in danger to become overweight or obese. Intention of a person to change behaviour may also be dependent of the attitude (outcome expectancy) of a person, outweighing the advantages and disadvantages of changing eating patterns for example. Advantage could be that cooking more fresh and healthy food reduces the consumption of convenience food which is high in fat percentage, on the other side it may be that the father of the child does not like fresh foods and vegetables, outweighing disadvantages and advantages may lead to a change in behaviour or not. That means that a person may be motivated to change child feeding behaviour if he/she perceives a risk or/and if the person expects positive outcomes by changing feeding behaviours.

Hence, parent's participation is expected to be best predicted by parent's intentions, and further by their behavioural determinants, such as knowledge, attitude, self-efficacy and subjective norm. Particularly parent's participation behaviour and child feeding behaviour is determined by their level of knowledge, outweighing of advantages and disadvantages a certain behaviour may have, the confidence they have to change behaviour and their believe what important others believe about their behaviour. Whether the determinants play a role, and if so, how they may be related to each other will be studied in detail in the current study through qualitative interviews.

2.5 Specific Research question

General Research Question:

What are the main determinants of the intention of parents of kindergarten children at risk for overweight to attend information evenings about healthy eating?

The Sub- Research Questions:

- What determinants (e.g., knowledge, attitude, self efficacy, subjective norm) are decisive for parent's behaviour to participate in health promotion programs?
- What determinants do parents have regarding healthy child feeding behaviour?
- Are parent's determinants about healthy child feeding behaviour related to the determinants about information evenings?
- What type of health promotion programs would parents find interesting and motivating to participate in?

3 Methods

This chapter outlines the methodology used to answer the research question. It is subdivided into three sections: research design and data collection, inclusion criteria and setting, as well as data analysis.

3.1 Research Design and data collection

This study is qualitative and exploratory, based on semi-structured interviews. It is an exploratory study because its purpose is to develop and evaluate causal theories. It is based on “Why” questions and the research seeks to find out why parents of risk children would or would not attend information evenings (Green, 2004; de Vaus 2001). Data collection in form of semi-structured interviews was conducted during May 2012. In interviewing parents it seemed to be reasonable to use semi-structured interviews.

The interviews were semi-structured, meaning that an interview schedule with pre-formulated questions guided the interviewer through the interview, but there was space for spontaneous questions to intensify certain topics or explore potentially relevant topics that were not part of the pre-defined interview questions. The questions were direct questions, but formulated that the interviewed person felt at ease and thus answers in detail and constructively. The interviewee was instructed to feel free to answer from their point of view, without distinguishing between right and wrong.

To support a good conversation between the interviewer and interviewee the interviewer aimed to create a comfortable and trusting atmosphere by showing openness and appreciation for the participating parents. Interviewer and interviewee were sitting on chairs, mostly opposite each other but without creating an atmosphere of interrogation. The exploratory interviews were guided by an interview schedule based on the theoretical framework, asking questions about dietary behaviour as well as participation behaviour. They were open enough to give the possibility to discuss certain topics more deeply, or to answer the questions of the participants. The interview schedule was developed to find out the determinants for parents to attend or not to attend information evenings and to try to understand parent’s intention to participate information evenings as well as specific determinants for child raising behaviour. (see interview schedule Appendix 1).

The interviews were stopped at the point of saturation, which means at the point that no new information arose during the interviews. After that the recorded interviews had to be typed out and coded.

3.2 Inclusion Criteria and Setting

Mainly the interviews were conducted in a kindergarten, some were conducted at the homes of the interviewees. The interviews at home were organised through the personal network of the interviewer. The contact to the kindergarten was made through kivi.e.V., since the association runs its programmes through kindergartens, they already have good contacts to some of the kindergartens. An appointment was made with the head of the kindergarten to discuss the goal of the research and to get permission to interview parents. This turned out to be uncomplicated, as the kindergarten manager was very interested and supported the research. Parents of children at the kindergarten were eligible for the study if their children were between three and six years old. The goal was to interview a diverse set of parents, because this might have an impact on the results of the interviews. So it was planned to have interviews with overweight or/obese parents with normal weight children, normal weight parents with an overweight or/obese child and normal weight parents with a normal weight child to compare the interview outcome. Letters of invitation were distributed to the parents by the kindergarten teachers, who also hung up a list where parents could sign in. Additionally, to increase the awareness of parents for the interviews, the kindergarten teacher invited the parents orally to participate in the interviews, which might have increased the amount of participants of the kindergarten.

3.3 Data Analysis

When the interviews were finalised in all kindergartens the recorded interviews were transcribed. To structure and organize the data a coding system was developed. First of all each interview got the letter I (interview) and a number, so Interview 12, can be found as "I12". Next to that each determinant within child feeding behaviour got a letter from A to F as well as a number, such as the topic 'Knowledge about overweight among children' of interview 12 is coded as I12/ A1. 'A' stands for knowledge and '1' stands for the order of the coded determinant. In addition, each determinant within participation behaviour received a letter from A to G. So each question was coded regarding the determinant and order of the question in the interview schedule. Afterwards the codes of the individual interviews were put together to be further analysed. Thereby the analysis gave space for new emerging topics that were not thought of within the theoretical framework.

4 Results

In the following chapter the results of the interviews will be analysed. In the beginning a table will illustrate the sample of the interviews. Further on, the first part of the analysis is focused on determinants of parent's participation behaviour, such as parent's knowledge about health promotion programs, parents attitude to deal with problems, their attitude about attending information evenings and workshops as well as their attitude regarding the preferred format of those. In addition, parents self-efficacy to attend such an event and their subjective norm, specifically their belief how other important people in their environment might think about participation and what their partner believes about participating in health promotion programs as well as their intention to participate in a program. In the end the results of the determinants will be connected to analyse the relation between those.

The second part concentrates on determinants of child feeding behaviour, such as parents knowledge about overweight, knowledge about the relationship between overweight and diet, parents attitude regarding the effect of the diet on children's well-being and development and the attitude about the causes of an unhealthy diet. Parents self efficacy to perform a healthy diet for their child, and the subjective norm, in particular, their beliefs what other important people think about their diet as well as parents intention to change or maintain dietary patterns. Finally the results of the individual determinants will be interlinked to see if and how determinants are related to each other.

In the end of this chapter both parts will be combined to see if and how determinants of child feeding behaviour and the determinants of parent's participation are connected to each other.

4.1 Descriptive of the sample

In this paragraph the sample of the interviews will be explained and illustrated. The table below shows the sample size, occupation, education and age of the interviewed participants as well as age weight and height of their children. From those 16 participants 15 mothers and one father were interviewed.

Name	Occupation	Education	Age mother	Age child	Weight (kg)	Height (m)	Weight status mother/ child
I2	photographer	On-the-job training	32	5	19	1,15	Slightly overweight/ normal weight (BMI 14,4)
I3	Nurse in a children's home	On-the-job training	29	4 & 2	16&12,8	1,17&0,98	Slightly overweight/ under weight (BMI 11, 7)/ underweight (BMI 13,5)
I4	Media designer	On-the-job	35	4	19	1,04	Strong overweight/

		training					overweight (BMI 17,6, P90)
15	Retail saleswoman	On-the-job training	32	4	18	1,10	Overweight/ Normal weight child (BMI 14,9)
16	Public servant	Professional studies	34	4&6	16&18	1,05&1,15	Slim mother/ 4 year old child normal weight(BMI 14,5) 6 year old child (BMI 13,6)close to underweight
17	Hotel manageress	On-the-job training	33	5	19	1,08	Slight overweight/ normal weight (BMI 16,3)
18	Housewife	43	6	22	1,23	
19	Doctor's assistant	On-the-job training	40	4,5	22	1,18	Normal weight/ overweight 18,9
110	Dental Technician	Studies	28	4	19	1,15	Slim mother/ normal weight(BMI 14,4)
111	Religious education/ Science of education	Studies	30	4	13,9	1,04	Very slim mother/underweight child (BMI 12,9)
112	Nurse	On-the-job training	32	3	22	1,05	Obese/ Obese (BMI 22)
113	Housewife	On-the-job training	37	6&4	20&17,5	1,20&1,05	Normal/ normal weight (BMI 13,9)/ normal weight (BMI 16,3)
114	Communication technician	On-the-job training	39	6	19	1,20	Normal/ normal
115	Kindergarten nurse	On-the-job training	38	6	18	1,17	Normal/Normal
116	Physiotherapist	On-the-job training	41	3	16	1,05	Normal/ normal weight
117	Secretary	On-the-job training	38	3	18,9	1,03	Normal/Overweight (BMI 17,9)

Figure 5: Descriptive of the sample

4.2 Participation Behaviour

In this section the following determinants, knowledge, attitude, subjective norm, self-efficacy and intention will be analysed in relation to participation behaviour based on the content of the semi-structured interviews.

4.3 Knowledge about participation behaviour

In this section the knowledge of parents regarding their participation will be analysed, specifically their knowledge about the (existence) of health interventions, such as information evenings and workshops carried out by organisations.

4.3.1 Knowledge about health interventions

Twelve participants have heard of events like this, but some did not notice that it took place in their kindergarten yet or were not sure if that is also offered in their kindergarten. "In our kindergarten they are offering it at least once a year" (Participant I2). "I have heard of it, but here in the kindergarten I did not notice anything yet, but I know that they carry out a project from kivi e.V. here" (Participant I4). "I attended one evening when my daughter was still in kindergarten, they talked about different ways of dieting, that one should eat fruits and vegetables and every now and then fish, because it is healthy. In principal that was interesting, but one does not really put that into practice." (Participant I12) Four out of sixteen parents did not know that events like this are offered "I did not see anything about it yet" (Participant I4). The mother of an overweight child also says, "No, I did not know that" (Participant I 17).

It seems that most parents have the knowledge that health interventions are offered and that there is the possibility to attend those. However, there are still parents that do not know that events like this are offered or whether they are part of the kindergarten programme.

4.4 Attitude regarding participation behaviour

The next sections will be about the attitude and outcome expectancies of participants regarding the participation behaviour of parents in health interventions, such as the attitude about dealing with health problems of the child, the attitude towards participating in a workshop or information evening, as well as the attitude about the format and organisation of an information evening.

4.4.1 Attitude about the approach to solve problems

Thirteen mothers believe to talk with a paediatrician is the best way to approach child health problems, as one participant said "I would definitely talk with a paediatrician to see

what he says about it and when it is acute to look which measure can be taken.” (Participant I17) “Actually I would ask the paediatrician first and hope that he will give further advice.”(Participant I15) Two mothers tend to discuss it within their families before going to a paediatrician. “First I would ask relatives, what they think about it, I would rather not go to a doctor and say ‘I see it as a problem-what shall I do?’, instead I would have a look, if she gains too much weight, I would pay more attention to it and control more when and where she eats and check if she has enough physical activity.”(Participant I4)

One mother would rather talk with an expert before talking with a paediatrician, she says “I would try to communicate with organisers of adult evening classes, family centres and caritas. I would not attend an information evening, but rather solve the problem individually. Also, I would favour an expert over a doctor as contact person.”

So this seems to suggest that the majority of the participants believe that a paediatrician can help best to solve a health problem. Only three mothers believe that talking with the family or an expert is the best way to find a solution. That may indicate that health promotion programs, as they are now, are not seen as a solution to actively solve a health problem.

4.4.2 Attitude regarding the attendance of information evenings

Ten mothers believe that it is good to attend information evenings or workshops because you can learn things that you did not know before.” Yes, I am interested, I would be interested to have an evening about the basics, I would like to know, how much a child weighs in average at a certain age or how much it needs to eat etc”. (Participant I4).” Yes I already said before, if somebody would disabuse me about how to improve, I don’t have anything against it.”(Participant I10) “Yes I think so. We live and learn. There are always things that one can perform better.” (Participant I14). In general, all those mothers have a positive attitude towards information evenings. They believe that they can always gain new knowledge, they have never heard of before, and that it could help to improve the diet of the child.

One mother said that she would attend a workshop, but not an information evening because she believes that she already has attended enough information evenings and that workshops are more effective “I had enough information evenings because of my pregnancy diabetes. I believe a workshop, like mother-child-cooking would be nice. It is not boring and you are not sitting there like in school, instead you and your child have fun together and you learn to cook something new.” (Participant I3) Another participant, an overweight mother of an obese child, said that she would attend an information evening, but not a workshop “Information evening yes, workshop not, because I am already so busy, with my daughter I have so many appointments and an additional workshop would be too much. I believe an

information evening could help to realise what one is doing to the child and in consequence really change the diet.”(Participant I12) It seems that this mother has a positive attitude to attend an information evening because she believes that it could help her to gain control over the dietary situation at home. She is waiting for somebody who exactly tells her what to do.

Four extra participants believe that they do not need to attend, because they do not perceive any problem or they do not see a problem in their performance and it is also a matter of time. “Due to the fact that I do not see a problem instantly, I would rather not attend. If I had problems though, I would attend, to see what I do wrong or what I have to change.” (Participant I5) “I think due to the fact, that I do not have overweight children and I have the opinion that everything works fine, I would not attend instantly.”(Participant I7). It seems that some mothers believe that an information evening is only useful to attend if one already has a problem. This might also lead to the assumption that people do not believe that an information evening is the right format. The next paragraph will show that parent’s attitude to attend is much better when they can describe a health promotion format that they would like to attend.

4.4.3 Attitude regarding the format of a health intervention

This paragraph is about parent’s attitude how an information evening about diet and overweight among children should look like with regard to the topic, duration, location, format of presenting and discussing issues which would really interest them. Ten participants clearly said that they believe that a practical event, like a cooking course with parents and children is effective for both to learn something. “I would appreciate, to have the possibility to work practically to really see what can be done with children, cooking together, to whittle, to make something children like and to show healthy and unhealthy food, having the possibility to touch, to look at and to really visualise it for the children. Not having those dry discussion rounds, because these are always the same.”(Participant I2) Another mother underlines this by stating “A workshop would be more suitable for parents, because parents are up to do something with their children, instead of agonizing themselves to attend. With a cooking course, the fun for the children and the dietary change for the parents would be given.” (Participant I7) These previous statements seem to underline that parents believe that information evenings are too boring and not effective enough to learn new things. In contrast to that, they believe that practical workshops are very effective for the child and their parents.

Four participants believe that a mixture of practical and theoretical units is the best way to organise a workshop. “I think the mixture is decisive. For example, if a cooking evening would be organised, where you work with vegetables and meat etc., that you do not only learn the practical, but also the theoretical part of it, such as what vegetables can do, which

vitamins the organism gets, which enzymes are in it, that eventually help to lose weight etc.” (Participant I5)

Only one mother believes that an information evening is most suitable for her, so she states “The information evening should be interesting, or something, for example considering JL. (son) and his aggressions and so on, perhaps that one gets tips what to do about it.” (Participant I12) This mother seems to believe that an information evening can help her individually (see also 4.10.2) to solve her problems and she also believes that workshops take too much of her time.

4.5 Self-Efficacy about participation behaviour

In the following section peoples beliefs about their capabilities to exercise control over their participation in health promotion programs will be analysed. The subsequent paragraph will be about the perception of parents how easy or difficult it is for them to participate in health interventions.

4.5.1 Self efficacy to participate in health interventions

Fourteen mothers out of sixteen stated that they do not have any problem to participate in an information evening and that they feel confident enough to discuss their child’s diet or their own difficulties in managing their diet in a group of people. “In general that is not an obstacle to me, because I can talk about it” (Participant I17). “I do not have a problem to participate, but I think those parents whose children report ‘My mother does not cook with me, we only buy convenience food’ would have a problem to attend.” (Participant I11) “I don’t have a problem to participate and to report about our diet, because I do not see a problem.” (Participant I3) That shows that those parents have enough self-efficacy to attend because they do not have a problem to talk about their situations.

One participant explains that he currently does not have a problem, but in the past “No, but it has not been always that easy for me. I can’t really describe it, but I believe it depends on the self-confidence.” (Participant I14) This example shows, that participation of parents can really depend on their self-efficacy, in other words on their belief whether they feel capable or not to attend. The next statement of a mother seems to underline this, she says, “It depends which other parents are sitting there, whether one can speak freely or not. When I think, I do not like them or I do not feel comfortable. I don’t think that in this case one can talk freely to each other. You never know what they will pass on to somebody.” (Participant I8). This statement might suggest that the mother does not believe that she is capable to talk with people that she does not know or might not like it because she is afraid of the consequences.

These statements might imply that most of the parents have a level of self-efficacy that they believe to be capable to attend an information evening. Only a few statements show that parents might also have a problem to attend because they do not feel capable to interact in a group of several parents.

4.6 Subjective Norm regarding participation behaviour

This section is about the subjective norm of the participants regarding parent's participation behaviour in health promotion programs. Subjective norm is the belief of a participant what other important people in their environment think about their participation behaviour. Here the focus will be on the attitude of the participant regarding the attendance of health promotion programs and how they feel other parents in their environment think about attending, as well as how they feel their partner thinks about it.

4.6.1 Believes of important others to participate

Ten participants believe that other parents would rather attend such a workshop. "I think so, thinking of our circle of acquaintances, I believe they would like to attend, but rather a workshop, than an information evening. Time is often very limited, and to sit down somewhere theoretically without the children is more difficult than involving the children." (Participant I4) Generally, I would say, of course. It is always depending on the fact, how much time I have for my child or actually for the development, for the diet and when I do not take care of this at home, the people also tend to not appreciate or have fun to attend such programs."(Participant I17)

One mother does not believe that they are interested to attend and one mother believes that some would attend and some not "Nowadays I think less. I don't know, perhaps it also depends on the constellation of the group. The parents of my older son did not understand each other; with my younger son it is better." (Participant I8) "Some yes and some not. That always depends. But parents rather attend something practical than an information evening." (Participant I11)

Two mothers say that they are not sure what other parents would think about attending such a workshop, for example one says, "I don't know, I don't know how others handle this. But one hears that the consciousness disappears and that it lacks in time. One also hears it from Mrs Mohr², parents are happy to drop off their children, so they can leave and do 1000 other things, me included. I do not want to acquit myself of this. The tendency is given, it is

² Mrs Mohr: Kindergarten nurse of the Evangelische Kindergarten Oberpleis

not lived anymore like in the past, that is how I could conceive it.” Participant I 10) One of those mothers states, “I hope so, but I don’t know for sure.” (Participant I13)

This seems to suggest that some participants believe that the consciousness or sense of duty of other parents to attend a workshop decreased over the years, but on the other hand participants believe that other parents are more up to attend a practical workshop with their children compared to a simple information evening.

4.6.2 Believes of the partner to participate

Only three parents talked about their attitude what the partner might believe about information evenings. Two mothers clearly stated that they assume that their partners would attend a workshop. One participant said: “I hope he thinks the same, but he is always in favour of trying things out. He often involves E., because than she feels useful and is happy when she could assist for example peeling a carrot” (Participant I4). The other participant reports “I think my husband would attend, although he does not cook generally, I think he would participate.” (Participant I5)

Another mother reports that her husband principally does not attend such events, “Every event related to kindergarten, I have to attend. He does not take a hand in it, except for any technical issues, like last week, where trees had to be plant. Then he attends, but otherwise its women’s business he says.” Participant I12)

This seems to indicate that the attitude of the partners is diverse regarding the participation of health promotion programs. Some fathers do not want to be involved, which implies that they do not believe that it is beneficial for their child to participate and some believe that it is positive to involve children in cooking etc.

4.7 Intention regarding participation behaviour

This paragraph is about the intention of the participants to participate in health promotion programs. In specific it is about the intention of parents to participate in an information evening or workshop which is organised and planned along their conception and interests regarding format, locality, time, and presentation format as well as discussion possibilities.

4.7.1 Intention to participate

Eight mothers say that the probability to attend would be a 100 per cent if they would not have a little baby, if they had not to work, if they had no exam and if the husband would look after the children. “I would definitely attend, if I had no exam.” (Participant I10) “If it takes place at a time where I am free, I would definitely attend.”(Participant I9). Four mothers say

that the probability to attend is 90 per cent because there can always be an imponderability that can't be foreseen. "I would attend there, to 90 per cent." (Participant I11)

Two further mothers state that the probability to attend would be 80 per cent "It depends on the time, at what time it takes place and if my husband can look after the children, then I would attend. So I would say to 80 per cent, because always something can happen, for example that my husband, or I don't know, children get ill..." (Participant I5)

One mother answers „ I think, I would rather attend a workshop, to 70 to 80 per cent, already for the reason that my eldest daughter would have a lot of fun. The chance to attend is relatively high for me because there are many things that I do not know yet, but on the other hand there are many things which I know already. In case the topic interests me acute, I would attend to 100 per cent. (Participant I3)

Only one mother answered that she cannot attend because she has a little baby "Instantly not at all, because of L., but if time would be given, I would do it" (Participant I4).

It is noticeable that only one mother does not have the intention to attend and all the others rather have the intention to attend. However those participants who said that they rather would attend always mentioned facts that could hinder them to attend, such as time constraints, need for a babysitter, baby at home that needs the mother, exams and work. Also the mothers who mentioned to attend 100 per cent always named reasons that could still hinder them to join.

4.8 Relationship between the determinants of participation behaviour

In this paragraph the link across the determinants of parent's participation behaviour will be analysed, to see whether there are any correlations that prevalently appear. Therefore participants showing similar results in the combination of the determinants are grouped together. In some cases there were a lot of similarities and some mothers did not fit in those groups. The following participants, normal weight mothers or slightly overweight whose children are all normal weight (I2, I6, I7, I10, I11, I14, I15, I16) know that information evenings are provided and they believe that they are helpful and can give them new insights. However, they believe that a cooking workshop with children is even more interesting and effective. They believe that also other parents in their environment are interested to join, that means that those mothers perceive positive social normative beliefs from others regarding the participation behaviour. They feel capable to attend, thus they seem to have a high self-efficacy regarding the participation of health promotion programs. The intention to attend of those parents is between 80 and 100 per cent.

The mothers, one normal weight with an overweight child and one slightly overweight mother with two underweight children (I3, I9) did not know that information evenings are

offered by organisations and in their kindergarten. They believe that they already have enough knowledge, so they do not want to participate. However, they would like to attend a mother child cooking workshop, because they believe that a practical event with the children is more effective. They believe that their husbands have the same attitude (subjective norm), but they leave healthy feeding to their wives. They have a high self-efficacy to attend. Her intention to join a workshop is between 70 and 80 per cent, because there can always emerge unforeseen issues that hinder them to attend a practical workshop.

The next participant (I4), herself obese and the daughter overweight knows about the offering of information evenings, but she does not know if they take place in her kindergarten. She believes that an information evening about basics would be interesting, such as how much a child should weigh at a certain age. She also prefers a practical event which involves children as well. She believes that important people from her environment also would like to participate in a workshop (subjective norm). Her self-efficacy to participate is rather high and she has the intention to participate, but instantly she cannot participate because of her baby.

The following mother, herself slightly overweight with a normal weight child (I5) knows about information evenings but she does not know if they are offered in her kindergarten. She knows that the kindergarten is part of the programme kita vital of kivi.e.V. However, she believes that she does not need to participate in an information evening because she does not perceive a problem, but she is interested in a practical workshop. She has the attitude that feeling uncomfortable is no reason to not attend, because she owes it to her child, which seems to imply that her level of self-efficacy is relatively high, because she feels capable to attend for her children, even if she does not feel comfortable with the situation. Her intention to join a cooking workshop is 80 per cent, it depending if her husband can look after the children.

Another mother, herself overweight and her child has normal weight (Participant I8) does not know that information evenings are provided. She has the attitude that it is good to attend any kind of program because parents can't know everything. She believes that her husband would have the same attitude (subjective norm). It depends on the group of people if she can talk freely, which seems to suggest that she does not feel capable to interact in a group of parents and thus her level of self-efficacy is rather low.

Another participant (I12), she and her son are obese, knows that information evenings exist and she already attended one. She believes that she would rather attend an information evening because she perceives a workshop as too time consuming. She believes that also other parents would attend, but her partner believes that it is her role to attend (subjective norm). It seems that she believes that she is capable to attend, which seems to imply that her self-efficacy is rather high to attend an information evening. She intends to join because she hopes for tips how to change the diet.

One normal weight mother with normal weight children (I13) does not know that events by organisations are offered, but she already saw information flyers of the BMELV and she knows that kindergartens are promoting healthy eating for children. Although she believes that the diet of her children is good. Her self-efficacy to participate is high and she believes that she can always learn something to improve her behaviour. She also prefers to have a practical workshop where children are directly involved. She hopes that other parents join, because she believes that some parents do not really care about their children (subjective norm). She is planning to attend if her husband can look after the children, generally her intention to participate is high.

In addition, one normal weight mother of an overweight child (I17) did not know that events and lectures are provided by organisations. She would rather not attend an information evening because she believes that she is providing a healthy diet and that she knows enough about a healthy diet. However she would have fun to attend a practical workshop with her daughter. She believes that the attendance of parents is dependent on the time they spend for cooking etc. in every-day-life. She believes that if they do not invest time, they also do not join such an event (subjective norm). Although her daughter is overweight she seems to have a high self-efficacy to participate and it seems not to be a burden for her to join. She intends to join a workshop if somebody can look after her baby.

To sum this up, one can say that those who did not know about information evenings beforehand, seem to believe that it is not necessary for them to attend, independent whether they have an overweight child or not. Either parents say, that they believe that they have already enough knowledge and thus do not see the need to participate or they believe that they already know a lot, but that always new things can be learned and therefore they want to participate. So the perception of their level of knowledge can be an indicator for participation or non participation. In opposite to this parents believes about the attendance of other important people in their environment (subjective norm) seems to be a minor reason to participate. The level of self-efficacy also seems to play a role in participation. The majority of parents said that they feel capable to attend, but one mother mentioned that she only feels capable to attend if she feels comfortable in the group of participants. In general parents with a low self-efficacy had the intention to participate and parents with a high self-efficacy either had the intention to join or not.

It is noticeable, that for most of the parents it is a big difference to join information evenings or workshops. Many parents that said that they do not see the need to join an information evening were motivated to attend a mother-child-cooking workshop for example. So that suggests that the attitude about the outcome differs among the format of health promotion programs. Parents believe that workshops with their children are more effective to improve the child's diet than an information evening where purely information is recited.

4.9 Child feeding behaviour

The following section will focus on determinants of child feeding behaviour, such as knowledge of child feeding behaviour, the attitude towards child feeding behaviour, the self-efficacy of parents regarding child feeding behaviour and the subjective norm of child feeding behaviour as well as the intention of parents to feed their child healthy.

4.10 Knowledge of child feeding behaviour

In the following paragraph the knowledge of the participants regarding child feeding behaviour will be studied, specifically the participants knowledge about the identification of overweight, causes and consequences of overweight, the relationship between diet and overweight among children, the influence of regular meals on the weight of the child, dietary behaviour to prevent overweight and the composition of a healthy diet for a child aged three to five will be analysed.

4.10.1 Knowledge about the identification of overweight

Eight participants said that children are overweight when they can see that they have too much weight. "If you obviously see fat through the t-shirt, a slight stomach where I clearly think- that is too much" (Participant I2) or "if children have a tummy and taut calves" (Participant I7). Three mothers responded that they use the Body Mass Index as indicator, as for example one participant answered, „If the weight is too high and I can calculate the BMI"(Participant I17) and one mother responded that it can be determined clinically, "One can assess it by weighing, if a certain limit is passed, one can also measure it clinically through certain values, such as blood check, you can look at the body fat composition and others."(participant I10)

Three participants responded, that they see it when the desire of action is reduced in combination with a high weight "If the weight becomes too high and that the ability for activity and the desire for action is reduced, for me as a parent it would be clear that it is time to act" (Participant I9). One participant shows very little knowledge about the weight status of children as she states, "I believe that we are spoiled nowadays, children are skinnier, so that we do not know the 'norm-children' anymore." (Participant I7)

In general parents seem to know how to determine if a child is overweight, if they do not only determine it visually they know how to measure and calculate it.

4.10.2 Knowledge about the causes of overweight

In The majority stated that it is related to a lack of physical activity and a wrong diet, some participants said that it is because of a lack of activity and a wrong dietary behaviour of the parents, genetics and psychological problems were also named.

Nine mothers stated that overweight is related to a wrong diet and a lack of physical activity, as one participant answered: “a wrong diet and not enough activity.” (Participant I2), “Wrong diet, too many sweets and not enough activity.” (Participant I6)

Three mothers stated that it is related to a lack of physical activity and the wrong dietary behaviour of the parents as one mother responds “a lack of activity as well as cooking practices and buying behaviour of parents.”(Participant I10)

Two mothers purely talk about the dietary behaviour, as one overweight mother answers “I think he still needs a bottle of chocolate milk, when he goes to bed.” (Participant I12) One mother reports that it is caused by a mixture of dietary and mental causes, “Diet, but also mental and familiarly reasons” (Participant I15). One father answers “Apart from genetics, it is caused by a lack of physical activity and an unhealthy diet.” (Participant I14)

In sum the interviewed parents know that overweight is caused by a wrong diet and a lack of physical activity. In addition some parents mentioned genetic predisposition as well as mental and family problems.

4.10.3 Knowledge about the consequences of overweight

In the following paragraph the consequences of overweight will be analysed. Five participants talked about the health problems of overweight, as one mother answered, “In general health consequences, starting with orthopaedic problems, heart diseases and diabetes.” (Participant I2) Five mothers reported health consequences as well as mobbing. “Hypertension is the classic consequence. Additionally a problem for children is that they are teased by others, when they cannot participate in sports class for example” (Participant I4). Two mothers mention the limitation of action as well as the health consequences, “They are not able to be that active, they might get problems with hypertension, diabetes and cardiovascular problems.” (Participant I8) One mother answers “In short term they have less fun to be active, in the long run psychological factors appear.” (Participant I9) Two others talked about the combination of reduced activity, health and psychological consequences, “In the long term certainly health problems, diabetes or joint disorders, cardiovascular problems occur. In the short term, they cannot move as good and they might be more vulnerable for diseases. They might be teased by classmates and other children.” (Participant I11)

Overall parents of normal weight and overweight children know about the consequences of overweight, such as the different health consequences, limited ability and desire to move

as well as the fact that overweight children are not socially accepted compared to normal weight children.

4.10.4 Knowledge about the relationship between diet and overweight among children

Eight mothers explained that a wrong diet in combination with a lack of activity leads to overweight among children. One mother answers, “Too many carbohydrates, too much sugar and clearly too much fat lead to overweight, if in addition activity is missing, having these “Couch-Potatoes” today. If enough activity would be given, the problem wouldn’t be that severe.”(Participant I7) Another participant explains “I think if I have the wrong diet and only eat fatty food, one gains weight. One should eat more fruits and be more active”(Participant I8). Seven mothers explained that it is all related to the wrong diet, such as one of them explains „Generally, a diet is responsible for the delivery of energy, and when I do not use the energy, but take in too much of energy every day, our body stores it as fat”(participant I2). Another mother states “Much sugar and much fat often lead to overweight, as I would explain it.” (Participant I11)

Next to that one overweight mother said, “It is not only related to the diet, it makes a big part, but one part is also related to genetics. Certainly one can steer a lot with the diet, but there are also people who can eat and eat and they do not gain weight. So I think it is genetic predisposition.”(Participant I4) This statement is based on a lack of knowledge, firstly the fact that people can eat without gaining weight is related to the metabolism of the person, and secondly gene defects are rare and cannot account for the high prevalence of obesity.

Another mother formulates: “Yes, I know that one should pay attention on a well-balanced diet, children should not eat too much dietary fibre, not too many carbohydrates, not too much sugar and much fruits and vegetables. Good food products combined with enough activity.”(Participant I11) In general it is correct what she says, but dietary fibre is very positive for the metabolism and specifically for the digestion and it contains a lot of vitamins and minerals compared to other carbohydrates made out of white flour for example.

Apart from this wrong statement the participants seem to know that a healthy and balanced diet has a positive effect on the child’s health and prevents a child from gaining weight.

4.10.5 Knowledge about the influence of regular meals on the weight of the child

All mothers know that regular meals have a positive effect on the weight of the child. One participant stated, “I believe that regular meals are important, when a child has had enough during a meal, and it is given that a child eats healthy food and not unbalanced,

children tend to, from their natural behaviour to not continue eating food in-between meals or to ask for sweets.”(Participant I2) A different participant underlines that „It is better to have bigger meals and those purposeful and that one takes time to prepare it and to eat together and to use it as a communicative moment with the family.”(Participant I9). A further participant says: “Yes, I think so, because otherwise one does not have an overview. One loses the overview, if one eats permanently and one loses the feeling of satiety.” (Participant I4)

Another mother, herself overweight, does not seem to have that much knowledge about regular meals, “I think yes, if a child eats regular, I don’t know, all three hours a bite for example, it is better as eating once or twice per day and then to eat lots of food. Thus I think, it is better to eat all two to three hours a bite or something like this, I don’t know an apple or something fruity, melon or something like this instead of sweets or only two meals per day.”(Participant I12) She does not seem to really know what she is talking about, on the one hand she is in favour of regular meals and that those are important, and on the other hand she thinks that children should eat all 2-3 hours a bite.

Disregarding the last example, parents seem to know that regular meals, meaning breakfast, lunch and dinner, are important for a child to grow up healthy and to maintain a healthy body weight.

4.11 Attitude towards child feeding behaviour

The following paragraph gives an overview about parent’s attitude regarding child feeding behaviour, such as the attitude about the relationship between diet and children’s wellbeing and development, the attitude about the consequences of a fatty diet and too many sweets, the attitude about the diet of their child and the parent’s attitude about the consequences of their child’s diet.

4.11.1 Attitude regarding the effect of the diet on children’s wellbeing and development

Fourteen out of fifteen parents believe that a healthy diet prevents a child from diseases and it leads to a better performance and thus has a positive effect on children’s wellbeing and development. One overweight mother uses the expression “We eat what we are, if we only eat chips we do not feel good.” (Participant I4) A further mother states, “Yes, I notice that, when my son eats too many sweets, he gets going and afterwards, when the sugar level decreases, he becomes grumpy. So, one notices the same behaviour when he eats too many chips, that the fatty food and sweets have a negative effect on the wellbeing of the child.” One mother also states: „Yes, definitely. I believe that children are more tired and

flabby, when they have an unhealthy diet. And the effect of giving children enough Omega-3-fatty acids in infant formulae in form of rapeseed oil is evidence based, that this influences the development of the brain. In this way many things can influence the development of the child.“ (Participant I2) A further mother believes that, “Food has an effect on the wellbeing for everyone, whether children or adults. The typical situation is, when a child is said it receives a lolly. Food makes happy.” (Participant I3) This example shows that parents sometimes believe that certain food make their children happy, which is only positive for the wellbeing of the child in short term, this can have a very negative effect, if the child gets used to this mechanism, the child is said and receives sweets instead of a hug for example. In addition this can also lead to overweight, as one mother reports “I know a family with four kids, the mother is slim and the eldest daughter 18 years old, she is really overweight and I always asked myself about the cause, people of the closer environment of the girl previously told me that the parents feed her calm and that no one really looks at what she eats.” (Participant I2)

One mother believes that eating together in a family is at least as important as eating healthy food, so she states “The most important issue is to have meals together as a family. The healthiest food we give our child does not make it happy, if it has to be eaten alone. Therefore I assume that both issues are interlinked and I don't believe that food alone is responsible for the wellbeing of a child.” (Participant I17)

The statements show that parents have an attitude about the relationship between diet and the wellbeing of a child. In general, they believe that a healthy diet has a positive effect on the wellbeing and performance of the child. Many parents made the experience that unhealthy food like chips and chocolate stimulates a child in a negative way such as hyperactivity or tooth decay for example. However, it seems that disregarding the consequences, parents sometimes have the attitude that they can give their children sweets as a replacement for love or time spend together.

4.11.2 Attitude towards the consequences of a fatty diet and too many sweets

Seven mothers have the attitude that in consequence of a fatty diet and too many sweets children gain weight and get health problems. As one overweight mother of an overweight child explains “It fattens up and thus later on it gets heart problems, joint disorders, back pain, bones, no idea...enough disorders.” (Participant I 12)

Two mothers talk about physical disorders, diseases and addictive behaviour. As one participant states: “On the one hand, the child gets used to it very early and I think later on it becomes even harder to change the pattern and to change to fresh fruits and vegetables. On the other hand, when a child is already fat at this age and can't participate in sports and thus will be excluded....children can be very mean. Through this they feel very early, that they

cannot participate as other children and that it is frustrating for little children. In the long run they will have pain in the joints and developmental disorders.” (Participant I4) Two further participants believe that children will become overweight, if they eat too fatty and too many sweets, so one of those says „It will fatten up.” (Participant I8) Two more mothers also talk about growth and developmental disturbances as a consequence, “It can disturb a child’s growth and development because the child does not get the relevant nutrients and vitamins to grow up healthy” (Participant I5). One participant said „Especially in childhood children will be teased by others [...] And I think this is frustrating and that might stimulate the child to eat even more and that they have to compensate all this, a vicious circle” (Participant I2). Further on one mother said that the consequences of a fatty diet and too many sweets cannot be generalised, so she states: “I would say, too fat, too many carbohydrates, those are the issues that lead to overweight. But there are children who can compensate sugar incredibly good. I think this has to be seen individually; there are children that are vulnerable, if they do not get enough vitamins and really get ill more often and others can handle the unhealthy food easily, I think one cannot generalise this.” (Participant I7)

In general all participants, normal weight and overweight, have the attitude that a fatty diet and too many sweets have negative consequences on the child’s health, such as gaining too much weight, diseases, pain and psychological problems. It is noticeable that all parents have this attitude, but with a slightly different notion, independently of whether they are overweight themselves, have overweight children or are normal weights. Except for participant I7, she has the attitude that some children can compensate the unhealthy food and others not. In a way she is right, some children can eat sweets without gaining weight, however, when children eat a lot of unhealthy food that does not have a positive effect on the health anyhow and can also have consequences like tooth decay and vitamin deficiencies for example.

4.11.3 Attitude about the diet of their child

This section indicates the attitude of parents regarding their child’s diet and it especially shows if parents are aware about their child’s diet and what the child is eating.

The majority, thirteen of the interviewed parents believe that their children have a healthy diet. One mother of an overweight child, that tends to be slightly overweight believes, “M. eats healthy, she also likes to eat sweets, but luckily she always eats it in portions. She could never eat a whole package of wine gums or a whole bar of chocolate. If fruits and sweets are placed on the table, she always grabs the fruits.”(Participant I9). One father of a vegetarian family reports, “They have a good and well balanced diet. We do not frown sweets

completely, but we look after that they get good quality and are not completely made out of sugar.” (Participant I14)

Two mothers consider the diet rather healthy, one of the mothers that believe that the diet is rather healthy reports “I think, for the reason that the child is not overweight, I believe the diet is rather well, in the good midfield. The children eat versatile, especially L. eats everything what she is served, therefore one can steer that pretty good.” (Participant I16)

One participant does not clearly state if she believes if it is healthy or not, but she describes all the things that could be wrong. She reports, “Every day we have vegetables or salad and potatoes or something alike. Another mistake might be that we have meat every day, but my parents worked at a butcher, my father was a butcher and my mother a salesperson. I am used to it, we had meat every day and perhaps I am a little bit fat because of this, anyway, I adopted this. My husband and my children are no fish eaters, I would like to prepare fish but it is not possible. The three do not eat it, thus we eat meat every day and perhaps this is also a mistake and plays a role. In addition sauces are a must, my husband needs sauces in addition to potatoes, to noodles, to everything. This also might be an issue, that has a lot to do with fat and in the evening all the carbohydrates.” (Participant I12) The mother does not clearly state her attitude towards her child’s diet, but she believes that the consumption of meat and sauces is one cause for her and her son’s weight problems. Further on she believes that her own weight problem is related to the fact that she always ate meat as a child.

In sum, almost all participants believe that they provide a healthy or rather healthy diet, either their child is overweight, under weight or normal weight. Only one mother believes that the diet she is providing is not positive for the weight problems of her son. Beside the attitude of the parents, this section turns out to also indicate the awareness of parents about issues that might be wrong in the diet of their children.

4.11.4 Attitude about the consequences of their child’s diet

The attitude of the participants regarding the outcome of their child’s diet are very diverse. But most of the parents believe that their children are active and fit because of the diet they provide. Two mothers report that their children are awake, fit and active, such as one participant explains, “My children are fit and healthy. They are satisfied with the food they get and they like to eat it.” (Participant I13) This mother believes that the diet is positive for her children because they are fit and active and they are happy with the healthy food they get.

One mother explains “I don’t know if that is related to the diet, but I believe that she is rather fit and active, but if that is exclusively related to the diet- I am not sure because I don’t

have the comparison with other children that I nourished myself.” (Participant I4) This mother believes that her child is fit and active, but she does not really believe that this is purely related to the diet.

Two participants state that their children are quite often ill, despite that they have a healthy diet. But they believe that their children are also healthy in the long run, when they get a healthy diet as a child. “They are not extremely healthy, despite fruits and vegetables they are vulnerable to illnesses, but I believe that it will pay off in the long run. Our children are skinny and they have a lot of energy.” (Participant I11)

Three participants believe it is important that their children learn to be conscious with the diet: “I find that our children have a healthy diet and thus they grow up in a good way and they are conscious for what is good. Like this they are prepared for the future, when they are responsible for themselves, that they know what a healthy diet is and how they benefit from it. (Participant I14) This statement shows that those mothers really believe in the long term benefit of having a healthy diet and that they believe that they build the basis for their children’s future dietary behaviour.

Two mothers say that their children are robust and healthy, one of them states “When I look at my children they are rather robust and not skinny, which I believe is very good, because if children are ill they lose two kilos very quickly.”(Participant I2) That shows that the mother believes that her children are healthy and she sees a benefit that her children are not that skinny, in case they are ill they are more robust than other children.

A further mother reports “she gained weight during the last half year. We could not go out that much during winter time. She only has dancing lesson once a week, but we are searching for an additional activity. First they eat a lot, gain weight and after that they do not eat anymore and in this phase they grow. “This was the same with our son and I assume that it is the same with her”, so the mother believes that her daughter eats a lot now because a phase of growth will follow.” (Participant I9) She believes that the additional weight will be needed for her daughter to grow, however she wants her daughter to make more sports. That shows that despite she has the experience from her son, that after gaining weight children grow, she has the attitude that she has to prevent her daughter from getting weight problems, so she is aware that her daughter is at risk to gain weight easily.

Another mother states “We are lucky that he is not addicted to sweets and that he does not weigh too much. He is rather under the weight that he should have, he can eat everything and he does not gain weight.” (Participant I5), so this mother simply believes that the diet must be healthy because her son does not gain weight.

An overweight mother of an overweight child said, “So far everything is ok, but if I want to stop him every now and then, he gets aggressive.” (Participant I12) “So far” implies that she believes that now everything is ok, but that this condition can change in the future.

Furthermore she believes that it is a problem that her son gets aggressive when she wants to stop him eating.

Next to that one participant says, the only conclusion I want to draw from this behaviour is that she does not gain more weight. This is my goal. The biggest risk I see is that her weight drifts off, if one does not keep an eye on it“(Participant 17). That shows that the mother believes that through the diet she provides she can prevent her daughter from having weight problems in the future. She believes if she controls what she eats that she can prevent her from gaining weight.

The previous statements show that parents see different consequences in relation to the diet they provide, but all parents seem to believe that the diet is at least partly responsible that a child is healthy and fit. This section shows that the attitude of parents can be interlinked with knowledge and awareness, as this section also indicates their knowledge to judge what is healthy or unhealthy about their child’s diet and thus their awareness and what is healthy and unhealthy about their child’s diet and how they act if necessary, that their child is at risk for getting overweight for example.

4.11.5 Attitude about risks and benefits of the diet

Seven out of fifteen participants do not see any risk. Two mothers do not see a risk directly, but they say that they have to stop their children from eating too much. One of those reports, “we start to worry when she grasps the third piece of cake, then we start saying- this is enough. But I know that my husband and I have an eye on this and we have the same attitude, we pay attention to our weight and we want to give that to our children as well.” (Participant 19) That shows that she pays attention that her child does not gain too much weight and she believes that it is important to teach her child the consciousness to control her weight. The other mother states: “I would pay attention that she does not eat too much. When we are eating together, she often wants to have another portion, and then we try to reduce this.” (Participant 116) This mother also shows that she has the attitude that she has to control the weight of her daughter and to steer her in the right direction because she is not slim, she likes to eat and she is not yet able to limit the amount of food that she needs So she believes that it is necessary to control the amount of food her daughter eats.

One other participant is afraid that her children fall into a daily routine “When I look at me, I am not that active anymore as I should and we really like to eat, I hope that my children do not get into the same routine.” (Participant 12). This shows that participant 12 believes that she gained weight because she does not have enough physical activity compared to the food she eats and she wants to prevent her children from getting into the same routine.

Another mother is worried about health risks, so she says, “I am worried about diabetes because my family is predestined and I also had pregnancy-diabetes during both pregnancies. In the family of my husband are a lot of allergic persons. That is also the reason why I pay so much attention to the food we eat and that I cook regularly, because in general I am not a friend of cooking.” (Participant I3) That shows that the mother believes that a well balanced diet and regular meals help to prevent her children from diseases like diabetes and allergies.

A further mother sees a risk because of the one-sidedness’ of her daughter’s diet “The one-sidedness, one always have to tell her ‘Try this, do that’, when I would leave it to her, she would eat noodles and rice or something like that every day. A risk is that she often gets what she wants, my parents cook for her what she wants and likes to eat and in the kindergarten she has to taste the meals, but she does not have to eat, if she does not want to.” The mother sees a risk because the diet of her daughter is not well balanced and she believes that it is not good like they handle it.

One mother of an overweight child says, „ So far not, he does not have any problems, but we will see what happens if it continues like this. “(Participant I12) She believes that there are risks when she says “We will see what happens” but she is not really actively reducing the risk for her so. It seems as if she has the attitude that it will happen with her son, but she cannot do anything about it.

The last mother is afraid that her daughter gains weight „The biggest risk is that she gains weight if I do not look after it.” (Participant I17) Here one can see that the mother is really afraid that her daughter gains too much weight and she believes that she has to control her daughter so that she does not have a problem with it later on.

Summing up, more than half of the participants are afraid that their children do not eat healthy enough or they want to prevent their children from gaining too much weight because they are already prone to have more weight compared to other children. This also seems to suggest that the last section also indicates the awareness of parents regarding the perception of a health problem.

4.12 Self-Efficacy of parents regarding child feeding behaviour

This paragraph is about people’s beliefs regarding their capabilities to exercise control over the diet of their children. The next paragraph will be about the perception of parents and how easy or difficult it is for them to provide their children a healthy diet.

4.12.1 Self Efficacy of parents to provide a healthy diet

Ten parents answered that they perceive it easy or very easy to provide their children a healthy diet. “It is very easy. We get information everywhere how it should be done and when

you follow those advices, it is very easy.”(Participant I2) That seems to suggest that those mothers have a high self-efficacy to raise their children healthy. Two more participants said that they perceive it sometimes difficult “Partly it is difficult, when they do not have the appetite to eat fruits and they really prefer to eat chocolate, cake or something alike. In this case it is difficult.” (Participant I11) The other one states, “It is not that easy, because a healthy diet also means to me that the food is low in harmful substances and it is very difficult as a consumer to have the orientation, because you never know if it is fertilized with pesticides or not. Even the things with organic label I do not trust.” So both mothers (Participant I11 and I12) sometimes perceive it difficult to provide a healthy diet, but the first mother perceives a difficulty to always forbid her children to eat chocolate and cake, which seems to be an issue of feeling not capable enough to be consequent all the time and leads to the assumption that she has a lower self-efficacy compared to the other mother. The second mother perceives a difficulty in performing a healthy behaviour because she does not trust the labelling of food, which implies that she is capable to provide a healthy diet, but she has to put a lot of effort into it to provide a healthy diet according to her own demand regarding a healthy diet.

Two slim mothers explain that it is difficult because of the influences from their environment, as she states, “It is rather difficult, because one gets something everywhere, if you do the groceries or you go to a bakery, the children receive something and I don’t want to say ‘no’ all the time. If they get a present, I cannot say, you are not allowed to eat it. “This seems to suggest that this mother is very demanding regarding the diet of her children, she feels capable to provide a healthy diet but she has to put a lot effort in standing the external influences. In addition to that a further mother also has a problem with the influences from the environment, she states: “It is on a midrange level, the influences from outside, like advertisement, they do not watch that much TV, but every now and then they see commercials about little milk drinks etc.”(Participant I15) So this mother as well believes that her children are influenced by external factors and she perceives the media as a problem. So this might imply that this mother does not believe that she has enough capabilities to always resist the external influences through media to keep up a healthy diet.

One overweight mother reports that it is difficult to perform a healthy diet. “As I said before, with J.L. it is rather difficult, he gets totally aggressive and throws himself on the floor and starts screaming when I want to stop him eating.”(Participant I12) This means that the mother does not seem to feel capable to change the diet and thus she seems to have a low self-efficacy, although her son shows those strong reactions when he does not get what he wants.

In sum, the majority of mothers believe that it is easy to perform a healthy diet which seems to imply that they feel capable to maintain a healthy diet and thus have a high self-

48

efficacy to feed their child healthy. Some mothers seem to not see it easy to provide a healthy diet compared to theirs because they deem to be even more demanding regarding the diet of their child. However, for some mothers it is not always easy to provide healthy food, which implies that their level of self-efficacy is low.

4.13 Subjective Norm regarding child feeding behaviour

This section is about the subjective norm of the participants regarding their child's diet. Subjective norm is the belief of a person what other important people in their environment think about their child feeding behaviour. Here the focus will be on the attitude of the partner to provide a healthy diet and how this attitude influences the partner and the child. Next to that the importance of the attitude of other important people, friends and family, and their influence on the person will be analysed.

4.13.1 Subjective Norm- Partner

Eight interviewees say that they have the same attitude as their partner. One participant says "He has the same attitude as I have, otherwise that would not work- I believe. I can give you an example from a friend of mine, her partner does not support her at all, because he himself does not eat any vegetables and fruits. Consequently the children also do not eat it." (Participant I7) Those mothers seem to believe that as parents you have to be like minded regarding the diet of the child, so that you are credible and children can understand why they should eat a healthy diet. Three mothers explain that they believe that their husbands perceive it even more important as they do. "My husband finds it even more important than I do. He says that I give the children too much (sweets). But for him it is easy to say because he is not at home the whole day." (Participant I6) Another mother says "From the beginning onwards we were very critical with this topic. I have to say my husband suffers from a chronic disease, MS. It is not yet evidence based but it is assumed that there is a link between the diet and MS, so he is even more active to provide a healthy diet than I do [...] He also wants to have fresh food and wants to throw the food from the previous day away, so we are always in discussion and the diet is always a topic." (Participant I 10) Those examples show that the mothers believe in a healthy diet and there is a norm in their environment that encourages them to perform a healthy diet, but in a way they also think that the norm of their partners is a bit exaggerated. In the first case it is because the father does not participate in the daily routine mothers and children have when the father is at work. In the second example the mother does not really see the benefit in throwing the food away, because there is no evidence yet that the diet and MS are linked anyhow.

Two mothers formulate: "I believe he doesn't think different." (Participant I4) and "I think he would also say that a healthy diet is important" (Participant I5). 'I think' seems to suggest that those couples do not really talk about the diet of their children, it seems that the wife is responsible for the diet and the husband has a passive role. A further mother said "For the children he finds it important but for himself he does not really care, he would not mind if I cook him 'Miraccoli' a whole week long. He also does the groceries and when I ask him to buy tomatoes he does it." (Participant I3) This statement shows that both believe that a healthy diet is important for the children and he supports her by doing the groceries for example, however, it can also have a negative influence on the norm, if the children recognize that the father does not care about a healthy diet for himself.

One overweight mother of an overweight child states "My husband does not care at all about a healthy diet. He does not eat fruits and vegetables. He prefers chips, rice and noodles and in any case something meaty. Sometimes I am afraid that because of that one day my son does not eat vegetables anymore, but so far it worked out." (Participant I12) Before that the mother was asked if she could not change her way of cooking to reduce the weight of her child, then she answered "My husband is the type of person that, does not eat vegetables at all, thus I am happy that the children eat it. So, I always have to cook something with meat. It is annoying [...] but if I would not cook meat anymore, I believe my husband would get a crisis." (Participant I12) This seems to show that for her the norm is more to cook what her husband likes and prevents him from a 'crisis' instead of changing the diet, so that her son loses weight preventing him from getting diseases like diabetes etc., in the long run.

The subjective norm may be an important determinant regarding the intention to change behaviour. The case of participant I12 shows that the mother has the intention to change something, but she does not know how because her husband wants to eat like she is cooking now. On the other hand it seems to work very good with couples that are like minded or when the husband is even more demanding regarding a healthy diet. In turn, this means that if the mothers believe their husband's opinion regarding a healthy diet is positive, it also has a positive influence on the diet the mother provides.

4.13.2 Subjective Norm- Important People

Nine mothers report that they, generally, don't care about the attitude of others, but that they have a problem with the grandparents, because they provide the children too many sweets and unhealthy food."They should have the same opinion as we have, but especially the grandparents agree more on unhealthy food and sweets as we do." (Participant I6)

Five participants said that it is not important at all what other people say.”Actually, this is not really important to me, it is my own conscience with which I have to get along” (Participant I2), so she has the attitude that if she does something wrong she knows it herself and she has to deal with it, so she does not care about criticism from others. Another mother states, “I know from my parents that they nourish themselves like we do. And friends and acquaintance, eventually I don’t care what they say. They can do what they want and I find the way I do it alright. I listen to critique, if it is justifiable, I can try to change something. But in general I don’t care what they think about it, because everybody has his own habits.” (Participant I5) This mother adapted the dietary behaviour from her parents and she perceives it as the right way. On the one hand she says that she does not care about the opinion of others on the other hand she states that she listens to critique and thinks about it. That means that she is not totally independent from her environment in taking decisions.

One mother reports that her environment does not really understand why she put so much effort in cooking fresh food and providing a healthy diet, so she stated “I did not take notice of anything negative, it is more about the understanding of others that they think I must have a lot of work with cooking which I do not understand because it is not much work.”(Participant I3) So in this case the important people of her environment believe that she has too much work with cooking and do not see the reason why she is doing it. Only one mother reports that she communicates with friends about it and that they exchange attitudes regularly, “We are always in exchange with friends and acquaintances.” (Participant I15)

In general the interviewed parents seem take decisions independently from other important people in their environment, because they are convinced that their way of child feeding is the right one. Except a few mothers reported that they listen to critique and think about it.

4.14 Intention of child feeding behaviour

In the following paragraph the intention of participants to perform a healthy child feeding behaviour will be studied, in particular the intention of parents to maintain a healthy diet for their children or the intention to change certain dietary patterns if the current diet is unhealthy.

4.14.1 Intention of parents to provide a healthy diet

Nine participants intend to keep up with the diet as it is now. One participant states “Yes, I want to maintain the diet like it is now” (Participant I5) or “Yes in any case.” (Participant I4) This seems to suggest that the intention of these mothers is high to maintain the diet like it is

now, which might imply that they either have the intention to maintain a healthy diet or that they want to keep up with an unhealthy diet.

Five more participants state that generally they want to maintain the diet like they perform it now, but they intend to provide more vegetables and fruits, to cook more versatile, make the children drink more water or want to be better informed about what the children eat during lunch like one participant said, “Yes, we want to continue like that as long as possible, but I would appreciate to be 100 per cent aware of what the children eat during lunch, because this is the only meal they do not have at home.” (Participant I9) Another mother states, „Yes, but I would like to integrate more fruits and that they voluntary ask for fruits.” (Participant I11) „I have to pay more attention that we drink more water and maintain this. I also have to find more healthy recipes to reduce the meat consumption. It does not have to contain meat all the times.” (Participant I13) Actually those mothers are satisfied with the diet like it is now, but they intend to change certain issues which could improve the diet or make it even more healthy.

One mother has the intention to change the current unhealthy diet “When one thinks about all the side effects and risks, actually one should change the diet.” (Participant I12). Further on she explains what she plans to change, to improve the diet, so she said, “Perhaps only three times per week meat and the remaining day’s vegetables or whatever. More fruits, less sweets, perhaps no soft drinks anymore or only during the weekend.” It seems that the mother has the intention to change the unhealthy dietary patterns, especially because she is planning what could be changed to improve the diet.

Finally one can say that most of the participants have the intention to maintain the diet like it is now because they believe it is healthy, some intend to maintain it, but improve minor issues and one mother intends to make a dietary change because the diet she provides is unhealthy.

4.14.2 Relationships between the determinants of healthy child feeding behaviour

In this paragraph the link across the determinants of healthy child feeding behaviour will be analysed, to see whether there are any correlations between the determinants that prevalently appear.

There are four participants (I2, I3, I7, and I11), they themselves have a normal weight and two are slightly overweight, their children have a normal weight or are under weight. Mothers have a good knowledge, they believe a healthy diet is important for the child to grow up healthy and they believe that the diet they perform is healthy. Thus, they have a high self-efficacy regarding their child feeding behaviour. They believe that their husbands have the same attitude (subjective norm), but they are not influenced by the opinion of other people in

their environment (subjective norm). Thus they intend to maintain this diet. That seems to indicate that for those participants knowledge, attitude, subjective norm, self-efficacy as well as the intention are all positive to build a basis for a healthy child feeding behaviour.

One participant (I4), she is obese and her child is overweight, seems to have a low level of knowledge compared to other participants, she believes that the diet could be better and that she should be more consequent with her daughter (attitude). She thinks that she and her husband have the same attitude, but she does not care what other people in her environment believe about her diet (subjective norm). Her self-efficacy seems to be quite high, she sees it as easy to perform a healthy diet because her daughter likes to eat most fruits and vegetables. However, in principal she intends to maintain the diet, she only wants to provide more variety of food and to be more creative with cooking. Although she believes that the diet she is providing is not the best for her child, in general she wants to maintain the "unhealthy diet". This may imply that her intention is unincisive, although her self-efficacy and subjective norm are given. Thus it may be related to the rather low level of knowledge.

One participant (I5), she is slightly overweight and her son is normal weight, seems to have an average knowledge and she believes that the diet she provides is healthy. Her husband is not involved in providing a healthy diet, he accepts it. She listens to critique of others and thinks about whether to accept it or not, that seems to suggest that her attitude regarding child feeding behaviour is not totally independent from the beliefs of important others in her environment (subjective norm). But in general her self-efficacy regarding her performance to provide a healthy diet seems to be quite high, although she does not like cooking, she intends to maintain the diet like it is now.

Next to that, five participants, parents all have a normal weight, children are normal weight with the exception of one overweight girl (I6, I9, I10, I13, I14) seem to have a good knowledge, they believe that the diet is good in principal, but the consumption of sweets for example should be reduced or the consumption of water should be increased. Their husbands have the same attitude, two husbands believe that a healthy diet is even more important than their wife's perceive it. They don't care what other people in their environment believe about the diet they are performing (subjective norm). Some of them reported that grandparents believe that children could eat more sweets. There self-efficacy seems to be rather high, as they are very demanding to themselves to provide a healthy diet, they do not perceive it easy all the time to provide a healthy diet. In general they have the intention to maintain the diet because they are already providing a healthy and well-balanced diet, but they want to improve minor issues.

One participant (I8), she is overweight, her children have a normal weight, does not seem to have that much knowledge. She believes a healthy diet is important but she cannot really explain it. She believes that her husband has the same attitude (subjective norm). Her

self-efficacy seems to be rather low regarding her statements about healthy child feeding. She intends to keep the diet up like it is now, because she does not have any problems with it.

Participant I12, she and her son are obese, knows in theory that her son weighs too much, eats too much, knows about the causes and consequences of an unhealthy diet and knows about the relationship between diet and overweight. She does not really know how meals should be regulated during a day. She knows how to prevent overweight in theory, she knows, in general, how a healthy diet should look like and she knows about the mistakes of the diet that she is providing. Nevertheless, she does not know how to change it and how to keep her son from eating bread with cold cuts and ketchup, drinking lemonade and eating meat. Her self-efficacy seems to be rather low, she always says “I don’t know” and “I don’t know what to do about it”. She believes that something needs to be changed about it, make a cure for example but she does not know how. Her husband does not really support her, however, she seems to be very dependent on what her husband says and he also seems to make it complicate for her to make a dietary change, because he always wants to eat meat and fatty sauces. She has the intention to change the diet, but due to her low self-efficacy and dependence on her husband (subjective norm) she does not seem to believe that she can perform it.

Furthermore, there is one normal weight mother with an overweight child (Participant I17), she has knowledge about a healthy diet, although she makes some mistakes in the diet of her child, for example her daughter gets a chocolate bar every evening before she goes to bed. She believes that the diet is healthy and she believes that she prevents her daughter from gaining more weight (attitude). She seems to have a rather high self-efficacy, as she does not perceive it either easy or difficult to provide a healthy diet. Her husband believes that a healthy diet is very important and he is even more consequent than she is (subjective norm). She wants to maintain the diet like it is, because she is convinced that she provides a healthy diet for her daughter. That seems to indicate that, because she believes that she is doing a good job and she perceives her level of knowledge as very profound, she also seems to have a high self-efficacy and thus, intends to maintain the diet like it is now.

In sum, one can say that in general all participants know how a healthy diet looks like, although the level of knowledge is diverse. All mothers believe a healthy diet is important, so they have a positive attitude regarding child feeding behaviour. Differences between the participants can be seen regarding their believes whether important people in their environment think that they are performing a healthy diet, so some parents reported that grandparents always believe that they have to feed the children a lot of sweets and one mother reported that people in her environment cannot understand that she is cooking fresh every day. Additionally the attitude of the partner also differes among the participants, some

fathers are very engaged about providing a healthy diet and some fathers are not involved at all. This may also affect the intention of the mothers to maintain a healthy diet or to make a dietary change.

It is noticeable that the mothers whose husbands are like minded seem to have a high self-efficacy. Mothers whose partners are even more demanding tend to be even more challenged to realise it, because they want to provide throughout an even healthier diet. In turn, those mothers who believe that their husbands do not really care about a healthy diet either have a high self-efficacy or a low self-efficacy.

4.15 The interrelation between child feeding and participation behaviour

The theoretical framework suggested that participation in health promotion programs targeted at parents to reduce childhood obesity is dependent on the intention of parents to participate and further it is dependent on determinants of participation behaviour and child feeding behaviour. Therefore, at this point, the interrelation between both behaviours will be analysed, to see in how far they are linked. Therefore the structure of the diagram (2.4) will be used to look at the links of both behaviours.

The results of the interviews in general seem to mirror the assumptions of the model described above, but some determinants seem to have more value than others. The results of the interviews seem to suggest that the intention to participate is related to the perception of parents of their level of knowledge about child feeding behaviour, which in turn is dependent on parent's attitude about their child feeding behaviour. The analysis seems to propose that if parents perceive their level of knowledge to be high, they either believe that they already know a lot, but that they can always learn new things, or they believe that they do not need to attend because they already know enough about healthy child feeding. So along the TPB participants believe or expect that participation is not beneficial for them and thus they decide not to attend. That means that the intention of parents to participate seems to be most dependent on their level of knowledge (perception of knowledge) and even more dependent on their attitude regarding the diet they are providing. It was noticeable that some parents said that they do not see the need to attend because they do not have a problem. That seems to imply that those parents believe that there is only a reason for participation when a health problem is already given. That also seems to underline that the parents believe the outcome of the diet influences their intention to participate in information evenings, for the example, as mentioned above, this implies that they do not see a need to attend because they do not have a problem that could be solved by attending.

The results showed that participants, who had a limited self-efficacy regarding the diet of their child, for example participant I12, all intended to participate in information evenings.

Mothers with a high level of self-efficacy who perceive their level of knowledge to be good, but believe that they always can learn new things also have the intention to participate. In turn, people who perceive their knowledge level to be high, but the interviews showed that they have knowledge gaps regarding healthy child feeding did not intend to participate because they believe that they already know enough.

The subjective norm regarding child feeding of the participants does not seem to have a consequence on the intention to attend, if husbands do not support a dietary change, mothers do not feel restricted to participate in health promotion programs.

Self-efficacy in child feeding also seems to be related to the normative beliefs about the partner's beliefs, such as participant I12. She seems to have a low self-efficacy to change the diet, because her husband does not believe that a dietary change is needed as he wants to keep up the unhealthy dietary practices. So it may be assumed that the self-efficacy beliefs can be negatively influenced by the partner if he does not believe in healthy child feeding for example

Furthermore, it is noticeable that none of the participants said that they would attend for sure and in any case. All the parents indicated different uncertainties that could hinder them to participate. However, the intention was given throughout the participants, except for one mother, to participate in a health promotion program that has the format of a workshop and which is targeted at the parents and the child, such as a cooking workshop.

In sum, one can say that the intention to participate is mostly dependent on the knowledge a person has about a healthy diet and the attitude a person has about their performance in providing a healthy diet. The self-efficacy of a participant regarding participation as well as child feeding seems to be most dependent on the level of knowledge of a person and its attitude, as a certain level of knowledge needs to be given, so that a person feels capable to accomplish a certain level of performance. It depends on the level of knowledge a person has which level of performance a person can or believes to achieve, but it also depends on the beliefs of the partner towards a healthy diet.

In other words, it can be said that the intention to participate depends on the level of knowledge of a person and its beliefs about the outcome of a healthy diet and participation. In turn, the self-efficacy of a person to be capable to provide a healthy diet seems to be dependent on the level of knowledge of a person, the beliefs of the partner as well as the person's beliefs about the benefit of the outcome. Participants with a high self-efficacy tend either to believe that they already have enough knowledge and thus do not need to attend or they believe that, although they already know a lot, they can always learn more. Participants who had a high level of knowledge, generally have a high self-efficacy and positive beliefs about their partner as well as they believe a healthy diet is very important, however the intention of those parents to participate in an information evening were very diverse. This

seems to suggest that all the determinants are interrelated to each other and it depends on the constellation how the determinants are valued if parents have the intention to participate or not. But it can be said that the level of knowledge and the attitude of a person regarding child feeding behaviour and the attitude regarding participation behaviour determine the participation behaviour of parents.

5 Discussion and Conclusion

Childhood obesity is an increasing problem in Germany which contains physical, psychological, social and financial problems for the individual as well as the society. Therefore organisations and associations try to prevent overweight in children by targeting health promotion programs at parents. But kivi e.V. and other organisations face the problem of a low participation rate of parents in information evenings, but it is not clear why especially parents of children at risk for overweight and obesity do not attend. The research objective of this study was to explore the reasons why parents attend or do not attend health promotion programs. It especially focused on parents of children at the kindergarten age of three to five. Thus, within this scope of the main research question, “*What are the main determinants of the intention of parents of kindergarten children at risk for overweight to attend information evenings about healthy eating?*”, this study integrated a literature review and looked at previous studies to see how the current research discusses the topic of participation in health promotion programs and to see how behavioural theories may explain participation behaviour of parents. Further on semi-structured-interviews with parents of kindergarten children were conducted to see how participation behaviour of parents is determined.

5.1 Discussion of study findings

The search for literature and scientific articles approaching the problem of a low participation rate in health promotion programs targeted at parents of children at risk of overweight led to the recognition that this field of research is still untouched. Due to the fact that currently no literature about parent’s participation exists, this study tackles a new field of research and thus cannot be compared with previous research.

However, studies can be found that look into the effect of parents participation in health interventions targeted at their children. Research found out that involvement of parents in health promotion programs targeted at overweight and obese children is fundamental and suggests that it may be even more effective to involve parents only, instead of parent and child, because parents can implement the learned skills and knowledge at home and children do not feel pressured to change their behaviour.

Therefore, based on behavioural theories, social cognitive theory, theory of planned behaviour and the precaution adoption process model, the theoretical framework of this study provides a model (see 2.4) which assumes that the participation in health promotion programs targeted at parents to reduce childhood obesity is dependent on the intention of parents to participate. Further on, the model suggests that the intention is dependent on determinants of parent’s participation, such as knowledge, attitude, self-efficacy and

subjective norm as well as dependent on the determinants of child feeding behaviour such as knowledge, attitude, self-efficacy, subjective norm and the intention to feed the child healthy.

The interviews showed that the following determinants are decisive for parent's behaviour to participate in health promotion programs: First of all the results of the interviews seem to suggest that mothers who have knowledge about information evenings are more likely to participate than those that did not know that information evenings are provided by organisations and associations. Second, the parent's attitude about the benefit of participating in an information evening seems to have a strong influence on the intention of parents to participate. Furthermore, the level of self-efficacy seems to affect the intention to participate, but the way it influences varies by each individual person. As such, parents with a low self-efficacy had the intention to participate and parents with a high self-efficacy either intended to participate or not. The subjective norm of mothers seems to have an influence on the intention of mothers to feed their child healthy but not on the intention to participate. The only exception is a mother who believes that her participation behaviour is dependent on the group of participating parents. She believes that if other parents do not like her or talk about her she would not participate (Participant I8). In general the results of the interviews suggest that most participants who have a good level of knowledge, a positive attitude towards participation, a high level of self-efficacy and positive social normative beliefs all have the intention to participate in information evenings and their intention is even higher to attend a cooking workshop with their children involved. However, some mothers who show the same positive results for the determinants do not intend to participate, because they believe to already have enough knowledge.

Next, determinants of healthy child feeding behaviour of parents were analysed. The intention to change or maintain dietary behaviour, as proposed in the model, seems to be dependent on the level of knowledge of the mother, the attitude, self-efficacy as well as subjective norm.

Thus, a rather low level of knowledge seems to indicate that the intention to change dietary patterns is not that high, although the participant believes that the feeding behaviour could be improved. The level of knowledge also seems to be linked with the level of self-efficacy, as the interviews seem to show that parents with a lower level of knowledge sometimes seem to have a high self-efficacy, because of the fact that they believe that they are providing a healthy diet along their level of knowledge. On the other hand mothers who believe that the diet should be extraordinary healthy and have a high level of knowledge also seem to have a high level of self-efficacy, because they are more demanding to provide a healthy diet, they do not perceive it easy but they feel capable to achieve it, like Participant I6 for example. Some parents, who believe that a healthy diet is important, seem to have a problem to be consequent with restricting sweets etc. which indicates that their level of self-

efficacy is not as high as compared to the parents who perceive it as very easy to provide healthy food, but at the same time it also seems to indicate those parents are also more demanding regarding the diet of their child.

Furthermore, the analysis seems to indicate that an information evening is not the right format to promote a healthy diet and to reach the target group. Parents seem to prefer to attend a practical workshop where they can actively participate and integrate their children in the learning process. The results showed that parent's intention to participate is much higher if their children are also involved.

In contrast to the literature review (see paragraph 2.2.2) which concluded that health promotion programs where parents act as agents of change, found out that parents who attend health promotion programs and transfer the knowledge and skills to their children at home are more effective regarding weight loss than those where both, parents and children attend, because overweight or obese people might feel ashamed and thus feel more comfortable in their environment to get instructions about losing weight. Hence, the difference in the results, interviews versus studies, could be related to the fact that the literature was focused on health interventions to reduce the weight of overweight and obese children (see paragraph 2.2.2) as well as the age of the children. The health interventions focused on youngsters and young adults and this research has its focus on kindergarten children. Furthermore, the focal point of this study are prevention programmes such as a parent-child-cooking-workshop, to prevent a wrong feeding behaviour of parents in the long term. Thus, this research seems to suggest that a practical workshop, for parents and children is most effective to improve child feeding behaviour and specifically to increase the intention of parents to participate.

Besides, the results of the interviews showed that the model of participation behaviour (see figure 4) was the right way to approach the problem of a low participation rate. Not all determinants have the same value for the intention to participate, but child feeding behaviour and participation behaviour seem to be strongly interrelated.

Furthermore, the results seem to suggest that the participation behaviour model (see 2.4) may be added by the determinant "awareness", in some sections of the interview results participants showed that they are aware of certain circumstances and it makes a difference if somebody is aware of a wrong behaviour or not, if he does not intend to change it. This can be explained by the precaution adoption process model (see 2.3.2.3) which says that people can be not aware that their current behaviour is a risk and they are not aware that their child is overweight. The PAPM also suggests that this is related to the level of knowledge parents have. For example one mother does not know that her child is overweight according to the BMI-percentiles. (Participant I4)

5.2 Study limitations

First of all, it has to be said that within a master thesis only a limited amount of semi-structured-interviews can be conducted. In this study sixteen interviews were carried out which seemed to give a lot of insights about participation and child feeding behaviour of parents, however, it is not representative for the whole Rhein-Sieg-Area.

Furthermore, doing qualitative research means it cannot be prevented that participants give social desirable answers. In general, the overall impression of the research was that most of the participants gave honest answers. However, sometimes the impression arose that mothers gave an honest answer first, but when they realised in which direction that would lead them, they tried to backpedal, like participant I4. At first, she said, that the diet is not diverse and her daughter prefers to eat noodles all the time, afterwards she states that it is easy to provide her daughter a healthy diet because she likes most fruits and vegetables. So, when typing down the interviews some contrasting statements of the participants could be found.

Additionally, in doing qualitative research it can be assumed that participants may forget to talk about certain issues or leave out details when they report about the behaviour they are performing which might be important for the analysis. This phenomenon is called memory bias.

Next to that, some interviews were conducted at the homes of the interviewees and some in the kindergartens. The interviews at home showed that the participants were more relaxed and gave more detailed answers compared to the participants in the kindergarten. Another benefit in doing the interviews at home of the participants is that you can observe the family and procedures they are performing. So for example participant I3, talked a lot about the healthy diet she provides, e.g., cooking fresh food etc. but on the other hand during the 1, 5 hours the researcher spend at her home, her younger daughter was eating banana, wine gums and when she came back with her father from doing groceries, she proudly showed her chocolate croissants which she was eating half an hour before lunch. So this seems to suggest that there might be a difference between what mothers say and what they do. These issues seem to be relevant to take into account in future qualitative research about parent's participation and feeding behaviour of kindergarten children.

5.3 Conclusions

This study tried to analyse the main determinants of the intention of parents of kindergarten children to attend information evenings about healthy eating. The results seem to indicate that the main determinants which influence parent's intention to participate are the perceived level of knowledge, in other words the knowledge about child feeding that parents

perceive to have and parents believes about the outcome of a certain behaviour (attitude). The perceived level of knowledge seems to indicate parent's believe whether they can benefit from participation in a health promotion program or not. self-efficacy and subjective-norm seem to be dependent of the level of knowledge and the attitude of the individual and thus also have a consequence on the intention of a person to participate. But it has to be said that the self-efficacy and subjective-norm regarding child feeding behaviour has more impact on the intention to participate than the self-efficacy and subjective-norm regarding participation behaviour, so except for one mother all parents felt capable to attend in health promotion programs, which seems to suggest, that a high self-efficacy does not mean that the intention to participate is higher. Subjective-norm seems to have an impact on the diet parents provide, but overall the interviews did not indicate that the believes of important others have an impact on participation behaviour of the parents.

In conclusion, one can say that the level of knowledge and especially the perception of parents of their level of knowledge and their attitude towards it seem to be the main determinants that affect the intention of parents to participate or not.

5.4 Recommendations

In the following paragraphs recommendations for future research, investigating in parent's behaviour regarding the participation of health promotion programs as well as recommendations for the implementation and organisation of health promotion programs in practice, will be discussed.

5.4.1 Recommendations for future research

For future research it is recommendable to do the research in the home environment of the participants if the possibility is given. In that way, additionally to the interview one can get an impression about behaviour patterns and routines and one can observe things like mentioned above (see 5.3).

Further on, based on the theoretical framework and the interview data, it seems to be reasonable to add 'awareness' to the theoretical model. Along the PAPM awareness is the second step in behaviour change, because this model suggests that people may be unaware about a certain issue and therefore do not change the wrong behaviour. In turn, being aware of an issue is the basis to act on something.

5.4.2 Implications for health promotion practice

Furthermore this study suggests that information evenings provided by associations like kivi e.V. are not the right format to involve parents in health promotion, as the intention of

parents was much lower to participate an information evening compared to a practical workshop. The majority of parents wished to have a format in which they can be active, work practical and involve their children instead of listening to somebody who reports about a healthy diet for children. So they seem to prefer a practical format where they can actively gain knowledge and skills about a healthy diet in collaboration with their children.

However, the interviews indicate that the majority of parents would ask a paediatrician for advice if they believe that their child has a severe health problem. So this seems to indicate that health promotion programs are not (yet) overall well-established and that organisations and associations need to work on their image and public acceptance to be overall accepted.

This seems to suggest that organisations and associations need to work on their external communication. Therefore the results of the interviews regarding the perceived level of knowledge, attitude, self-efficacy, subjective norm and awareness can help to establish health promotion programs which fulfil the needs of parents of kindergarten children. Some issues that seem to be reasonable to be respected in practice:

- No pure lectures
- Practical units like mother child cooking workshop
- Better and detailed communication about the topic beforehand
- Better communicate the outcome or benefit of the health programme, so that more parents think that they can improve their knowledge and skills
- Involve children in those programmes, as parents seem to believe that it is more beneficial if they involve their children and thus have a higher intention to participate
- Children between three to six years old still can be influenced and parents are still up to care for the health of the children, thus the kindergarten is the right environment to start health interventions

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Appendix

Interview Schedule

I am Johanna Bertram, Master student of Applied Communication Sciences at Wageningen University in the Netherlands. This research is about dietary behaviour of children aged 3-5 years and about reasons for parents of these children to participate in health promotion programs e.g. information evenings. The purpose of this interview is to find out what you think about your child's weight, diet and what are the reasons for you to participate in health programs or not. The information collected will be analysed anonymously and used for writing a master thesis. Parent's opinion will be shared with an association kivi.e.V. to improve their programs, so that they better fit the demand of parents.

Overweight: general question

1. What do you know about overweight among children? (knowledge)
 - When is a child overweight? (knowledge)
 - What do you think are the causes of overweight?
 - What are the consequences of being overweight in the short and long term?

Dietary Behaviour: General Questions

2. Can you explain me what you know about the relationship between diet and overweight among children? (knowledge)
 - Do regular meals have an influence on the weight of a child?
 - How should a diet look like to prevent overweight?
3. What do you think is a healthy diet for a child aged three to five? (knowledge)
 - What includes a healthy diet for you?
 - What does your child eat for breakfast, lunch and dinner on week days?
 - What does your child eat for breakfast, lunch and dinner during the weekend?
4. Thinking about children in general, do you think the diet has an effect on children's wellbeing and development? (attitude)
 - In what ways does it affect children?
 - Can you give some examples?
5. What do you think are the consequences if a child eats an unhealthy diet, like too much/too fat/ too many sweets? (attitude)
 - What do you think of these consequences? (outcome expectancy)
 - Do you think what a child eats affects them now or could it affect them in the future? (outcome expectancy/attitude)

Dietary Behaviour: specific for own child

6. How would you describe your child's diet? Please explain your opinion based on what your child eats in a normal weekday and a weekend day?
 - Do you think this diet is healthy or unhealthy?
 - If healthy diet: How do you achieve this? (e.g. regular meals, fresh cooked food, fruits and veggies)
 - if unhealthy diet: What do you think about this? What are the reasons for this unhealthy diet?

7. What do you think are the consequences of your child's diet, and how do you feel about these outcomes? (outcome expectancy)
 - Do you see any risks?
 - Do you see any benefits?
 - How do you see your role in this?

8. How easy or difficult is it to have your child eat a healthy diet? (self efficacy)
 - If very easy: What is your strategy or approach? What is the role of the child?
 - If not (very) easy: What are the reasons for that? Can you give some examples of difficult situations?

9. Do you have a partner?
 - If yes: How do you feel your partner is thinking about offering the child with a healthy diet? Do you have the same opinion? (Subjective norm)
 - (How) Does this influence you or the child?
 - If opposing opinions and strategies: how do you deal with this?

10. How do you feel other important people in your environment (like grandparents, friends, family) think about the diet you offer your child? (Subjective norm)
 - a. Is this in any way important for you?
 - If yes: How does this influence you?
 - If no: Why is this not important to you?

11. With regard to the previous question:
 - If the current diet is healthy: Are you planning to maintain these dietary patterns for your child?
 - If current diet is unhealthy: Are you planning to change certain dietary patterns or behaviour? (Intention)
 - If yes: What are you planning to change?
 - Why- Did something happen?
 - If no: Why do you do not want to change anything? Do you don't think change could be beneficial for the health of your child? (or) Do you don't think your child could lose weight if you change dietary patterns?

Participating Behaviour

12. There are many parents in Germany who are a little or more struggling with providing their children a healthy diet and keeping them on a healthy weight. For that purpose, several organizations are managing events like information evenings, workshops, lectures, and so forth. Are you aware of such events? (knowledge)
13. If you had a problem or see a risk with your child's diet, weight or health. What would you do?
 - Would you ask for professional support?
14. Would you be interested to go to an information evening or participate in a workshop? (attitude)
 - If not: Why not? (not beneficial or not relevant for you?)
 - If yes: Why? What would you hope to get from such an event?
15. If you had to describe an information evening about diet and overweight among children that would really interest you, how should it look like with regard to topic duration, location, format of presenting and discussing issues, etc?
 - If no preferences: Why doesn't it matter to you how an information evenings is organised?
 - If preferences: Why does it matter to you how it is organised?
16. Do you think/ feel that other parents would attend such an evening? And what about your partner, what would he/she think of it? (Subjective norm)
17. Some parents might not like going to such an info evening because they feel not sufficiently confident to discuss their child's diet or their own difficulties in managing diet in a group of people. How is this for you; would that be a barrier for you to go? (self efficacy)
18. Imagine an information evening would be organised within the next weeks that is conform with your previous description of an information evening:
 - How certain can you say that you attend?
 - If sure: Why are you sure that you attend?
 - If not sure: Why are you doubting whether you attend?
19. Do you have any additional things you would like to discuss, that were not addressed in the questions I asked?
20. Finally, could you tell me the length and weight of your child?

Thanks a lot for participating in the interview and to endow me your time. It was very interesting to listen and to talk to you. Wish you all the best for you and your family. Enjoy the rest of the day!