Master Thesis July 27, 2013 – N.G.M. Hoefs [322749]

Children's consumption choices

An explanatory study on how marketing communications can motivate children to make healthier consumption choices

Msc. Marketing Management

Coach: Dr. Karolina Brodin

Co-reader: Dr. Frank Wijen

RSM Erasmus University

Acknowledgements

Writing the acknowledgements brings me closer to nearing the completion of the work. Not only will this be a last step in writing my thesis, also it will be a final step in completing my Master of Science at RSM Erasmus University. It has been a challenging process, however with the help of some very supportive individuals, I have managed to surpass myself and I am proud of the end-result.

Given that I would not have been able to write this thesis without help, I would like to show my appreciation to some people. First of all, I owe my gratitude to Dr. Karolina Brodin, who has been a very supportive and motivating coach during the process. Her insights and knowledge on qualitative research have helped me a lot during this research. Furthermore I would like to show appreciation to Dr. Frank Wijen, who has provided me with valuable feedback and constructive recommendations. Working with him has allowed me to approach this academic research from a different view. Also, I wish to thank the school as well as the children and the teachers for their participation. Without them this thesis would not have been possible. Finally, I would like to thank my parents, for their continuous support and encouragements thorough my entire studies but especially during the intensive process of writing my thesis. I also wish to thank my sister and my boyfriend for their moral support and company.

You made my graduation possible. Thank you!

Executive summary

Worldwide, the number of children with obesity has drastically increased over the last couple of years. In 2010, more than 40 million children, below the age of five, were measured to have overweight (WHO, 2012). These numbers infer that obesity might become the next worldwide epidemic, having huge consequences for society. The cause is obvious; people eat too much or consume too many unhealthy foods, thereby taking in more calories than they should on a daily basis. This occurs because individuals have identified many barriers that withhold them from adopting a healthy diet, one of them being the influence of the media. Given the seriousness of the problem, it is necessary to investigate what could be done to reduce these shocking numbers. This research will therefore investigate how marketing communications can motivate children to make healthier consumption choices.

This study contributes to existing literature by exploring the topic of healthy food consumption of children. Prior research has identified different barriers that restrain individuals from healthy eating, however not many studies have conducted research in order to find what motivates individuals to make healthier consumption choices. Furthermore, this study focuses on a target group that has not yet been targeted by prior research, namely children from a Turkish and Moroccan background who are at a greater risk of becoming obese. By conducting qualitative research this paper goes beyond describing behaviors and tries to provide explanations for children's unhealthy food choices. Based on previous research a conceptual model has been developed which is used to structure the findings of this research.

For this research, twenty-two children have been interviewed at a primary school. These children have been selected based on judgment sampling – where individuals are chosen who are in the best position to provide the information that is wanted by the researcher. Furthermore six group discussions have been conducted and the respondents have been observed during lunchtime over a period of time. Finally, the coordinator of the school has been interviewed in order to gain even more interesting findings.

Findings of this research revealed that four barriers exist that restrain children from healthy food consumption. These are social influences, food preferences, media influences and knowledge. It is found that children tend to be negatively influenced by peers and siblings, however their impact is still limited. Also, a lack of parental control can negatively influence the food choices of children. Secondly, children lack the knowledge to decide on the

healthiness of foods. However, teaching them does not necessarily imply that children will also make healthier consumption choices. This occurs because children tend to have a preference for unhealthy foods, as they believe these have a better taste. Finally, children are very much influenced by visuals and messages from the media, which has been identified as a barrier given that most advertising is for unhealthy food products.

Furthermore, this research has found that there are several strategies to motivate children to make healthier consumption choices, which could be split into three topics, namely social control, educational strategies and advertising strategies. Sufficient control will induce children to make healthier consumption choices, this entails making food available as well as encouraging children to eat healthy. Second, children should be taught on food and nutrition in a fun, involving and concrete way, e.g. through school programs. Finally, marketers of healthy food products should make use of visuals – cartoons, children and animals – as well as concrete and behavioral messages in order to make their product more favorable.

The conclusion drawn from this research is that many factors contribute to the food choices of children. Therefore, many factors should be addressed in order to induce children to make healthier consumption choices. Merely educating children on foods will not be sufficient, neither will it be enough to encourage parents and schools to exert more power, nor will only making a product more appealing be successful. Motivating children to make healthier consumption choices requires four parties to closely work together, namely the parents, the school, the government and the media. They should work together in educating children better, making healthy food better available and making healthy foods more appealing in order to give children both a reason – e.g. through education or marketing messages – as well as an emotional benefit – e.g. non-physiological factors.

As for the managerial recommendations, findings should be made available to three different parties. First, non-profit organizations and governments could use the insights in order to tackle the obesity problem. Based on the findings the government can better stimulate healthy food consumption among kids, e.g. through school programs. Second, these insights may give parents a better understanding on the consumption choices of their children. They could in turn redirect their children's choices from unhealthy products towards more healthy food consumption choices. Finally, healthy food marketers can use the information to make the products more attractive for children and to better communicate with them.

Content

1. Introduction

1.1 Introduction to the topic

Obesity has been growing over the years. Since 1980, the number of people with obesity has doubled, resulting in shocking numbers. In 2008, approximately 1.4 billion adults were considered to have overweight, with 500 million people being obese – having a Body Mass Index (BMI) larger than 30 (WHO, 2012). These numbers infer that obesity might become the next worldwide epidemic, having huge consequences for society. Not only is obesity turning into one of the most common chronic diseases, it is also in the top five list of most important risks causing deaths globally. Individuals suffering from overweight risk getting serious health problems – like diabetes, heart diseases and cancer – and more than 2.8 million adults die from obesity every year (WHO, 2012). Similar to adults, the number of children with obesity has drastically increased over the last couple of years. Worldwide, more than 40 million children, below the age of five, were measured to have overweight in 2010 (WHO, 2012). In the Netherlands, twenty percent of children between the age of 10 and 12 are too heavy. A number that has increased even though the number of exercising children has also been increasing over the years. This is extremely alarming, given that there is a significant likelihood that some serious health problems that may be caused by obesity, such as type 2 diabetes and heart diseases, already occur at a younger age (Knaia, Suhrckeb & Lobstein, 2007). Additionally, children who are overweight at a young age are likely to become obese adults, facing all physical and psychological complications that come with it (Serdula, Ivery, Freedman, Williamson & Byers, 1993).

The cause is obvious, people eat too much or consume too many unhealthy foods, thereby taking in more calories than they should on a daily basis. Many researchers have tried to identify factors that contribute to these unhealthy eating patterns. Stevenson, Doherty, Barnett, Muldoon and Trew (2007), for example argued that taste and preferences increase the consumption of unhealthy foods. Other factors that have been identified by former research to contribute to peoples unhealthy eating behaviors are social influences (e.g. Neumark-Sztainer, Story, Perry & Casey, 1999; Shepherd, Harden, Rees, Brunton, Garcia, Oliver & Oakley, 2006), economic factors (e.g. Fitzgerald, Heary, Nixon & Kelly, 2012; Hill & Peters, 1998), knowledge (e.g. Shepherd & Stockley, 1987; Wansink, 2012), and media influences including non-physiological factors (e.g. Jeffrey, McLellarn & Fox, 1982; Vermeersch & Swenerton,

1980; Wansink, 2005). However, most of these studies have been conducted with adolescents rather than children.

Foodwatch (2013) agrees that media influences have a large impact on food decisions made by individuals. According to Foodwatch, a Dutch consumers' union, the increasing numbers of obesity among children should be attributed to the enormous amounts of unhealthy food advertisements directed to children. In other words, marketers of unhealthy food products should be held responsible for the unhealthy situation that many children find themselves in. For the food industry, children are an extremely interesting target market. The younger children are when they get into contact with a brand, the more likely will these children stay loyal to the brand as they grow up. Moreover, children have much more disposable income then before and they significantly influence what is being bought by their parents (Valkenburg & Cantor, 2001). Enormous amounts of money are spend in order to encourage children to nag their parents to buy specific products and the Netherlands finds itself on top of the list of European countries when it comes to child marketing of unhealthy food products (Foodwatch, 2013). There has been an on-going debate on banning food ads directed at children. In the Netherlands however, such legislation has not been put through yet. Despite the fact that some members of the House of Representatives were in favor of legislation where all unhealthy food ads aimed at children below the age of twelve are banned, the proposal has been rejected. This implies that marketers may still market their products to children younger than twelve.

Knowing that marketers of unhealthy foods will keep spending money on marketing to children, it is necessary to discuss strategies that motivate children to make healthier consumption choices. Some researchers have tried to identify strategies that motivate children to make healthier consumption choices. O'Dea (2003) and Borra et al. (2003), for example asked children and adults how they could be motivated to eat healthier and by doing so have tried to identify communications opportunities for healthful lifestyles of children. They found that parents and teachers need to give better support to children in order to increase their healthy food consumption. A few other researchers (e.g. Evans, 2008; Pires & Agante, 2011) also tried to identify motivating strategies. They found that children are also triggered to make healthier choices when they are being taught about foods and nutrition in a fun way or when a healthy product is made more appealing.

Unfortunately, literature on strategies that motivate children to make healthier consumption choices is still limited. Especially research that is conducted with children themselves. This research will therefore be a qualitative study trying to uncover children's underlying motivations, ideas and opinions on how marketing communications may induce them to make healthier consumption choices.

1.2 Research objective

According to the Dutch Ministry of Health, Welfare and Sports, especially children with a Turkish or Moroccan ethnical background find themselves in an alarming phase of the obesity problem. A study conducted among 9253 children in the Netherlands, showed that 37% of the Turkish children and 27% of the Moroccan children have more bodyweight than what would be healthy (Schönbeck & Buuren, 2010). For Dutch children this percentage is still shocking, but slightly lower, namely 14%. Given these extreme numbers of obesity for Turkish and Moroccan children, it would thus be very interesting to find out which factors influence the food choices of these children and what motivates them to make better consumption choices.

The goal of this research is to gain understanding of the obesity problem and the influence that marketers have on this disease, by investigating food awareness and the perceptions that children hold on marketing communications – e.g. packaging, characters and nutritional information – related to food products. The outcomes of this paper will be interesting for food retailers as it will provide them with clues on how to stimulate the consumption of healthy food by children. Moreover, it might be valuable for parents and governments in countering the effect of unhealthy food advertisement. As discussed above, this research will focus on children from a Turkish or Moroccan ethical background. Though it would be worthwhile to study Dutch children, given the numbers above, more interesting findings are expected by studying Turkish and Moroccan children.

1.3 Research question

This research paper will thus explore the influence of advertisement on children's food consumption choices. The research question that will be addressed is as follows:

- ➔ **How can marketing communications motivate children to make healthier consumption choices?**

This main research question will be answered by answering several sub questions:

- ❖ *Which barriers withhold children from making healthy consumption choices?*

There seem to be many different motives based on which children prefer unhealthy foods over healthy ones. Therefore, this sub question will focus on the barriers that may withhold children from adopting a healthy diet. The different barriers that have been identified by former research will be taken into account for this research.

- *What marketing strategies can motivate children to make healthier food choices?*

According to Foodwatch (2013) the increasing numbers of obesity among children can be attributed to the enormous amounts of unhealthy food advertisements directed to children. Up till now, advertising was seen as a factor that roused children to prefer unhealthy foods. This sub question will focus on the type of marketing strategies that may positively affect children's consumption behaviors.

1.4 Relevance of the research

Obesity numbers have been increasing over the years and this has major implications for the future. This in turn has also increased the need for practitioners to better understand causes and consequences. Gaining insights from a child's perspective is expected to be especially valuable as they themselves are the experts regarding their behavior, thoughts and opinions. Many studies have already proven that children are very well able to understand and explain how they see the world (e.g. Bearison, 1991). Especially through conducting interviews, researchers have gained rich and trustworthy insights into children's views. By investigating children's knowledge of food, this study may find the reasons of why children often prefer to consume unhealthy food over the consumption of healthy foods. Moreover, by exploring their opinions and ideas about food advertisement, the research may find what triggers children to want a certain product. This is not only of interest for parents, our government and health agencies, but also companies may be interested in knowing food perceptions of children. This research may give companies the chance to get some real insights into children's thoughts and opinions on foods.

1.5 Research structure

Following the introduction of the research topic, chapter 2 will discuss the theoretical background of the research problem. Subsequent, a description will be given of the methodology that has been used to collect data. Chapter 4 will then discuss the findings of the research and finally the last chapter will draw conclusions and shed light on the contribution and limitation of the research.

2. Literature review

In this section, existing literature is reviewed and analyzed. As discussed in the introduction, the main source of obesity is the consumption of too many calories on a daily basis. It has been found that this excessive intake of calories is caused by eating too much food as well as by eating too many unhealthy foods. In order to find the underlying reasons of the bad consumption behavior, this section begins with identifying the barriers that withhold individuals from healthy food consumption. Then, paragraph 2.2 will shed light on what type of strategies may induce children to modify their behavior and eat healthier. At the end of each section, a summary will sum up the main findings. It must be noted that the literature on research with children in general is limited, the focus of the literature review is therefore on research that has investigated children's motivations based on behaviors and parent's information and on research that has been conducted with adolescents.

2.1 Barriers restraining healthy food consumption

Over time, research has consistently shown that many individuals – children, teenagers and adults – have unhealthy eating patterns and as a result fail to meet the recommended dietary guidelines (e.g. Story et al., 2002). The consumption of foods that contain a lot of sugars or fat has increased drastically, while the consumption of fruits and vegetables is very low (Institute of Medicine, 2007). Moreover, many individuals skip meals, and eat irregularly. A big concern, given that nutritional intake is not only important for growth but also to develop healthy eating behaviors and to avoid health problems (Coulson et al., 1998). Former research has revealed that there seem to exist various barriers towards eating healthy food that have caused people to adopt unhealthy diets due to which they take in more calories than they should. These barriers have been classified in the following five topics; (1) economic factors, (2) taste and food preferences (3) social influences, (4) media influences, and (5) knowledge.

2.1.1 Economic factors

Already in 1986, Story and Resnick conducted research with students and found that economic factors had a significant impact on food choices. Although the students were very well aware of what they should be eating, their diets were poor. According to these students, this was caused by a lack of time and the inconvenience of buying healthy foods (Fitzgerald, Heary, Nixon & Kelly, 2012). Consumers these days are overwhelmed by the availability of many different unhealthy food products. Not only do they have an extremely wide range of unhealthy food products to choose from, these products are also relatively cheap and

everywhere available (Hill & Peters, 1998; Foodwatch, 2013). On the other hand, healthy foods are considered to have a low availability and high costs, and are therefore more inconvenient to buy and consume (Neumark-Sztainer, Story, Perry and Casey, 1999).

2.1.2 Food preferences

In a study by Croll, Neumark-Sztainer & Story (2001), adolescents identified taste as another barrier towards healthy eating. According to the respondents, the taste of healthy food was boring or bad. This is worrying, given that taste was found as a key factor directing consumers' food choices (Shepherd, 1990). Fitzgerald et al. (2012) conducted similar research with children and also found that food tastes and preferences were consistently identified as an important influence of children's food choices.

Many researchers claim that tastes and preferences have been biased. This occurs because individuals implicitly associate unhealthiness with tastiness (Raghunathan, Naylor & Hoyer, 2006). Also, adolescents tend to classify foods as either foods they like or foods they dislike – where unhealthy foods are likeable foods and healthy foods are unlikeable foods (Sheperd et al., 2006). According to Sheperd et al (2006) foods that were healthy were associated with adults and home and therefore less preferred. On the other hand, foods that were unhealthy had a bigger preference because they were associated with pleasure, social environment and friends. The same has been observed by Stevenson et al. (2007), who argued that the categorization of healthy foods as 'good' and unhealthy foods as 'bad' has distorted tastes and preferences. By classifying foods as either good or bad, individuals have failed to recognize that a healthy dietary balance can include both types of foods (healthy and unhealthy). As a result, many individuals feel that they will fail to implement a healthy diet.

Stevenson et al. (2007) and Croll et al. (2001) also found that the appearance of unhealthy foods was argued to be much better compared to the appearance of healthy foods. These researchers conducted focus groups and found that food choices are influenced by physical and psychological factors, such as taste, texture, appearance and smell. Visual aspects of the food tended to trigger strong emotional reactions. Some respondents replied that they wouldn't like a product just because of the looks. Also, moral disgust is found to be an important factor influencing the consumption behavior of individuals (Stevenson et al. 2007) – e.g. some people express disgust at the thought of eating meat with bones as this reminds them of the origin of the beast. As a result, these people often eat processed foods instead of fresh. According to the respondents, unhealthy foods were favorable because of these physical

properties. Healthy foods on the other hand lacked these favorable properties and were therefore disliked.

2.1.3 Social influences

Other reasons for choosing unhealthy food over healthy food were the influence of peers and a lack of parental encouragement (Neumark-Sztainer et al., 1999).

Young people acknowledged that low family support contributed to an increase in unhealthy consumption choices (Shepherd, Harden, Rees, Brunton, Garcia, Oliver & Oakley, 2006). Even though older children tended to have more control over their consumption behavior, even young children already have a significant influence in deciding what foods they eat. Many parents are argued not to exercise constraints on food consumption. In other words, parents often comply with their children's food preferences (Warren, Parry, Lynch & Murphy, 2008). This is dangerous given that irrespective of age and gender, children tend to prefer unhealthy food over healthy food if they can choose. Warren et al. (2008) also researched the choice that children have at school. Again, for older children parents exercised only limited control over the content of the lunchboxes. Younger pupils had less choice however, they sometimes would leave food in their lunchboxes or on their plates if they did not like it.

The influence of peers becomes more important once a child grows older. According to Birch (1980) exposing children to peer models strongly influenced their preferences and actual consumption behavior. A more recent study conducted by Croll, Neumark-Sztainer and Story (2001) found that unhealthy eating was seen as socially acceptable, while eating healthy foods was 'uncool'. As a result of this peer pressure, adolescent failed to adopt healthy diets despite their nutritional knowledge.

2.1.4 Media influences

For many years, it was assumed that food intake was regulated by physiological signals. These signals would tell people when they are hungry and should eat, and likewise also tell people when they are full and should stop eating. Several researchers however found that other non-physiological factors also influence the amounts that people consume (e.g. Wansink, 2006). In 2006, Wansink wrote the book '*Mindless eating: Why we eat more than we think*', in which he talks about how non-physiological factors – e.g. advertisements and packaging – can influence the type of products consumers buy as well as the frequency and volume of consumption.

These days, obesity is attributed to the influence of the media – television advertisements, packaging and other types of marketing communication directed at the consumer (Neumark-Sztainer, Story, Perry and Casey, 1999). Much research has been done to investigate the effect of children's television consumption and the risk of obesity. Already in 1974, the impact of television on children's food consumption practices was being studied (Clancy-Hepburn, Hickey & Nevill, 1974). Their research found a correlation between the hours of television watched and the number of requests made for specific food purchases. Also children tended to have a stronger preference for foods that had been advertised, while they tended to have low preference for foods they had not seen on television – as they were unfamiliar with these foods. Some years later, research was conducted to find a relationship between the attention that children paid to television commercials and their product requests during grocery shopping. Galst and White (1976) concluded that there is indeed a relationship between the two. Cereals and candy – being the most marketed items towards children at that time – turned out to be the most heavily requested food products by children.

The tendency of children to prefer advertised foods over non-advertised foods has not changed over the years, while the influence that children had on their parents' grocery shopping decisions increased (Mangleburg, 1990). A big concern given that foods are the most frequently advertised products during hours that children often watch television and most advertised products contain large amounts of fat, salt or sugar – e.g. cookies, candy and soda (Barcus & Wolkin, 1977; Taras & Gage, 1995). According to Barcus and Wolkin (1977), only a very small percentage – 2 to 4 percent – of the advertising campaigns is about nutritional foods such as milk or bread. It is therefore not surprising that children who watch more television have a greater chance of becoming obese compared to those who watch fairly less hours of television. Remarkably, the increase in consumption after seeing a food commercial is not related to age (Jeffrey, McLellarn & Fox, 1982). This implies that children from the age of nine who view a commercial increase their consumption behavior in the same manner as children from four years old. This, despite the fact that 9 year olds are better able to distinguish programs from commercials, are more skeptical towards advertisements and have a better understanding of the importance of a balanced diet.

While many advertisements using favorable visuals tend to be effective, Jeffrey et al. (1982) found that high-nutrition commercials were relatively ineffective. An explanation for this would be that many children and adolescents tend to misinterpret the information that they receive (Vermeersch & Swenerton 1980). This problem of misinterpretation may occur

because respondents have a poor understanding of the nutrition claim or because they are confused by specific format of the nutritious claims. It appears for example that ads using comparison claims – where the advertised product is compared to another product – often puzzle the consumer. Moreover, individuals often make implications on the basis of the wording of a claim. This may results in them believing something is a fact, while actually it is just implied. According to Levine (1976), even if you control the wording of claims in the media, still deceptions may occur. He refers to this deception as the 'claim-belief interaction'. This implies that individuals use prior beliefs, knowledge and attitudes about the product to interpret the nutrition claims. Still, earlier research by Vermeersch and Swenerton (1979) found that nutrition claims in advertisements are likely to create an advantage by fostering favorable impressions of the product. This advantage exists no matter how well a consumer understands the claim.

Even though high-nutrition commercials may not be very effective targeting children, children have remained an interesting target group for unhealthy food marketers. The earlier marketers can tie children to their brands, the bigger the chance that these young customers will develop lifelong preferences for these brands (Foodwatch, 2013). As a result, food marketers have continued directing their messages to children. Cool characters and bright colors are making products more appealing. Moreover, children are misinformed by claims that their high-fat or low-fiber products possess health benefits. There appears to be a gap between what parents tell their children about food and what marketers do. Margo Wootan, who is a nutrition policy director at the Center for Science in the Public Interest in Washington DC, says that "parents have been outmaneuvered by food marketers". He argues that this has happened because of the persuasive techniques that these marketers use for their campaigns. Instead of aiming advertisements at getting children to buy the products, marketers spend enormous amounts of money on creating advertisements that get children to nag their parents to buy things. This is known as the Nag Factor (Henry & Borzekowski, 2011). According to 64 American mothers, who took part in this research, packaging, characters and commercials are the main marketing forces that cause children to nag.

Bart van Opzeeland, director of Foodwatch, argues that the food industry should take their responsibility in educating consumers about healthy foods. According to him it is impossible for parents to compete against the enormous marketing budgets of the food industry. He does not see marketing as the problem, as long as it is about healthy foods. Unfortunately, marketers of unhealthy foods are more concerned with their own profits. Furthermore, they

hold parents responsible for the education of their children and therefore do not feel the urgency to change their marketing communications directed at children (Foodwatch, 2013).

2.1.5 Knowledge

A final barrier that has been identified by Stevenson et al. (2007) is the perceptions that people had about dieting. It was found that while adolescents were very well aware of obesity and its consequences, they didn't believe it was appropriate to diet when one is not overweight. This is in accordance with earlier research conducted by Story and Resnick (1986), who found that students lack the sense of importance of adopting a healthy diet.

Not only do individuals lack a sense of importance, many also have insufficient knowledge about nutritious and healthiness of food due to which they fail to meet the dietary guidelines. In 1981, Binns, Caffin and Miller did research into the topic of consumption behavior and nutrition knowledge. They found that the larger children's nutrition knowledge, the better their nutrition practices – assuming that education on food may improve eating behaviors. Contradictory, many other studies state that for adults the relationship between nutrition knowledge and healthy eating behavior is relatively weak (e.g. Shepherd & Stockley, 1987). According to Worsley (2002), this difference can be explained by different reasons. First of all there is a poor conceptualization of nutrition knowledge and the measurements used to measure nutrition knowledge are neither sufficient, nor consistent across studies. Furthermore, he argues that there is a lack of relevance as some knowledge of nutrients is not particularly important for children. This could explain the different results, given that the former research is conducted with children, while the later has used adults as respondents. Furthermore, children may be influenced by different factors – e.g. they may be more naïve and may be less likely to be influenced by outside factors.

Wansink (2005) believes that it is not necessarily about *how much* consumers know about nutrients, it is about *what* information they receive. It is untrue to believe that simply teaching individuals a lot about nutrients and healthy food will also make them willing to eat these foods. He writes "marketing of nutritious foods must delicately balance emotion with reason". It is also about what type of knowledge is activated. Research conducted with children found that the activation of the cognitive knowledge structure had no effect on their consumption choices, while children do tend to make healthier food choices when their affective knowledge was activated (Wansink et al., 2012). The study asked children the question what their superheroes (e.g. batman) would choose to eat. It was shown that children were more

likely to choose healthy food when they were asked this question, given that they believed their superheroes would also pick the healthy option. Over 45% of the kids chose apple fries over French fries when being 'primed' with admirable models. On the other hand, asking the children which food was healthier before they had to choose between French fries or apple fries did not seem to have any effect.

Summary on barriers restraining healthy food consumption

As becomes clear, the problem of many overweight individuals is their unhealthy consumption behavior. Reasons for their unhealthy behavior have been classified in five dominant themes. The most important findings will be discussed in the table below.

Authors	Main findings
2.1.1 Economic factors	
Story & Resnick (1986)	Students have poor diets, unless their sufficient nutrition knowledge. Reasons are a lack of time and the inconvenience of adopting a healthy diet.
Hill & Peters (1998)	Consumers are overwhelmed by the availability of a wide range of cheap food products.
Neumark-Sztainer et al. (1999)	Found that convenience and time constraints were seen as barriers. Other barriers to healthy eating are low availability and high costs
2.1.2 Food preferences	
Croll et al. (2001)	Adolescents identified appearance and taste as barriers towards healthy eating. The appearance and taste of unhealthy food was much better compared to healthy foods
Shepherd et al. (2006)	The classification of foods is another key barrier, as unhealthy foods are classified as favorable and associated with friends, pleasure and social environment.
Stevenson et al. (2007)	Tastes and preferences have been distorted because people tend to categorize healthy foods as 'good' and unhealthy foods as 'bad'. The aesthetics of foods – taste, texture, appearance and smell – often dominated the food choice of adolescents. According to the respondents, unhealthy foods were favorable because of these physical properties.
2.1.3 Social influences	
Birch (1980)	Exposing children to peer models strongly influenced their preferences and actual

	consumption behavior.
Croll et al. (2001)	Unhealthy eating was seen as socially acceptable, while eating healthy foods was 'uncool'. As a result of this peer pressure, adolescent failed to adopt healthy diets despite their nutritional knowledge.
Shepherd et al. (2006)	Low family support contributed to an increase in unhealthy consumption choices.
Stevenson et al. (2007)	Social pressures withhold people from healthy consumption behavior.
2.1.4 Media influences	
Clancy-Hepburn et al. (1974)	A correlation exists between the hours of television watched and the number of requests made for specific food purchases. Children have a stronger preference for foods that had been advertised, while having low preference for foods not seen on television. Children of whom the mothers had more valid nutritional knowledge were less likely to favor and consume foods that were being advertised.
Galst & White (1976)	The most marketed items towards children turned out to be the most heavily requested food products by children.
Levine (1976)	Ads using comparison claims – where the advertised product is compared to another product – often puzzle the consumer and individuals often make implications on the basis of the wording of a claim. Even if you control the wording of claims in the media, still deceptions may occur. This is known as the 'claim-belief interaction', which implies that individuals use prior beliefs, knowledge and attitudes about the product to interpret the nutrition claims.
Barcus & Wolkin (1977)	Foods are the most frequently advertised products during hours that children watch television. Most advertised products contain large amounts of fat, salt or sugar, while only a very small percentage of the advertising campaigns are about nutritional foods.
Vermeersch & Swenerton (1980)	Many children and adolescents tend to misinterpret the information that they receive. This occurs because respondents have a poor understanding of the nutrition claim or because they are confused by specific format of the nutritious claims
Jeffrey et al. (1982)	The increase in consumption after seeing a food commercial is not related to age

	High-nutrition commercials were found to be relatively ineffective.
Signoriellie & Staples (1997).	Children who watch more television are more likely to select unhealthy food when they were asked to pick the most healthy option.
Wansink (2006)	Non-physiological factors – e.g. advertisements, packaging and personality traits – can influence the frequency and volume of consumption
Henry & Borzekowski (2011)	Marketers create advertisements that get children to nag their parents to buy things – known as the Nag Factor
Foodwatch (2013)	The earlier marketers can tie children to their brands, the bigger the chance that these young customers will develop lifelong preferences for these brands. Children are misinformed by claims that their high-fat or low-fiber products possess health benefits. Marketers hold parents responsible for the education of their children and do not feel the urgency to change their marketing communications directed at children
2.1.5 Knowledge	
Binns et al. (1981)	The larger children's nutrition knowledge, the better their nutrition practices
Shepherd & Stockley (1987)	The relationship between nutrition knowledge and healthy eating behavior is relatively weak for adults
Worsley (2002)	Studies on nutrition knowledge found different results because of (1) a poor conceptualization of nutrition knowledge, (2) insufficient and inconsistent measurements used to measure nutrition knowledge, and (3) lack of relevance
Wansink (2005)	It is false to believe that simply teaching individuals a lot about nutrients and healthy food will also make them willing to eat these foods.
Stevenson et al. (2007)	People have the wrong perceptions of dieting
Wansink et al. (2012)	The activation of the cognitive knowledge structure has no effect on children's consumption choices, while children do make healthier food choices when their affective knowledge is activated

To conclude, it can be stated that reviewed literature indicates that the consumer is restrained by many different barriers. These can be subdivided into five dominant themes; economic factors, preferences, social influences, media influences and knowledge. Even though the

studies have used different target audiences for their research, findings are relatively consistent and supplement one another. However, literature on barriers that have been identified by children themselves is still limited. Furthermore, a discrepancy was identified in the discussion on the effect of high-nutrition commercials. While Jeffrey et al. (1982) argued that such commercials are relatively ineffective, other researchers have found that nutrition claims in advertising are likely to create an advantage (Levine, 1976). In addition, the effect of nutrition knowledge on nutrition practices is still doubtful as researchers have found contradicting results. Finally, many researchers have found that children tend to have a stronger preference for advertised foods, foods that often contain many sugars, fats and salts. However these studies have all conducted quantitative research and have not distinctively identified why children prefer advertised foods over non-advertised foods. Based on this information, this research will attempt to answer the following sub-question:

- **Which barriers withhold children from making healthy consumption choices?**

2.2 Strategies for motivating children

It has become clear that there are many barriers towards healthy eating. Given this information it may seem difficult to get children to adopt healthier consumption diets. Three strategies have been identified from previous research that might overcome these barriers; (1) Social control, (2) Educational strategies, and (3) Advertising strategies

2.2.1 Social control

In 1996, Epstein wrote an article titled 'family-based behavioral intervention for obese children'. She found that the family environment is mainly responsible for obese children, given that parenting styles influence the dietary intake of children as well as the development of their food preferences. Research by O'Dea (2003) also identified a lack of parental control as one of the causes of children's bad consumption behavior. Over two-hundred students between 7 and 17 years old were asked for their ideas on overcoming the barriers towards healthy eating. Even though the younger respondents could not come up with many suggestions, older students identified that more support from parents could overcome the obstacles. They specifically argued that the availability of healthy foods should increase at home to motivate interest, while the availability of unhealthy foods should be reduced. Moreover, children argued that they needed reasonable goals to achieve as well as small victories and incentives (Borra, Kelly, Shirreffs, Neville & Geiger, 2003). According to Lytle, Eldridge, Kotz, Piper, Williams & Kalina (1997), 'actions speak louder than words' implying

that adults should start realizing how their attitudes and behaviors around nutrition and food choices influence children. An influence that goes beyond just making healthy foods available.

Nonetheless, merely parental control will not be sufficient to overcome the barriers that withhold children from adopting a healthy diet. According to Borra et al. (2003), parents indicated that they needed help in acknowledging and addressing the problem of overweight. Therefore, more parties should be involved, such as teachers and governments.

2.2.2 Educational strategies

Furthermore, some researchers have identified that educating children will motivate them to make healthier consumption choices.

TV Chef Jamie Oliver realized the importance of having schools involved in children's diets and took action. Awaked by the poor diets of children in British school, Jamie Oliver started one of his most ambitious programs in 2004 (Oliver, 2006). He had found that children in British schools were mainly served processed meals due to the limited budget and as a result consumed over fifty percent more salt than the amount that is recommended for adults. An attempt to change consumption behaviors of children resulted in a national campaign known as the 'feed me better' campaign. Jamie Oliver had five main goals: (1) guarantee that children would receive nutritionally balanced meals at school, (2) ban junk food from the menu, (3) support and train dinner ladies to get them enjoy cooking proper meals, (4) teach children about foods and the fun of cooking, and (5) get more funding to improve foods at school. The whole campaign, which was broadcasted on television, got tremendous attention and eventually got support from the government. Even though the children were given no other choice than to eat more healthy foods as most junk food was banned, they did become more favorable towards healthy foods. Not only did they enjoy the food and also talked about it more, also they could concentrate better in school, were less absent due to sickness and gained better results (Belot & James, 2009).

Other researchers also found the effectiveness of school programs on the consumption behavior of children (e.g. Gortmaker, Peterson, Wiecha, Sobol, Dixit, Fox and Laird, 1999). Gortmaker et al. (1999) conducted an experiment in order to evaluate the impact of a school-based healthy behavior intervention program. This program aimed at decreasing television viewing, reducing the consumption of high-fat foods and increasing the consumption of fruits

and vegetables. They found that the program, known as Planet Health, successfully reduced obesity by increasing fruits and vegetable intake and physical activity and reducing television viewing and high-fat food consumption.

Edutainment

In 2008, Evans found that both children and adolescents could be motivated through edutainment. This is a type of social marketing that combines education with entertainment. The purpose is to inform children and adolescents and to change their behaviors. A well-known example is Sesame Street, which integrates various health, educational, and social topics into a single program.

Other types of educational strategies are websites and mobile apps. Her and Lee (2003) studied the effects of internet-based nutrition education programs and found that these are more effective in changing children's behavior than books. Additionally, research by Borra et al. (2003) found that children like the idea of a website where they can find information and communicate with other children. Such a website should educate individuals in a fun and pleasant way about the benefits of eating healthy. Furthermore, children suggested that the website should include a chat room, support groups, games, tips and tricks and exercise programs (Borra et al., 2003). Another example is the 'Time to eat' game that can be played on a mobile phone (Pollak, Gay, Byrne, Wagner, Retelny & Humphreys, 2010). The idea of the game is to have children care for a virtual pet by sending it pictures of food they consume throughout the day. In turn, the healthiness of the food children consume determines the outcome. Results indicated that those children who played the game and received both positive and negative feedback from the pet were more likely to eat proper breakfast (Pollak et al., 2010).

2.2.3 Advertising strategies

Finally, Odea (2003) suggested that strategies that make healthy foods more appealing may also defeat the barriers that were discussed in section 3.1. The children in her research identified more advertising for healthy foods as an important strategy. Other researchers have also tried to induce children to make healthier choices through advertising strategies.

Research by Pires and Agante (2011) aimed at understanding how Portuguese children may be influenced by an appealing packaging and whether this may affect their attitudes towards the product as well as buying intention. The researchers showed that healthy foods become

more favorable when they are presented in fun packaging. Furthermore, redesigning the package of a healthy product so that it is more fun will slightly reduce the perceived healthiness of the product but increase purchase intentions of children.

Rose Cameron also realized this influence of appealing packaging and founded the brand WAT-AAH – cool water for children. Cameron – as a mother of two children – found herself struggling to have her children drink water instead of soda's with lots of sugar. She realized that children's products needed to be cool and then decided to introduce 'WAT-AAH'. Together with her children, she designed a label and a logo and started selling her first bottles in 2008. Now, WAT-AAH is available nationwide – and is even sold at schools. The main goal of the company being the reduction of childhood obesity (Let Water Be Water LLC, 2008).

Next to packaging with appealing visuals, research by Lytle et al. (1997) found that nutritional messages on products could also impact food decisions made by children. They found that children use food labels in order to compare products that are rather similar. Even though children do not have enough knowledge to actually understand the nutritional information on a package, they are able to decide which of the products is the most healthy based on the number of fats or sugars included. Furthermore, they suggest that making nutrition messages more positive, more concrete and more behavioral could stimulate children to pick for the more healthy option.

Summary on strategies for motivating children

Even though there are barriers that withhold children from healthy eating, some people have succeeded in motivating children to make healthier choices as has been discussed in section 2.2. Below the main findings are summed up.

Authors	Main findings
2.2.1 Social control	
Epstein (1996)	The family environment is mainly responsible for obese children, as that parenting styles influence the dietary intake of children and the development of their food preferences.
O'Dea (2003)	Older students identified that more support from parents could overcome the obstacles. In particular, the availability of healthy foods should increase at home and at school to motivate interest.

2.2.2 Educational strategies	
Borra et al. (2003)	Children also require support from school. This includes making healthy food better available and teaching children about foods and the importance of a healthy diet. Children like the idea of an educational website where they can find information, play games and chat with other children.
Her & Lee (2003)	Internet-based nutrition education programs were found to be more successful in teaching children nutrition knowledge and were also more effective in changing children's behavior compared to books.
Oliver (2006)	Jamie Oliver started his 'feed me better' campaign in order to achieve five main goals: (1) guarantee that children would receive nutritionally balanced meals at school, (2) ban junk food from the menu, (3) support and train dinner ladies to get them enjoy cooking proper meals, (4) teach children about foods and the fun of cooking, and (5) get more funding to improve foods at school.
Evans (2008)	Children and adolescents may be motivated through edutainment – a program that combines education with entertainment. The purpose is to inform children and adolescents and to change their behaviors.
Belot & Jamer (2009)	Children became more favorable towards healthy foods after the 'feed me better campaign'. Also, they talked more about food, could concentrate better in school, were less absent due to sickness and got better results
Pollak et al. (2010)	The mobile phone game 'Time to eat', was found to be a successful tool in motivating children to improve their diets.
2.2.3 Advertising strategies	
Lytle et al. (1997)	Nutritional messages on products could stimulate children to make healthier decisions as children tend to compare products based on this information. Making nutrition messages more positive, more concrete and more behavioral could stimulate children even better to pick for the more healthy option.
O'Dea (2003)	Strategies that make healthy foods more appealing may also defeat the barriers that restrain children from adopting a healthy consumption diet.
Pires & Agante (2011)	Research found that healthy foods become more favorable when they are presented in fun packaging and increase purchase intentions. Despite the fact that fun packaging will slightly reduce the perceived healthiness of the product.

To conclude, existing literature has indicated that different strategies are successful in motivating children to make better consumption choices. However, it must be noted that research on strategies that have successfully motivated children to make healthier consumption choices is still limited. Nevertheless, it has been found that most of the findings from this section are in line with the literature on barriers that has been discussed in section 3.1.

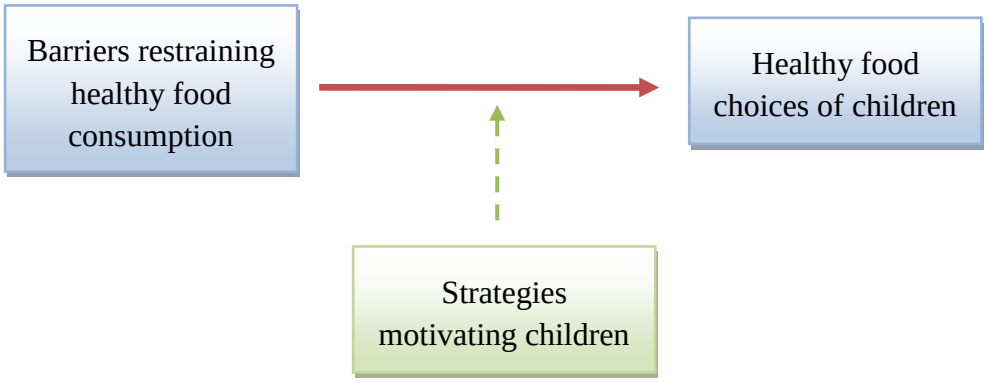
First of all, previous research has identified parental control as a strategy to motivate children. Parents could stimulate and encourage children to eat healthier by making healthy foods better available and by providing them with attainable goals, positive reinforcements and better guidance (Borra et al., 2003). Findings by Shepherd et al. (2006) and Warren et al. (2008) confirmed these results as young people in his research acknowledge that low family support contributed to an increase in unhealthy consumption choices. Secondly, research by O'Dea (2003) and Oliver (2006) found that children can be motivated through educational programs on foods and nutrition. This verifies research by Binns et al (1981), who found that education on food improves eating behaviors. However, it contradicts findings by Shepherd and Stockley (1987), who argued that the relationship between nutrition knowledge and healthy eating behavior is relatively weak. According to Her and Lee (2003) this could depend on the way in which children are taught about nutrition. According to them internet-based nutrition education programs are more effective in changing the dietary intake of children than books. The success of educational entertainment strategies was also found in studies by Evans (2008) and Pollak et al. (2010). Finally, children may be motivated by making products more appealing. Extrinsic rewards such as a fun packaging are very helpful in motivating children to choose for healthier options (Pires & Agante, 2011). Again this is in accordance with earlier research, for example Wansink (2005), who argued that individuals are influenced by non-physiological factors.

Given that the research on strategies that could motivate children could be expanded, this research will dive deeper in the topic of motivating strategies. Building upon the knowledge of former literature, the following sub-question will be answered:

- **What marketing strategies can motivate children to make healthier food choices?**

3.3 The Conceptual Model

Previous research has shown that multiple variables contribute to the healthy food choices that children make. Based on this research, the pattern linking the barriers that exist with motivating strategies could be summarized in the following conceptual model:



The aforementioned literature argues that many barriers withhold children from healthy dietary behavior. This negative relationship between the barriers that exist and the healthy food choices that are made by children is represented by the red arrow. However, according to other research, different strategies can actually motivate children to choose for more healthy options. These motivating strategies reduce the impact of barriers and the green arrow therefore represents a positive relationship between motivating strategies and healthy food choices. This conceptual model will both guide and structure the present research.

3. Methodology

This chapter will provide an overview of the qualitative research methods used to investigate the research question. In the first part of this chapter the research design and its methods will be discussed. This is then followed by the sampling method. Subsequently, the assembly of data and the coding process is explained and the final section focuses on the trustworthiness of the research.

3.1 Research design

Qualitative research aims to "make sense of, or interpret, phenomena in terms of the meanings people bring to them" (Greenhalgh & Taylor, 1997). In other words, qualitative research tries to understand the social world around us by examining participant's interpretation of that world. It does so by studying individuals' thoughts, ideas, opinions and the meanings that are relevant to them. Qualitative research intends to provide more insights into the thoughts and ideas that people have and is relevant when existing literature does not provide sufficient insights. This specific research follows up existing research but requires a qualitative approach as the basis is inadequate. As has been identified, previous research has discussed different barriers that exist, however these studies have mainly been conducted with adolescents and adults. Only few studies have conducted research to uncover children's motivations for healthy food consumption. Moreover, some gaps have been identified that ask for more insights. According to Bryman and Bell (2007), a qualitative exploration research design is therefore most suitable as it dives deeper into a topic to investigate *why* and *how* people make decisions.

For this particular research paper, qualitative research is also more appropriate because the phenomena that is being studied is rather complex. Children may know what types of foods they prefer, however it may be difficult for them to come up with a clear explanation on why they do so. Furthermore, respondents may have subconscious feelings that can only be uncovered through qualitative interviewing. Finally, according to Malhotra & Birks (2007), when conducting research on children, qualitative research is the most appropriate method to use. First of all, children might not have the cognitive capabilities to fill out a self-administered questionnaire (Shaw et al., 2011). Qualitative research uses an iterative study design in which questions can be adjusted once the researcher feels they are insufficient for the specific research that is being conducted (Greenhalgh & Taylor, 1997). Qualitative research can thus ensure that questions can be specified or rephrased if children do not

understand them. Moreover, qualitative research methods will be more appropriate to create a child-friendly environment, where children feel comfortable to talk. As a result, the research should be better able to uncover children's ideas, thoughts and motivations. Even though it is not impossible to conduct quantitative research with children, data obtained through a qualitative approach will most likely be more complete and therefore more valuable.

As Greenhalgh and Taylor (1997) argue, a good qualitative study should use more than a single research method. Therefore, a combination of qualitative research methods – individual interviews, ethnographic observations, group discussions and secondary data – will be used for this research paper. For the study at hand, a combination of the different types of research methods was used. This is known as triangulation and increases trustworthiness of the research, a concept which will be discussed in section 3.5.

3.1.1 Ethnography

Ethnography aims at viewing behavior, norms and values through the eyes of the individuals that are studied. By doing so, this research method avoids to impose theories and concepts which may reveal a poor fit with the perspectives of the participants (Malhotra & Birks, 2007). This research method seems plausible because it is suitable for analyzing behavioral processes. Bryman & Bell (2007) describe ethnographic approach as an "intense researcher involvement […], in order […] to understand it from an insider's point of view." This specific research has included observations over an extended period of time. However, given that the researcher has not been intensely involved in the day-to-day activities of the children, the researcher would like to refer to this research method as 'observations' instead of 'ethnography'. The observations took place during lunchtime at school during a period of one month. A total of 41 children have been observed of whom 22 children were selected for the individual interviews and 18 have been included in the group discussions. As the researcher wanted the children to behave like they would normally do, the children were told that someone would be present in the classroom but they were not told the objective of the research. In the first week of January 2013, the researcher visited the school twice in order to get to know the children. One week later on the 10th of January the first observation took place of which notes were taken. To make sure that the children were not biased by the interviews, this observation was planned before any of the individual interviews had taken place. The second observation took place one week later on January 17. Notes that have been made during these observations can be found in appendix 3A. It was chosen to only take notes of these two observations as children were expected to behave differently when they saw

someone writing. Additionally, during the third observation pictures were taken of the lunchboxes of the children. A selection of these can be found in appendix 3B.

3.1.2 Qualitative interviewing

An *in-depth interview* is "an unstructured, direct, personal interview in which a single participant is probed by an experienced interviewer to uncover underlying motivations, beliefs, attitudes and feeling on a topic" (Malhotra & Birks, 2007). For this research, 22 children have been asked to participate in an in-depth interview. An overview of the duration and date of the individual interviews that have been conducted can be found in appendix 3C. The table in the appendix will also list the nationality of the children as well as their age. From the 22 interviews that had been conducted, two children (Child5 and Child10) did not fit the sampling criteria – age between 8 to 10 and of a Turkish or Moroccan background – and therefore these interviews have been excluded from the research. The interviews have been conducted in a separate room within the school to ensure that there was limited distraction. Small tables were chosen to sit so that children would not feel intimidated. Moreover, the well-being of the child was given much attention, which will be discussed in chapter 3.2.

During these interviews the children were asked different questions related to food. The interviews used a semi-structured approach. This means that a list with questions was provided beforehand in order to guide the interviewer, however, the interview was not limited to only those questions that had been specified in advance. This allowed the researcher to probe if she believed this could result in interesting findings. The interview guide of the individual interviews can be found in appendix 3D with supplements in appendix 3E to 3G. For the in-depth interviews several special techniques have been used, known as projective techniques. These techniques allowed for an indirect form of questioning so that the children would be encouraged to reveal their underlying motivations. One example of a technique used is the picture response technique. In this case children were given a picture and asked to describe what they see. Another technique that was used was the third-person technique, where the children had to answer the question from a third-person perspective (e.g. what would person X do in this situation?).

Next to the interviews with the children, one interview has also been conducted with the coordinator of the school, as she could tell more about the school its food policy as well as children's consumption behavior at school. Information on this interview can also be found in appendix 3C.

3.1.3 Focus groups

In a later stage of the research, *friendship pairs* were introduced. This is a technique were children are interviewed in pairs (Malhotra & Birks, 2007). It turned out that during the individual interviews, many children were only answering the questions that they were asked with the least words possible. In order to stimulate the interaction, the researcher decided to conduct the second part of interviews with more children at the same time. These interviews were comparable to small *group discussion* where the children were asked a question or provided with a picture and then given the chance to start a discussion on the topic.

The group discussions aimed to undercover underlying motivations, opinions, ideas or experiences that children hold about advertisements. The main advantage of this type of research method over individual interviews is that children may feel more comfortable with other children around and therefore provide more valuable answers. Again special techniques were used in order to gain interesting findings. Children were shown different pictures of products and were also shown different commercials and then asked to evaluate these. The interview guide of the group discussions can be found in appendix 3H, with a supplement in appendix 3I.

In total 18 of the 22 children from the individual interviews were included in the second part of the research. The two children that did not fit the sampling criteria did not take part in this second part of the research. Moreover, two children (Child21 and Child22) who had been present in the first part of the research were absent because of illness and could therefore also not be included. As a result, in each group three children have participated in the discussion. This can be found in appendix 3C.

3.2 Research ethics

Research with children requires a researcher to pay significant attention to the ethical issues. First of all full anonymity has been guaranteed. The children have been given numbers (e.g. Child1) and the school has been given a pseudo name (SchoolX) to assure privacy. Furthermore, all children and parents have been informed before the start of the observations. In case someone did not want to participate, this was taken into account. Moreover, children have been been told that they could leave at any time during the interview. All parents and children accepted to participate, moreover none of the children indicated that they wanted to quit the interview.

Furthermore, before conducting the actual interviews, a researcher should try to establish a relationship with the children. This should make them feel more comfortable and then result in more interesting insights during the actual interview. Repeated contact with children has shown to smooth the development of an interview (Spratling et al., 2012). In order to establish this relationship, the researcher has visited the school twice before conducting the actual interviews and observations. During these visits the researcher has been present in the classrooms – that were observed at a later stage – to get to know the children.

Furthermore, the children have been guided during the interview by clear and easy questions. According to research by Spratling et al. (2012) children are very well able to recall events and or behavior when you ask them about a specific time (e.g. tell me about you visit you're the supermarket with your mum yesterday). Some studies have also uses examples to guide the children. In this research the researcher has tried to avoid using examples, as it might bias the children if they believe that example to be the right answer to the question. Avoiding interviewer bias is critical, as children are very likely to answer what they believe is correct in the eyes of the interviewer. Rather, pictures have been used together with questions so the children can visualize what they were being asked, making it easier for them to understand and answer the questions.

3.3 Sampling design

Qualitative research relies on non-probability sampling where individuals are chosen based on researchers' judgments (Malhotra & Birks, 2007). Individuals in this study have been selected based on judgment sampling – a type of non-probability sampling that chooses individuals who are in the best position to provide that information that is wanted by the researcher. For this specific research, children of a Turkish and Moroccan background were the target population. This target population has been chosen because research that has been conducted so far has not focused much on children. Moreover, children from these ethnical backgrounds are more susceptible to becoming obese. In order to restrain the research children between 8 and 10 years old have been chosen as target audience. Although it is argued that children from three to six years old already have the cognitive ability to be interviewed (Steward & Steward, 1996), based on the language capabilities of foreign children in the Netherlands, it has been chosen to target children that are slightly older. In addition, this age group is relatively more independent and better able to listen and concentrate compared to children of a younger age. Based on the sampling frame, as discussed above, the most suitable option was to approach a primary school with a majority of Turkish and Moroccan children.

In qualitative research, sample sizes are relatively small. A reason for this would be that instead of looking for the 'average' opinion or view on a topic, qualitative research searches for an in-depth understanding of individuals' experiences. It is up to the qualitative researcher to decide how many subjects to include in the analysis, as long as he or she assures that the sample is large enough to uncover all perceptions that might be relevant.

3.4 Data analysis

This section will discuss how the data that has been gathered will be analyzed. This will be done using the four steps as specified by Malhotra & Birks (2007).

3.4.1 Data assembly

The first step is the data assembly step, where data is gathered from various sources. In this specific study, the primary data has been gathered from interviews and group discussions with the children and observations in the classroom. The interviews and group discussion have been audio taped and transcribed, and field notes have been taken during the observations. Secondary data, such as articles and books, are used as theoretical support. This research consists of two parts. Part one includes the first observation and 22 individual interviews. Part two embraces a second observation and 6 group discussions of each 3 children. All information on the assembly of the data can be found in appendix 3C, as has been discussed in section 3.1. Transcripts of the individual interviews and group discussions are available upon request. For information the researcher can be contacted at ngm.hoefs@gmail.com.

3.4.2 Data coding

The next step was to handle the data – data reduction. Not all the text from the transcripts and field notes was relevant for the research, therefore this step entailed making choices about how to organize, manage and retrieve data. This can be done by assigning labels to parts of the data that the researcher believes are interesting. This process is known as coding data – breaking down the data into chunks of information (Malhotra & Birks, 2007). Instead of simply looking for interesting quotes, data should be analyzed in a systematic way. The goal is to gain a description of the phenomenon at hand and to provide new insights (Krippendorff, 1980). From the interviews, several categories have been identified and the statements of the respondents have been classified according to these different categories.

"My mother actually does everything that I want" ***(Child9)***; *"Some others are more tasty, because this one is sugar free" (**Child6**)*

Green = impact social influence on food choices; Yellow = tastes and preferences

The coding in this particular research has been done by the researcher. In order to ensure reliability, the coding has been done twice during the process of writing this thesis. In this way, categories that are identified the first time could be cross-checked.

3.4.3 Data display & verification

Then, the reduced data should be summarized in order to be able to make conclusions. This is done in the third step, data display. Finally, a researcher needs to verify the data by looking for other explanations that may support the outcomes. At this stage, findings from the research will also be compared to what has been written so far on this topic. This last step is important regarding the validation of the research, which will be discussed in section 3.5.

3.5 Validity and reliability

Qualitative research is often criticized for being too subjective, based on personal impressions of the researcher. Furthermore, it is believed that due to this subjectivity, there is no guarantee that qualitative research can be replicated by a different researcher. Finally, it is argued that qualitative research lacks generalizability as information is gathered from only a small number of respondents (Mays & Pope, 1995). However, credibility of qualitative research can be assured. Guba (1981) has proposed four criteria that should prove trustworthiness of a qualitative study – credibility, transferability, dependability and confirmability. These four criteria are comparable to the criteria used by quantitative researchers.

3.5.1 Credibility

Credibility refers to whether the study measures what it intends to measure. For credibility to be plausible, the phenomena that are studied should be accurately recorded (Shenton, 2004). Lincoln and Guba (1985) argue that establishing a relationship of trust between the researcher and the respondents will promote credibility. In this specific research, the school has been visited several times before the actual observations and interviews were conducted. During these visits the researcher was present in the classroom during school hours to play and work with the children. Furthermore, triangulation could be used to establish the credibility of findings. This technique involves using several different methods during the study. The use of different methods, like observations, focus groups and interviews, allow a researcher to cross-

check findings. In order to make sure the research would be credible, this research has conducted interviews, focus groups as well as observations. Using these different methods not only allowed the researcher to cross-check findings, but also eliminated possible errors that could have occurred due to limitations of the separate research methods (Shenton, 2004). Furthermore, cross-checking has also been done by coding the data twice. Finally, credibility is increased when respondents are truthful. In order to assure that participants were willing to take part in the study and were giving accurate and honest answers, they were given the opportunity to refuse participation. Moreover, given that children are very likely to give socially desired answers in presence of an adult, the children were specifically told that this was not a test, that there were no wrong answers and that information would not be shared with adults or teachers or anyone else.

3.5.2 Transferability

Transferability is the degree to which the outcomes of one qualitative study can be generalized to other contexts or settings (Bryman & Bell, 2007). Given that the number of respondents in qualitative research is relatively small, the generalization of results is rather difficult. However, transferability could be enhanced when qualitative researchers produce a thick description on details of the study – the context and assumptions (Bryman & Bell, 2007). Based on this information a reader can assess the transferability of the findings. In order to improve transferability, a detailed description of this study can be found in paragraph 3.1. Moreover, the researcher has tried to ensure that the sample is large enough to uncover all perceptions that she believed would be relevant.

3.5.3 Dependability

Reliability is the extent to which consistent results are found when the study is repeated (Bryman & Bell, 2007). What is often argued is that qualitative research is strongly subjective – the researcher bias is most likely present – and thus cannot give consistent results when another researcher would like to replicate the study. However, when a detailed description of the research is provided, other researchers may be able to replicate the findings. According to Lincoln and Guba (1985) credibility and dependability are closely related. Thus to ensure dependability, it again is important to accurately record the phenomena under examination. In order for replication of the study, a detailed description of the study has been provided in paragraph 3.1. Furthermore, the researcher has tried to eliminate the researcher bias by e.g. applying triangulation, cross-checking the data coding and not using examples during the interviews and focus groups.

3.5.4 Confirmability

Confirmability is difficult, if not impossible, to ensure. However, the goal of confirmability in qualitative research is to prove that results of the study are based on the respondents' ideas and opinions rather than on those of the researcher. As Bryman & Bell (2007) have formulated it; the researcher should have acted 'in good faith'. To reduce the researcher bias, triangulation should again be applied. Moreover it is important to examine previous studies to assess congruency of the study. As has already been identified above, this specific research has used different methods to obtain information and in this way tried to ensure confirmability. Furthermore, children were asked open questions and question with pictures in order to avoid the researcher putting words in their mouth.

4. Empirical findings

In this chapter, the findings of the research will be presented. The findings are presented in different parts. First, the consumption habits of children at school will be discussed. This should give an insight on the current consumption behavior of the respondents. Second, the barriers that may restrain children from adopting a healthy diet will be evaluated. This will be done based on the barriers that have been identified by earlier research. The last part of the findings will discuss what children think of marketing communications and how it may trigger them in a positive way.

4.1 Contextual information

The children are required to bring fruits or vegetables with them to school for the first break, which is at ten o'clock. For lunch, they usually bring bread (either Dutch bread, or bread from their own country – Turkish or Moroccan) and something like a cookie or a croissant.

According to the coordinator there is no overall school policy that tells children what they may and may not bring to school for lunch. The teachers themselves decide what children can bring in their lunchboxes. The rules however tend not to be very strict, as long as the children bring something like bread or fruits, they are free to bring something to snack as well. Children told they could bring pieces of pizza or cake and other snacks. Furthermore, teachers do encourage children to eat what is in their lunchboxes, but since time for lunch is limited some children do not finish everything. During lunchtime it was observed that children tend to eat the things they like first, while bread was often left when the children had not enough time to finish their entire lunchbox. On average, it took the children that had 'sweet' food with them less time to finish their lunch. Those with bread took a lot longer to finish. Moreover, those that had bread in their lunchboxes in many cases did not eat the bread crusts. Some did not even have the bread crusts on the bread anymore, others would only eat the middle part or they would rip of the crust and put it back in their lunchboxes or throw it away after they had finished eating. This was not checked by the teachers. During the interviews, some children argued that their mothers put too much in their lunchboxes and that they would therefore not finish all of it. However, none of them specified that they left the crusts or merely finished the 'sweet' food. This was only witnessed from the observations.

4.2 Barriers towards healthy eating

This section will identify potential barriers that withhold children from eating healthy foods. First children were asked what foods they desire to take with them in their lunchboxes. This question aimed at uncovering their preferences. Furthermore the children were asked what they believed others would choose for them to bring to school. This part should give some insights in the social influences that play a role in the consumption patterns of the children. Then, the influence of the media will be discussed. It should be noted that this section is divided into media visuals and media messages, where a distinction is made between what visuals children see and what messages they read or hear. Finally, the last part will discuss the knowledge that children have on nutrients.

4.2.1 Economic factors

Economic factors were not seen as barriers by children.

Even though the power that children have on buying decision has been growing over the years, children in most cases are not actually responsible for the groceries. Economic factors such as availability and high costs may therefore not be relevant yet. In contrast, some children actually indicated that healthy foods were cheaper than foods that are high in fat and sugars.

4.2.2 Food preferences

The large majority of children preferred eating unhealthy foods like snacks and sweets over eating fruits and vegetables.

What could be witnessed when children were allowed to choose their own foods is that children were a bit hesitant at first but when being told that they could pick anything they want they could quickly identify the foods that they preferred. The majority of children included both healthy foods – such as fruits and vegetables – as well as snacks – such as pizza and cookies. From the exercise, two type of picking patterns were observed. Approximately half of the children first selected foods they believe they should bring – e.g. cucumber, tomatoes and other fruits and vegetables – or foods that they normally brought to school – e.g. brown bread and apples. In the end they would then argue that they may also bring something ‘nice’ or ‘sweet’ and pick a card with unhealthy food. Children would then also indicate that these foods are tastier because of the sugars that are inside the product. According to some children, products without sugar were not tasty.

*"But there has to be sugar inside. I have such a drink with zero sugar but it doesn't taste nice. It is not tasty for me. When there is no sugar inside I know that I don't like it, there has to be sugar" (**Child15**).*

The other half of the children would first pick foods they preferred – like cookies or pizza – and then compensate these with some fruits and vegetables. When being asked they would argue that it was also important to include something healthy in their lunchboxes. Striking however was that they believed that for example an apple or some pieces of cucumber could compensate for something unhealthy they had chosen to eat for lunch. Also the fruit yoghurt 'Danone' was often chosen to compensate for a snack, as it was believed to contain many fruits and therefore considered healthy. Noteworthy was that chips was not often included as a final choice, even though many argued they liked the food. Many of them would actually pick the card, but then argue that this wasn't allowed at school and therefore not included as part of their lunchbox. On the other hand pizza, which you might expect also not to be allowed, was often selected. A summary on the choices that children made can be found in appendix 4A. To conclude, children know that they need to consume bread, fruits and vegetables and therefore include them in their choice set. However, as they themselves indicated, they would prefer to pick something unhealthy which they referred to as 'nice' or 'sweet'.

What has also been found is that many children pointed out healthy foods as foods that are tasty when they were asked about which foods they would identify as being tasty. This would imply that they do not make a distinction between healthy foods and tasty foods. However, when asked about the definition of tasty foods, the majority explained that these are foods that shouldn't be eaten too often. Some argued that tasty foods are foods that are unhealthy and that one shouldn't be eating too much of them. *"It makes you fat. Then you can never run" (**Child22**).* Others argued that tasty foods should only be eaten at special occasions. *"You should eat it after you have finished your bread" (**Child2**); "At a birthday party" (**Child17**).* Only a few children argued that tasty foods taste good but that it does not have to be unhealthy. These findings suggest that children indeed make a distinction between healthy versus unhealthy foods. Furthermore, children also indicated that tasty food looks good. As one girl explained, tasty food is delicious because it looks tasty and because of the ingredients.

*"Because there is a little sugar inside and it looks very tasty" (**Child3**).*

When used an indirect form of questioning, similar results were found. Even though the majority of children would argue that those lunchboxes including unhealthy items were more

appropriate for adults, they did argue that children like these types of food. Thus, indirectly children do tend to admit that they prefer unhealthy foods over healthy foods. For example one child argued that lunchbox C in appendix 3E could be from a child because children like hamburgers and French fries. However, the same child in the end argued that the lunchbox was probably from an adult as it was more appropriate for adults because of the amount of food. It was observed that the majority of children based their answers on things like the appropriateness of the lunchboxes in terms of healthiness and size. Those lunchboxes that they believed were larger were argued to be from adults. Moreover, many children believed that for adults it is fine to eat unhealthy foods, while for children it is not appropriate. One child gave the following response when asked about lunchbox D:

> *"The vegetables are from a child and the sandwiches and chips are from an adult because when you are older, you can bring unhealthy stuff with you. Not extremely unhealthy but somewhat unhealthy that it still tastes nice, but also with something healthy added. Because when you are bigger than you can much better… uh... then you have already many fruits in your body, so then it would be okay to have something sweet I think" (**Child21**) "*

Only few respondents based their reasoning on preferences of a person and those that did indicated that lunchbox C – including a hamburger and French fries – and lunchbox F – including a mandarin and apple-pie – were from children as these foods were preferred by children. A summary on the evaluation of the lunchboxes can be found in appendix 4B.

4.2.3 Social influences

Findings show that children are negatively influenced by peers and siblings. Besides, a lack of parental control also negatively influences children's consumption behavior.

From the individual interviews, it became clear that for most of the children, their mothers fill their lunchboxes. However, almost all children indicated they had a significant influence on the type of bread, spread and anything extra that they can bring to school.

> *"My mother actually does everything that I want" (**Child9**); "When I don't say anything than my mum chooses but then the next day I might tell her only three breads. Then I say I want a sandwich with meat and one with chocolate sprinkles and then she makes that for me" (**Child16**)*

Moreover, respondent assumed that the parental control would reduce as they grow older given that older siblings could decide themselves what they eat. As a result, the wrong example was set for the younger children. Children who had older siblings – who were not at primary school anymore – argued that when they grow older it would be entirely up to them what to bring to school. *"My brother who is now in the third grade may choose himself. He cooks himself and he buys himself" (**Child13**)*. In this situation, they would then like to bring something extra to snack or bring some money and buy food in the cafeteria at school. Furthermore, from the observations during lunchtime it was observed that some children do compare their own foods with that of others, which suggests that peer influence does exist at this age. Remarkable was that those who had something special with them in their lunchboxes – e.g. pizza – got more attention of others in the hope that they would share a bit (as has been described in appendix 3A). This suggests that the influence of peers and siblings is slightly negative, given that in the presence of friends or siblings children tend to be more likely to choose for the unhealthy option. Still, the influence of peers and siblings is limited given that children have not complete freedom yet to choose their own foods – restrained by parents, school policy, money and opportunity.

To conclude, a lack of parental control may increase bad consumption behavior, as children indicated that once they could choose themselves they would select differently. Furthermore, siblings and friends seem to have a rather negative impact on the food choices of children. At this stage, however, the impact of peers and siblings seems still relatively small and therefore this research will not elaborate on this.

4.2.4 Media influences

This section will touch upon the topic of media messages and is subdivided into media visuals – visuals in both motion and still media – and media messages – both spoken and written. It must be noted that the findings on media visuals could be argued to be both barriers as well as motivating factors, given that healthy products could be made more appealing based on the insights that will be discussed here. However, in this particular section, media visuals are identified as a barrier because most advertising is for unhealthy food products and these visuals in turn distract children from choosing responsibly.

Media visuals

Findings indicate that children are often distracted by visuals, especially when the visuals make the product more entertaining – e.g. cartoons and animals. Based on these visuals,

children often decide whether they like a product, whether it is healthy and whether they would like to buy it. Children even derived the taste from the looks of a product or its packaging. The influence of visuals tend to be stronger for motion media than for still media, most likely because children have less time to evaluate a product when it is shown in motion media.

Motion media

When children were asked about the motion media, a few things were observed. First of all, children only paid attention to a product or brand when these were prominently shown. Given that the commercials were full of visuals, children could not process everything they had seen and therefore missed out on some important things, such as the brand or the product. Even though the majority of children were able to name either the brand name or the product after seeing the commercials, only few children could remember both. For example in the McDonalds commercial, children were able to recognize the brand based on the happy meal box – which they described as the McDonalds box, McDonalds puppet or McDonalds Happy Meal – and the little puppet toys that you get when you buy a product at McDonalds; *"And every time you go to McDonalds, then you get such a toy" (**Child7**)*. However, none mentioned the actual product when they were asked about what they had seen. This was striking given that all children indicated that they had seen the commercial before. Approximately half of the respondents believed that the commercial was about the little puppet toys that a consumer would get with the happy meal. The other half argued that it was not about the puppets and responded that either fruits were the product being sold, or that it was about a desert.

> *The fruits that they can buy at McDonalds" (**Child3**); "As a desert you get fresh fruits" (**Child4**); "That it is very tasty and a healthy desert" (**Child11**)*

None of the children realized that the commercial was about the happy meal, which would then include the little puppets and the fruit. This occurred most likely because the fruit and the puppets were more prominently shown. Another example was the Melkunie commercial, were only very few children could recall the brand. Nevertheless, most of the children could tell that the commercial was about 'some kind of milk'. However, they based this on the fact that there was a cow present in the commercial and not necessarily because they had seen the product; *"That is milk because I saw a cow" (**Child18**)*. Just two of the respondents could mention that the product was called calcium plus.

Secondly, it was observed that based on the visuals, children would make up a story on the healthiness and tastiness of a product. Respondents broadly conceived the story of the commercial based on a few visuals that they could remember they had seen. Then, based on these things they would argue that a product was tasty or healthy. For example some children would argue that the Paula pudding was very tasty. When being asked about it they would argue that you could tell that the product was tasty by looking at the children in the commercials. Some other children argued that it must be tasty because they had seen that there was chocolate and vanilla inside. Furthermore, respondents argued that the product was healthy because it was made from milk as Paula is a cow and otherwise she would not have been in the commercial.

> *"Milk is from the cow and that is how they make chocolate, that is why it is there" (**Child20**)*

Other arguments that were given to support the healthiness claim were that parents would not let their children eat foods that are not healthy. As the children in the commercial were allowed to eat the product, it must be healthy. Subsequently, children were more likely to also buy these products.

> *"It looks very tasty so I am definitely going to buy it" (**Child3**)*

Third, children also indicated that cartoons, children and animals can make a commercial more fun and therefore more likeable. However, such visuals can also be very distracting and turning the attention away from the product and the brand. Thus, including cartoons, animals and children in a commercial is not always effective. Furthermore the use of colors makes a commercial appear nicer, however children could not easily recall the colors that they had seen.

Still media

When children were shown still media, packaging was found to play an important role. In general children tended to be very enthusiastic about different packaging of products. It was observed that children mainly focus on three things; (1) colors, (2) pictures, and (3) textual messages. The first two will be discussed in this section, while the part on textual messages will be discussed in the paragraph on media messages.

First of all, children would look at the colors that were used for a packaging. For example for the yoghurt drink, they believed the colors were well chosen and that it was a cheerful

packaging with bright colors. These looks in turn contribute to the taste as one child argued. The children agreed that a package should use the colors of the product. Thus white seemed very well chosen for milk, and yellow was the right color for the French Fries packaging, because as one child argued fries are yellow as well. On the other hand, colors like red and green were said to be more appropriate for apples and paprika. Still, many children had a big imagination and could make unrelated colors fit the package as well. Blue for example seemed a suitable color for the package of yoghurt drink according to the children, however their reasons were somewhat vague.

> *"Blue is a lighter color"(**Child3**); "Because it also comes from fresh air" (**Child7**);"When you drink blue then it is water or something like that and when uhm when it is white then something has been added and then its milk" (**Child14**); "I know why. Because then they see right away that it is about milk" (**Child19**)*

Secondly, respondent focused on the pictures that were on the packaging. The majority of children believed it is a good idea to include a picture of the product or the ingredients on the package. They reasoned that this would make it easier for consumers to recognize a product. Thus for the yoghurt it made sense to the children that they had white for the milk and a kiwi for the taste.

> *"Yes, it just looks like milk that splashes and then there is a kiwi in it. That makes it tasty" (**Child4**); "It has been made really well and then they made it very white and I like that a lot. Also the green. They have exactly imitated it the way it is" (**Child13**).*

However, even if the picture was not apparently related to the product, children often could still make sense of it. The majority of children for example were very enthusiastic about the Aviko packaging with sunflowers. Children believed these flowers had been well chosen as they looked great and it made people want to buy according to the respondents. Children also believed that not only it was well chosen, but the sunflowers also fitted the product.

> *"Because fries come from the sunflower" (**Child7**); "And they have cooked the fries with sunflower oil" (**Child14**); "Because then people know that it is fresh. The flower is from the spring and then it is just like it is from the spring" (**Child12**)*

Another example would be the Becel butter, which included a hart on the package and therefore made the children believe that it is actually healthy.

> *"Yes, it is good because I see this (points at heart)" (**Child6**)*

Packaging without any pictures related to the product or its ingredients were insufficient according to the children. A small discussion on the packaging of milk resulted in the conclusion that milk should have a picture of a cow included on the packaging as then consumers would recognize that it was milk and know how it was made.

> *"There should be cows on the packaging as cows make the milk. Now they have not explained who made the milk and this is confusing" (**Child14**)*

Even though pictures were found to be positively contributing to the likeability and taste of a product, sometimes pictures could be interpreted negatively. In order to avoid this, pictures have to be clear in order not to confuse consumers. One child for example argued that he wouldn't like the product because he mistakenly assumed that the kiwi on the package was a lemon.

> *"And on the package I see a green lemon… that is sour" (**Child1**)*

Furthermore, simply making a packaging more attractive with pictures does not always work as children also indicated that they rather buy the product that they usually buy. This is because they know they like them and because they are unsure about the healthiness of new or different products.

> *"I am not used to this type of packaging" (**Child3**); "Some others are more tasty, because it is sugar free" (**Child6**); "I don't like such milk, I only like normal milk" (**Child13**).*

Media messages

Research on media messages has found that children are to a large extent influenced by messages they receive from the media, but have a hard time properly interpreting them. Short positive messages tend to work, however the longer the messages become, the more complicated they get for children. Moreover, children tend to pay more attention to written messages as they had more time to process this information.

Written messages

During the group discussions it was observed that children are very much influenced by text messages. Especially when the text was more prominent, children would first read the text before looking at the packaging. A few things were observed when children started to interpret the messages.

First, children have difficulties interpreting long positive messages. Especially when these include difficult words that they are not familiar with. The second picture was taken from one of the commercials some of the groups had seen. It showed packages of fries with the text 'low in saturated fats, 100% tasty'. Even though children recognized the word tasty as being positive, they interpreted the complete message rather negative. This occurred because children did not tend to understand that low in saturated fats meant that the product was low in these fats. They thus mistakenly assumed that the product contained many fats, even though they recognized the word 'low'.

> ***"****There is fat inside, it says so on the package" (****Child6****); "That there is a lot of fat inside" (****Child11****); "Check how much fat!" (****Child20****)*

Next to the fact that children could not make proper sense of the first part of the sentence, respondents also came up with two other arguments of why they believed that the product contained many fats. First some children had the opinion that because the food was said to be 100% tasty, it must be high in fats. Indirectly saying that tasty foods are unhealthy. Secondly, some children confused the sentences and argued that the message stated that the product was tasty but that it contained 100% fats.

> *"Yes because they say it is tasty and that there is 100% fat inside" (****Child1****); "That means that there is a lot more fat, because.. uh uh... They are tasty and when it is tasty than it must contain more fat. Because without fat it is not tasty" (****Child15****); "Very many fats are inside, 100 fats" (****Child18****)*

Second, negative messages – e.g. 12% fat or only 80 calories – make a product unfavorable even though a marketer is trying to convey a positive message. This is because children tend to believe that healthy products contain no fats and only very few calories – e.g. less than 10. It was observed that when children were asked to evaluate products when shown the amounts of salts, sugars and calories, children were more negative about the product compared to when they were not shown the ingredients. An explanation is that children have no clue about realistic amounts of nutrients in foods. Even though children know where they can find the

information on the packaging, they tend not to know how to read such information, what it exactly means and how to use it.

Third, packaging often includes words that children are not familiar with. As a result, children will come up with their own interpretations and explanations. For example, on the package of the French fries there was a blue certification seal which read 'Ik kies bewust' translated to 'I choose responsibly'. Foods that contain this seal are said to be healthier in that product category than other brands. Explanations by children differed very much from the actual definition though. The word responsibly was difficult for them to understand and as a result they made up their own definitions.

> *"That you choose responsibly means that you cannot move" (**Child15**);*
> *"That there is a discount" (**Child11**); "That the food is yellow?" (**Child9**)*

Some explanations came close to the actual definition, like *"I can better choose this one" (**Child6**)*, but then children would argue that it would be a better choice because the taste was better; *"That is it tasty, but not really like healthy" (**Child6**)*. Other children also mentioned that it was related to the unhealthiness of the product – e.g. *"Perhaps it means that you should eat less of it. That when you eat many of this that then something can happen" (**Child8**); "I choose tasty stuff" (**Child9**); "I choose fat" (**Child11**)* – but none of them would mention that it was the most healthy option to choose. Three children actually recognized the certification seal because they had seen it before. The first child knew she had seen it on milk but just like the other children believed that it had to do with taste. The second child also recognized the logo from milk and believed that it meant that the product was fresh; *"That it is fresh. I drink fresh milk, and then on the package I see such a thing" (**Child19**)*. Finally the third child argued that some other products have similar trademarks but in different colors; *"I know that when it is green" (**Child4**)*. The green color was identified with the healthiness of the product. Another example would be the word 'Calcium' that was written on one of the packages. None of the children knew this word and thus they would just guess. Some children indicated that they believed it meant something positive given that there was a checkmark in front of the word. However, others argued that because the checkmark was red, the product was probably not healthy. Furthermore some products also contained labels stating the percent daily value. It became clear that such concepts have little meaning to children as they have no idea what it stands for and how to use it.

Finally it was found that text messages could both reinforce or weaken children's opinions on food products. For example, the Fruitkick was believed to be very unhealthy based on the listed ingredients, however the fact that it contained 46% fruit fill made up for the high amounts of sugar and fat.

> *"Well because of the raspberries it is good but then because of the biscuit it is not so good. Because in the biscuit there is a lot of sugar" (**Child8**)*

Another example would be the 'Becel' butter. Even though the majority of children associated butter with fat, the text 'pro-active' – which children interpreted as something that makes you more active – made children uncertain about whether butter shouldn't be classified as healthy.

Spoken messages

When the respondents were shown the commercials, it was noted that they had difficulties with listening and watching at the same time. For most commercials, the majority of children could recall the visuals but only few remembered what a voice had been saying. This was especially true for the two commercials that were more meant for adults, as these not only contained more text but also more difficult text to comprehend.

As a result, children often misinterpreted the messages in the advertisement. This research has identified four reasons for their misinterpretations; (1) a lack of knowledge, (2) improper information processing, (3) imagination and prior knowledge, attitudes and beliefs, and (4) visuals.

First of all, children seemed to lack the knowledge to properly process information. This may be true because they do not understand the words or because they recognize the words but give a definition other than what the word actually means. In this research children were for example not familiar with the text on the certification seal, and thus gave completely different explanations from the actual definition.

Secondly, something that relates to the lack in ability to process information properly is the problem that children tend to process only half of the information that is given to them. This means that children would mix up words and end up with a wrong conclusion. To illustrate, the text 'low in saturated fats' was believed to be very negative according to the majority of respondents because they only processed half of the information that was given and as a results missed the word 'low'. Other respondents based their interpretations on the few parts of the text that they had understood. As a result, important parts of sentences were left out and

children would misinterpret the information. One child for example mixed up the product of the Melkunie commercial with the piece of text where the men explained that the human body is made up of bones;

> *"He was telling that a bone is made from milk" (**Child6**); "He says that there is zero percent fat in it and that it is healthy" (**Child4**); "That there is a new product of milk. But it doesn't taste like milk. It is just something to drink" (**Child19**).*

Third, children have a big imagination and as a result make up things that are not being communicated to them. Also, children often rely on prior knowledge, attitudes and beliefs. This could mean they draw indirect conclusions from what they are being told in marketing messages, because they mix what they are told in an ad with what they have learned before. For example, children tended to know very well which products were healthy versus unhealthy. Therefore Aviko fries were immediately believed to be unhealthy. Moreover, children also argued that the product must contain a lot of fat because the voice had said the product is 100% tasty. Furthermore, several children argued that the men in the Melkunie commercial had said something about the amount of fats and calories in the product even though he had not.

> *I heard that he said that the milk contains 5 calories (**Child15**);* "*He says that milk is from a cow" (**Child3**).*

Finally, cues in the environment may distract children from the message that they are being told and then they might think that what they have seen is what they should have heard. Many children actually based their interpretations of the text on what they had seen in the commercial. In other words, the visuals of the commercials were translated into a story that the children believed they were being told by the voice. An example would be the commercial of Melkunie, where the children got to see a cow running after a big bone. Even though the men in the commercial was not talking to the cow, children believed he had done so as they were distracted by the visuals and consequently confused what they had seen with what they had been told.

> *"He said; Throw! And then he threw the bone and then he said; look for the bone, look for the bone" (**Child6**); "He told about a bone and that the cow was supposed to collect it" (**Child15**)*

Another example where children confused the visuals with the spoken messages is that of Aviko. Noteworthy is that both of these commercials – Melkunie and Aviko – had long texts which were more directed at adults than at children. This may explain why children could not remember what they had been told and missed the important message.

> *"But there are also vegetables inside. Haven't you heard it?!" (**Child6**); "Then the boy looked happy and then he said that it is very tasty but not so healthy" (**Child9**).*

Skepticism towards media messages

While children in the beginning of the group discussions were somewhat skeptical when asked about commercials, this skepticism seemed to disappear when the children were shown actual commercials. Overall children positively evaluated the commercials and many of them argued that they would actually buy the products when they would see them in the supermarket. Either they were convinced by the messages they received, or the product looked appealing. One girl for example argued that she would want to buy the Paula pudding because the commercial was nice and the product looked tasty.

> *"They have made a song and that is really nice and it looks tasty thus I think I will buy it" (**Child3**)*

When asked whether they believed what they were being told in the commercials, the majority argued that they did. For example in the McDonalds commercial one argued that the commercial is honest because consumers actually get a little toy with their happy meals. However, some children argued that it might be necessary to give some nutritional information about a product to make an ad more convincing. Some children that watched the Aviko commercial argued that it might be necessary for the marketers to state the ingredients of the product more clearly, so consumers actually know what they are buying.

> *"But if you would tell me that there are zero fats inside then I would buy it" (**Child4**); "I would only buy if it was healthy. If there are no sugars inside" (**Child12**).*

4.2.6 Children's knowledge

Findings indicate that children have very limited knowledge on foods and nutrition. Most children classified foods based on whether they were healthy or unhealthy, but couldn't give a proper definition of the words. Furthermore, respondents had no clue about basic nutrition and

about the proportions that they should consume on a daily basis. Also, they could not identify the consequences of eating too much high-calorie and fatty food and snacks.

Vitamins

It appeared that many children argued that they knew what vitamins are, but couldn't properly clarify the definition. Explanation varied from very vague *"It is good for you" (**Child7**)*, to more specific *"For example vitamins a, b, c, d" (**Child11**)* to even more detailed *"Vitamins are very healthy for you and vitamins that spread in your body so you get stronger and stronger" (**Child21**)*. One child mentioned that vitamins are sweets that make you stronger.

> *"Well those are… you have these vitamin candies. I take them every morning and those then make me stronger and then you're able to work better" (**Child8**)*

Even though children agreed that vitamins were good for you, differences were observed when the children were given a handout and had to point out which foods contained vitamins. Many children argued that vitamins could be found in fruits and vegetables. As a result, carrots were chosen to contain vitamins by almost all children and watermelon and cherries were also often selected as holding vitamins. Foods like cheese, bread, spaghetti and fish were only mentioned in some cases. Remarkable was that many children immediately associated vitamins with healthy foods and as a result pointed out foods that were healthy according to them. One child mentioned hamburger and cake as foods containing vitamins, but indicated that he was not sure about the definition of vitamins.

When asked why people have to eat vitamins many respondents agreed that vitamins keep you healthy and make you strong. On the other hand, not eating vitamins would make you sick and weak. Some also argued that not eating vitamins would make you fat and avoids you from growing. This implies that children are well aware that they need vitamins, which also corresponds to children's definition of vitamins being 'good for you'. Also, they recognize that vitamins are something you should eat on a regular basis. Eating vitamins is especially important when you are sick or when you do not have a healthy body weight – when someone is either too skinny or too fat. It was also important for children as they still needed to grow.

Healthy foods

Given that most of the children talked about healthy foods when asked about vitamins, it was expected that they would select the same foods from the handout. Though many children

picked out some of the foods that had also said to contain vitamins, only two children recognized that they were asked a similar question and replied *"Basically the same" (**Child1**)* and *"I just told you"(**Child6**)* referring to the question where they were asked about which foods contained vitamins. Apart from that, one child mentioned exactly the same foods as in the former question.

Healthy food means food that is good for you – which is similar to the description of foods with vitamins given by the children. Most children would argue that healthy food is good for someone's body, it keeps someone healthy and makes someone grown stronger and taller.

> *"It means eating something that is really good for your stomach. That you will not pick something else to eat anymore because then you already have enough" (**Child4**)*; *"That means that you do not eat chips because in chips there is a lot of salt. And then you might get a salt disease. But actually this is called diabetes" (**Child22**)*

One girl identified healthy foods based on what you are allowed to eat when you are sick. *"Eggs are not healthy because those you are not allowed to eat when you are sick" (**Child1**)*. On the other hand, not eating healthy food was argued to be unhealthy and not good for your body. The most often mentioned consequences were becoming fat and sick. Other consequences would be stomach pain, headaches, not having enough energy.

> *"Unhealthy is when... the teacher told us that a healthy sandwich makes you fit for the rest of the day and an unhealthy sandwich makes you very strong but then you immediately get weak" (**Child21**)*

Similar to foods with vitamins, healthy foods should be eaten by everyone and often taste good. Some children were more specific in identifying who should be eating healthy food when asked when someone should be eating healthy food, e.g. *"When you are a small child, or when you are pregnant" (**Child1**)*, but when asked for whom healthy food is, they all answered that is was both for adults and children.

Calories

Surprisingly, none of the children were able to explain what calories are. The majority had question marks on their faces, while few were able to identify it as something not good for you; *"That it is a little fat" (**Child9**); "That it is not so good for you and that it is not*

*healthy" (**Child12**)*. One girl was a bit more specific and told me that she was familiar with the term because she had seen a program on television:

> *"Because I have seen it on television. From such a boy who was a little bit fat and he then had many calories and stuff" (**Child3**)*

One child confused calories with something Muslims aren't allowed to eat and as a result identified the hamburger and pizza as containing calories.

> *"That is something that Muslims cannot eat. I cannot eat that because I am a Muslim too" (**Child20**)*

The most commonly identified foods were pizza, cake, spaghetti and hamburger. Of those the cake and the hamburger were considered to contain most calories, followed by pizza and spaghetti. One child mentioned spaghetti as containing the most calories. The number of calories per food differed for each child. Overall, it seemed though that they didn't have any clue about the amounts of calories that one food contains. Pizza on average was said to contain 50 calories – some children saying 100 calories while others thought a pizza only contained 5 calories. Spaghetti was believed to contain approximately 30 calories – with a few children mentioned number above 50 and others mentioning numbers below 10. Hamburger was argued to contain relatively low amounts of calories, approximately 20. However, the hamburger was not considered by all children as containing calories. For those who did mention the hamburger, it was within top two in the list of most calorie full food. Cake scored the highest on number of calories according to most children. An approximate of 100 calories was expected to be present in a cake.

Proteins, Fats and Carbohydrates

Children were also asked about proteins, fats and carbohydrates. These were seen as the more difficult questions and many children answered that they didn't know the first time they were asked about the definition. However, with some patience and rephrasing of the questions, some would eventually come up with a basic definition – nutrients being either good or bad – and pick some foods which would go with that definition.

Proteins were often linked to eggs, the reason for this would be that the Dutch word for proteins is 'eiwitten' which is literally translated to egg white. All children would thus explain that proteins are the white part of the egg, and while some argued that proteins could also be found in cheese, most believed proteins only to be present in eggs.

*"I think that it is also in .. No, only in eggs. But also sometimes in cheese when you melt it then it becomes a little white as well" (**Child21**)*

Fats were automatically linked to something not good for you. Though some children argued that it was okay to sometimes eat fat, most believed that it would make you obese. Products containing fat were French fries, hamburger and cake. Some respondents would also pick spaghetti and pizza as foods containing fats.

Carbohydrates were the most difficult nutrient of the three. Most children indicated that they had heard of carbohydrates but they did not know what it meant. When asked, many of them believed that it is something unhealthy or not good for you. Examples of foods that were believed to contain carbohydrates are spaghetti, French fries, hamburger and Cake. Some also mentioned cheese, fish and bread.

Nutrition

Overall, children had no knowledge on the amounts of foods and nutrients they should consume on a daily basis. Neither did any of them recognize that it was important to eat a variety of foods. The knowledge children have is limited to specifying which foods are healthy and may be eaten more often and which foods are unhealthy and thus should be avoided. However, given that not all foods can be classified as either healthy or unhealthy, this distinction is insufficient in order to have children adopting healthy diets. Furthermore, children do not realize the consequences of eating excessive amounts of foods. They realize that eating excessive amounts of unhealthy foods can make people gain weight and get sick. However, they do not realize that people might actually die eating too many sugars and fats. On the other hand, children believed eating excessive amounts of healthy foods is not a problem, as this will only have positive consequences such as a faster growth and more energy.

Summary on barriers towards healthy eating

To conclude, four barriers have been identified that restrain children from adopting a healthy consumption diet; social influences, food preferences, media influences and knowledge. Children tend to have a preference for unhealthy food that is bolstered by social influences – peers and siblings – and the media. These influences tell young consumers to favor unhealthy food products over fruits and vegetables. Furthermore, children lack the knowledge to make clever consumption decisions as they do not know what types of foods contain good nutrients

and how much they should eat of them. Even though for now these factors have been identified as barriers, they could actually be turned into motivators.

4.3 Strategies for motivating children

After identifying the barriers, it is also useful to look at what type of communications can motivate children to make healthier consumption choices. Children themselves have been asked about what could motivate them but also the school and the researcher have identified strategies that could motivate children. This section will discuss different marketing strategies that have been identified by this research.

4.3.1 Social control

Parental control positively contributes to the healthy consumption behavior of children. According to the respondents parents and role models are likely to choose for more healthy options and children in turn act in accordance with these choices. Furthermore, teachers can also positively stimulate children to adopt a healthier diet.

Even though children argued that they have a significant influence on what they eat, parents do seem to make the final decision on the foods that are brought to school and eaten at home. According to the children, parents would pick the more healthy foods from a set of cards if they had to fill the lunchboxes of their children; *"Basically all healthy stuff" (**Child8**)*; *"Fruits and vegetables" (**Child11**)*. This indicates that parents realize the importance of a healthy diet for their children. Also this indicates that if parents have control, lunchboxes would be filled with more healthy foods.

Similarly, children were asked what they believed their role model would pick. Again children indicated that they would choose for the more healthy option; *"Something low in calories" (**Child3**); "Only vegetables, and some bread" (**Child6**)*. Noteworthy is that answers did not differ much from what the children believed their mothers would choose. Some even said it would be the same; *"Similar to my mum" (**Child14**)*. Likewise, some children argued that their superhero would know their preferences and then also include something less healthy – e.g. a croissant or a cookie. This suggests that both parents and role models positively influence the food choice of children.

Finally, children also identified that teachers would like them to eat healthy. It was found that also teachers provided children with structure and guidelines on what to eat. Even though

children not necessarily indicated that this support made them eat more healthy, it could be concluded from the answers that children were stimulated by teachers to choose responsibly.

4.3.2 Educational strategies

Educating children on food and nutrition could be very effective in motivating children if they are fun, involve the children and teach the right things.

At the time of the observations and the interviews the school was participating in the European fruit project. The European fruit project is meant for primary schools to stimulate children to eat more fruits and vegetables. Each week, every child at school receives three pieces of fruit. Next to that there is an education program so children not only eat fruit more often but also gain more knowledge about the foods they are eating. Children could for example visit the website to learn more about foods through games. Furthermore, the website also contained information for parents, teacher and professionals and tips on how they can get their children to adopt a healthy eating pattern. This project has been introduced at many schools in the Netherlands and has been very successful. Participating school have observed a reduction in the percentage of children that usually would bring a snack to school from 65 percent to 55 percent. The percentage of children that bring fruits to school has increased from 40 percent to 45 percent, whereas the percentage of children bringing vegetables has increased from 11 to 14 percent.

Apart from this program, the school also introduced a policy where children are required to bring fruits or vegetables for the 10 O'clock break. A break where children would otherwise eat bread, cookies or something else to snack. According to the coordinator, before this program was introduced, many children skipped breakfast and instead brought bread to school for the first break. Ever since the policy has been introduced, the majority of children eat proper breakfast. This increases concentration and results at school. Furthermore, parents are more involved and better realize the importance of a healthy diet with many fruits and vegetables. Overall, this program has been a positive experience for the school. It has been observed that such programs can actually help children adopting healthier eating patterns.

Next to the already existing programs it is important for schools, as well as parents and other parties to better educate children on nutrition. From the interviews, it could be concluded that children miss out on some very important information about consumption behavior due to which they make bad consumption choices. For example, many children were said to skip

breakfast and didn't realize the importance of a meal in the morning. The worrying consequence of children not eating in the morning would be that when they grow older, they are likely to continue this behavior. On the other hand, teaching children the importance of eating in the morning may make them change their consumption behavior. In the long run this will pay off when eating in the morning has become a habit. Another insight is that children know that ingredients of a product are mentioned in small letters on the back of the packaging, however they cannot always make sense of what information is there. Furthermore, from the group discussion it could be concluded that children not necessarily do not want to eat healthy, however they just do not have the knowledge to decide on which foods they should consume and which foods not. Therefore it is also expected to be helpful to teach children on how to read food labels and how to interpret messages that the media sends them. Consequently, children themselves will be able to decide on the appropriateness of a product and this will turn them into more critical consumers. Even more important would be to educate children on what specific foods they may eat, as this is more concrete for them and they are more likely to actually understand. Finally, the education of children should avoid teaching them about 'good' and 'bad' foods as such a classification will negatively influence food choices. As has been discussed, such classification has slightly distorted tastes and preferences, because even though some children argued that healthy foods could be tasty, overall unhealthy foods were preferred. Children grow up with this information and therefore may grow up being biased about foods. Given the fact that many unhealthy foods are labeled as tasty, the temptation is still too big. However, when getting rid of this classification, perhaps this temptation that children hold could be reduced. Instead, education should be directed in teaching children what foods they could eat on a regular basis and what foods should only be eaten sometimes. As a result, the researcher hopes that children will not so much be obsessed with sweets and snacks anymore and start making more healthy consumption choices. Furthermore, this may also cause children to recognize that a healthy diet can include both types of foods.

4.3.3 Advertising strategies

Findings suggest that the media not necessarily has to be a barrier but could also be used as an effective tool in motivating children to eat healthier.

First of all, healthy food marketers should use visuals as these are an extremely important factor in the consumption choices of children. Based on what children see, they decide on the likeability and healthiness of a product. In other words, if children like what they see, they

have a more favorable attitude, are more positive about the healthiness and taste of a product and also more likely to buy or ask their parents to buy. For example, it was found that children tend to like commercials with cartoon and animals. Therefore, including these characters in commercials for healthy foods should increase likeability and willingness to buy. Furthermore, children favor commercials that include children. Even though children did not necessarily pay less attention when the commercial contains an adult, it was observed that commercials with children were more favorable and more appropriate as the respondents felt that these products were directed at them. Furthermore, it has been observed that the Paula commercial was rather effective in bringing across the message. Even though this might be explained by the fact that this commercial included favorable characters and the majority of children had seen the commercial before, it may also be attributed to the song that was played during the commercial. The majority of children argued that they preferred a song in a commercial because it is more fun. Moreover, a song actually involves the children as they can sing along. This was observed when the children were asked to watch the movie – either they sang along or they hummed the tune. Thus, introducing a song could also make a commercial more favorable and in turn make a healthy product more appealing.

Second, product packaging could also be made more appealing with bright color and pictures. Even though pictures and colors do not make the product more tasty according to the children, they were more likely to choose an attractive packaging over a plain one. Still children sometimes derived the taste of a product from its looks. In order to attract attention, healthy food marketers should thus use colorful and fun packaging. However, it is important to realize that children will try to relate the pictures and colors to the actual product. Therefore, marketers should be careful with for example the color red if it is not directly related to the product – as children have negative associations with this color – and with animals that could be eaten such as pigs, given that children of a Turkish and Moroccan background may not eat these animals.

Third, findings suggest that it is important to communicate short and understandable marketing messages to children so that they will understand what they are being told. For example, respondents were shown a picture of drink yoghurt with the text ‘zero percent fat’ and ‘no sugar added’. These texts were relatively easy for the children to understand as they understood the words. As a result they all believed the product was very healthy. Even though not all children correctly interpreted the message – e.g. some mistakenly believed that the product contained no calories based on the text ‘zero percent fat’ – overall the interpretations

remained positive and the product was rated favorable among the respondents. Consequently, the majority of children were very willing to buy the product because the product was healthy according to them. Claims should thus be rephrased to make them easier for young consumers. Furthermore it is suggested that foods include behavioral messages so that children better know what is expected. Instead of sending children the message that they should eat a variety of food, the media should more explicitly and in an easier way tell these children that they should eat different kind of foods. Examples would be 'eat three pieces of fruits everyday' or 'choose red sauces instead of white'. Given that children like to be stimulated, positive messages are likely to be more successful. Messages such as 'do not eat snacks everyday' are expected to be less effective.

Finally, children themselves were also asked on how they believe healthy food could be made more attractive, while making unhealthy food less attractive for children. A first idea that was suggested by almost all respondents was to inform consumers about the healthiness of the apple. Telling children the apple was good for you and that it would not make you sick seemed like a logical solution. Furthermore, children also had ideas about the advertisements for apples. One child said a commercial where a voice would tell that apples are very tasty and sweet would be a good idea. Another child answered that marketers should tell children in the commercial that they would get thinner by eating apples. Yet another boy believed that making false claims could make children buy more apples. He suggested that marketers could tell them that these apples are the best they have ever tasted.

> *"Yes, you can lie to children and then they will buy it right away" (**Child20**)*

Advertisement ideas were not only about commercials. A change in the appearance of the apple could also change consumption behavior. Children suggested shapes like harts and stars and mentioned bright colors like purple, blue and yellow. Some other ideas were the distribution of little toys with the apples or a hand puppet placed next to the apples, which would speak to consumers.

> *"You know what. I will put a puppet next to the apples, and then I will hold the puppet and tell. Boys boys boys, eat an apple. Apples. I am the puppet" (**Child19**)*

The other way around, children suggested to let consumers know that fries are an unhealthy choice. This could be done either by saying it or by stating it on the package. One child had the idea of introducing a policy similar to that of smoking, where health concerns have to be

mentioned on the package. Another idea was to have distasteful or unappealing pictures on packages of products that are not healthy – e.g. a picture of sprouts on the package of French fries – should reduce unhealthy food consumption according to the respondents. Some children argued that the amounts of fries in the supermarkets should be reduced or that we should sell sprouts with the fries so that children would like them less. According to one child, it would help to tell people that there is no sugar in French fries, with the idea that people would only like it when it contains sugar.

Summary of motivating strategies

To conclude, if barriers are eliminated, children could actually be motivated to adopt healthier diets. Motivating strategies have been summarized into three strategies; parental control, educational school programs and media persuasion. The first two topics suggest that children need encouragement and support from people in their direct environment, such as parents and teachers. It is important for children to get well educated by these people as parents and teachers have a large impact on children's consumption behavior when they are still young and not yet influenced by peers. Furthermore, healthy food marketers should focus on making products more appealing so that they become more favorable for young children. This could for example be done through attractive visuals – e.g. animals, cartoons and colors – and understandable messages – e.g. concrete and behavioral messages.

5. Discussion & conclusion

In the last chapter of the research, findings will be summarized in order to draw conclusions and to answer both the sub-questions and the main research question. The chapter starts with a discussion where findings of this research will be compared to former literature. Next, limitations will be discussed in order to highlight what could be improved for future research. This will be followed by a final conclusion. Finally, managerial implications and recommendations are provided to parties for whom this may be interesting.

5.1 Discussion

The aim of this research was to deepen the knowledge and provide a better understanding on how marketing communications may motivate children to make healthier consumption decisions. This study has tried to provide explanation for exposed behaviors and has given voice to children. Former research has mainly focused on people's food choices and the barriers that restraining these individuals from adopting a healthy diet. This research has gone a few steps further by focusing on those individuals that are more susceptible to becoming obese or overweight, namely Turkish and Moroccan people. Children from the age of 8 to 10 have been chosen as most research so far has concentrated on adolescents and adults. Furthermore, this research will not only investigate children's current consumption habits and the barriers that exist, it will also focus on how marketing communications may motivate to eat healthier. In this paragraph, the findings will be discussed and compared to previous research. The key contribution of this study will then be used to fill some gaps in the existing literature.

Findings on the barriers generally confirm previous academic findings. This implies that barriers withholding adults and adolescents from adopting a healthy diet – as these were identified by prior research – also exist for younger children susceptible to becoming obese. These include social influences, preferences, lack of knowledge and media influences.

This research has indicated that children's consumption behavior is to a certain extent influenced by their parents as they are responsible for filling the lunchboxes. Still, children themselves argued that they had a significant influence on the type of bread, spread and anything extra that they could bring to school. This confirms research by Warren et al (2008), who found that even though parents have more control over the content of the lunchboxes, they often comply with the food preferences of their children. Moreover, it was observed that

children would sometimes leave food in their lunchboxes. This confirms research by Warren et al. (2008) who indicated that younger pupils who had less choice would leave food on their plates if they did not like it. Nevertheless, priming children with parents or admirable models will make them choose for the more healthy option. This is in accordance with research by Wansink et al. (2012) who found that activating children's affective knowledge will make them more likely to choose for the healthy option.

Furthermore, activating their cognitive knowledge did not seem to be effective. This has been confirmed by findings of this research. From the interviews it was observed that even though children had a basic knowledge of what is healthy and what not, they still tended to choose for the unhealthy option when they had the chance. Thus, simply teaching children about nutrients is not sufficient to make them willing to eat nutritious foods (Wansink, 2005). Even though children in this specific research may have lacked detailed knowledge about nutrients, this research does confirm that simply knowing which foods are healthy versus unhealthy does not make children willing to choose healthy foods over unhealthy foods. The research shows that even though children realize that certain foods are not healthy, they would still like to eat them because they believe they taste good. This verifies research by Stevenson et al. (2007) who have argued that physical and psychological factors – e.g. taste – influence food choices rather than nutrition knowledge. Stevenson et al. (2007) for example found that tastes and preferences have been distorted because individuals tend to categorize healthy foods as 'good' and unhealthy foods as 'bad but tasty'. Even though children in this research pointed out some healthy foods as being tasty, when they were asked for a definition of tasty foods most of them would answer something that included the word bad or unhealthy. Therefore, it still may be inferred that children make a classification of foods. This is in line with research by Raghunathann et al. (2006), who examined that individuals implicitly associate unhealthiness with tastiness. One of the other findings of Stevenson et al. (2007) was that the appearance of food is a reason why people prefer unhealthy foods over healthy foods. This research has not identified that this indeed is the case. Children were found to look at the appearance of a product itself, however it was not argued that this would make them choose unhealthy foods rather than healthy foods.

Additionally, children are very much influenced by the media as was found by different researchers (e.g. Galst & White, 1979; Neumark-Sztainer, et al., 1999). According to Wansink (2005) and Stevenson et al. (2007), physical factors and cues in the environment are important distracters that cause children to choose for unhealthy options over healthy ones. However, up

till now is has been unclear what children actually pay attention to when they see advertisements. In this research, it has been found that cartoons, animals and children were the most prominent distracters. Based on these visuals, children would decide whether they liked a product, whether it was healthy and whether they wanted to buy it. In particular, having a cow in the commercial of a product or on its packaging would make the product appear more healthy as children associated a cow with milk and then immediately believed that milk was an ingredient of the product. Similarly, when a superhero was included in the advertisement children would also think that the product was relatively healthy as these superheroes would not choose for unhealthy foods. In general, animals, cartoons and children made a commercial or packaging more appealing and thus more likeable. For packaging in particular it also seemed important to include bright colors, preferably related to the product.

Furthermore, this research has identified that written and spoken advertising messages are often misinterpreted by children. This had also been identified by researchers such as Jeffrey et al. (1982) and Vermeersch and Swenerton (1980). According to Vermeersch and Swenerton (1980), the misinterpretation occurs because respondents have a poor understanding or because they are confused by specific format of the nutritious claims. Another factor that causes individuals to interpret messages differently is the 'claim-belief interaction' as identified by Levine (1976). This implies that individuals base their interpretation on prior knowledge and beliefs on a product. This research goes a step further and has identified four factors based on which children give unintended meanings to messages; (1) a lack of knowledge, (2) improper information processing, (3) imagination and prior knowledge, attitudes and beliefs, and (4) visuals. This information should give more insights in how children should be approached with messages.

Research on motivating strategies so far was limited, therefore findings of this research may be an interesting contribution. As was found by O'Dea (2003), a lack of parental control could cause children's bad consumption behavior. This research has confirmed that as soon as parents do not pull the ropes, children will sooner choose for foods that contain many sugars, fats and salts. In addition, having parents more involved in school projects has been found to be successful as well. A tighter control is possible if both the school and the parents work together, given that children are very much influenced by both. Furthermore, parents actually learn more about foods due to such programs and in turn can better guide their children in what they should and should not eat.

School programs are not only effective in teaching parents, but also tend to be very successful in teaching children on foods. This has been found by TV Chef Jamie Oliver in 2006 and could also be concluded from the research at hand. Both studies found that even though children were given no other choice than to eat more healthy foods, they did become more favorable towards healthy foods and also gained better results in school.

Finally, media influences have been identified by former research as a factor motivating children to eat healthier. These could be subdivided into educational entertainment strategies – where children get taught about foods in a fun way through games or television shows – and advertising strategies – were foods are made more interesting for children through advertisements. This research has not necessarily investigated the effect that educational entertainment strategies could have on children's consumption behavior, however it has been identified that education should go beyond simply telling children that fruits and vegetables are healthy as this will not induce children to actually make healthier decisions.

On the other hand, this research has gathered interesting information on advertising strategies. According to O'Dea (2003) children indicated that there should be more advertising for healthy foods. However, then it is important to know what type of advertising attracts the attention and makes children want to buy a certain product. Pires and Agante (2011) did quantitative research and found that healthy foods could become more favorable when they are presented in a fun packaging. This research has confirmed these findings and additionally has found what children pay attention to in advertising. As has been discussed above, cartoons, animals and children were the most prominent distracters. This research therefore suggests that using these characters in commercials and on packaging of healthy products should make the product more favorable. Colors increased the attractiveness of a product as well. On the other hand, the brand was not necessarily a factor that children indicated as important. This slightly contradicts findings by Rose Cameron.

Furthermore children also paid significant attention to the messages in a commercial or on a package. Even though messages are often misinterpreted and have therefore been discussed in the section on barriers towards healthy food consumption, still messages do impact food decisions made by children. This has also been found in research by Lytle et al. (1997), who found that even though children lack nutrition knowledge, they use food labels in order to compare products that are rather similar. In this research it has not specifically been identified that children indeed use food labels to compare similar products, however, it has been found

that children pay significant attention to the label on products and try to use them as a guide in deciding whether the food is healthy or not.

To conclude, this study has shown that qualitative research can provide interesting insights. For this specific research, qualitative research revealed suggestions on what type of marketing communications could motivate children to make healthier consumption choices. By doing so, parents, governments and healthy food producers may get round the unhealthy food advertising and have children adopting healthier diets. This will also have a major impact for individuals as they grow older because food choices that are established during childhood are likely to remain present when a child grows older.

5.2 Limitations of the research

Although the interviews and observations provided interesting data, several limitations were encountered during this study which needs to be accounted for.

First of all, the research has been qualitative and as a result, a rather small sample size has been used. Even though the number of participants has been reasoned to be sufficient for this specific study, a large sample size would most likely have been more complete and less biased. Another limitation would be that the researcher was not an expert in interviewing children. This may have led to children giving other answers than they would have done with an expert. Moreover, the respondents might have been hesitant to express their own thoughts and opinions as they might have felt that they needed to give socially desirable answers. Even though the researcher guaranteed confidentiality and anonymity, it cannot be avoided that answers may not represent reality in some cases. Furthermore, this study has only focused on Turkish and Moroccan children from the age of 8 till 10. Other studies are needed to target Turkish and Moroccan children from a different age category to see if similar results are found. Also, it could be interesting to study children from other ethnic minorities. Finally, for this research the researcher has only observed eating habits at school. For future research it may be interesting to also study children in their home environment. Here also consumption patterns at home can be observed, which will make the picture more complete.

5.3 Conclusion

In order to answer the main research question – *How can marketing communications motivate children to make healthier consumption choices given their knowledge of food?* – two sub-questions have been specified. Based on the findings that have been discussed in the previous

chapter, first these two sub-questions will be answered. Then, based on these assumptions, a final conclusion will be formed to answer the main research question.

- *Which barriers withhold children from making healthy consumption choices?*

In line with previous research our results suggest that there are many factors influencing children's eating behavior. These include social influences, personal preferences, knowledge and media influences.

First, children are influenced by people in their environment. Peers and siblings tend to have a rather negative influence in the sense that children are more likely to show unhealthy consumption behavior in their presence. On the other hand, parents can have a positive influence if they exercise control. Role models (e.g. teacher or superheroes) also have a positive influence on the consumption behavior of children as children believe these people want them to eat healthy and the children in turn want to meet the needs of these people.

Secondly, earlier findings suggest that children have a basic knowledge on foods. In this research however, the knowledge of the respondents tended to be limited to the classification of foods as healthy versus unhealthy. When asked about calories and nutrients, only very few could give a basic explanation. Therefore, it seemed difficult for them to actually decide on which foods may be eaten on a regular basis and which foods should be avoided. Moreover, it was observed that children believed that eating unhealthy food could be compensated by eating healthy food. Finally, children also had difficulties with deciding on how much they could eat.

Third, respondents tended to have a preference for unhealthy foods because according to them these have a better taste. This implies that simply teaching children on food products will not necessarily improve their dietary intake. An explanation for this might be the fact that children tend to classify foods as either healthy versus unhealthy, with the healthy foods being the good foods and the unhealthy foods being tasty.

Fourth, media visuals tend to have a big impact on the food choices of children. Given that children are more frequently exposed to unhealthy food advertisements, visuals in this research have been identified as a barrier causing children to prefer unhealthy foods over healthy ones. Visuals seemed especially important in motion media, as children paid considerably attention to them. Based on these visuals they would decide whether they liked a product, whether it was healthy, whether it was tasty and whether they would like to buy it. Animals and cartoons especially work well in grabbing attention of children both in a

commercial as well as on packaging. Even though these would not necessarily make a product more tasty, children all agreed that these make a product more fun and therefore more likeable. Furthermore, children tend to react more when they see other children in a commercial compared to when they see adults. Most likely because they feel they can relate to them and also because this makes them believe the product is meant for them. For packaging bright colors are also important to attract the attention and make a product more appealing. Even though it is not necessary to use colors related to the product, related colors and pictures will make it easier for children to recognize products.

Finally, children are to a large extent influenced by messages that they receive from marketers. From this research, it was observed that children pay attention to both, but somewhat more to written messages. This could be explained by the fact that children had more time to process still media, and that children had difficulties with listening and watching at the same time and thus often paid less attention to spoken messages in the commercials compared to the visuals. Noteworthy, when a song or a recognizable tune was played – such as from McDonalds – they paid considerably more attention to the commercial. Overall, children had difficulties with making proper sense of the information that was given to them. As has been discussed in chapter 4, this misinterpretation occurs because of one of four reasons; (1) a lack of knowledge, (2) improper information processing, (3) imagination and prior knowledge, attitudes and beliefs, and (4) visuals.

- *What type of motivating strategies will cause children to make healthier food choices?*

Different ways have been identified that could motivate children to make healthier consumption choices. These could be split in social control, educational strategies and advertising strategies.

Social control is important from both parents, teachers as well as potential other role models that play a role in children's daily lives. As children are still young, influence of these parties have found to be most important and they should therefore set a good example. Findings indicate that food should be made available and structure should be given so that children learn to adopt a healthy diet.

Furthermore, educating children on food and nutrition is essential. Though previous literature argued that teaching children will not make them more willing to eat healthy foods, this research found that children could be motivated if they are taught the right things. Instead of

only educating children on what nutrients are education should also be about involving children, making it fun and being more concrete. Children should be taught what specific foods they may eat and it could also be helpful to teach them about how to read food labels and interpret media messages. This should turn children into more critical consumers. Finally, the education of children should focus on teaching children what foods could be eaten on a regular basis and which foods are 'sometimes' foods. This should avoid the classification of foods as 'good' or 'bad' and in turn improve dietary intake.

As for the influence of the media, it is important that information about the healthiness of the product is communicated. Nutrition claims should help the children to realize what beneficial nutritional properties a food has. However, claims should be short and comprehensible. Suggestions would be to include messages on the product such as 'good for your body' or 'no fats'. Based on this children can then easily decide whether they should choose a product or not. Furthermore it is suggested that foods include concrete and behavioral messages so that children better know what is expected of them. For example, 'eat three pieces of fruits everyday' or 'choose red sauces instead of white'. Furthermore, the product itself should be made more appealing. In order to make a product more appealing, friendly shapes – such as harts and stars – and bright colors should be used. Attractive pictures and bright colors are suggested to make the packaging of a product more appealing. Also cartoon, children and animals should be used in commercials. This may distract children from the actual product or message, however they are more likely to favor the commercial and in turn more likely to buy the product. Finally, introducing a song with a product also makes it more favorable as has already been discussed while answering the sub-question on barriers towards healthy eating.

➔ ***How can marketing communications motivate children to make healthier consumption choices?***

Research has found that many factors contribute to the food choices of children. Therefore, many factors should be addressed in order to induce children to make healthier consumption choices. Merely educating children on foods will not be sufficient, neither will it be enough to encourage parents and schools to exert more power, nor will only making a product more appealing be successful. In order to motivate children to make healthier consumption choices it is important to involve all parties – parents, school and the media – and to give children both a reason – e.g. through education or marketing messages – as well as an emotional

benefit – e.g. through non-physiological factors. Three suggestions based on insights from this research explain how this could be achieved.

First of all, children should be encouraged more to consume healthy foods. Positive stimulation may cause children to enjoy eating more fruits and vegetables and increases healthy consumption behavior. Findings of this research have shed light on the success of school projects which introduce foods to children in an entertaining way. Not only do they get to taste different fruits and vegetables, they also learn more about it. Moreover, such programs stimulate parents and schools to work together in order to improve consumption behaviors of their children. Furthermore, social control should overcome the negative influences of siblings and peers, given that all of them are now stimulated to adopt healthier diets.

Second, it is recommended to educate children more about foods. Findings have indicated that children miss out on some very important information about food and nutrition due to which they make bad consumption choices. Educating children in a fun way that actually involves them is likely to change their consumption behaviors. It would be helpful to teach them about interpreting messages and reading food labels so that they will become more critical consumers. Moreover, it would help to specifically educate them on which foods to eat, as children still may have difficulties with understanding nutrients and the amounts they may consume on a daily basis. Moreover, it might be a good idea to get rid of the classification of foods as being either healthy or unhealthy so that children will understand that a healthy diet could include both. A suggestion would be to talk about ‘everyday’ foods and ‘once a week’ foods.

Third, healthy food marketers should improve their advertising strategies. For them it is important to communicate short and understandable marketing messages to the children, so that they will understand what they are being told. Furthermore it is suggested that foods include behavioral messages so that children better know what is expected. For example, ‘eat three pieces of fruits everyday’ or ‘choose red sauces instead of white’. Given that children like to be stimulated, positive messages are likely to be more successful. Messages such as ‘do not eat snacks everyday’ are expected to be less effective. Furthermore, healthy food marketers should use visuals as these are an extremely important factor in the consumption choices of children. Based on what children see, they decide on the likeability and healthiness of a product. In other words, if children like what they see, they have a more favorable attitude, are more positive about the healthiness and taste of a product and also more likely to

buy or ask their parents to buy. Children tend to be extra sensitive for advertising with animals, children or cartoons. Even though children argued that it would not make a difference in taste, they still tend to prefer a product that includes a nice image over a similar product without the image. Moreover, bright colors on the packaging or in the commercial that are related to the product grab the attention. Furthermore, children are sensitive for additional toys or stickers. These could be used to make children want to buy more fruits and vegetables. Finally, the respondents argued that they preferred sliced pieces of fruits or vegetables. Therefore, marketing should introduce smaller packages for children. Perhaps with special shapes as children tend to be excited about shapes and colors.

5.4 Managerial implications & recommendations

In the world that we live in today, children have a big influence on purchasing decisions of everyday commodities (Valkenburg & Cantor, 2001). It seems that children especially have a strong influence on the purchasing of unhealthy products. By investigating food choice preferences of children, underlying reasons have been uncovered about the reasons for their (unhealthy) choices. These insights may be interesting for different parties.

First of all, findings should be made available for non-profit organizations and governments in order to tackle the obesity problem. These insights should encourage the government to better stimulate healthy food consumption among kids. In turn, these children may develop the right attitudes in order to recognize the significance of a healthy lifestyle and to live accordingly. Based on the insights from this study, the following recommendations are given to stimulate healthy food consumption of children;

- Organize school projects that not only make healthy food better available but that also teach children the importance of a nutritional diet in a fun way and make them more critical consumers. Governments should make more money available for such programs so that children at a young age learn to develop healthy eating habits which they are likely to continue when they grow older.
- Organize obesity prevention programs that take into account the barriers that have been identified by the children. This should make it easier to make such prevention programs a success.
- Introduce a law that makes it more difficult for marketers of unhealthy food products to target children as children most likely remain very vulnerable to advertising

strategies. On the other hand, healthy food marketers should be given more options to promote their products.

Second, parents may better understand the consumption choices of their children and could in turn redirect their children's choices from unhealthy products towards more healthy food consumption choices. Given that children in the early stages are still significantly influenced by their parents and less so by their peers, it is important that parents at this stage take into account the following recommendations;

- Avoid categorization of foods into 'good' and 'bad'. Instead, use concepts such as 'everyday foods' and 'once a week foods' which are concrete and understandable for children. This should inform children on how these foods could be incorporated in their diets. Moreover, it will be more sufficient as not all foods could be classified as good or bad and it is a more positive approach.
- Educate children more on foods and the importance of a nutritional diet in order to turn them in more critical consumers. This education should concentrate on teaching children which specific foods they should consume instead of explaining them how many nutrients they need on a daily basis. Another suggestion would be to involve children more in the buying process so they will learn what it is like to be a consumer.

Third, based on the findings of this research, marketers and practitioners could create advertisement campaigns that will be more effective and appealing to children. This may be especially useful for marketers of healthy food which in first place seem less attractive to children. Suggestions would be to;

- Improve the appearance of the product for example by changing shapes and colors of both the product and the packaging. According to this research, children tend to prefer sliced pieces of fruits and vegetables better, therefore an idea would be to introduce small packages with fruits and vegetables. Specific shapes that are favorable are stars and harts. Additionally, products could be made more favorable if an extra extrinsic reward it provided with it. Children argued that they would like a healthy product better if they would get little toys or stickers when they buy the product.
- Increase the nutritional information on healthy food products. Though children may be confused by long sentences that claim the healthiness of the product, simple messages like 'zero sugars' or 'no fat' do work for children. Especially the word (or number) zero, seems to affect responses in a favorable way.

- Introduce a certification seal that is simple enough for children to understand. For example, ‘I choose responsibly’ text could be changed into a thumbs up sign, which makes it more comprehensible for children. Such a logo should then be placed on products which may be eaten on a regular basis by children, for example fruits and vegetables. Additionally, colors could be assigned to the logo. For example a green thumbs up logo for fruits and vegetables, a yellow thumbs up logo for foods like meat which contains some good nutrients but should not be eaten too regularly. A red thumbs down logo should be placed on snacks that contain many sugars, fats, salts or calories.
- Highlight the taste of a healthy food product. Children are likely to believe messages that tell them a product is tasty and thus will be more favorable towards healthy foods if they are claimed to be tasty. However, these claims should not be exaggerated, because children tend to be more skeptical towards claims using superlatives – e.g. ‘the most tasty’.

References

Alpert, P.T., (2009). Obesity: A Worldwide Epidemic. *Home Health Care Management & Practice*, 21, 442-444

Antonuk, B. & Block, L.G. (2006). The Effect of Single Serving Versus Entire Package Nutritional Information on Consumption Norms and Actual Consumption of a Snack Food. *Journal of Nutrition Education and Behaviour*, 38(6), 365-70.

Axelson, M. L., Federline, T. L. & Brinberg, D. (1985). A meta-analysis of food and nutrition related research. *Journal of Nutrition Education*, 17, 51-54.

Ajzen, I. (1991). The theory of planned behaviour. *Organizational Behavior and Human Decision Processes*, 50, 179-211.

Barcus, G.E. & Wolkin, R. (1977). *Children's television: An analysis of programming and advertising*. New York: Praeger.

Bearison, D. (1991). *They never want to tell you: Children talk about cancer*. Cambridge: Harvard University Press.

Belot, M. & James, J. (2009). *Healthy School Meals and Educational Outcomes*. Retrieved June 10, 2013, from https://www.iser.essex.ac.uk/files/iser_working_papers/2009-01.pdf

Binns, C.W., Caffin, N.A. & Miller, M.R. (1981). Determinants of children's eating practices. *Proceedings of the Nutrition Society of Australia*, 6, 167.

Birch, L.L. (1980). Effects of Peer Models' Food Choices and Eating Behaviours on Pre-schoolers' Food Preferences. *Child Development*, 51(2), 489-496.

Booth, D. A.& Shepherd, R.(1988). Sensory influences of food acceptance: the neglected approach to nutrition promotion. *British Nutrition Foundation Nutrition Bulletin*, 13, 39-54.

Borra, S.T., Kelly, L. Shirreffs, M.B., Neville, K. & Geiger, C.J. (2003). Developing health messages: Qualitative studies with children, parents, and teacher help identify communications opportunities for healthful lifestyles and the prevention of obesity. *Journal of the American Dietetic Association*, 103(6), 721-728.

Bryman, A. & Bell, E. (2007) *Business research method*. (2nd edition) Oxford: Oxford University Press.

Centers for Disease Control and Prevention. (2007). *Defining overweight and obesity*. Retrieved November 26, 2012, from http://www.cdc.gov/nccdphp/dnpa/obesity/defining.htm

Chapman, G. & Maclean, H.(1993). Junk food and healthy food: meanings of food in adolescent women's culture. *Journal of Nutrition Education*, 25, 108-113.

Clancy-Hepburn, K., Hickey, A.A. & Nevill, G. (1974). Children's behaviour responses to TV food advertisements. *Journal of Nutrition Education*, 6(3), 93-96.

Cotugna, N. (1988). TV ads on Saturday morning children's programming: What's new? *Journal of Nutritional Education*, 20, 125-127.

Coulson, N.S., Eiser, C. & Eiser, J.R. (1998) Nutrition education in the National Curriculum Health. *Health Education Journal*, 57, 81-88.

Creswell, J.W. (1998). *Qualitative Inquiry and Research Design Choosing Among Five Traditions*. Thousand Oaks, CA: Sage Publications.

Croll, J.K., Neumark-Sztainer, D. & Story, M. (2001). Healthy Eating: What Does It Mean to Adolescents? *Journal of Nutrition Education*, 33(4), 193-198.

Docherty, S.& Sandelowski, M. (1999). Focus on Qualitative Methods Interviewing Children. *Research in Nursing & Health*, 22, 177–185

Epstein, L.H. (1996). Family-based behavioral intervention for obese children. *International Journal of Obesity and Related Metabolic Disorders*, 20, S14-21.

Evans, W.D. (2008). Social Marketing Campaigns and Children's Media Use. *Future of Children*, 18(1), 181-203.

Fitzgerald, A., Heary, C., Nixon, E., & Kelly, C. (2010). Factors influence the food choices of Irish children and adolescents: a qualitative investigation. *Health Promotion International*, 25(3), 289-298.

Foodwatch (2013). Kindermarketing: Onverantwoord en Ongereguleerd. Retrieved February 27, 2013, from http://foodwatch.nl/foodwatch-nl/content/e32811/e45691/e45722/FW_Kindermarketing_rapport_onverantwoord_ongereguleerd_nl.pdf

Galst, J.P & White, M.A. (1976). The Unhealthy Persuader: The Reinforcing Value of Television and Children's Purchase Influencing Attempts at the Supermarket. *Child Development*, 47(4), 1089-1096.

Gortmaker, S.L., Must, A., Perrin, J.M., Sobal, A.M. & Dietz, W.H. (1993). Social and economic consequences of overweight in adolescence and young adulthood. *The New England Journal of Medicine*, 329, 1008–1012

Gortmaker, S.L., Peterson, K., Wiecha, J., Sobol, A.M., Dixit, S., Fox, M.K. & Laird N. (1999). Reducing obesity via a school-based interdisciplinary intervention among youth: Planet Health. *Archives of Pediatrics and Adolescent Medicine*, 153(4), 409–418.

Greenhalgh, T.& Taylor, R.(1997). How to Read a Paper: Papers that Go beyond Numbers. *British Medical Journal*, 315, 740-743.

Guba, E.G. (1981). Criteria for assessing the trustworthiness of naturalistic inquiries. *Educational Communication and Technology Journal*, 29, 75–91.

Guo, S. S., Wu, W., Chumlea, W. C., & Roche, A. F. (2002). Predicting overweight and obesity in adulthood from body mass index values in childhood and adolescence. *American Journal of Clinical Nutrition*, 76, 653-658.

Henry, H. K. M. & Borzekowski D. L. G (2011). The Nag Factor: A mixed-methodology study in the US of young children's requests for advertised products. *Journal of Children and Media*, 5(3), 298-317.

Her, E.S. & Lee, K.H. (2003). Effect-Evaluation of Nutritional Education Program Using Internet for School Children. Korean Journal of Nutrition, 36(5), 500-507.

Hill, J.O. and Peters, J.C. (1998). Environmental contribution to the obesity epidemic. *Science*, 280, 1371-1374.

Hudson, L. A. & Ozanne, J. L.(1988). Alternative Ways of Seeking Knowledge in Consumer Research. *Journal of Consumer Research*, 14, 508-521.

Institute of Medicine. (2006). *Progress in preventing childhood obesity: How do we measure up*. Retrieved December 2, 2012, from http://www.iom.edu/Object.File/Master/36/984/11722_reportbrief.pdf

Lytle, L.A., Eldridge, A.L., Kotz, K., Piper, J., Williams, S., & Kalina, B. (1997). Children's Interpretation of Nutrition Messages. *Journal of Nutrition Education*, 29, 128-136.

Oliver, J. (2006). *How the feed me better campaign happened*. Retrieved June 10, 2013, from http://www.jamieoliver.com/media/jo_sd_history.pdf

Jeffrey, D. B., McLellarn, R. W., & Fox, D.T. (1982). The development of children's eating habits: The role of television commercials. *Health Education Quarterly*, 9, 174-189.

Knaia, C., Suhrckeb, M., Lobstein, T. (2007) Obesity in Eastern Europe: An overview of its health and economic implications. *Economics and Human Biology*, 5, 392–408.

Krippendorff, K. (1980). *Content Analysis: An Introduction to Its Methodology*. (2nd edition) Newbury Park, CA: Sage Publications.

Let Water Be Water, LLC (2008). *Wat-aah*. Retrieved June 10, 2013, from http://drinkwataah.com/

Levine, P. (1976). Commercials that Name Competing Brands. *Journal of Advertising Research*, 16.

Lincoln, Y.S., & Guba E.G. (1985). *Naturalistic inquiry*. Beverly Hills: Sage.

Malhotra, N. & Birks, D. (2007) *Marketing Research: an applied approach*. (3rd edition) Harlow, UK: Pearson Education.

Mangleburg, T.F. (1990). Children's Influence In Purchase Decision: A Review and Critique. *Advances in Consumer Research*, 17(1), 813-825.

Mays, N. & Pope, C. (1995). Rigour and qualitative research. *British Medical Journal*, 311, 109-112

Morrow, S.L., & Smith, M.L. (2000) *Qualitative research methods in counseling psychology*. In Brown S.D. & Lent R.W. (2008), Handbook of Counseling Psychology. New York: Wiley

Neumark-Sztainer, D., Story, M., Perry, C., & Casey, M. (1999). Factors influencing food choices of adolescents: Findings from focus-group discussions with adolescents. *Journal of the American Dietetic Association*, 99, 929-934.

O'Dea J.A. (2003). Why do kids eat healthful food? Perceived benefits of and barriers to healthful eating and physical activity among children and adolescents. *Journal of the American Dietetic Association*, 103(4), 497-501.

Pollak, J., Gay, G., Byrne, S., Wagner, E., Retelny, D. & Humphreys, L. (2010). It's Time to Eat! Using Mobile Games to Promote Healthy Eating, *IEEE Pervasive Computing*, 9(3), 21-27.

Raghunathan, R., Naylor, R. W. & Hoyer W.D. (2006). The Unhealthy = Tasty Intuition and Its Effects on Taste Inferences, Enjoyment, and Choice of Food Products. *Journal of Marketing*, 70, 170-184.

Rice, F. P.(1978). *The Adolescent: Development, Relationships and Culture*. Boston: Ally and Bacon.

Schönbeck, Y., Buuren, S.van (2010). *Factsheet Resultaten Vijfde Landelijke Groeistudie*. TNO.

Serdula, M.K., Ivery, D., Freedman, R.J.C., Williamson, D.F. & Byers, T. (1993). Do obese children become obese adults? A review of the literature. *Prev. Med*., 22, 167-177.

Shaw, C., Brady, L., Davey, C. (2011). *Guidelines for Research with Children and Young People*. London: National Children's Bureau Research Centre.

Shenton, A.K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information*, 22, 63–75.

Shepherd, R., & Stockley, L. (1987). Nutrition knowledge, attitudes and fat consumption. *Journal of the American Dietetic Association*, 87, 615–19.

Shepherd, R. (1989). *Factors affecting food preferences and choice*. In: Handbook of the Psychophysiology of Human Eating. Chichester: Wiley.

Shepherd, R.(1990). Overview of factors influencing food choice. *BNF Nutrition Bulletin*, 15, 12-30.

Shepherd, J., Harden, A., Rees, R., Brunton, G., Garcia, J., Oliver, S. & Oakley, A. (2006). Young people and healthy eating: a systematic review of research on barriers and facilitators. *Health Education Research*, 21(2), 239-257.

Signoriellie, N. & Staples, J. (1997). Television and Children's Conceptions of Nutrition. *Health Communication*, 9(4), 289-301.

Spratling, R., Coke, S., & Minick, P. (2012). Qualitative data collection with children. *Applied Nursing Research*, 25(1), 47-53.

Stevenson, C., Doherty, G., Barnett, J. Muldoon, O.T. & Trew, K. (2007). Adolescents' views of food and eating: identifying barriers to healthy eating. *Journal of Adolescence*, 30, 417-434.

Steward, M.S. & Steward, D.S. (1996). Interviewing young children about body touch and handling. *Monographs of the Society for Research in Child Development*, 61 (4/5), 1-232.

Story, M. & Resnick, R.D. (1986). Adolescents' Views on Food and Nutrition. *Journal of Nutrition Education*, 18(4), 188-192.

Story, M., Neumark-Sztainer, D. & French, S. (2002). Individual and environmental influences on adolescent eating behaviours. *Journal of the American Dietetic Association*, 102, 40-51.

Taras, H.L.& Gage, M. (1995). Advertised foods on children's television. *Archives of Pediatric and Adolescent Medicine*, 149, 649-652.

Torrance, K. (1998). *Contemporary childhood: Parent-child relationship and child culture*. Leiden, the Netherlands: DSWO Poress.

Trew, K., Barnett, J., Stevenson, C., Muldoon, O., Breakwell, G., Brown, K., Clark, C. (2005).*Young people and food: Adolescent dietary beliefs and understanding*. Dublin: Safe food.

Trexler, M. L.& Sargent, R. (1993). Assessment of nutrition risk knowledge and its relationship to the dietary practices of adolescents. *Journal of Nutrition Education*, 25, 337-344.

Urala, N., & Lähteenmäki, L. (2004). Attitudes behind consumers' willingness to use functional foods. *Food Quality and Preference*, 15, 793–803.

Valkenburg, P.M. & Cantor, J. (2001). The development of a child into a consumer. Applied Developmental Psychology, 22, 61-72.

Vermeersch, J. A., & Swenerton, H. (1979). Consumer responses to nutrition claims in food advertisements. *Journal of Nutrition Education*, 11, 22-26.

Vermeersch, J.A. & Swenerton, H. (1980). Interpretations of Nutrition Claims in Food Advertisements by Low-Income Consumers. *Journal of Nutrition Education*, 12, 19-25.

Wansink, B. (2005). *Marketing Nutrition – Soy, Functional Foods, Biotechnology, and Obesity*. Champaign, IL: University of Illinois Press.

Wansink, B. (2006). *Mindless Eating: Why We Eat More Than We Think*. New York: Bantam-Dell.

Wansink, B., Shimizu, M., & Camps, G. (2012), "What Would Batman Eat? Priming Children to Make Healthier Fast Food Choices," *International Journal of Pediatric Obesity*, 7, 121-123.

Warren, E., Parry, O., Lynch, R. & Murphy, S. (2008). If I don't like it then I can choose what I want: Welsh school children's accounts of preference for and control over food choices. *Health Promotion International*, 23, 144-151.

World Health Organization (2006). *WHO Child Growth Standards*. Retrieved March 17, 2013, from http://www.who.int/childgrowth/standards/Technical_report.pdf

World Health Organization (2012).*World Health Statistics 2012*. Retrieved November 30, 2012, from http://www.who.int/gho/publications/world_health_statistics/en/index.html

World Health Organization (2013). *Global Strategy on Diet, Physical Activity & Health*. Retrieved March 17, 2013, from http://www.who.int/dietphysicalactivity/childhood_what/en/index.html

Worsley, A. (2002). Nutrition knowledge and food consumption: can nutrition knowledge change food behavior? *Asia Pacific Journal of Clinical Nutrition*, 11, 579-585.

Young, L.R., & Nestle, M. (2002). The Contribution of Expanding Portion Sizes to the US Obesity Epidemic. *American Journal of Public Health*, 92(2), 246-249.

Appendices

Appendix 3A – Ethnography Observations

Ethnography Observation 1 – January 10, 2013

I was waiting in the hall, watching children walking in and out of the classroom to grab their schoolbags. The teacher stood in front of the class pointing to the kids that were allowed to get their bags from the hallstand. The children in the hall where laughing, talking loud and poking each other. Once they had their bags, they walked back into the classroom and set down at their desks. When all the children from the first class (group 4a) were back in the classroom, the children from the other class (group 4b) were allowed to get their bags. This happened in groups of about four children. As the teacher had already told me, during lunchtime the groups would sit together in one classroom and eat all together. Some of the children from the second group only got their bags and walked to the classroom 4a. Others also had to bring their chair with them. It seemed somewhat organized therefore I believe that the children that had to take their chairs had to do so every day. I noticed this because it wasn't chaotic and they knew where to place the chairs in the other room.

When everybody was present and seated, I walked into the room. All the children, who had met me before, were really happy that I would join them for lunch. "Miss, miss, come and sit here" they all shouted through the classroom. I took a chair and sat in the back of the classroom close to a group of children. I had taken some food with me, because I wanted to pretend as if I was really having lunch with them. By doing so I wanted to avoid that the children would behave differently because of my presence.

I noticed that some had started eating already while others had not even opened their bags yet. Some of them sat very quietly eating well-mannered with their mouth shut. Others, mostly the boys, ate with their mouth open, smacking their lips. The teacher calmed everybody down and got a book to read aloud.

I looked around to see what kind of things the children had with them. Some had lunchboxes with food, others had their lunch in plastic bags. Many of the children had brought slices of bread, either two or three. I noticed that peanut butter, chocolate sprinkles and chocolate spread were the most popular sandwich fillings. Only a few (girls) had meat or cheese on their bread. Next to bread, some had brought some kinds of Turkish and/or Moroccan bread, which looks a bit like French bread but is much softer.

The boys next to me on the right were looking at each others lunchboxes comparing what they had brought with them. “Hey, you have the same as me!” was their happy reaction when they found out that they had brought the same. The boy sitting on my left had brought pizza with him, cut in pieces. Secretly he passed through one of the pieces under the table to give it to one of the boys that was sitting two places next to him. I figured they must be friends or he had to return a favor as he specifically gave the piece to this little boy. The boy that had received the piece threw a smile at the boy of whom the pizza was and took a bite. Some others that were sitting close had noticed what was going on and started begging for a small piece as well. The boy that had just taken a bite of his pizza then ripped off some very small pieces to give to some of the boys that were sitting close to him. The whole sharing process made me smile.

Many of the children looked at me constantly, to see what and how I was eating and what else I was doing. When I looked back they smiled and quickly looked the other way.

Apart from the pizza, some more children had brought sweet stuff with them. A couple of children had brought croissants, some had ‘chocolate bread’ and some had cookies with them. Fruits and vegetables were not eaten at all, except for one girl who got an apple out of her bag. I figured the reason for this would be that the children are already obliged to eat fruit or vegetables in the 10 ‘o clock break. On average, it took the children that had ‘sweet’ food with them less time to finish their lunch. Those with bread took a lot longer to finish. Moreover, those that had bread in their lunchboxes in many cases did not eat the bread crusts. Some did not even have the bread crusts on the bread anymore, others would only eat the middle part or they would rip of the crust and put it back in their lunchboxes or throw it away after they had finished eating.

On almost all tables stood a beverage package with some juice (e.g. taksi, wicky, fruit juice). Most of the children drank their juices in the end, some however seemed to use the drink to swallow the food. I noticed that many took small sips and chew on the straw a lot.

After 20 minutes of lunch break, the children had to put their lunchboxes back in their bags and had to hang their bags back on the hallstands in the hall. This was again done in groups. Some of the children had not finished eating yet. They either hung away their bags with the food still in their hands, or they just left the food that they couldn’t finish in their lunchboxes. Nobody checked who had eaten what.

Ethnography Observation 2 – January 17, 2013

This time I was already sitting in the classroom while the children were send to the hallway in groups to get their bags. I heard some noise coming from the hallway but couldn't see what was going on. It seemed that the children were happy that they had a break now. In the class those children who didn't have their schoolbags yet sat up straight with their arms crossed waiting for the teacher to tell them they could get their bags. Those who already had their bags got out their lunchboxes while talking to their friends. It all was a bit chaotic.

Just like last time I had some bread with me, so the children would think I was having lunch with them. The first things that appeared to me, which I had also observed the other day, was that children were extremely busy. They talk with their neighbors while eating and also where busy with other things such as their pencil boxes and books. It seemed like there was no control anymore. The way most children were eating was rather unappetizing. Children would rip off pieces of their bread and chew with their mouth open. Also they were talking with their mouths full and some had chocolate paste all over their faces.

At some point the teacher asked the children to be silent and she started reading a book. At this point the children were a bit more calm but still the chewing happened with open mouths and bread pieces were all over some of the tables.

This time I had decided to look a bit more at the children with more bodyweight to see whether their lunchboxes were a lot different from the other children. This was not the case. Most of them had brought brown bread, just like the majority of the class. And some of them had a little snack, but actually more snacks were in the lunchboxes of the children with less bodyweight.

Meanwhile I started eating my lunch even though I was not really hungry anymore after having seen the children eat their lunches. When I look through the room again some children had already finished. Other were still busy finishing their first piece of bread. It were the same children that were eating slowly.

Just like last time only very few children (3 or 4) had brought fruits with them. And again those children with bread took longer to finish compared to those who had brought a croissant or some other sort of bread.

I had forgotten to look at the time but I believe this lunch break was somewhat shorter than normally. Perhaps because it was chaos and the teacher just wanted to go outside.

When the children had to put away their lunchboxes only few tried to quickly finish their foods. The others would just leave the leftovers in their lunchboxes or they would throw them away. Those who still had something to snack in their lunchboxes quickly grabbed this out of their lunchbox and either ate it quickly or they put it in their pockets to finish later.

Appendix 3B – Selection of lunchboxes brought to school by children

Appendix 3C – Overview interviews and group discussions

Individuals interviews

Child	Nationality	Age	Date	Tape #	Duration	Pages & words #
Child1	Moroccan/Dutch	8	14-01-2013	002	33.18	P: 8 – w: 3.489
Child2	Turkish/Dutch	8	14-01-2013	003	28.18	P: 7 – w: 2.824
Child3	Moroccan/Dutch	8	14-01-2013	006 - 008	2.17 & 0.44 & 21.34	P: 7 – w: 2.829
Child4	Moroccan/Dutch	8	14-01-2013	009	18.33	P: 5 – w: 2.087
Child5	Surinamese/Dutch	8	14-01-2013	010	23.20	P: 6 – w: 2.268
Child6	Moroccan/Dutch	9	14-01-2013	011	22.53	P: 6 – w: 2.349
Child7	Turkish/Dutch	9	15-01-2013	012	32.12	P: 6 – w: 2.683
Child8	Turkish/Dutch	8	15-01-2013	013	16.35	P: 5 – w: 2.076
Child9	Turkish/Dutch	10	15-01-2013	014	22.06	P: 5 – w: 2.307
Child10	Nigerian/Dutch	9	15-01-2013	015	21.08	P: 6 – w: 2.392
Child11	Turkish/Dutch	9	16-01-2013	016	36.47	P: 7 – w: 2.882
Child12	Moroccan/Dutch	8	16-01-2013	017	29.05	P: 7 – w: 2.503
Child13	Moroccan/Dutch	8	16-01-2013	018	22.40	P: 6 – w: 2.541
Child14	Moroccan/Dutch	8	16-01-2013	019	24.44	P: 7 – w: 2.754
Child15	Moroccan/Dutch	9	16-01-2013	020	34.20	P: 8 – w: 3.530
Child16	Turkish/Dutch	8	16-01-2013	021	29.57	P: 7 – w: 2.903
Child17	Turkish/Dutch	8	16-01-2013	022	22.20	P: 5 – w: 1.832
Child18	Moroccan/Dutch	8	17-01-2013	023	32.34	P: 8 – w: 2.992
Child19	Turkish/Dutch	8	17-01-2013	024	30.02	P: 8 – w: 2.628
Child20	Turkish/Dutch	8	17-01-2013	025	31.41	P: 8 – w: 3.103
Child21	Turkish/Dutch	8	17-01-2013	026	31.18	P: 6 – w: 2.856
Child22	Moroccan/Dutch	9	17-01-2013	027	24.10	P: 7 – w: 3.612

Group discussions

Children*	Date	Tape #	Duration	Pages & words #
Child6 – Child15 – Child17	04-03-2013	031	37.20	P: 8 – w: 3.774
Child9 – Child11 – Child16	04-03-2013	032	27.28	P: 7 – w: 2.666
Child1 – Child2 – Child4	04-03-2013	033	35.24	P: 8 – w: 3.532
Child3 – Child13 – Child14	04-03-2013	034	38.44	P: 8 – w: 3.668
Child7 – Child19 – Child20	04-03-2013	035	35.05	P: 7 – w: 2.996
Child8 – Child12 – Child18	04-03-2013	036	33.25	P: 9 – w: 3.864

* Child5 and Child10 have been excluded because they did not fit the selection criteria.

* Child21 and Child22 were absent the day of the group discussions

Interview school coordinator

	Date	Tape #	Duration	Pages & words #
Coordinator grades 1 to 4	21-01-2013	029	06.26	P: 2 – w: 1.041

Appendix 3D – Interview guide: Individuals interviews

In the beginning of the interview the children are asked about their own lunchboxes.

1. Can you tell me what you brought for lunch to school today?

2. Who chooses what you bring for lunch?

3. Do you like what you bring to school? Why (not)?

4. Who decides what you bring to school? Why?

5. Is the food you bring to school enough? If not, what should change?

Next the child is shown several pictures of other lunchboxes (see appendix 3E). The following questions were asked about these lunchboxes:

5. Can you tell me what is inside this lunchbox?

6. What do you like about the lunchbox? And what not? Why?

7. Of whom do you think this lunchbox is? Why?

After all the pictures of the lunchboxes have been shown, the child is asked to answer the following questions:

8. Which lunchbox of all the lunchboxes that have been shown to you would you prefer to take with you to school?

9. Which lunchbox would you mother (role model) wants you to bring to school?

Next the child is given a paper with all different kinds of foods (appendix 3F). After the child has been asked whether he/she is familiar with all the food he/she is asked the following questions:

13. Can you point out which foods contain vitamins?

14. Can you explain to me what vitamins are?

15. Could you tell me what happens when we do not eat enough vitamins?

16. Can you tell me what happens when we eat too many vitamins?

17. Who should be eating vitamins? Where? When?

18. How does food with vitamins smell? Taste?

The same questions are asked for healthy foods and tasty foods (e.g. Can you point out which foods are healthy/tasty?). Then some questions are asked about ingredients of the products:

18. Can you tell me which foods contain the most calories? What are calories? When should we eat them?

19. Can you tell me which foods contain carbohydrates? What are carbohydrates? When should we eat them?

20. Can you tell me which foods contain proteins? What are proteins? When should we eat them?

The last questions that are asked about the foods on the paper are related to the price:

21. Which foods do you believe are expensive?

22. Which foods do you believe are cheap?

Finally the children are given 20 different cards with all different kinds of foods (see appendix 3G). The child is then asked the following question:

23. If you could bring any of the foods on these cards with you to school, which foods would you choose? Why?

24. If your mother (role model) could choose any of the foods on these cards for you to bring to school, which foods would she choose? Why?

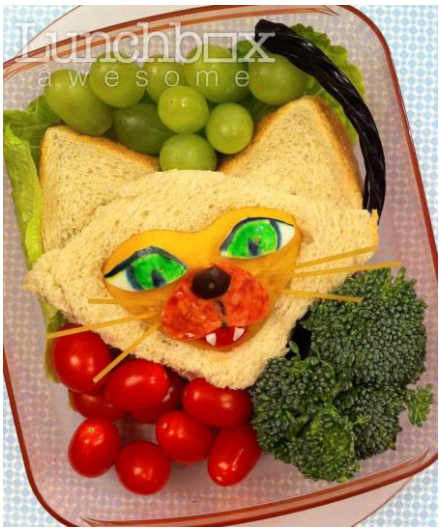
Appendix 3E – Lunchboxes shown to children in individual interviews

Lunchbox A

Lunchbox B

Lunchbox C

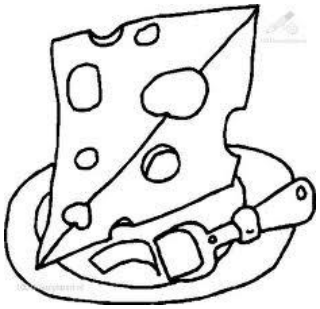
Lunchbox D



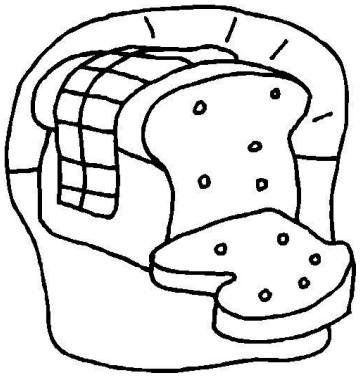
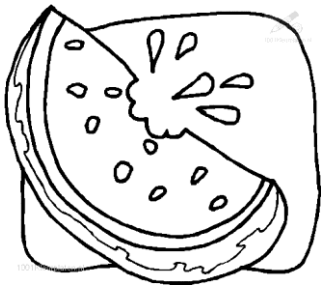
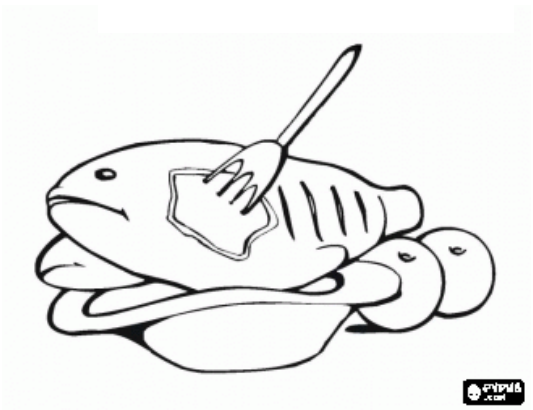
Lunchbox E

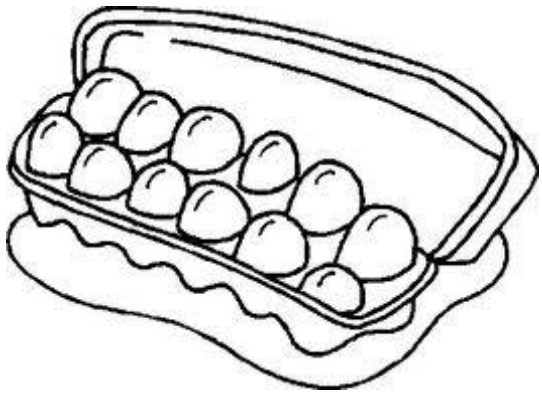
Lunchbox F

Appendix 3F – Handout Foods

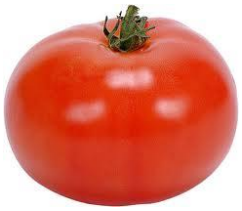




Appendix 3G – Choice of food for lunchboxes



Appendix 3H - Interview guide: Group discussions

First the children will be told that today we are not going to talk about food anymore but now we are going to talk about advertisements. As an introduction into the topic, the children are first asked some general questions about advertising.

1. Can you tell me what advertisement is?

This question aims to investigate what children believe advertising is.

2. Do you know why advertisements exist?

This question aims to investigate if children realize what advertising is for.

3. Can you mention any advertisements you know? Where have you seen them? What are they about? Do you like them or not, and why?

This question aims to investigate if children watch advertisements, what they remember and what they do and do not like about these advertising campaigns.

The children will be shown two pictures. One of an apple and one of French fries, after asking if they are familiar with the products they will be asked the following questions:

4. What food do you prefer, the apple or the French fries?

This question aims to investigate what type of food children prefer. This will be interesting for the follow-up questions.

5. Do you have any suggestions on how we can make the French fries less attractive?

This question aims to investigate how children believe that food can be made less appealing for individuals.

6. Do you have any suggestions on how we can make the apple more attractive?
This question aims to investigate how children believe that food can be made less appealing for individuals.

Next three different advertisements will be shown to the children (see appendix 3I). They are told to watch and listen very carefully. After showing each of the movies the children will be asked the following questions:

7. What have you seen and or heard in the movie?

This question aims to investigate what are the first things children notice. What do they pay attention to the most and which things are not noticed.

8. What type of advertisement is this? What do they want you to buy in this movie?

This question aims to investigate whether children understand the message of the advertisement. Do they realize what the marketer is trying to sell in the movie?

9. Who do you think the advertisement is for? Why?

This question aims to investigate if a certain product or message is appealing for children or whether the children believe it is not meant for them and therefore pay less attention.

10. How did you like the movie? Why?

This question aims to investigate what children like and do not like about a campaign.

11. Would you buy the product that is being advertised? Why (not)?

This question aims to investigate whether children are motivated by the advertisement to buy the product or not. Also it should uncover what messages or visuals are the most convincing for children to decide whether to buy the product or not.

Finally, the children were shown pictures of a product with product-related text either written on the product or written next it. All groups got to see pictures 1 and 2, while they were shown either the A or the B version of the remaining pictures. A group either got to see the product with information on the ingredients or without this information.

Picture 1

Text: 0% fat, no sugar added.

Picture 2

Label on package: I choose responsibly

Picture 3 - Version A
Text: Blue band. Great start. The most delicious white bread with wholemeal. 80 kcal per 35g. Just as tasty as white but like wholemeal bread a source of fibers + Logo 'I choose responsibly'

Picture 3 - Version B
Text on the right – 1.2g fat, 0.3g saturated fats, 0.3g sugar, 0.8g salt & 214 calories per 100 grams

Picture 4 - Version A
Text: Becel Pro-activ. Actively reduces cholesterol + logo 'I choose responsibly'

Picture 4 - Version B
Text on the right – 35g fat, 8g saturated fats, <0.5g sugar, 0.025g salt & 320 calories per 100 grams

Picture 5 - Version A
Text: Eru Kids. 12% fat. Calcium

Picture 5 - Version B
Text on the right – 12g fat, 7g saturated fats, 2g sugar, 2.6g salt & 172 calories per 100 grams

Picture 6 - Version A
Text: Liga biscuits. Fruitkick. Extra raspberries. 46% fruit filling. Source of fibers. 95 kcal.

Picture 6 - Version B
Text on the right – 7.7g fat, 2.2g saturated fats, 34g sugar, 20.43g salt & 350 calories per 100 grams

12. Can you tell me what you see on the picture?

This question again aims to investigate what children look at first when they see a product or advertisement. The goal is to find colors, images or text that are appealing to children.

13. What do you think of the product? Why?

This questions aims to investigate what sort of products children like and what products they do not like and why.

14. If you see this product in the supermarket, would you buy it? Why (not)?

This question aims at investigating whether the product in presented in a way that is appealing enough to motivate children to buy the product.

Appendix 3I – Commercials and translation text

McDonalds – "Tatatatadaa (singing) Wiiieeehhieee. Now in your happy meal; Shrek four and the most delicious desert for fans of Shrek."

Melkunie – "The human body is mainly made up of bones. To make these bones strong .. wait.. hold on.. and to keep them strong, people need calcium. Therefore Melkunie now introducing something new: calcium plus. Tasty low-fat milk .. But! With 50% extra calcium. Well now here you see it yourself. All good things come from Melkunie cows."

Paula – "Hold on. Do you want one as well? (Song; rhymes in Dutch) That Paula is a cow. That does not only say Booh. She makes pudding with cow spots. Especially for sweet-toothed. Vanilla, choco, choco, vanilla. From crazy Paula with her glasses. Paula's pudding is really special. Cool spots for everyone (song finished). Paula the cow makes the best pudding with cow spots. Paula from Dr. Oetker."

Aviko – "Food has to be tasty and healthy. That is why we have something that fits well with a desirable eating pattern. French fries! But then French fries from Aviko. Low in saturated fats, 100% tasty. Moreover Frideaal is a smart (conscious) choice."

Appendix 4A – Summary consumption choices

Child	Own choice	Mother's choice	Superheroes choice
Kind1	Sultana; Danone; White & Brown bread with Chocolate and Cheese; Chips	-	-
Kind2	Mandarin; Tomato; Apple; Banana; Carrot; Danone; Chips; Turkish Bread with jam	Mandarin; Tomato; Apple; Banana; Carrot; White bread	Mandarin; Carrots; Cucumber; Brown bread
Kind3	Apple; Banana; Carrot; Cucumber; Turkish bread	Apple; Carrot; Cucumber; Croissant;	Apple; Cucumber; Tomato; Croissant ("something low in calories")
Kind4	White bread; Apple; Banana; Croissant; Plop cookies	Brown bread; Apple; Banana; Carrots	-
Kind5	Cucumber; Carrot; Danone; Pizza	Brown and white bread; Apple; Carrot;	Croissant; Apple; Mandarin; Banana
Kind6	Cupcake; Apple; Mandarin; Brown bread with chocolate	"Bread or only vegetables" Carrots; Cucumber; Apple; Mandarin	"Only vegetables, and some bread"
Kind7	Carrots; Bread; Danone; Tomato; Turkish cookies; Banana	Apple; Danone; Bread	Bread & Fruit
Kind8	Muffin; Cookie; Gingerbread; Danone; Apple; Cucumber	Carrots; Apple "Basically all healthy stuff"	"Healthy stuff"
Kind9	Apple; Mandarin; Muffin; White bread; Turkish bread; cucumber; Turkish cookies	Apple; Mandarin; Muffin; White bread; Croissant; Cucumber; Turkish cookies	Apple; Mandarin; White bread; Pizza; cucumber; Turkish cookies
Kind10	Brown Bread; Mandarin; Apple; Banana; Tomato; Cucumber	Same	-
Kind11	Apple; Banana; Cucumber; Bread; Danone "Healthy foods"	Vegetables & Fruits	Fruits; Gingerbread; Brown Bread
Kind12	White bread; Danone; Croissant	Same with cucumber	Brown bread; Apple
Kind13	Danone; Sultana cookie; Apple; Chips; Pizza; Cucumber; Tomato	Apple; Cookie; Danone; Croissant; Tomato; Sultana cookie; other cookies	Tomato; Bread; Danone; Apple; Carrot; Sultana cookies
Kind14	Pizza; Cookies; Croissant; Muffin; Chips; Turkish cookies; Bread; Cucumber	Mandarin; Bread; Danone; Cucumber	Similar to mother
Kind15	Chips; Pizza; Danone; Cookies; Cucumber	Vegetables & Fruits; Danone	Bread; Danone
Kind16	Croissant; White Bread; Cookies; Pizza	Bread; Danone; Croissant	Bread; Tomato; Croissant
Kind17	-	-	-
Kind18	Pizza; Plop Cookies; Chips; Danone; Gingerbread; Turkish cookies; Cucumber	Croissant; Plop cookies; Pizza; Fruits	Danone; Croissant; Pizza
Kind19	Cucumber; Mandarin; Cookies; Apple	Same without Cookies	-
Kind20	Brown bread; Apple; Cookies; Danone	Apple; Banana; Carrots	-
Kind21	Turkish cookies; Chips, Banana; Tomato	Carrots; Cucumber; Tomato; Apple	-
Kind22	Mandarin; Cucumber; Carrot; Apple; Danone; White round bread	Same but with Brown Bread	-

Appendix 4B – Summary lunchboxes evaluation

Child	From whom?	Why?
Kind1	-	-
Kind2	-	-
Kind3	-	-
Kind4	Child	Children eat these foods
Kind5	Child or adult	-
Kind6	-	-
Kind7	Adult	There are many foods and a child cannot eat so much
Kind8	Child	Children take these things to school
Kind9	-	-
Kind10	Teenager or adult	A lot of food
Kind11	Child	Children eat bananas and bread and we can also bring cookies
Kind12	Child	Children bring vegetables and bread to school
Kind13	Child	Children like these foods
Kind14	Adult	Too big. But the food can be for children to bring to school
Kind15	Teenager or adult	Sometimes teacher bring this
Kind16	Child	Children have to eat healthy and some children need three or four sandwiches
Kind17	Teenager	Too much for child
Kind18	Child	There is a bit of everything
Kind19	Teenager or teacher	Teacher are allowed to eat that and there is too much bread for a child.
Kind20	Child	I like fruits and sandwiches with cheese
Kind21	Child	The child should eat the cookies and the cucumber and tomatoes. The other foods are for adults because they need it more as you are bigger
Kind22	-	-

Child	From whom?	Why?
Kind1	-	-
Kind2	-	-
Kind3	Teenager	There is a lot of food
Kind4	A child	Children have to eat healthy but it may be too much
Kind5	A healthy child	These are fruits
Kind6	Child	These are healthy foods
Kind7	Teenager	There are many fruits
Kind8	Adult	They eat many fruits and adults work long hours and then they get very hungry and eat a lot
Kind9	Child	Teacher do not eat so much
Kind10	Teenager	There are many things inside
Kind11	Child	At school we eat fruits every day because we have to
Kind12	Child	Children can only bring vegetables and bread to school
Kind13	Child	Children often bring fruits but it is a bit too much
Kind14	Child	Children need to bring fruit to school
Kind15	Teenager	Some teenagers do not bring bread only fruits and it is too much for a child
Kind16	Child	There are not so many things. All foods are little. There are only few tomatoes and there is just one mandarin
Kind17	Child	It is a small lunchbox
Kind18	Teenager	The mandarin is very big and there are many pieces of cucumber and salad
Kind19	Teacher	The teacher wants to eat healthy and don't want to get sick
Kind20	Child or adult	Fruits and vegetables is for children but so much I cannot eat
Kind21	Child	Children should bring many fruits to school
Kind22	Child	Healthy foods but a bit too many

Child	From whom?	Why?
Kind1	-	-
Kind2	-	-
Kind3	Adults	Young people are not allowed to eat that.
Kind4	Adults or teenager	Because younger children are not allowed to bring French fries and hamburgers to school as parents and teacher think it is not healthy
Kind5	Unhealthy child	Because it is unhealthy food
Kind6	-	-
Kind7	Child	Because children love to eat this
Kind8	Teenager	Small children cannot eat that
Kind9	Teenager	Children are not allowed to eat this
Kind10	Adult	-
Kind11	Child or adult	Children like this food but adults have big lunchboxes
Kind12	Adult	Children cannot bring this
Kind13	All ages	-
Kind14	Adult	Adults can afford this
Kind15	Adult	There is a lot of food in this lunchbox
Kind16	Mother	Children eat hamburgers but they cannot eat all of it
Kind17	-	-
Kind18	Teenager	We cannot bring hamburgers to school and French fries
Kind19	Child	Children have to eat a lot. If someone is very skinny than you can become a bit bigger and taller
Kind20	Teenager	A small child cannot eat so much at one time
Kind21	Adult	If you are skinny then you can eat this but if you are too fat you cannot. Children should only eat this once a week
Kind22	Teacher	Children cannot bring this to school

Child	From whom?	Why?
Kind1	-	-
Kind2	-	-
Kind3	-	-
Kind4	-	-
Kind5	-	-
Kind6	-	-
Kind7	-	-
Kind8	-	-
Kind9	-	-
Kind10	-	-
Kind11	Adult	As children cannot eat chips at school
Kind12	Teenager	Children are not allowed to bring chips
Kind13	Child	There is 'babybel' on the cheese and adults do not like chips.
Kind14	Adult	This lunchbox cannot be taken to school
Kind15	Teenager	Teenagers sometimes bring chips as they can choose themselves
Kind16	Mother	A child cannot eat so many things
Kind17	Teenager	There are many things
Kind18	Teenager	Children cannot bring chips
Kind19	Teenager	There is something big
Kind20	Adult	It is so big
Kind21	Child or adult	The vegetables are from a child and the sandwiches and chips are from an adult, because if you are a grown-up you get unhealthy foods because by that time your body has had so many vegetables that your body can have something sweet
Kind22	Teenager	There are many things and there is chips

Child	From whom?	Why?
Kind1	-	-
Kind2	-	-
Kind3	Child	It looks funny
Kind4	Teenager	They like to make something on the bread and it is not so healthy
Kind5	Child	It looks nice and healthy
Kind6	Teenager	There is fruits and vegetables and bread
Kind7	Child	There is a cat
Kind8	Child	They like grapes and there is a pussycat
Kind9	Child	Teachers do not have such nice lunchboxes
Kind10	-	-
Kind11	-	-
Kind12	-	-
Kind13	-	-
Kind14	-	-
Kind15	-	-
Kind16	-	-
Kind17	-	-
Kind18	-	-
Kind19	-	-
Kind20	-	-
Kind21	-	-
Kind22	-	-

Child	From whom?	Why?
Kind1	-	-
Kind2	-	-
Kind3	-	-
Kind4	Teachers	They are allowed to bring this to school
Kind5	Healthy/unhealthy child	This is healthy and unhealthy
Kind6	Teacher	They get these things
Kind7	Child	Children like apple-pie and a mandarin is healthy and tasty
Kind8	Child	Children usually bring something sweet
Kind9	Child	Looks nice
Kind10	Child	There are only two things
Kind11	Adult	Teachers eat this
Kind12	Child	Children sometimes bring pizza if they made it at home
Kind13	Child	There is a smiley
Kind14	Child	This is something you can eat at school. Fruits we eat in the morning
Kind15	Child	Not much food
Kind16	Child	There is not so much inside
Kind17	Teacher	Children are not allowed to bring a cake
Kind18	-	-
Kind19	-	-
Kind20	-	-
Kind21	-	-
Kind22	-	-