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# In-store Behaviour of Healthy Consumers

A study of behavioural differences between consumers who  
choose healthy products and consumers who choose regular  
products

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## Abstract

**Title:** In-store Behaviour of Healthy Consumers: A study of behavioural differences between consumers who choose healthy products and consumers who choose regular products.

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**Keywords:** Consumer Behaviour, Point-of-choice, In-store marketing, Health products, Observations

**Thesis Purpose:** The purpose of this study is to develop an increased knowledge of how consumers behave in the store when choosing a specific product. We also aim at increasing the understanding of how different varieties, such as healthy products, within a category can influence the behaviour of the consumers at the point of choice. If there are differences in behaviour between consumers who choose healthy products and consumers who choose regular products, we further aim at to some extent try to explain why these differences exist in accordance with previous literature. These explanations together with the behavioural differences will be used for our final aim, which is to contribute to the existing knowledge base on how retailers can influence consumers in the store and possibly increase the purchase of healthier varieties.

**Methodology:** The methodological approach of the study is positivistic in its nature. The ontology of the study is close to objectivistic since it assumes consumer behaviour to be external “facts” existing outside the influence of the researcher. A total of 560 structured, quantitative observations were conducted in a Swedish grocery store in order to observe the behaviour of consumers when choosing a pasta or breakfast cereal product.

**Theoretical Perspective:** Two theoretical areas have been combined to create the theoretical framework of this thesis. The first one, health marketing, concerns theories regarding the characteristics of healthy consumers as well as retail health marketing theory. The second theoretical area, buying behaviour, concerns the behaviour of consumers in stores as well as theory regarding in-store stimuli affect on consumers.

**Empirical Foundation:** The data collected was collected through observations in a grocery store; ICA Maxi, Löddeköpinge. During the observations, the occurrence of specific variables was measured and the results were analyzed statistically to determine differences in behaviour between consumers who choose healthy and consumers who choose regular products. The data collected in the observations was tested statistically through independent t-test, correlation analysis, discriminant analysis and space/placement analysis.

**Conclusion:** The results indicate that there are some variables that show a significant difference in behaviour at the point of choice between consumer who choose healthy products and those who choose regular products. Theoretically, this study has contributed to the existing knowledge base by showing how some behavioural variables actually differ when a consumer chooses a healthy product instead of a regular product. More practically, this study contributes to the knowledge on how consumers behave in the store and gives indications on how to use in store marketing to promote healthier alternatives.

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# 1. Introduction

*The introduction chapter tries to bring an interest to the subject by starting with a discussion on background information. The relevance of the study in relation to previous research is also discussed and a definition of the research problem is presented as well as the purpose of the study. Finally, the disposition is presented to give the reader an overview of the thesis.*

## 1.1 Background

The standard tools of marketing work, they just don't work anywhere near as well as they used to. Many purchasing decisions are made, or can be heavily influenced, on the floor of the store itself. Shoppers are susceptible to impressions and information they acquire in stores, rather than just relying on brand-name loyalty or advertising to tell them what to buy. (Underhill, 2003, p. 32)

According to the Popai/Du Point study, around 65% of all supermarket decisions are made in the store, and over 50% of these are unplanned (Abratt and Goodey, 1990). This is a clear indication that in-store marketing is an important part of marketing. Most manufacturers spend large sums of money advertising their products to increase the awareness of the brand. However, in-store marketing activities have become an alternative way to create awareness and more money is being spent on promotions in stores (ibid.).

Since the 1980's there has been a trend of health awareness, which has influenced the households' purchases (Bartlam, 1993). There has been a clear decline of meat and sugar purchases, while the purchase of cereal and fruit has increased (ibid.). According to Theodore (2005), consumers are still demanding more and more choices and "better for you" products. Most likely has media, environmental concerns and politics had an influence on the increased health awareness among customers (Bartlam, 1993). Already in the early 1990's there was estimated that about one third of all food advertising would include some kind of health claim (Caswell and Padberg, 1992). In contrast to a few years ago, consumers today do not just talk about health, but act upon it (Theodore, 2005). Some try to eat healthy in order to lose weight, while others watch their food intake in order to improve or to stay healthy (Livingstone 2006). There is also a general knowledge among consumers that foods may increase or decrease the risks of getting some diseases (Rådet för Marknadsövervakning). Hence, the increased health awareness of the consumers can have an influence on both the choice of product and the receptiveness to marketing claims.

In Sweden, different membership clubs to lose weight, such as the weight watchers and "viktklubben.se", are becoming very popular. These clubs focus on consumers who want to eat healthier in order to lose weight. They are recruiting more and more members with help of low GI methods and similar ideas and promote their own food products in accordance with these methods. "Rådet för Marknadsövervakning" are strictly controlling what information is allowed in marketing and control how it is promoted and has recently had to develop the rules in order to adapt to the new growing health market (ibid.). In line with these current trends, we find Sweden to be an especially interesting country in which to study marketing of healthier alternatives.

## 1.2 Problem Discussion

It is of importance for both the retailers and the manufacturers to know and understand the behaviour of consumers in the store. For manufacturers, consumer in-store behaviour is

important in order to understand to what extent the in store stimuli can affect the consumers to buy their specific product (Abratt and Goodey, 1990). For the retailer, on the other hand, it is important to understand what stimulus that influences the consumers buying behaviour in order to compete with other retailers and increase long term sales (ibid.). With this in mind it seems surprising how few studies have focused specifically on in-store behaviour.

A large part of the research in the area of in-store marketing has been concerned with the specific influence of environmental stimuli on in-store behaviour. One of the first articles published within this specific field was Kotler's (1973) article on how store atmosphere can be used by retailers to influence the consumers. The term "atmospherics" was defined to describe the nature of these stimuli. Most of the research on atmospherics has used an environmental psychology approach to explain how the environment can influence behaviour (e.g. Donovan and Rossiter, 1982, Donovan *et al.* 1994, Richardson *et al.*, 1996, Tai and Fung, 1997, Foxall 1997, Bell 1999). However, almost all studies have looked upon how atmospheric affect on intended behaviour rather than actual behaviour. One exception are Donovan *et al.* (1994) who made an attempt to explore how the environment affected unplanned buying and unplanned time spent in the store. Still, this study has limitations since it relies on consumers own pre-measures on estimated spending and time spent in the store. Therefore, we see a need to investigate what actual behaviour occurs at the point of purchase without relying on consumers' own estimations and intentions. A study of actual behaviour have the potential to show what elements in the environment that have most affect on the specific choice of product, and this knowledge could be helpful to the retailers when designing their in-store environments.

Several studies have looked upon how specific stimuli in the environment such as colour (Jansson *et al.* 2004), music (Yalch and Spangenberg, 1990) and scent (Spangenberg *et al.* 1996, Mitchell *et al.* 1996) can affect behaviour in the store. However, most of these studies have been conducted in laboratories and therefore lack external validity. It is difficult to determine whether these stimuli would have an affect on behaviour in an actual store environment were there are so many other stimuli that can influence behaviour. It is likely that one stimulus is affected by other stimuli. Other studies have focused on how more tangible stimuli can affect in-store behaviour. For example, Gagnon and Osterhaus (1985) looked specifically at how floor displays affect sales and McKinnon *et al.* (1981) how different price signs can affect the units sold of a particular product. Human variables such as consumer characteristics (Sinha and Uniyal, 2005) and crowding (Grossbart *et al.* 1990) have also been researched in attempt to see how they can affect sales and behaviour. Even so, we have not found any study were an attempt has been made to incorporate different point of purchase displays and human variables affect on the consumers product choice in front of the shelves. This type of knowledge could be beneficial to retailers when both designing displays and when deciding on assortment.

Several of the previous studies on in-store marketing have also relied on the use of sales data as a behavioural indicator (ex. Gagnon and Osterhaus, 1985, McKinnon *et al.* 1981). Through this method data regarding consumers behaviour regarding intake of, for example, salt, fat and calories has been gathered in previous research (Närhinen *et al.*, 2000). Using this method may pose several limitations since sales data from cash registers only show what has been bought, not necessarily why or how it has been chosen (Underhill, 2003). We therefore think that there is a need for an observational study of how point of choice stimuli affects actual buying behaviour since such a study can provide actual behavioural explanations for the differences in sales.

Previous studies have researched consumers' attitudes and beliefs concerning the health aspects of products, and it has been argued that attitude is an important aspect of food choice (Bogue *et al.*, 2005) and hence has the potential of influencing behaviour. The characteristics of the healthy consumer have also been researched (Swedish Health Summit, 2003). However, despite the thorough research on health attitudes and awareness, there seem to be a clear lack of knowledge concerning the actual behaviour of the health conscious consumer. There is a possibility that there exist differences in in-store behaviour between consumers who choose healthy products and consumers who choose regular products. Knowledge regarding this can be of importance for both retailers and manufacturers since it can provide indications on how healthy products should be marketed in order to increase sales. If marketing can influence the regular consumer to buy more healthy products, this could also have a positive effect on society as many healthier products contain higher levels of wholegrain and fibre, which has been proven to have positive effects on health (Richardson, 2000).

As health is becoming a major concern for the consumers, health products become a large part of retailers' turnover. Still, the research on health marketing in stores is very limited. One study by Närhinen *et al.*, 2000 found that short-term sales of healthier products are related to promotion activities. During a heart promotion campaign in store, the sales of healthier products increased by at least 37% (ibid). However, not all health marketing campaigns in stores has been shown to have an affect on sales. Achabal *et al.* (1987) found that nutritional point of purchase signs only had very limited affect on purchase behaviour. We argue that inconsistencies like these partly could be explained by looking specifically at how healthy products are chosen and what actually seems to influence the consumers at point of purchase.

To sum up, there is a knowledge gap in today's research regarding consumers' behaviour at the point of choice. Many studies have investigated different stimuli and how they affect the consumer in the store. There is only sparse academic literature aiming to show the connection between the behaviour of the consumer at the point of choice in the store and the choice of product. In order to increase the knowledge regarding the consumers' behaviour in the store at the point of choice it would be of interest to observe the behaviour. Research suggests there is a correlation between awareness of health and the consumption of health products (Bogue *et al.*, 2005). Since knowledge and involvement is somewhat difficult to observe it would be interesting to see if the theory of health perception can be applied to consumers' behaviour in the store. By filling this gap in research, knowledge regarding how to influence the consumer to choose a healthier alternative in the store can be increased and this increased understanding might also, in the long run, lead to a healthier society since eating healthy products has proven effect health (Richardson, 2000). Thus, clear in-store marketing of healthier products can be beneficial as it can help increase the sales of healthier products.

### 1.3 Problem Definition

Based on the above discussion, our research problem is the following:

*Do the consumers who choose to buy a healthy pasta or breakfast cereal have a different behaviour in front of the shelf when choosing the product in comparison to those who choose a regular product?*

## 1.4 Purpose

The purpose of this study is to develop an increased knowledge of how consumers behave in the store when choosing a specific product. We also aim at increasing the understanding of how different varieties, such as healthy products, within a category can influence the behaviour of the consumers at the point of choice. If there are differences in behaviour between consumers who choose healthy products and consumers who choose regular products, we further aim at to some extent try to explain why these differences exist in accordance with previous literature. These explanations together with the behavioural differences will be used for our final aim, which is to contribute to the existing knowledge base on how retailers can influence consumers in the store and possibly increase the purchase of healthier varieties.

## 1.5 Disposition of the Thesis

### Chapter 1- *Introduction*

The introduction chapter tries to bring an interest to the subject by starting with a discussion on background information. The relevance of the study in relation to previous research is also discussed and a definition of the research problem is presented as well as the purpose of the study. Finally, the disposition is presented to give the reader an overview of the thesis.

### Chapter 2- *Methodology*

This chapter presents the methodology of this thesis. First, the overall methodological approach is presented with a discussion of the research philosophy. The theoretical approach is also presented with a more detailed discussion on the focus of theories used and the limitations that have been made thereof. The research strategy is presented as well as an overview of the research design and the research limitations. The second part of this chapter concerns the research method used in this thesis, quantitative observations, and gives a detailed description on how the data was collected as well as a discussion on the validity and reliability.

### Chapter 3- *Theoretical Framework*

In this chapter we want to present the theoretical framework of our thesis. The chapter starts with an overview of health marketing in general, including consumer health concerns and product health features. A more in-depth examination of various health consumer types will also be given to create a more thorough understanding of the characteristics of the healthy consumer. The next part of this chapters concerns buying behaviour and starts with a general model that serves the purpose of creating an overview of how and why consumers buy what they buy. A short description of impulse buying behaviour and a thorough examination of atmospheric influence on buying behaviour are also given. Finally, a summary that connects the two areas will follow and a model will be presented. This model serves as both a theoretical overview and a framework for the data collection.

### Chapter 4- *Results*

In this chapter, the empirical results from the quantitative observations will be presented. The chapter starts with some descriptive statistics from the data collected such as frequency and distribution between sexes, between categories and between healthy and regular varieties. The chapter continues with the comparison of the behavioural variables for healthy and regular varieties, both within each product category and with both categories combined. The data was

also analysed with a discriminant analysis and a correlation analysis and the results from these are presented. Finally, a space and placement analysis is presented. At the very end of the chapter, a summary table of all the results for the specific variables can be found.

#### Chapter 5- *Analysis*

In this chapter we will discuss the data analysis results with help of the theoretical framework. The discussion starts by analysing each variable separately and give possible explanations for the results. By the end of the chapter there will be a combined analysis of all the variables together.

#### Chapter 6- *Conclusions*

This chapter will provide a conclusion of the study and an attempt to answer the problem definition and purpose will be made. Further, the theoretical and practical contributions of the study will be discussed. Finally, the chapter ends with suggestions for further research.

## 2. Methodology

*This chapter presents the methodology of this thesis. First, the overall methodological approach is presented with a discussion of the research philosophy. The theoretical approach is also presented with a more detailed discussion on the focus of theories used and the limitations that have been made thereof. The research strategy is presented as well as an overview of the research design and the research limitations. The second part of this chapter concerns the research method used in this thesis, structured quantitative observations, and gives a detailed description on how the data was collected as well as a discussion on the validity and reliability.*

### 2.1 Methodological Approach

In this part the overall research approach is discussed with specific focus on the underlying assumptions made by the researchers regarding the social world. The epistemological assumptions show what the research believes can be knowledge gathered on the social world (Easterby-Smith *et al.*, 2002), and the ontological assumptions concerns whether the social world can be regarded as external or constructed by social actors (Bryman and Bell, 2003). The theoretical approach is also discussed since the role of theory has an impact on how data is gathered (*ibid.*).

#### 2.1.1 Epistemology and Ontology

The epistemological stance taken in this study is positivistic in its nature. The researchers take on a role as an external observer who attempts to measure the world objectively through observations, rather than by subjective methods that attempt to capture the inner thoughts of the subject as made in social constructionist research (Easterby-Smith *et al.* 2002). A positivistic approach to research makes several assumptions on how research can be conducted. According to Easterby-Smith *et al.* (2002), a positivistic researcher assumes independence from what is being observed and hence sees it possible to not impose his or her own values on the research subject. Knowledge is also independent of the researcher since knowledge is advanced by assumptions (i.e. hypotheses) that are tested independent from the researcher's subjective experience (Arbner and Bjerke, 1997). Positivistic research also assumes that complex concepts (such as consumer behaviour) can be operationalized which enables it to be quantitatively measured (Easterby-Smith *et al.* 2002.). In this study, the in-store behaviour looked upon is broken down to a set of variables that is being measured to understand the overall behaviour. This corresponds to what Easterby-Smith *et al.* (2002) define as reductionism; the whole is better understood when reduced to its elements.

The ontology of this study corresponds to what Bryman and Bell (2003) define as objectivistic since it assumes consumer behaviour to be external "facts" existing outside the influence of the researcher and thereby can be observed objectively. However, this does not imply that the researchers of this study believe that their presence do not have an influence on the behaviour of the consumers being observed. It is very possible that the consumers might change their behaviour when they realize that they are being monitored. Still, we believe that it is possible to study the consumer behaviour in an objective sense since it is an external reality and not merely a construction in the researcher's mind.

## 2.1.2 Theoretical Approach

The link between theory and research is not always uncomplicated and therefore the role of theory for the thesis needs to be examined (Bryman and Bell, 2003). Is the data collected to test existing theories or is it collected to build new theories? In the first case, a deductive approach to theory is used. The researcher then formulates hypotheses based on the existing theories and tests these. In some instances the concepts of the existing theories needs to be translated into usable data collecting methods before the hypotheses can be tested. In the second case, the researcher uses an inductive approach and the data is collected in purpose of building theory, or to be precise, theory is an outcome of research. (Bryman and Bell, 2003) In this study, a more deductive approach has been used since the variables in the study have been developed from existing theory, and the data collecting methods have been grounded in the gaps of previous research. However, we cannot claim to have an entirely deductive approach since the process has not been straight from theory to data collection. The analysis will involve some construction of new theory because the area of consumer behaviour in stores is so unexplored. Therefore, we have used what Bryman and Bell (2003) define as an iterative approach to theory, which implies that the research moves back and forth between the theory and the data.

### 2.1.2.1 Choice of Theory and Limitations

In this part of the chapter, we want to provide the reader with some explanations for our choice of theory and the limitations we have made in our description and discussion of those theories in the theoretical framework chapter. However, all the description of the theories will be found in the next chapter.

There is much theory about health, what is healthy and what is not healthy. We have focused on theory that has included the consumer's response to health claims and knowledge regarding health. Some research articles base their studies on health campaigns in stores and present the results of these. This type of theory is useful since it makes it possible to explain and compare the results of this research based on their findings. Furthermore, knowledge about the consumers' perception of health has mainly been gathered from consulting research such as Swedish Health Summit (2003) and Gira in order to explain who the consumer of health products are and what the reasons a consumer might choose to buy healthy food products. Although this type of consulting reports can be somewhat sided, they were the best information we could find on the consumers in Sweden of today. In order to limit the biased effects of the reports we have to some extent used research articles and other academic literature to back up the main arguments made by Swedish Health Summit (2003) and Gira.

The area of consumer in-store behaviour is rather unexplored in academic research. As will be seen in the theoretical framework chapter, most of the previous studies have been conducted to test store atmospherics affect on intended store behaviour, rather than actual behaviour. Still, we have found the theory of atmospherics to be of value since it makes an attempt to measure the influence of environmental stimuli on consumers in stores. However, most atmospheric theory takes on an environmental psychology approach to explain how stimuli in the environment affect the consumers intended behaviour by affecting the consumers' emotions (i.e. pleasure and arousal). The model used to describe this process is called the Mehrabian-Russel model (see Donovan and Rossiter 1982 or Donovan *et al.* 1994 for more details). For this study, we have found the model to be of limited usefulness since we do not attempt to measure the emotional aspect of the model. Still, the theory of environmental

psychology is of interest since it can give explanations to why approach or avoidance behaviours occur. Therefore, we have focused some part of the theoretical framework chapter on this model and on the research that has tested it. However, only very little focus has been made on explaining the emotional state aspect of the model.

There are of course other theories of consumer behaviour than environmental psychology that could have been used for the theoretical framework of this study. For example, more sociological theories on how the interaction with other consumers affects the intentions of the consumer could have been used. For example, Bourdieu's theory of distinction could have been used as a framework for how people distinguish themselves from other consumers by consuming in line or in contrast with its social, economical and cultural capital (Holt, 1998). However, these theories pose limitations on the data collection method use since they, at least to some extent, imply that the consumer's behaviour should be evaluated through the social interaction with other consumers. These theories also imply more of a qualitative approach to study since the underlying motives needs to be explored and this, in turn, implies research on intended, rather than actual behaviour. We therefore argue that a psychology approach is better suited for this study since we aim at understanding different behavioural patterns of two consumer types as responses to the environment that the retailer constructs.

In the theoretical framework chapter we also present a more general theory of buying behaviour; the Engel *et al.* (1995) model. This model can be seen as an attempt to incorporate all possible elements and influences on buying behaviour and therefore provides a good overview of the complexities of consumer behaviour. However, to provide a full description of this model is not feasible since it reaches beyond the purpose of the thesis. Therefore, our focus is on one part of the model that applies specifically to in store behaviour such as the search for alternatives and involvement.

### **2.1.2.2 Information Sources**

The theories and previous research gathered for the theoretical framework has mainly been gathered from academic journals and other academic literature. For the health marketing theories, consultant reports from Gira and Swedish Health Summit (2003) has been used to give the reader information specifically regarding how Swedish consumers view health issues and healthier varieties. We are aware that consulting reports of that sort can be somewhat more coloured by the purpose of the report for the client. However, we believe that this information has been helpful to complement the sparse academic literature on in store health marketing with more up to date information.

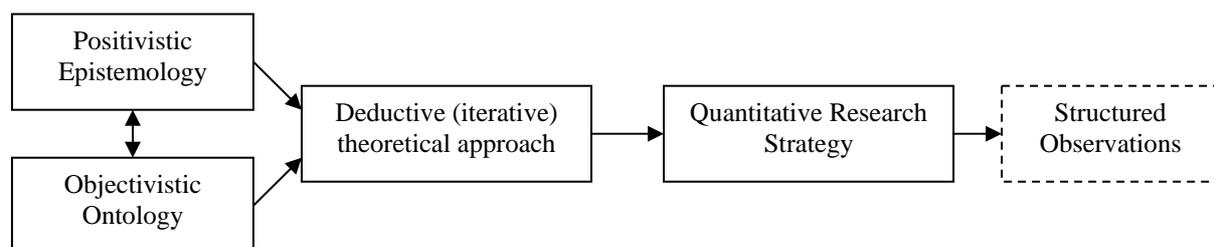
Although most research agrees on the importance of affecting the consumer in the point of choice in the store, they do not all agree on what is the best way to do it. Some research argues that pop-up signs during promotion weeks to change the consumers behaviour (Närhinen *et al.*, 2000), while other research argues that point of purchase signs do not change the behaviour of consumers when it come to purchasing a healthier choice (Achabal *et al.* (1987) Other general literature seems to be agreeing of the increased interest of health products among consumers, even though they argue for different reasons why people want to eat healthy. Literature such as Gira and Swedish Health Summit (2003), categorize consumers depending on their perception of health and healthy products.

### 2.1.3 Research Strategy

Research strategy is defined by Bryman and Bell (2003) as “... a general orientation to conduct business research” (p.25) and the authors find it useful to distinguish between the choice of a quantitative or a qualitative strategy. For this study, a quantitative research strategy has been used which is in line with the positivistic epistemology and objectivistic ontology of the study. Quantitative research involves an independent researcher and a sequential data collection where every object of study needs to be examined the same way, in the same order (Easterby-Smith, 2002). It could be argued that a quantitative study of consumer behaviour would ignore the subjective nature behind the consumer and that a qualitative study could capture the motives behind a specific behaviour. However, after studying the previous research conducted on in-store health marketing, we found it evident that a study concerning actual behaviour was needed to see how behaviour really differs between healthy and regular varieties. A quantitative study can enable us to make some measurement of the consumer’s behavioural pattern and, as Bryman and Bell (2003) argues, allow for some generalisations, at least between and within the specific categories looked upon.

## 2.2 The Research Design – An overview

This study uses what Malhotra and Birks (2003) define as a conclusive research design. In this type of research design, the research aims at measuring a specific phenomenon and to test existing theories to find out what relationships exist within the variables of study. This is in line with the positivistic epistemology and the objectivistic ontology of the study since a conclusive research design implies that the researcher can assume independence from the research subject (i.e. the consumers) and that the reality of, for example, consumer behaviour can be observed objectively. The conclusive research design is also in line with the deductive approach to theory in this study since we aim at testing existing and previously studied variables on the specific behaviour of consumers who buy healthy products. Hence, existing theories are applied to a new case. However, the study is not merely descriptive since the theoretical framework will be used to explain the results, i.e. to draw conclusions and give some causal explanations to possible differences in behaviour. A quantitative research strategy is also in line with the conclusive research design since it allows for some measurement of the phenomena of study. Hence, by measuring the occurrence of the specific behavioural variables looked upon, we can draw conclusions regarding how people choose healthy alternatives. With this also follows the need for a data collection method that can allow the behaviour to be measured objectively and independently. For this study, we found structured observations to be the most suitable data collection method (for more discussion on this see section 2.3).



**Figure 1: An overview of the research design**

## 2.2.1 Research Limitations

We have chosen to limit our focus of the study to only incorporate two categories and conduct data collection in only one store. The motives behind our choices and implications of this will now be discussed.

### 2.2.1.1 Categories

We have decided to focus the study on two specific categories; pasta and breakfast cereal. These two products to be of interest since they are both made out of cereal, which is an important product in the trend of health awareness and an important source of energy, carbohydrates protein and fibre (McKevith, 2004). The nutrient content varies depending on techniques used when the grain crop is milled, and we get different products with different nutrient content (ibid).

Other reasons for choosing these specific categories are that they have several similarities in both marketing and store position. For example, they have similar packaging and similar placements in stores (i.e. placed in aisles and on shelves). These similarities were all important since the purpose of this study is to be able to compare behaviours of different product types. Therefore, we needed to have two product categories that have similar store placement, marketing, and product content so that the results could be compared between the categories.

When deciding what a healthier product is we have used the criteria set for the “green keyhole” mark in Sweden for breakfast cereals while we have used the content level of wholegrain and fibre for pasta products (see table 1). In Appendix A, you can find a more detailed description of what products and brands that were available at the chosen store and which ones of these that was qualified as healthy or regular products based on this definition.

<b>Food Group</b>	<b>Reference for healthier foods</b>
Breakfast Cereal	Fat level no more than 7g / 100g Mono-and disaccharides total no more than 13g/ 100g Sodium level no more than 500mg / 100g Fibre at least 4.5 g / 100KJ (1,9g / 100 kcal)
Pasta	Wholegrain-Fibre at least 4g / 1000KJ (1.7 g / 100 kcal) Low GI- at least 15g of available fibre per normal consumption amount.

**Table 1: Reference for healthier food (LIVSFS 2005:9, Rådet för Marknadsövervakning 2005)**

### 2.2.1.2 The Store

When deciding on the criteria of a good store, we looked upon the nature of the research design of the study. Due to the quantitative nature of the study, a store with a high consumer flow was necessary. A larger store would also have a higher variety of products and categories, giving the consumers more of a choice. It was also necessary to find a store with plenty of healthy alternatives in order to allow for the consumer to make the choice of choosing a regular or a healthy product and not be more or less forced to one alternative due to the limited assortment in the store. The choice fell on ICA Maxi, Löddeköpinge because its larger store format allowed for these criteria to be fulfilled.

On the contrary, the size of the store also posed some limitations on the study. First, the pasta and breakfast cereal section was located quite far back in the store, which may have inhibited the consumer flow to these specific categories. Another issue is that a larger store format might have posed some limitations on the variety of consumers that shop there. Consequently, we may have had more planned and “all week” shopping in this store. However, the last limitation might to some extent be outweighed by the fact that the store was located right next to a large shopping mall; “Center Syd”, and that this might have generated a more varied consumer base since the mall shoppers may have stopped by the store because of its convenience without necessarily planning to do so ahead.

## 2.3 Data Collection – Structured Observations

As previously stated in the research strategy part (see section 2.1.3) this thesis uses a quantitative approach as the research strategy and structured observations was used as the data collection method. For the purpose of this study, quantitative observations were conducted in an in-store environment. This type of observations entail systematic recording of specific behavioural patterns of the phenomena of investigation (Malhotra and Birks, 2003). However, observations were not the only data collection method possible for the purpose of distinguishing the behavioural nature of healthy and non-healthy consumers. Survey techniques, for example, could have been a potentially useful method since surveys have the potential to capture the reasons for a specific behaviour (Bryman and Bell, 2003) and hence the emotional aspect of the behaviour can at least be measured to some extent. However, survey techniques, at least by its own, have the risk of only measuring intended behaviour and, as previously argued; intended and actual behaviour is not necessarily the same. Since so many previous studies have focused on intended store behaviour, we found a need to investigate what actually occurs in front of the shelves. Hence, an observational data collection method seemed like the most appropriate choice even though this method to some extent neglects the emotional aspect of the consumer.

### 2.3.1 Execution of the Observations

The observations in this study were of a structured nature to capture the occurrence of specific behavioural variables by the consumers in the store when choosing between healthy and regular varieties. The observation technique used was what Malhotra and Birks (2003) define as personal observations. Thus, the observations were observed and recorded by the researchers themselves, rather than by using electronic devices to record the behaviour.

The observations were conducted by the two authors of this study in the selected store (ICA Maxi Löddeköpinge) on the specific categories in focus (breakfast cereal and pasta). The observations took place during four days in April. The authors made an attempt to make the observations during different weekdays and during different times of the day to try to capture as much variety of consumers as possible.

An observational schedule was used by the researcher to record the occurrence of the behavioural variables looked upon in the study (see Appendix B). According to Bryman and Bell (2003), an observational schedule should be designed so that it is clear to the observer what and who is to be observed. It should also be clear to the observer in which part of the setting studied that the observed behaviour should be recorded. The schedule was initially tested in a pilot study to confirm that both the observers had the same view on what, whom

and where the observations should take place. In the theoretical framework we further discuss the variables of choice and how these were operationalized (see section 3.3.3.1).

### **2.3.1.1 Pilot Study**

Before starting the actual observational recording, a pilot study was conducted to test the observers had congruent understandings of the behaviour observed and the use of the observational schedule. The researchers studied the same fourteen subjects, seven pasta consumers and seven breakfast cereal consumers, and recorded the occurred behaviour on the observational sheets. The sheets were then compared and the differences were discussed to determine the “correct” recording. This enhanced the reliability of the study in terms of inter-observer consistency (Bryman and Bell, 2003) as discussed in the evaluation section below.

### **2.3.1.2 Sampling**

A probability sampling technique was used when selecting the objects of observation. Thus, each unit of the population has a similar chance of being selected (Bryman and Bell, 2003). Our initial thought was to observe every fourth consumer but it became clear during the pilot study that this was not feasible due to the relatively low flow of consumers in this particular part of the store. Instead, consumers were selected as every other consumer entering the section of the store looked upon (i.e. the aisle of the pasta or the breakfast cereal) after the observer had finished the previous observation.

## **2.3.2 Method Evaluation**

Each choice of data collection method has implications and therefore needs to be assessed accordingly. For quantitative methods, as in this case, the reliability and validity of the results should be evaluated since these issues has an affect on the possibility to, for example, draw conclusions and generalise the results. (Bryman and Bell, 2003)

### **2.3.2.1 Reliability**

According to Bryman and Bell (2003), reliability concerns whether the results of the research can be repeated or not. For this to be possible, the study needs to show great transparency so that another researcher can replicate the same study. Related to this is also whether the study can be conducted by two different researchers with the same results, that is to say whether the study has inter-observer consistency (*ibid.*). As previously stated, this was done through a pilot study where the two observers recording was compared to determine possible inconsistencies. Very few inconsistencies were found between the two recordings but this could be attributed to the high involvement of both the researcher in the uncovering of variables and the development of the observational schedule. Therefore, we have made a description of the variables and how they were measured. This description can be found at the end of the theoretical framework chapter (section 3.3.3.1).

Another reliability concern for observational studies is, according to Bryman and Bell (2003), is intra-observer consistency. By this the authors mean whether there is consistency in the use of the observational schedule over time for each observer independently. This is of course very hard to assess but to minimize problems with tiredness and lack of attention from the observers several breaks were taken over the day of the observations. However, we did find

some schedules that had to be discarded due to recording problems (i.e. no recording on some variables) so intra-observer inconsistencies might have occurred.

### **2.3.2.2 Validity**

The validity of the observations also needs to be evaluated. Validity is defined by Bryman and Bell (2003) as "... concerned with the integrity of the conclusions that are generated from a piece of research" (p. 33). Measurement validity refers to whether the tool used to measure a concept really measures that concept (ibid.). Since this study aims at looking upon how people behave when choosing a specific product, we argue that observational research has higher measurement validity than, for example, survey methods since it measures actual behaviour rather than intended behaviour. However, we can of course not eliminate the possibility that the observational schedule used might have neglected interesting and important variables. Still, we argue that the measurement validity is fairly high since we have used behavioural variables that have proven to be of relevance for in-store behaviour in previous research. For more discussion and presentation of the variables, see the theoretical framework chapter (section 3.3.3.1).

The observations were conducted in what Malhotra and Birks (2003) define as a natural observation environment (i.e. consumers in an actual store rather than a laboratory). This has the advantage that the observed behaviour more accurately reflects the true behaviour of the consumers. However, there could of course be problems with consumers changing their behaviour when they notice that they are being observed (Bryman and Bell, 2003). We therefore took precaution by trying to be as invisible as possible to the consumer. Hence, we followed the advice from Underhill (2003) and tried to stand at the side of the consumer rather than right behind him or her since this makes the observer seem more like just another consumer. Still, we cannot eliminate the possibility that the consumers noticed that they were being observed and changed their behaviour thereof. We do believe that the neutrality of the product categories might have helped in the matter since neither breakfast cereal nor pasta can be considered sensitive product categories.

The fact that the observations were conducted in an actual store environment also helped to increase the external validity of the study since the results can, at least to some extent, be generalized beyond the specific research context (Bryman and Bell, 2003). Thus, the results could, with caution, at least be generalized to similar stores in the same region.

## 3. Theoretical Framework

*In this chapter we want to present the theoretical framework of the thesis. The chapter starts with an overview of health marketing in general, including consumer health concerns and product health features. A more in-depth examination of various health consumer types will also be given to create a more thorough understanding of the characteristics of the healthy consumer. The next part of this chapters concerns buying behaviour and starts with a general model that serves the purpose of creating an overview of how and why consumers buy what they buy. A short description of impulse buying behaviour and a thorough examination of atmospheric influence on buying behaviour are also given. Finally, a summary that connects the two areas will follow and a model will be presented. This model serves as both a theoretical overview and a framework for the data collection.*

### 3.1 Health Marketing

Since almost 80% of the supermarket purchases are unplanned it is important to catch the customer's eye at the point of the purchase (Närhinen *et al*, 2000). A health promotion campaign in a supermarket are designed to influence the customer at the purchase point by using factors that are influential during the decision making process. Previous studies have shown a correlation between promotion activities such as advertising and in store environment. During a special heart week campaign in a supermarket, the sales of healthier products increased by 39-49% (ibid). Many campaigns are successful in affecting the customer's behaviour in the store and most often do they increase the customers' knowledge of healthier alternatives and sometimes even the sales of the same products (ibid.).

#### 3.1.1 Healthy Concerns

There are many reasons for why consumers are concerned about their health. The most obvious one might be weight, but research shows that we are also concerned about health in order to prevent illness (Swedish Health Summit, 2003). In this section, Svedberg's (2006) relationship between self-rated health and health knowledge is described. Products features that affect the likelihood of consumer purchase will also be presented.

##### 3.1.1.1 Consumer Aspects

In WHO's definition of 2003 health is as follows;

“Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.”

This definition implies that health is not only based on not having a disease or a disability, but also the way you feel, how you perceive your own health. Furthermore, being healthy is not just eating the healthier choice but also includes physical actions (Bartlam, 1993). As health often includes a household this is equally important to men and women (ibid.). There is one significant difference between the sexes and that is that the men are most concerned about the health aspects between the ages of 15-24 and after the age of 50, while women are most concerned between the ages of 45-49 (Bartlam, 1993). We have in this research focused on the Swedish consumer and are therefore mainly referring to theory concerning the Swedish or northern European consumers. Only five percent of the consumers in Sweden always chose

foods depending on health reasons, and 26% never consider health reasons when choosing a food product (Swedish Health Summit, 2003). There are different reasons for choosing a healthier product, a graph explaining these can be found in Appendix C.

In Sweden about 45% of the consumer wants to make some improvements in the way they eat (Swedish Health Summit, 2003). 87% of the consumers also believe that the present health depends on the way one takes care of oneself, 66% believe that as long as you take care of your daily health, your health will in the future take care of it self and, finally, 75% of the Swedish consumers believe that you can to a large extent effect your own health (ibid).

Svedberg (2006) makes an interesting reflection on Swedes self-rated health. She claims there are a connection between being healthy and having a good health perception, and being ill and having a bad health perception. Health is more than just WHO's definition, it should also include the personal experience that can be created through the presence or the absence of different diseases or disabilities (ibid)

Among the Swedish consumers one third is extremely or very concerned about cancer, and about one fourth is equally concerned about heart, and vessel diseases and tiredness (Swedish Health Summit, 2003). 44% of the people claiming to be overweight have tried to loose weight in the past year (ibid.). More information about the most common factors that Swedish consumers believe they suffer from can be found in Appendix C.

Although many Swedes believe they suffer from different factors the overall self-rated health is fairly high. According to Svedberg (2006) a clear majority (just below 70% for women and just above 70% for men) self-rate their health as being good or excellent on a five point scale.

### **3.1.1.2 Product Aspects**

Although there is a high ambition to eat healthy and even in many cases to lose weight, most consumers are not willing to compensate especially taste, comfortness and price for a healthier product. 77% of the Swedish consumers base their decision only on the taste factor, for 55% of the consumers the price is the main factor that affects the choice, and only 10% makes the choice based on the comfortness (Swedish Health Summit, 2003). Further information regarding these factors can be found in Appendix C.

According to the Swedish Health Summit (2003) about one fourth of the consumers choose a product because it contains a certain health benefit, and just as many choose a product because it does not affect certain non desirable health aspect. According to the same research, 86% of the consumers find it important to eat foods with natural richness of vitamins and minerals. At the same time 55% also finds it important to eat foods that are enriched with vitamins and minerals and 27% of the consumers always or usually buy foods that have been enriched with vitamins and minerals.

Overall the Swedish consumers are increasing their intake of foods containing fibre (33%), whole grain (31%) and low fat products (30%) due to health reasons (Swedish Health Summit, 2003). Buying whole grain, oat grain and fibre rich cereal is often due to prevent illness (ibid.).

### 3.1.2 Consumer Health Types

Research claims that segmenting the market into groups is necessary when marketing healthy products (Bogue et al, 2005; Swedish Health Summit, 2003). Studies show a significant connection between consumption and awareness of healthier alternatives. Those who understand or have knowledge about food and nutrition were to a larger extent more concerned about their own health; they were also more likely to try to affect their health by eating healthy (ibid.). Women are, according to this research, more aware than men of how their health benefits from the intake of healthier foods. Healthy eating can be referred to as personal involvement (Foxall and Bhate, 1992)

As the customers are different and have different opinions and knowledge about healthy foods it is important not to market the product toward the general public, but to make sure you reach the specific needs of a certain group of consumers. Hence, it is important to know who your consumers are (Swedish Health Summit, 2003).

Below follows a different ways to look at the different segments of the healthy market. Two main ways of segmenting the market is described more thoroughly; these are groupings done by consulting organizations Gira and Swedish Health Summit (2003).

#### 3.1.2.1 The Hope and Fear Model

One way of describing consumers’ relations or opinions toward healthier foods is the Hope and Fear model developed by Gira (see Figure 2). There are four aspects of this model. These are mainly different view and opinions on what healthy products are for and how they are used. Depending on where the healthy product is placed and the opinions people or consumers have about that product retailers need to use different kinds of communication in order to market a specific product. It is therefore necessary to know to what category your product belongs (Gira). Bogue *et al* (2005) supports the notion that retailers and manufacturers need to use market segmentation in order to promote their products and health claims.

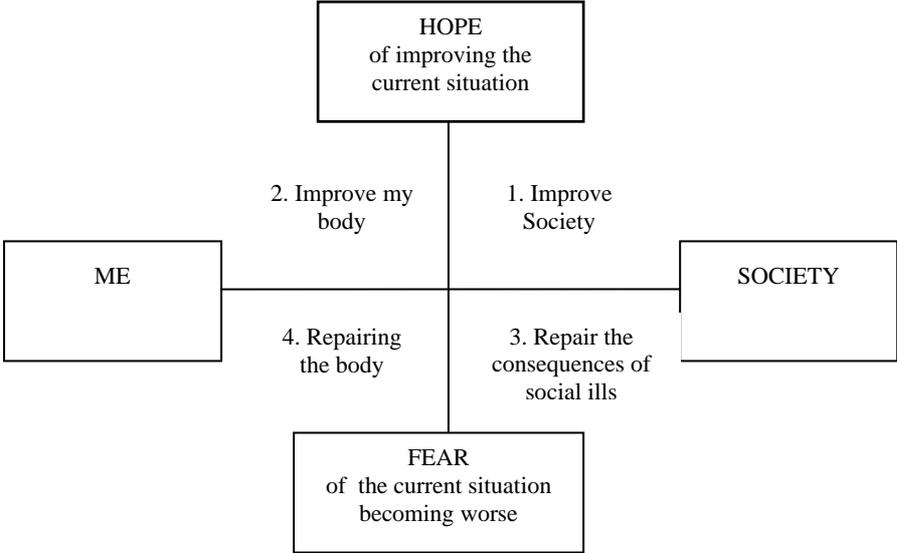


Figure 2: The Hope and Fear Model (Gira)

According to Giras model the first aspect is *social improvement*; this often leads to over-eating to for example pressure to eat at coffee breaks at work or the Saturday candy bars. Also

the social attitude in Sweden allows for healthy eating. Swedish consumers are very aware of animal welfare and Swedish agriculture is believed to be healthier than foreign agriculture. This social acceptance makes it easier for consumers to believe these products are better for their health. Healthy products are consumed in order to prevent illness. Communications should be in and out of the store. Another category is *bodily improvement*; this consumer believes consuming healthy products will improve the already healthy body. Energy products, products with positive cosmetic effects and fibre rich food and products that will fill you without over eating are popular foods for consumers in this group. The best way to reach this consumer is by having a good communication, often in store, by promoting the energy level and by communication the “right” way to use it. *Repairing the consequences of social ills* is the third category. The health problems that has to be cured is often caused by society, they are for example stress, being burnt out or the loss of personal image. This category is hard for retailer to reach since they cannot criticize society. The best thing for retailers here is to stay neutral by not communicating anything, but still make the product available. The last aspect according to Gira is *repairing the body*. Many consumers believe that their bodies suffer from either problems related to digestion or problems caused by fat and sugars. In order to reach this consumer it is important that the retailers communicate in what way healthy product may help, but without blaming the consumer. It is also important to make the information and the products to be clear and easily accessed (Gira). What is interesting is that, according Gilbert (1999) almost three out of four consumers do believe and even expect that eating healthy food will improve the current situation as well as helping in the future.

### 3.1.2.2 Segmentation

The following way of segmenting the consumers is a bit different from the “Hope and Fear Model” above. Instead of dividing consumers into groups based on their perception of what health is, this model aims at dividing the consumers into groups based on their habits and knowledge which explains their attitude toward changing their eating habits. It also reflects what the consumers are willing to sacrifice in order to eat healthier.

Swedish Health Summit (2003) has also done a summary of different groups of consumers and how important health products are to them. Below follows a short description of each group. The first group is the *Disciples*; in Sweden they are only about 2% of all the Swedish consumers. They strongly believe that eating right is important and almost compulsory has to chose healthy products. To them health is more important than comfort and taste, and they are often very up to date with information about food and nutrition. The second group is called the *Managers*; this is the largest group with 57% of the Swedish consumers. To them it is important to see the results of eating healthy products. Less than half the consumers in this group usually chose healthy products just because, it is more important that it tastes good. Even comfort is more important than health. 11% of the Swedish consumers belong to the *Investors*. This is a group that believes that the food you eat today will affect your health both today and in the future. They usually chose healthy food because they like to eat healthy. They usually prefer foods with low fat and low energy content as well as products that are good for the heart. They do not necessarily eat healthy in order to lose weight. The fourth group is the *Healers*; this is only about 1% of the consumers. They are often forced by health reasons to eat healthy, often recommended by a doctor. Due to this they are often willing to sacrifice comfort and taste in order to eat healthy. The *Strugglers* are about 4% of the consumers in Sweden. They are struggling to improve their eating; they eat unhealthy food but are aware that they need to eat healthier. Most of them are “always” on some kind of diet, and two thirds believe they are overweight. This group believes that being healthy is more good luck and good genes than eating right. They are very perceptive to “loose-weight-fast”

products but are tired of expert advice. The second largest group, which 26% of the consumers is the *Unmotivated*; these customers do not care. They do not believe that the health depends on food and do therefore not care about what they buy. The taste is the most important factor when buying food (Swedish Health Summit, 2003).

### 3.1.3 Retail Health Marketing

Research has proven that producer health claims do result in higher knowledge and awareness of healthier products among consumers (Ippolito and Mathios, 1991). It is therefore of relevance to know how to communicate these health claims in order to reach the public. In this part of the chapter the consumers' opinions about in-store health marketing is brought up and previous research suggestions for retailers presented.

#### 3.1.3.1 Consumer Opinions

Consumers in the Gira research have been asked about their opinions regarding health marketing. They say that information is good, but too much information in some cases worse because it "kills" the good information. Consumers cannot remember all the information being presented; confusion might especially occur if there are existing rumours. Written information on the package can be misleading or, as in the case of too much information, be confusing (Silayoi and Speece, 2005). One example of this is the "green keyhole" sign that has been used as a reference for knowing what is healthy and what is not healthy in this study. Consumers say they know that the keyhole sign is a sign for healthy products but they do not know what it is based on (Gira).

The Gira research also shows that there is hardly any communication with the consumers at the point of sales, and in the case of self-service it is almost impossible to advise shoppers. Unfortunately this will according to the same research hinder the customer from buying at all. If the customer cannot find the product he or she is looking for without assistance they will simply not buy anything from that category (Gira). Achabal *et al.* (1987) tested nutrition point of purchase signs and found that these had little or no effect on sales. Possible reasons for this are that the consumers did simply not notice the signs. However, the author did find that the point of purchase signs had a positive influence on consumer attitudes towards the assortment as a whole.

#### 3.1.3.2 Research Recommendations on Retail Health Marketing

There has been much research about consumer's perception of health and healthy marketing; Swedish health summit and Gira have done two of these. The Gira research shows that the second biggest driver European consumers for buying a food or drink innovation are if the product includes a health or well being aspect. The same research also shows that retailers in Europe often believe that healthy foods to a large extent is important for the own label and not private brand. But at the same time they also believe that communication such as advertising the health aspects is mainly for the private brands.

In store health marketing is mainly about two strategies according to Gira. The first one is to have clarity of ranging and merchandising and the second one is to have an appropriate communication strategy. Unfortunately this seems to be more or less absent in European countries. The Swedish Health Summit (2003) encourages the retailers and society to make it

simple for the consumers to choose the healthier products, to make it easier for the consumer to recognize what is healthier in order to increase the purchases of healthier products. In order to increase the consumption of healthier alternatives retailers and manufacturers need to provide the consumers with clear and simple information, with information regarding portion sizes and what quantities are necessary for optimal health (Bogue *et al* (2005). Gira also suggests that fat content is unnecessary to mention by retailers since most consumers already have knowledge about that. They also mean that it is good to have clear sugar content information in order to decrease the confusion regarding the sugar content. Information to consumers needs to be familiar and simple in order to be successful (Gilbert, 1999). According to Caswell and Padberg (1992), information can be spread to consumers in store by example signs, product labelling. Law restricts much of the food labelling, but there are discussions regarding to what degree food labelling should be used to recommend dietary practices. As consumers often are hurried when grocery shopping, food labels might have a limited effect on purchase decision. On the other hand product labelling is one of few ways competitors can compete in in-store marketing. (ibid)

Caswell and Padberg (1992) also recommend marketing the positive effects or attributes of a product rather than point out the proven clinical effects since the consumer is more likely to choose a healthy product because he or she wants to and not because he or she feels forced to. This is also connected to the fact that positive benefits are more likely to increase the sales than negative attributes connected to illness and sickness (Swedish Health Summit, 2003).

Gilbert (1999) is also giving some advice to retailers in order to communicate health products in addition to those given by Gira. The author also emphasizes the importance of taste and claims that it is important to put focus on the positive nutrition. Retailers' need to understand the importance of individualized communication since most consumers believe their needs are different from everyone else's (ibid.). As explained by the Gira, many Swedish consumers believe that national agriculture products are better for your health than other products. It is important to communicate a product's natural ingredients and its freshness (Gilbert, 1999).

## 3.2 Buying Behaviour

In this section, theories regarding buying behaviour will be presented. Initially, a general model of buying behaviour will be presented to create an overview of factors influencing the consumer. Different behavioural consequences of impulse and planned buying behaviour will also be presented. The third section of this part concerns atmospheric influence on buying behaviour.

### 3.2.1 General Theory

Engel *et al.* (1995) have developed a comprehensive model of the consumer decision process (see Figure 3). This model has three purposes according to the authors; (1) to provide explanations for behaviour, (2) to act as a frame of reference for research, and finally (3) to be a foundation for management information systems and provide insights into marketing strategies. As was discussed in the methodology chapter, we have decided to only focus on a limited part of the model (the high-lightened areas) that is of particular relevance to this study. However, we still feel a need to show the model in its entirety since it provides a good overview of all the complexities involved in the consumer decision process.

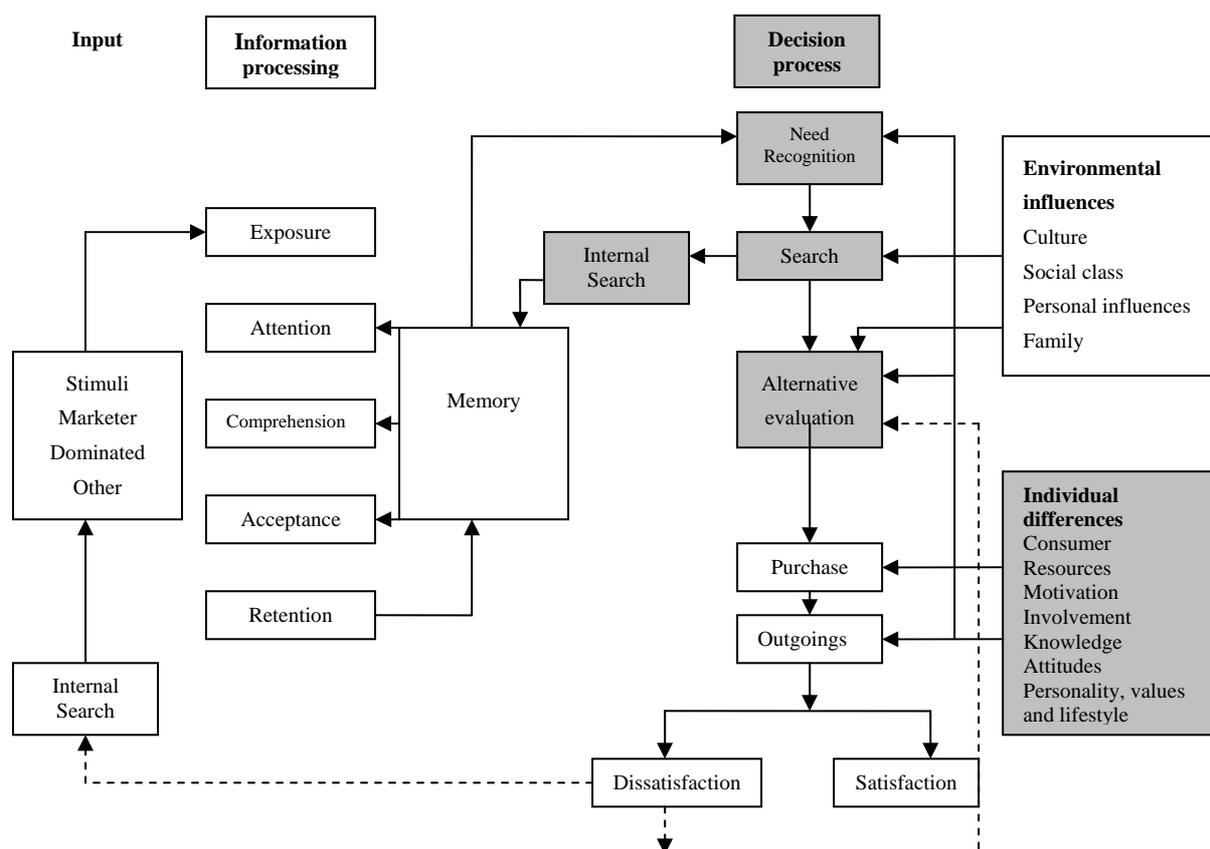


Figure 3: The Consumer Decision Process Model (Engel *et al.*, 1995)

### 3.2.1.1 The Decision Process

#### *Need/problem Recognition*

Problem recognition occurs “...when a significant difference develops between a person’s desired state and actual state with respect to a particular want or need (Brumer and Pomazal, 1988, p. 54). The desired state can be influenced by factors such as reference groups and thinking. The actual state can be influenced by assortment deficiency and need arousal. However, both states can be affected by for example financial situation, family and marketing efforts (ibid).

#### *Search Process*

According to Bloch *et al.* (1986), the consumer search process can be divided into two categories of searching; pre-purchase search and ongoing search. In the former category, *pre-purchase searching*, the motive for the search is the consumer’s desire to make a better purchase decision and enhance the quality and satisfaction with a specific purchase (ibid.). Pre-purchase searching is also a way to reduce uncertainty for the buyer. Urbany *et al* (1989) suggests two uncertainty types. The first one is knowledge uncertainty (knowledge on features and dimensions) and this type often results in information gathering that is harder to process, thus the cost of the search is higher. The second one is the choice uncertainty that is more influential and involves the complexities of choosing between fairly similar alternatives within a product category.

In the latter search category, *ongoing search*, the motive for the consumer can be recreation and pleasure as well as gathering a bank of information that can be useful for future buying

decisions (Bloch *et al.* 1986). Ongoing search can lead to outcomes such as impulse buying and increased satisfaction from the search itself. Bloch *et al.* (1986) found that a number of consumers use ongoing search both for the pleasure aspect and as a way to gather store and product information for future reference.

### ***Evaluation of Alternatives***

Garbarino and Edell (1997) found that consumers often assess products based on the attributes of the alternative product. When more cognitive effort was put into processing an alternative, the more negative affect was associated with that specific alternative. In turn, the alternative that generated the least negative affect was chosen (*ibid.*). How the alternatives are presented can also have an affect on how the product is chosen. Hsee and Leclerc (1998) found that joint evaluation (all options presented together) had a more positive affect on choice than separate evaluation (options presented independently of each other). Thus, presenting all the alternatives next to each other is preferable from an evaluation and choice perspective.

It has been shown that assortment size can have an impact on the evaluation of alternatives. Oppewal and Koelemeijer (2005) found that more evaluation occurred for large assortments. In addition stores with larger assortments were rated more positively, indicating that assortment can have an affect on evaluation of store alternatives as well as product alternatives.

### **3.2.1.2 Individual Differences**

#### ***Involvement***

Involvement can be defined as “a state of motivation, stimulation or interest which can not be observed. It is stimulated by an object or a specific situation and brings certain types of behaviour: certain forms of search activities, information processing and decision making” (Rothchild, 1984, p. 217). Involvement can be divided into three types (Zaichkowsky, 1985);

1. *Personal* (interest, values and needs)
2. *Physical* (characteristics of an object that increase interest)
3. *Situational* (something that temporarily increases interest)

According to Lockshin *et al.* (1997) consumers with high product involvement spend more time and cognitive effort when considering possible alternatives. Low involved consumers, on the other hand, are limited in their efforts and therefore spend less time before choosing their products.

#### ***Knowledge***

Knowledge has two basic components; familiarity and expertise (Alba and Hutchinson, 1987). These differ fundamentally in that familiarity refers to the accumulated product experiences with the consumer, while expertise refers to the ability to perform product related tasks successfully (*ibid.*). The two components are connected because, in general, increased familiarity will lead to increase expertise. Alba and Hutchinson (1987) found that perceived expertise by the consumer lead to decreased information search and interpretation, if the consumer overrates his or her knowledge and/or misinterpret the relationships between variables in the environment.

### 3.2.2 Impulse Buying Behaviour

Impulse buying can be defined as “... a sudden and immediate purchase with no pre-shopping intentions either to buy the specific product category or to fulfil a specific task. The behaviour occurs after experiencing an urge to buy and tends to be spontaneous and without a lot of reflection. It does not include the purchase of a simple reminder item, which is an item that is simply out-of-stock at home.” (Beatty and Ferrell, 1998, p. 170) Cobb and Hoyer (1986) found that impulse buying consumers spend very little time searching for and processing information in the store environment. Therefore the authors suggest that displays and other attention getting advices needs to be highly noticeable and short to process. They also found that impulse buyers value quality as much as the planned buyer and therefore promotions in the store should be based on quality if the store wants to capture the impulse buyer’s attention. Somewhat contradictory results were found in a study by Beatty and Ferrell (1998) who found that impulse buyers tend to produce more in-store browsing and that this in turn is dependent upon the perceived time available for shopping. They also found that perception of available money had an influence on actual impulse buying.

### 3.2.3 The Influence of Store Atmosphere on Buying Behaviour

It has been argued that store atmospherics can have an influence on consumers in their point of purchase situation (Turley and Milliman, 2000). The concept of store atmospherics was first introduced by Kotler (1973) and was then defined as “the effort to design buying environments to produce specific emotional effects in the buyer that enhance his purchase probability” (p. 50). Kotler argued that atmospherics influenced buying by influencing the buyer’s information state and affective state and thereby increase the purchase probability. Several of the later studies involving atmospherics have focused on the affective state and its influence on buying behaviour (e.g. Donovan and Rossiter 1982, Donovan *et al.* 1994; Richardson *et al.* 1996; Foxall, 1997; Tai and Fung, 1997). However, most of these studies have used an environmental psychology approach to explain how the store atmosphere effects the consumer’s emotions and in turn it’s buying behaviour.

The most influential model in the field of environmental psychology is the Mehrabian-Russel model (1974) which uses a Stimulus-Organism-Response (S-O-R) perspective. This model was further developed by Donovan and Rossiter (1982) and Donovan *et al.* 1994 and applied to the specific field of consumer behaviour. In the original Mehrabian-Russel model, three emotional states were mentioned as leading to behaviour; pleasure-displeasure, arousal-non arousal, and dominance-submissiveness. However, Donovan and Rossiter (1982) only found the first two emotions to apply in store environments and therefore, in their later study (Donovan *et al.* 1994), modified the original model to better suit the retail setting (see Figure 4).

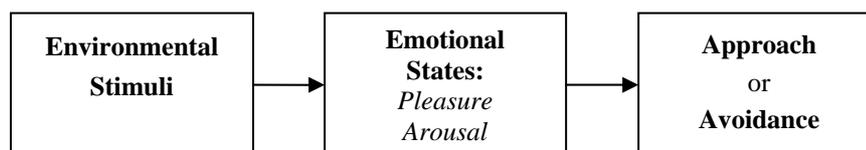


Figure 4: Modified Mehrabian-Russel Model (Donovan *et al.* 1994)

According to this model, all responses to an environment can be classified as either approach or avoidance behaviour (Donovan and Rossiter, 1982). This can be shown by a willingness to stay (approach) or leave (avoid) the environment. It can also be seen when there is a

willingness to explore and interact (approach) with the environment or to remain uninterested (avoidance) to the environment. Another example of approach behaviour is when the individual is eager to communicate with its environment, as in when the consumer asks sales personnel questions. (ibid.)

Several studies have found results consistent with those of Donovan and Rossiter (1982) that the emotional state can predict intended approach or avoidance behaviour in the store. For example, Tai and Fung (1997) found that pleasure or arousal, induced by the store environment, can lead to different levels of trial and exploring efforts by the consumers in a CD-retailing environment. Still, despite the evidence for connection between emotional state and behavioural intentions, few studies have tested the effect of environmentally induced pleasure and arousal on actual purchasing behaviour. One attempt was made by Donovan et al. (1994) who tested pleasure and arousal on unplanned time spent in the store and unplanned purchasing.

In summary, atmospheric variables act as environmental stimuli that lead to cognitive affect (emotional state) within the individual. This in turn leads to a behavioural response from the individual. According to Turley and Milliman (2000) previous research of in-store atmospherics can be divided into five categories of variables; (1) external, (2) general interior, (3) layout and design, (4) point of purchase and decoration, (5) and human variables. All these variables have shown to have effect on purchase behaviour. However, each variable interacts with the individual in different ways and therefore a response from one individual or group of individuals may be completely different for other individuals or groups of individuals (ibid). For the purpose of the present study, store layout and point of purchase variables are the focus of investigation. However, since we can not rule out the influence of the other environmental variables, we will provide summaries of some of the research results within each category to create an overall view of how buying behaviour is influenced by environmental stimulus.

### **3.2.3.1 Exterior Variables**

This category includes variables such as entrances, parking availability, display windows, architecture and the surrounding shopping area. These variables are important because they are generally what create the first impression with the customers (Turley and Milliman, 2000). For example, in a study of retail patronage, Bell (1999) found that the image of the shopping area surrounding the retailer had an influence on store patronage. If the area is perceived as having good store variety and customer service the likelihood of consumers continuing to purchase from that area increases.

### **3.2.3.2 General Interior Variables**

General interior variables include elements such as colours used, sounds, and scents. These variables have been shown to have an influence on a variety of in-store behaviours such as time spent, approach-avoidance, and sales. (Turley and Milliman, 2000)

The effect of colour in the retail environment was researched by Jansson *et al.* (2004). They found that certain colours were easier to detect, even in cluttered environments. For example, green had the fastest search time (1.92 seconds) compared to peach which had the slowest search time (2.63 seconds). The authors suggests that retailers take this information into consideration when, for example, designing displays so that the material can be detected by the consumers with little effort.

Music as environmental stimuli has shown to have an affect on in-store buying behaviour. For example, Yalch and Spangenberg (1990) found that if consumers hear music that is familiar to them they reported spending less time in the store compared to when they listened to unfamiliar music. The authors' states that this could, at least partially, be explained by the fact that a familiar environment require somewhat less monitoring from the consumer and that they therefore recalled less of the occurring events.

Olfactory stimuli have also been shown to have an affect on perceived time spent in the store. Spangenberg *et al.* (1996) found that consumers in scented environments reported spending less time in the store. This time-experience was subjective to the consumer (rather than actual decrease in time spent) and could, according to the authors, be attributed to an increase sense of flow in the store. Mitchell *et al.* (1996) reported that consumers who experienced an odour that was congruent with the product class were more likely to spend more time in front of the products and more likely to seek variety.

### **3.2.3.3 Layout and Design Variables**

Layout and design variables include allocation of floor space, product groupings, department locations and traffic flow. The research in this area is sparse but some studies have shown influence of store layout on shopping behaviour. (Turley and Milliman, 2000) For example, discount retailers' use of power aisles (large aisles with small number of products but high quantity) have shown to have an effect on consumers' price perceptions, thereby changing their buying behaviour (Smith and Burns, 1996).

Knowledge of the store layout has been shown to influence unplanned buying and brand switching. According to Park *et al.* (1989), there is a higher level of brand search in familiar stores than in unfamiliar stores because store knowledge can help facilitate memory triggers that make the consumers recall their favourite brands. The study also showed that there was a higher level of unplanned purchases in unfamiliar store environments due to problems of locating the intended products.

According to Drèze *et al.* (1994), supermarkets can benefit with 4-5% of sales by just creating a better space allocation within a category. The authors claim that by moving products that are more likely to be planned purchases to less favourable positions (above or under eyelevel) and move other products that are likelier to be impulse bought to eyelevel positions can increase sales. The same is also true for well-known brands in comparison to less well known brands. However, the retailer is likely to meet objections from the manufacturers who spend large sums on out-of-store marketing to build their brands. (Drèze *et al.*, 1994)

### **3.2.3.4 Point of Purchase and Decoration Variables**

This category of variables includes interior displays such as shelf space, product displays, signs and textual messages such as posters and cards (Turley and Milliman, 2000). This type of point of purchase marketing relies mainly on visual perception and on grabbing the attention of the consumer (Marketing Week, 2003).

Interior displays have shown to have an effect on both purchase quantity and variety seeking. Simonson and Winer (1992) found that grouping products on a brand-to-brand basis rather than a flavour-to-flavour basis required less effort for the consumers since it was easier to

choose flavours within each brand than between brands. This encouraged more flavour variety seeking but less brand variety seeking. Therefore, the authors suggest that retailers design their purchase display depending upon what type of variety seeking it wants to achieve. Interior displays have also been shown to have an affect on sales. Gagnon and Osterhaus (1985) found that floor displays in particular increased the number of units sold. They also found that floor displays enhanced sales without doing it on the expense of shelf sales.

How products are placed in the aisles and on the shelves can also affect buying behaviour. Underhill (2003) has found that there are tendencies for consumers to look where they are walking (i.e. forward). This therefore has an impact on how much of the products that are displayed in an aisle that the consumers actually see. Only in familiar stores will the consumer feel “safe enough” to look to the sides while walking through the aisles. This is also one of the reasons that end-caps have proven to be effective for sales. The consumers always approach these head on and therefore see the products on display there. Underhill (2003) also argues that where the products are placed on the shelves also has an effect on whether it will be noticed by the consumer or not. He argues that the best place to be noticed is from a little bit over eyelevel to about knee-level.

McKinnon *et al.* (1981) found that a price sign could increase sales significantly but only if the signed product was on sale. Benefit signs (price and additional information regarding the product) on the other hand had affect on sales for both regular products and products on sale. These authors suggests that the reason for these differences might be attributed so that benefit signs acts as further stimulus to the actual buying whereas price signs only differentiate the signed product from the unsigned products. McKinnon *et al.* (1981) therefore suggests that benefit signs are the most effective signs for retail use.

### **3.2.3.5 Human Variables**

Human variables such as employee characteristics, consumer characteristics and crowding in the store have been shown to have influence on buying behaviour. In short, the consumer can be affected both by other consumers in the store and the sales staff. (Turley and Milliman, 2000)

Sinha and Uniyal (2005) made an attempt to segment retail consumers on the basis of behavioural characteristics. They found six segments of consumers who all had different in-store behaviour. The *choice optimizer* tries to gain maximum use of their shopping time by evaluating the products based on all information available at the point of purchase, such as displays and sales staff. The *pre-mediated* consumer on the other hand already had predetermined products in mind and therefore went straight to that particular section in the store without paying attention to other merchandise in the store. The *economiser* was price conscious and therefore only chose products/brands that fit the budget. *Support seekers* are a group of consumers with low confidence in their purchase decisions. They asked their accompanied person or the sales staff about the products and took long time before making a final decision. In opposite to these support seekers are the *low information seekers* who moved confidently and did not seek additional information from any source in the store. Finally, the *recreational shopper* was found. This consumer type enjoyed their shopping and spent long time just browsing and looking at the various displays. Sinha and Uniyal (2005) concluded that even though these six behavioural patterns existed in almost all the retail setting looked upon, different consumers have different behaviours in different store types.

Crowding in the store can have a negative effect on consumer behaviour. Grossbart *et al* (1990) found that consumers who perceive the store environment to be crowded did less browsing and product comparison. They also reduced their purchases and even postponed their shopping or switched to a different store. The authors could also conclude that these behaviours occurred independently of demographics such as age or sex.

### **3.2.3.6 Product Package as an In-store Stimulus**

The packaging of a product plays a very large part of consumers' product choice at the point of choice in the store (Silayoi and Speece, 2004). It is therefore very important for the suppliers that their products packages stands out and catches the customers' attention (Underwood *et al*, 2001). The package is especially important when the consumer is unfamiliar with the product or when there is no possibility or limited possibility for the consumer to evaluate the attributes (*ibid.*). When this occurs the packaging will contribute with information that will be used for evaluating the product. This also means that the product packaging is of higher importance for unfamiliar product than for familiar products or brands (Underwood *et al*, 2001).

According to Silayoi and Speece (2004) there are different aspects of the product packaging that influence the decision-making. These are the visual element such as graphics and colour, packaging size and shape and the informational elements such as product information and packaging technology. Depending on time pressure during the shopping and the involvement level of the product these aspects have different levels of impact on the decision making of the consumer (*ibid.*). Generally the visual elements are of more importance for the low involvement products, while the informational elements are more important for high involvement products. This means that product information is of less value for consumers considering the product to be low involvement. Information is considered to be important in order to compare quality and value between products. (Silayoi and Speece, 2004).

During time pressure, consumers generally spend less time evaluating the product before choosing. This means that for higher involvement products there is a shift the emphasis away from the product information on the back of the package towards the visual elements on the front (Silayoi and Speece, 2004). However, for many consumers there is a conflict for especially higher involvement products when having time pressure and reading the nutrition label, leading to that even though stressed many consumers still allow time for evaluating the product (*ibid.*). The information on the package also needs to be clear and correct since confusion might lead to rejection of the product. This is more important for high involvement products than for low involvement (*ibid.*).

## **3.3 Health and Behaviour – The Connection**

In this part of the theoretical framework chapter we aim at connecting consumer behaviour with health awareness. It is an effort to show how these two parts have been combined and used as a theoretical framework for the data collection and analysis. This part starts with a discussion on the relationship between health awareness and buying behaviour with specific consideration devoted to involvement, knowledge and in-store stimuli. A model illustrating the relationship between the parts is then introduced and the specific behavioural variables looked upon in this study are presented.

### 3.3.1 Health Awareness

As the Swedish Health summit point out, a very large majority of Swedish consumers believe that they themselves can affect their health by taking care of themselves. Many also believe that what they do today will affect their health in the future (Swedish Health Summit, 2003). Although people believe they can change and affect their own health, many of them are not willing to compensate factors like taste and price in order to eat healthier. As Svedberg (2006) argues there is a connection between being healthy and having a good health perception. This could, according to Rothchild's (1984) definition of *involvement*, indicate that the level of involvement in healthier products is affected by the health perception of the consumer. This involvement would then correspond to what Zaichkowsky (1985) defines as personal involvement, because the consumer is involved with the product through personal interest (i.e. staying healthy), values and needs. However, this involvement also corresponds to physical involvement (ibid.) since the health aspects of the product can increase the interest of the consumer and thereby make him or her more involved in the choice of product.

Further, indications show that the Swedish consumers are increasing their consumption of fibre, wholegrain and other products that are perceived to be better for you health, just for the purpose of improving your own health (Swedish Health Summit, 2003). Those who have more *knowledge* concerning nutrition and healthier foods are also more likely to purchase the healthier alternatives (Bogue *et al*, 2005), which further indicate that the more the consumers know the higher are the chances that they will buy healthy products.

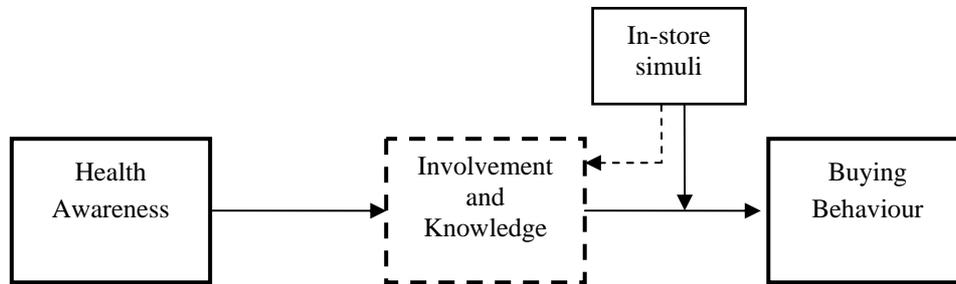
### 3.3.2 Buying Behaviour

According to Rothchild (1984), involvement can lead to different behaviour such as search, information processing and decision making. This is also true for knowledge, since knowledge can lead to different levels of search and interpretation of information (Alba and Hutchinson, 1987). So depending on the level of involvement and knowledge of healthier products by the consumer, different point of purchase behaviour should occur.

The involvement and knowledge of the consumer are not the only factors that can influence store behaviour. *In-store stimuli* can also have an affect on the consumers at the point of purchase as shown in studies of, for example, layout (Park *et al.*, 1984), music (Yalch and Spangenberg, 1990), interior displays (Simonson and Winer, 1992) and aisle placement (Underhill, 2003). In store stimuli has been argued to be of importance for healthier alternatives since different consumer types with different knowledge and motives for choosing these products need to be marketed to in different ways (Bogue *et al*, 2005). For example, in-store stimuli can increase the sales of healthier products by having clear and simple health claims on the product, positive nutrition and price signs (Bogue *et al*, 2005; Gilbert, 1999). Thus, it can be argued that in-store stimuli can affect what Zaichkowsky (1984) define as the situational involvement aspect in where involvement can be increased by the environment, at least temporarily.

### 3.3.3 Framework Model

Based on the discussion above, we propose the following model (figure 5). This model acts as an illustration of how health and behaviour are interconnected, but also as an overview of the theoretical framework used in this study.



**Figure 5: Framework Model – The Connection of Health and Behaviour**

In summary, health awareness affects the consumer's involvement (personal and physical) and knowledge, which in turn affects the consumer's behaviour. In-store stimuli can have an affect on the involvement of a product since it can increase the situational aspect of involvement. In store stimuli can also have an affect on the buying behaviour more directly through atmospherics such as store layout, assortment and displays.

#### 3.3.3.1 Behavioural Variables

In the above model, buying behaviour acts as a final stop where all elements of the consumer and the store are shown through behaviour. This, of course, is a clear simplification that can be difficult to research. Therefore this study will only look at a smaller set of variables that can help distinguish differences in behaviour when consumers choose healthy and regular varieties. These variables have been selected both because of their proven relevance in previous research as behavioural influencers, and because of their observable nature.

##### ***Time Spent***

This variable is related to involvement because involvement has been argued to increase time spent by the consumer by increasing the browsing and alternative evaluation (Lockshin *et al.*, 1997). In order to measure time spent, we used intervals. The time started as soon as the customer entered the aisle and ended when the product was placed in the basket or trolley if such existed. If not, time ended when the customer left the aisle with the product. In case of the customer first choosing one product, placing it in the basket and then starting to choose another product; time started as soon as the product has been placed in the basket and the customer turns toward the shelf or aisle. This way captures the differences between each choice at the point of choice.

##### ***Shopping List***

Whether a consumer has a shopping list or not can be an indicator on to what degree the consumer has planned its product choice ahead. In contrast to impulse buying, this could indicate that the consumer spends less time browsing and evaluating alternatives (Beatty and Ferrel, 1998). We were only able to observe visible shopping list. In order to know whether it was a shopping list or just some other kind of paper we either tried to get a peak at the list or observed the way the list was used. In most of the cases the list was either looked at while choosing product, right before or right after indicating that the list had something to do with

the choice of products. Furthermore, many consumers used a pen to tick off gathered products, making it fairly easy for us as the observers to make sure it was a shopping list and nothing else.

### ***Study Package (chosen product) and Study Packages (other than chosen product)***

The studying of packages is clearly related to the study assortment but in this case we refer to more direct evaluation of alternatives by the consumer either comparing different products or studying the chosen product. Just like study assortment this variable is related to involvement since studying packaging can be considered a form of browsing. By studying a product we refer to picking up the product and studying it. This can either be turning the product around in order to study the back of it or perhaps, where the nutrition label is appearing on the front, to read the front of the package. In general it was important that it appeared like the consumer read some of what was written on the package. If he or she picked it up, only took a glance at it, and then placed it in the basket or back at the shelf we did not consider him studying the package.

### ***Study Assortment***

Also related to involvement is to what extent a search and evaluation of the alternatives (assortment) occurs because high involvement can lead to more cognitive effort when choosing a product and hence increase the assortment studying (Lockshin *et al.* 1997). In order to observe the way consumers study the assortment we stood beside the consumer in order to limit our influence on him or her in accordance with what was suggested by Underhill (2003). Some consumers did not study the assortment but went straight to the product. Others did study the assortment either by standing still or by walking in front of the shelves. Since a combination of the latter two was used for most of the time, we only observed whether the consumers studied the assortment or if he went straight to the chosen product.

### ***Crowdedness in Aisle***

As argued by Grossbart *et al.* (1990), crowding can have an affect on consumer behaviour by, for example, influencing time spent and browsing. When measuring if it was crowded in the aisle we observed whether there were other people in the aisle at the same time as the consumer. This was the case if other people than the observers entered the aisle or were already in the aisle at the same time as the customer was in the aisle. The amount of time spent in the aisle was not taken into account. This variable was measured in intervals, starting with one extra person in the aisle besides the customer and the observer.

### ***Study of Large Price Signs***

Price signs can have an influence on the consumer in the store and enhance the sales both of regular products and products on sale (McKinnon *et al.*, 1981). According to Sinha and Uniyal (2005) study of price signs can indicate how important price search is for the consumer and hence, tell whether the consumer is more economising in his or her behaviour. Study of price sign is also related to the level of involvement in that it can be seen as an extension of the browsing generated by high consumer involvement as suggested by Lockshin *et al.* (1997). In order to observe whether the customer studied price signs we had to stay fairly close to the customer, at the same time as we had to make sure not to stand straight behind. If the customer turned his head and looked toward a larger price a little longer than he usually pauses we assumed it was the price sign that was studied. Perhaps the consumers also mentioned the price to a co-shopper making it easy for us to acknowledge that the price sign was studied.

### ***Placement of Product***

As previously stated, the placement of a product might have an impact on how it is selected by the consumer. For example, shelf placement at around eyelevel has been claimed to be the most effective (Underhill, 2003). For this variable we noticed from where the product chosen was taken, at eyelevel, above or beneath. Depending on where the customer entered the aisle, in the beginning (where he entered), in the middle or in the end (opposite to where he entered).

## 4. Results

*In this chapter, the empirical results from the quantitative observations will be presented. The chapter starts with some descriptive statistics from the data collected such as frequency and distribution between sexes, between categories and between healthy and regular varieties. The chapter continues with the comparison of the behavioural variables for healthy and regular varieties, both within each product category and with both categories combined. The data was also analysed with a discriminant analysis and a correlation analysis and the results from these are presented. Finally, a space and placement analysis is presented. At the very end of the chapter, a summary table of all the results for the specific variables can be found.*

### 4.1 Descriptive Statistics

During four different weekdays we observed a total of 560 consumers choosing and placing a pasta or breakfast cereal product in the basket. Four of these observations were incomplete and were therefore not possible to use when analysing the results. As can be seen in the table below, the outcome was 281 observations of pasta products and 275 of breakfast cereal, ending up with a total of 556 observations. Around 30% of the consumers were men with some variations between the categories.

	<b>Pasta</b>	<b>Cereal</b>	<b>Total</b>
Male	85 30,2%	74 26,9%	<b>159</b> <b>28,6%</b>
Female	196 69,8%	201 73,1%	<b>397</b> <b>71,4%</b>
<b>Total</b>	<b>281</b>	<b>275</b>	<b>556</b>

**Table 2: Distribution; product categories and sex**

As can be seen in the table below, 208 products out of the total number of 556 products chosen were what we refer to as healthy and 348 were regular products. There were a slightly higher percentage of consumers who choose a healthy breakfast cereal (39.3 %) than consumers who choose a healthy pasta product (35.6%).

	<b>Pasta</b>	<b>Cereal</b>	<b>Total</b>
Healthy	100 35,6%	108 39,3%	<b>208</b> <b>37,4%</b>
Regular	181 64,4%	167 60,7%	<b>348</b> <b>62,6%</b>
<b>Total</b>	<b>281</b>	<b>275</b>	<b>556</b>

**Table 3: Distribution; product categories and product type (healthy or regular)**

As can be seen in the following table, there was a higher degree of females choosing a healthier alternative than men in this study, roughly 40% as compared to 31%.

	Male	Female	Total
Healthy	49 30,8%	159 40,1%	<b>208</b> <b>37,4%</b>
Regular	110 69,2%	238 59,6%	<b>348</b> <b>62,6%</b>
<b>Total</b>	<b>159</b>	<b>397</b>	<b>556</b>

**Table 4: Distribution; sex and product type (healthy or regular)**

## 4.2 Comparison of Behavioural Variables

In this section we present the results of the comparison between the behavioural variables for healthy and regular products. Independent sample t-test has been used to compare the differences in mean score between the categories and to test the differences for significance. The minimum significance level used was 95%.

### 4.2.1 Pasta

This first part presents the sample tests done on pasta products solely.

#### 4.2.1.1 Time

Variable	Product	N	Mean		Sig. (2-tailed)	Mean Difference
Time before choosing product	Healthy	100	1.71	Equal variance not assumed	0.000	0.351
	Regular	181	1.36			

**Table 5: Pasta; Time**

The table above tells us that there is a significant difference concerning how long time a consumer spends before choosing a healthy product compared to when a consumer choose a regular products. Those who chose a healthy product spend a significant longer time before choosing a product than those who choose a regular product.

#### 4.2.1.2 Shopping List

Variable	Product	N	Mean		Sig. (2-tailed)	Mean Difference
Visible shopping list	Healthy	100	0.41	Equal variance not assumed	0.001	0.195
	Regular	181	0.22			

**Table 6: Pasta; Shopping list**

Above table indicate there being a significant difference of the visibility of a shopping list for the two consumer types. The consumers who buy a healthy product do significantly more often have a visible shopping list while choosing product than a consumer who buys a regular product.

#### 4.2.1.3 Study Chosen Package

Variable	Product	N	Mean		Sig. (2-tailed)	Mean Difference
Studied package of chosen product	Healthy	100	0.70	Equal variance assumed	0.000	0.380
	Regular	181	0.32			

Table 7: Pasta; Study chosen package

Those who buy healthy products are significantly more often studying the chosen package before purchasing than those who buy a regular product. The mean indicates that 70% of those who buy a regular product studied the chosen package while 32% of those who buy a regular product studied the same.

#### 4.2.1.4 Study Packages

Variable	Product	N	Mean		Sig. (2-tailed)	Mean Difference
Studied other packages than chosen product	Healthy	100	0,25	Equal variance assumed	0.321	0,062
	Regular	181	0,19			

Table 8: Pasta; Study packages

There is no significant difference between how many packages other than the chosen product are being studied before choosing a product between those who buy healthy products and those who buy regular products.

#### 4.2.1.5 Study Assortment

Variable	Product	N	Mean		Sig. (2-tailed)	Mean Difference
Studied assortment before choosing product	Healthy	100	0,66	Equal variance not assumed	0.157	0,085
	Regular	181	0,57			

Table 9: Pasta; Study assortment

This table indicates that there is no significant difference between how the consumers who buy healthy products and how the consumers who buy regular products study the assortment before choosing a product.

#### 4.2.1.6 Crowdedness

Variable	Product	N	Mean		Sig. (2-tailed)	Mean Difference
Crowdedness in aisle when choosing the product	Healthy	100	0,48	Equal variance not assumed	0.219	0,099
	Regular	181	0,38			

Table 10: Pasta; Crowdedness

As the table above shows there is no significant difference between the crowdedness in the aisle when purchasing healthy or regular products. It can therefore not be drawn any conclusion whether crowdedness affects the choice of product or not.

#### 4.2.1.7 Study Large Price Sign

Variable	Product	N	Mean		Sig. (2-tailed)	Mean Difference
Studied large price sign	Healthy	100	0.37	Equal variance not assumed	0.000	0.282
	Regular	181	0.09			

**Table 11: Pasta; Study large price sign**

This table indicates that there is a significant difference between who study large price signs. Those who choose a healthy product study large price signs to a much larger extent than those who choose a regular product (37% against 9%).

#### 4.2.2 Breakfast Cereal

This second part presents the sample tests done on breakfast cereal products solely.

##### 4.2.2.1 Time

Variable	Product	N	Mean		Sig. (2-tailed)	Mean Difference
Time before choosing product	Healthy	108	1.80	Equal variance assumed	0.002	0.281
	Regular	167	1.51			

**Table 12: Breakfast cereal; Time**

The table shows that there is a significant difference of the amount of time spent before choosing a healthy or regular product. Those who choose a healthy product tend to spend longer time before choosing it than those who choose a regular product.

##### 4.2.2.2 Shopping List

Variable	Product	N	Mean		Sig. (2-tailed)	Mean Difference
Visible Shopping list	Healthy	108	0.39	Equal variance assumed	0.996	0.000
	Regular	167	0.39			

**Table 13: Breakfast cereal; Shopping list**

The table above indicates there is not a significant difference in the amount of times there is a visible shopping list between those who choose healthy products and those who choose regular products. In fact just as many consumers who buy healthy product as who buy regular products had a shopping list that was visible

##### 4.2.2.3 Study Chosen Package

Variable	Product	N	Mean		Sig. (2-tailed)	Mean Difference
Studied package of chosen product	Healthy	108	0.50	Equal variance assumed	0.309	0.063
	Regular	167	0.44			

**Table 14: Breakfast cereal; Study chosen package**

There is no significant difference whether those who buy a healthy product study the package of the chosen product more often than those who choose a regular product.

#### 4.2.2.4 Study Packages

Variable	Product	N	Mean		Sig. (2-tailed)	Mean Difference
Studied other packages than chosen product	Healthy	108	0.33	Equal variance not assumed	0.137	0,112
	Regular	167	0.22			

**Table 15: Breakfast cereal; Study packages**

There is no significant difference regarding how many packages other than the chosen product were studied for those who choose a healthy product and those who choose a regular product.

#### 4.2.2.5 Study Assortment

Variable	Product	N	Mean		Sig. (2-tailed)	Mean Difference
Studied assortment before choosing product	Healthy	108	0.55	Equal variance not assumed	0.008	0,163
	Regular	167	0.38			

**Table 16: Breakfast cereal; Study assortment**

This table indicates that there is a significant difference between how the assortment is being studied before choosing product. Those who buy a healthy product tend to study the assortment to a larger extent than those choosing a regular product.

#### 4.2.2.6 Crowdedness

Variable	Product	N	Mean		Sig. (2-tailed)	Mean Difference
Crowdedness in aisle when choosing the product	Healthy	108	0.46	Equal variance assumed	0.185	-0.106
	Regular	167	0.57			

**Table 17: Breakfast cereal; Crowdedness**

According to above table there is no significant difference on the crowdedness in the aisle when choosing a healthy or a regular product.

#### 4.2.2.7 Study Large Price Sign

Variable	Product	N	Mean		Sig. (2-tailed)	Mean Difference
Studied large price sign	Healthy	108	0.16	Equal variance not assumed	0.180	-0.064
	Regular	167	0.22			

**Table 18: Breakfast cereal; Study large price sign**

As indicated by the table above there is no significant difference for studying large price signs when choosing a healthy product or regular product.

### 4.2.3 Pasta and Breakfast Cereal Products Combined

This last section is sample tests done on pasta and breakfast cereal products combined.

#### 4.2.3.1 Time

Variable	Product	N	Mean		Sig. (2-tailed)	Mean Difference
Time before choosing product	Healthy	208	1.75	Equal variance not assumed	0.000	0.32
	Regular	348	1.43			

**Table 19: Both categories; Time**

The above table indicated there is a significant difference regarding the amount of time spent before choosing a product. Those who choose a healthy product generally spend more time before choosing their healthy product than those who choose a regular product.

#### 4.2.3.2 Shopping List

Variable	Product	N	Mean		Sig. (2-tailed)	Mean Difference
Visible shopping list	Healthy	208	0.40	Equal variance not assumed	0.026	0.09
	Regular	348	0.30			

**Table 20: Both categories; Time**

There is a significant difference of visible shopping list between those who choose healthy products and those who choose regular products. Those who buy healthy products are more likely to have a visible shopping list than those who buy regular products.

#### 4.2.3.3 Study Chosen Package

Variable	Product	N	Mean		Sig. (2-tailed)	Mean Difference
Studied package of chosen product	Healthy	208	0.60	Equal variance assumed	0.000	0.22
	Regular	348	0.38			

**Table 21: Both categories; Study chosen package**

This table indicates that there is a significant difference on whether the consumers study the chosen products package depending on the chosen product it healthy or regular. Those who buy a healthy product study the package to a larger extent than those who buy a regular product.

#### 4.2.3.4 Study Packages

Variable	Product	N	Mean		Sig. (2-tailed)	Mean Difference
Studied other packages than chosen product	Healthy	208	0,29	Equal variance not assumed	0.071	0,089

**Table 22: Both categories; Study packages**

There is no significant difference regarding if consumers who choose healthy products studies more or fewer packages other than the chosen than those who buy regular products.

#### 4.2.3.5 Study Assortment

Variable	Product	N	Mean		Sig. (2-tailed)	Mean Difference
Studied assortment before choosing product	Healthy	208	0,60	Equal variance not assumed	0.007	0,118
	Regular	348	0,48			

Table 23: Both categories; Study assortment

According to this table there is a significant difference on how the assortment is studied before choosing the product if the consumer buys a healthy or a regular product. Those who buy a healthy product study the assortment to a larger extent than does the consumer who chooses a regular product.

#### 4.2.3.6 Crowdedness

Variable	Product	N	Mean		Sig. (2-tailed)	Mean Difference
Crowdedness in aisle when choosing product	Healthy	208	0,47	Equal variance assumed	0.998	0.00
	Regular	348	0,47			

Table 24: Both categories; Crowdedness

There is no significant difference regarding crowdedness in the aisle when choosing a healthy or a regular product.

#### 4.2.3.7 Study Large Price Sign

Variable	Product	N	Mean		Sig. (2-tailed)	Mean Difference
Studied large price sign	Healthy	208	0.26	Equal variance not assumed	0.003	0.11
	Regular	348	0.15			

Table 25: Both categories; Study large price sign

There is a significant difference whether to study a large price sign or not. Those who choose a healthy product study larger price sign more often than a consumer who choose a regular product.

#### 4.2.3.8 Study Large Price Sign and Chosen Product had Large Price Sign

As can be seen in the following two tables, 81.5% of those who choose healthy and studied the large price sign also choose a product that had a large price sign. This was lower for the regular consumers; 66%. Of the consumers who did not study the large price sign, 29.2% (healthy) and 31.5% (regular) still choose a product that had a large price sign.

		Studied large price sign	
		No	Yes
Chosen product had large price sign	No	109 70,8%	10 18,5%
	Yes	45 29,2%	44 81,5%
Total		154	54

Table 26: Both Categories; Study price sign and chosen product had large price sign (Healthy)

		Studied large price sign	
		No	Yes
Chosen product had large price sign	No	202 68,5%	18 34,0%
	Yes	93 31,5%	35 66,0%
Total		295	53

Table 27: Both Categories; Study price sign and chosen product had large price sign (Regular)

### 4.3 Correlation Analysis

A bivariate correlation analysis was conducted on the observational data to see how the different variables are related to one another. Correlation is used to summarize the strengths of the association between two variables and to get indications of to what degree the variation in one variable is related to the variation in the other variable (Malhotra and Birks, 2003). For the purpose of this study, we found it to be of importance that we could distinguish the behavioural patterns within each group, healthy and regular, and see whether there exist any different connections between the different variables in the two categories. The correlation coefficient shows the linear association between two variables and varies between +1 and -1. A positive coefficient means that a high value on one variable will lead to a high value on the other variable. A negative coefficient, on the other hand, means that a high number on one variable will lead to a low number on the other variable. A zero correlation coefficient mean that the variables have no linear correlation, but there can still exist a connection between the variables through a non-linear relationship that can not be seen in a linear correlation analysis. (Malhotra and Birks, 2003)

In the following two tables (table 28 and 29), the correlation of the seven variables within each category is presented. The high-lightened areas (grey) show those of the correlations who have significance on the 95% or 99% level. Hence, those are the correlation coefficients that can show actual indications on how the different variables correlate with each other.

#### 4.3.1 Healthy

	Time spent	Shopping list	Study package (chosen)	Study other packages	Study assortment	Crowdedness	Study price sign
Time spent	1	-0,085	0,337	0,412	0,558	0,174	0,261
Shopping list	-0,085	1	-0,150	-0,122	-0,118	-0,047	0,189
Study package (chosen)	0,337	-0,150	1	0,242	0,330	0,054	0,242
Study other packages	0,412	-0,122	0,242	1	0,320	0,303	0,003
Study assortment	0,558	-0,118	0,330	0,320	1	0,168	0,169
Crowdedness	0,174	-0,047	0,054	0,303	0,168	1	0,009
Study price sign	0,261	0,189	0,242	0,003	0,169	0,009	1

Table 28: Correlations Healthy

As can be seen in table 28, there are several variables that are significantly correlated within the healthy group. However, most of the correlations are very weak and therefore indicate that there exists very little linear association between the variables. For example, “crowdedness in aisle” and “study assortment” has very little linear association. This is also true for all the

“shopping list” correlations since they are all very close to zero, indicating no or little association.

The highest correlations can be found in the time correlations; indicating that time spent is associated with “study of chosen package”, “study of other packages” and “study assortment”. However, these correlations, with the possible exception of “study assortment” show fairly low correlation and can therefore only act as indicators of how the variables are related.

Another indication can be seen in the variable “crowdedness” which seems to have an association with “study other packages”. However, the correlation is still small and could therefore indicate a small connection between the variables in that crowdedness can affect “study other packages” but that the two variables are not associated to a high degree.

“Study price sign” shows association with several variables even though these are only very small linear associations. However, as will be seen below, these associations were weaker for the regular group.

#### 4.3.2 Regular

	Time spent	Shopping list	Study package (chosen)	Study other packages	Study assortment	Crowdedness	Study price sign
Time spent	1	-0,104	0,328	0,552	0,488	0,158	0,131
Shopping list	-0,104	1	-0,054	-0,115	-0,053	-0,059	0,055
Study package (chosen)	0,328	-0,054	1	0,250	0,199	0,131	0,100
Study other packages	0,552	-0,115	0,250	1	0,316	0,155	0,146
Study assortment	0,488	-0,053	0,199	0,316	1	0,016	0,023
Crowdedness	0,158	-0,059	0,131	0,155	0,016	1	-0,111
Study price sign	0,131	0,055	0,100	0,146	0,023	-0,111	1

**Table 29: Correlations Regular**

The correlations within the regular products show similar results as healthy for most variables. The time variable is, for example, still show positive correlation with the variables; “study chosen package”, “study packages” and “study assortment”. However, time spent show a higher correlation with “study other packages” than with “study assortment” which was the case in the health group.

“Crowdedness” shows significant correlations with several variables such as “time”, “study package” and “study price sign”. However, with correlations so close to zero this is a mere indication that crowdedness has very little association with the other variables for the regular group in comparison to healthy varieties which showed a higher degree of association between “crowdedness” and “study other packages”.

As in the health group, “study other packages” shows some small association with “study chosen package” and “study assortment” indicating that one might follow the other. Still these associations were higher for the healthy group. Finally, as within the healthy group, the variable “shopping list” had few significant associations and only a small association with “study other packages”.

## 4.4 Discriminant Analysis

A discriminant analysis can be used to approximate the relationship between a number of independent variables and a set of dependent variables (Malhotra and Birks, 2003). In this study, the dependent variables correspond to the “healthy” and “regular” varieties, and the independent variables the behavioural variables previously discussed (i.e. time, study of package/packages, shopping list, study assortment, crowding, study price sign). The discriminant analysis develops discriminant functions based on the existing observations that can predict membership to a group (i.e. healthy or regular) for a new observation based on the same independent variables. When there are only two groups tested in the analysis, as in this study, a two-group discriminant analysis is used and only one function is computed (Malhotra and Birks, 2003).

### 4.4.1 The Discriminant Function

The first two tables (table 30 and table 31) show the eigenvalue and the tested significance of the function. The eigenvalue is defined as “the ratio between group to within-group sums of squares” (Malhotra and Birks, 2003, p. 550). In this case the eigenvalue is 0.95 and accounts for 100 % of the variance. As can be seen in table 31, the Wilks’ Lambda value of the function is 0.914 which lead to a Chi-square of 49,794. The significance of the function is below the 0.05 level hence the function meets the required level of significance.

Function	Eigenvalue	% of Variance	Cumulative %	Canonical correlation
1	0,95	100,0	100,0	0,290

**Table 30: Eigenvalues**

Test of Function	Wilks' Lambda	Chi-square	df	Sig.
1	0,914	49,794	7	0,000

**Table 31: Wilks' Lambda**

Table 32 shows the pooled within-groups correlations between discriminating variables and the standardized canonical functions ordered by absolute size with function. The higher pooled within-group correlation is, the higher the association between the variable and the function exists. As can be seen, the time before choosing the product, study package of chosen product and study large price sign are the independent variables that are the most associated with the discriminant function. Crowdedness in aisle, on the other hand, has very low association with the function.

	Function
<b>Product chosen</b>	<b>1</b>
Time before choosing a product	0,711
Study package of chosen product	0,710
Study large price sign	0,432
Study assortment as a whole before choosing a product	-0,348
Visible shopping list	0,335
Study other packages than chosen product	-0,264
Crowdedness in aisle when choosing the product	0,017

**Table 32: Pooled within-group correlation between discriminating variables and standardized canonical discriminant functions**

#### 4.4.2 Classification Statistics

The first table (table 33) shows the prior probabilities for the two groups. This shows that each group has the same likelihood of being chosen based on each observation of the independent variable. Thus, the probability for each group is 50 %.

Product chosen	Prior	Cases used in Analysis	
		Unweighted	Weighted
Healthy	0,500	208	208,00
Regular	0,500	348	348,00
<b>Total</b>	1,000	556	556,00

**Table 33: Prior probabilities for groups**

The final table shows the classification results from the discriminant function based on the independent variables. This can give an indication of the success rate when using the function to predict membership of the two categories. As can be seen in the table, regular varieties had a higher classification rate (65.5%) than healthy varieties (54.8%). However, the overall classification rate was only 61.3%, which implies that only 61.3% of the grouped cases were correctly classified based on the function. In order for the classification to be valid, the rate needs to be at least 25% over the rate classified by chance. Thus, with a prior prediction of 50%, the classification rate needs to be at least 75% (Malhotra and Birks, 2003). We can therefore not say that the function can be used as a discriminator between the categories. Hence, the seven independent variables used in the discriminant analysis are not enough to enable us to classify future observations as healthy or regular (i.e. there are other variables that are important discriminators between the two categories).

Product chosen	Predicted Group Membership		Total
	Healthy	Regular	
Healthy	<b>114</b>	94	208
Regular	120	<b>228</b>	348
Healthy (%)	<b>54,8%</b>	45,2%	100%
Regular (%)	34,5%	<b>65,5%</b>	100%

**Table 34: The classification results**

#### 4.5 Space and Product Placement Analysis

The allocation of space for the two product categories, pasta and breakfast cereal, is of importance in this study since what the consumer is presented with in terms of available alternatives can potentially have an influence on other variables such as study assortment and time spent. However, a complete space management analysis is not feasible for this study since it extends beyond our purpose. Therefore, only a short overview of the space allocated for healthy and regular varieties within the two product categories will be given. In Appendix D, we show complete mappings of the shelf allocations and the proportion of healthy products available in comparison to regular products. A map of the pasta and breakfast cereal and pasta section in the store can be found in Appendix E. Finally, the complete list of all the healthy products available can be found in Appendix A.

### 4.5.1 Breakfast Cereal

The breakfast cereal had approximately 1 ½ aisles or 3 shelf sections. The first section was located right next to the complete cereal aisle and contained only Muesli products. In this section there were a total of 20 shelves and the healthy varieties were placed mostly in the middle and in the upper right hand corner. About 40 % of this section was allocated to healthy products.

In section 2 and 3 (1 complete aisle) the shelf system was somewhat different with only one actual shelf for the most part. Under this shelf, products were placed directly on the floor and piled. In section two, 25% was allocated to healthy products, mostly centred and on the upper shelf. In section 3, approximately 35% was allocated to healthier products, placed on the left side both on shelves and on floor.

There were two gables for breakfast cereal, located on the two ends of section 2. On these gables about 25% were healthy alternatives. In total this adds up to 35% percent of the total assortment being healthy alternatives.

### 4.5.2 Pasta

The pasta section looked quite different from the breakfast cereal sections because it was comprised of only one, long aisle. In this aisle, almost all healthy products were located in the middle part of the aisle. The aisle had a system with 3 shelves and at the bottom, 2 sets of baskets. The allocation of healthy products was about 30% of the total assortment.

### 4.5.3 The Placement Variables

The placement of the chosen product on the shelf and in the aisle was noted during the observations to get indications on where products are chosen and to see if there exist any differences between healthy and regular products.

#### 4.5.3.1 Placement on Shelf

As can be seen in table 35, some variations existed between healthy products and regular on the placement on shelf variable, in total and between the categories. Overall, there is a significant difference between healthy and regular products in that healthy products to a higher degree are placed above eyelevel. Of course this variable is very dependent on the actual distribution between the different shelves spaces allocated for the different products. However, in comparison to placement in aisle, this variable was fairly evenly distributed between the different levels (see Appendix D). As can be seen, under eyelevel and eyelevel are the most frequent for both healthy and regular products (table 36). However, as the t-test indicates, a higher proportion of the healthy products chosen were on the upper shelves in comparison to regular products.

Variable	Product	N	Mean		Sig. (2-tailed)	Mean Difference
Placement of chosen product on shelf	Healthy	208	1,72	equal variance assumed	0.024	0.144
	Regular	348	1,58			

**Table 35: T-test shelf placement**

	Pasta		Breakfast Cereal		Total	
	Healthy	Regular	Healthy	Regular	Healthy	Regular
<b>Under</b>	34 34,0%	89 49,2%	64 59,3%	99 59,2%	<b>98</b> <b>47,1%</b>	<b>188</b> <b>54,0%</b>
<b>Eyelevel</b>	42 42,0%	81 44,8%	28 25,9%	38 22,8%	<b>70</b> <b>33,7%</b>	<b>119</b> <b>34,20%</b>
<b>Above</b>	24 24,0%	11 6,10%	16 14,8%	30 18,0%	<b>40</b> <b>19,2%</b>	<b>41</b> <b>11,80%</b>
<b>Total</b>	<b>100</b>	<b>181</b>	<b>108</b>	<b>167</b>	<b>280</b>	<b>348</b>

**Table 36: Placement on shelf**

#### 4.5.3.2 Placement in Aisle

As can be seen in the t-test, no difference exists between healthy and regular varieties on the placement in aisle variable. As can be seen in table 36 and 37, very little variations exist between the categories and in total between the groups.

Variable	Product	N	Mean		Sig. (2-tailed)	Mean Difference
Placement of chosen product in aisle	Healthy	208	2,16	equal variance assumed	0.867	0.014
	Regular	348	2,15			

**Table 37: T-test Placement in aisle**

	Pasta		Breakfast Cereal		Total	
	Healthy	Regular	Healthy	Regular	Healthy	Regular
<b>Beginning</b>	41 41,0%	39 21,5%	25 23,1%	66 39,5%	<b>66</b> <b>31,7%</b>	<b>105</b> <b>30,2%</b>
<b>Middle</b>	29 29,0%	70 38,7%	32 29,6%	42 25,1%	<b>61</b> <b>29,3%</b>	<b>112</b> <b>32,20%</b>
<b>End</b>	18 18,0%	60 33,1%	44 40,7%	45 26,9%	<b>62</b> <b>29,8%</b>	<b>105</b> <b>30,20%</b>
<b>Gable</b>	12 12,0%	12 6,3%	7 6,5%	14 8,4%	<b>19</b> <b>9,10%</b>	<b>26</b> <b>7,50%</b>
<b>Total</b>	<b>100</b>	<b>181</b>	<b>108</b>	<b>167</b>	<b>280</b>	<b>348</b>

**Table 38: Placement in aisle**

## 4.6 Summary of the Results

	<b>Healthy</b>	<b>Regular</b>
<b>Time</b>	Spend significantly longer time Correlates significantly with all other variables except shopping list, The strongest discriminant association	Spend significantly shorter time Correlates significantly with all other variables except shopping list The strongest discriminant association
<b>Shopping list</b>	Significantly more likely to have a shopping list (for pasta and both categories only) Correlates significantly with study chosen package and study price sign	Significantly less likely to have a shopping list (for pasta and both categories only) Correlates significantly with study other packages and study price sign
<b>Study chosen package</b>	Significantly more likely to study package of chosen product (pasta and both categories only) Correlates significantly with all variables except crowdedness The second strongest discriminant association	Significantly less likely to study the chosen package (pasta and both categories only) Correlates significantly with all variables except shopping list and study price sign The second strongest discriminant association
<b>Study other packages</b>	No significant difference Correlates significantly with all variables except shopping list and study price sign	No significant difference Correlates significantly with all other variables
<b>Study assortment</b>	Significantly more likely to study the assortment (breakfast cereal and both categories only) Correlates significantly with all variables except shopping list	Significantly more likely to go straight to product (breakfast cereal and both categories only) Correlates significantly with time, study chosen package and study other packages
<b>Crowdedness</b>	No significant differences Correlates significantly with time, study other packages and study assortment	No significant difference Correlates significantly with all variables except time and study assortment
<b>Study large price sign</b>	Significantly more likely to study the price sign (pasta and both categories only) Correlates significantly with all variables except study other packages and crowdedness The third strongest discriminant association 81.5% of the consumers who studied the price sign also chose a product with large price sign	Significantly less likely to study the price sign (pasta and both categories only) Correlates significantly with time, study other packages and crowdedness The third strongest discriminant association 66% of the consumers who studied the price sign also chose a product with large price sign
<b>Placement of product</b>	Significantly more likely to choose a product higher on the shelves No difference for aisle placement	Significantly more likely to choose a product from the lower shelves No difference for aisle placement

**Table 39: Summary of the results**

## 5. Analysis

*In this chapter we will discuss the data analysis results with help of the theoretical framework. The discussion starts by analysing each variable separately and give possible explanations for the results. By the end of the chapter there will be a combined analysis of all the variables together.*

### 5.1 Analysis of the Behavioural Variables

In this section, we will discuss the different behavioural variables and provide explanations, in accordance with our theoretical framework, for the differences in behaviour between consumers who buy healthy and consumers who buy regular products.

According to the descriptive statistics of our study, about 70% of the consumers were women, and a higher percentage of women than men choose a healthier alternative. We have not been able to provide an explanation for this from our theoretical framework.

In average almost 40% of the consumers chose a healthier product confirming the trend of health awareness as well as the theory that many consumers are aware of their health and want to make it improve or prevent illness.

#### 5.1.1. Time

The data analysis results show that there is a significant difference in the time spent before choosing between the healthy and the regular group, independent of product category. If the consumer chooses a healthy product then he or she tends to take longer time before deciding in comparison to a consumer who chooses a regular product.

Many consumers are, as described in the theoretical framework, concerned about their health and only about one fourth of all Swedish consumers never choose food products based on their health (Swedish Health Summit, 2003). Many consumers also believe that what you do and eat today will affect your health both today and in the future. As Svedberg (2006) argues; the healthier perception we have, the healthier we are. Hence, it could be argued that these consumers have what Zaichkowsky (1985) defines as personal involvement in eating healthy, since they are involved in their product decision through interests, values and needs. Therefore one can argue that the reason why consumers who buy healthier products take longer time before choosing a product is because they have involvement in eating healthy and with healthier products. They have a higher interest in health and their belief is that food products can help them prevent certain illness or improve their bodies. Their personal involvement is also likely to contribute to higher knowledge on healthy products and nutrition. Hence, making their product selection is important to the consumer and this therefore leads to more time spent before making the product selection.

The Swedish Health Summits segmentation model can also explain the differences in time spent between the two groups. This model states that there are other reasons than improving your health that influences your decision to buy a healthy product. For example, very few consumers in Sweden are willing to sacrifice taste to eat healthy. This could imply that those who choose healthier products probably need to take more time in order to figure out what product they want. They need to know that the product is good for their health and that it

tastes good, which in turn leads to more browsing and evaluation for the consumer who chooses healthy products.

As can be seen from the discussion so far, the time variable is very clearly related to other variables in focus of this study. The results from the correlation test show that time correlates significantly with all other variables with the exception of visible shopping list. This of course seems natural since the more browsing and evaluation of alternatives the consumer makes, the longer time the consumer spends before choosing the product. Hence, as argued by Lockshin *et al.* (1997), involvement can lead to increased time spent because the consumers do more browsing and alternative evaluation.

There were no major differences in the correlations of time and the other variables between healthy and regular products. One minor difference could be seen in that time correlated more with study of assortment for healthy products. This could in part be explained by the results from the t-tests that indicate that consumers who buy healthy study the assortment more and hence study assortment have a somewhat greater influence on the time spent for the healthy products. For regular products on the other hand, study of assortment is done to a lesser degree, indicating that consumers who buy regular products more often go directly to the chosen product and therefore spend less time. This corresponds to the pre-mediated consumer and low information seekers as defined by Sinha and Uniyal (2005). These consumer types know what product they want and do not seek additional information regarding their product choice.

### 5.1.2 Shopping List

There is a significant difference in consumers having visible shopping lists when looking at pasta and breakfast cereal together. Consumers who buy a healthy product more often have a visible shopping list than consumers who buy a regular product. Interestingly, there is only a significant difference for pasta products and both the product categories together, but not within the breakfast cereal category.

A visible shopping list can be seen as an indicator of whether the choice of product was planned ahead which then, in comparison to impulse buying, should lead to less browsing and evaluation of alternatives (Beatty and Ferrel, 1998). Our results, however, indicate that the healthy consumer both study assortment to a higher degree and have a visible shopping list, thereby showing a somewhat contradictory behaviour to what would be assumed from planned purchasing. When looking at the regular consumer, this seems even more contradictory because a consumer who walks straight to the product without studying the assortment show more planned behaviour and hence a shopping list would have seemed in order. In the correlation study for regular products there was a very small negative correlation for shopping list with study of packages. The negative correlation should indicate that more studying of packages occurs when no shopping list exists, and the other way around. However, the correlation is now so small that it seems more reasonable to assume that there is no correlation between the variables. All these findings seem to be contradictory to the previous research on planned purchasing behaviour. However, there are several possible explanations for this. For example, even if the consumer does have a shopping list it does not necessarily mean that the consumer has planned exactly what brand or product to buy ahead. The list could merely be stating that a pasta or breakfast cereal should be bought and not which particular kind. The list could also be used for other products, not within these categories. Of course, there is also the possibility that the product is purchased for someone

else's account, and therefore the consumer needs to study the assortment and package to make sure that the right product is chosen. Hence, the use of a shopping list as a variable for determining planned behaviour might have limited validity in this study since the observations does not allow us to actually study the shopping list and determine what it is used for.

Our theoretical framework also allows us to give an alternative explanation for the higher degree of visible shopping list in consumers who choose healthy. It could be suggested that these consumers, due to their higher involvement and knowledge of healthier products, plan their buying ahead, but still need to confirm that the products purchased fulfil the health purpose, which according to Gira can be to improve an already ill body or to prevent illness. Hence, the consumer needs to validate the decision by studying the assortments or packaging even though the purchase of a healthy breakfast cereal or pasta product was determined before the purchase.

What needs to be thought about is the fact that there was only a significant difference on pasta products and not on breakfast cereal. Perhaps this can be argued with the fact that breakfast cereal is a product that is purchased more on habit. Breakfast cereal is the type of product that you buy the same kind of every time. Pasta on the other hand might be varied according to what dish it is going to be served with.

### 5.1.3 Study Chosen Package

As with the shopping list variable, study the package of the chosen product only differed significantly between the two groups for pasta products specifically and for both product categories together. Consumers who buy healthy products study the chosen product to a higher degree than consumers who buy a regular product, with the exception of within the breakfast cereal category. The results from the discriminant analysis also indicated that study of the chosen package is the second most important predictor variable when discriminating between the two groups. However, as previously stated the results from the discriminant analysis should only be seen as indicators due to the low validity of the discriminant function.

Overall, there is a significant difference in that consumers who buy a healthy product tend to study the chosen package to a higher degree than those who decide to buy a regular product. Just as the time variable, this could be related to the involvement and knowledge of the consumer. As Silayoi and Speece (2005) claim, product information becomes more important to the consumer when there is higher involvement in the product. Those who have more personal involvement concerning health, and in turn knowledge and physical involvement in what healthy products should contain, should be more likely to study the package of the chosen product to search for information that can validate their decision.

What the consumer is looking for when studying the package is likely to depend on what the consumer wants to gain from choosing a healthier alternative. Most of the Swedish consumers want to see results from eating healthy (Swedish Health Summit, 2003) and therefore might be looking at the package in order to see information about the effect the product will have on their health. About ten percent of the Swedish consumers want to eat healthy because they believe it will improve their health or prevent illness in the future. These consumers are most likely to buy products that are good for the heart or low in fat or energy (ibid.) and this is therefore likely information they look for when studying the package. Other groups described by Swedish Health Summit (2003) chose healthy because their doctor has ordered them to do

so or perhaps because they are on some kind of diet. These reasons also affect the consumer to look at the package before purchase in order to make sure that the product meets the requirements of the doctor or the diet.

The correlation analysis showed that there was significant correlation between study chosen package and the variables study other packages and study assortment. These correlations, although very small, indicate that consumers who study the chosen package also are likely to study the alternatives by looking at the assortment as a whole and by looking at other packages. However, there were only minor differences in these correlations between healthy and regular products indicating that these associations exist independently of the category.

#### 5.1.4 Study Other Packages than Chosen

There are no significant difference among consumers who choose a healthy product and a consumer choosing a regular product on the variable study packages other than chosen when pasta and breakfast cereal products are combined. Nor is there a significant difference when looking at the product categories separately.

Our study does not include studying the package without holding the product in the hands, since it would be too difficult for the observer to notice when and at what the consumer is looking. This means that the consumer gives all the products a glance before selecting the product that seems to meet the wanted criteria by just looking at what is printed on the front of the package visible from about 1-2 meters distance. In order for a product to be chosen and looked at it seems like it is in-store attributes that makes this happen. See further discussion on alternative evaluation under study assortment (section 5.1.5).

This variable correlates significantly with time spent, study chosen package, study assortment and crowdedness for the healthy product group and with all variables for the regular group. This indicates that this variable has associations with the other variables and is therefore likelier to occur in combination with, for example, other alternative evaluation variables such as study assortment as a whole. However, with the correlations being as low as they are, we can only see this as indications for associations. Time correlates the most with this variable, which is clear since the more packages you study, the longer time it should take.

One interesting part is the difference in correlation with crowdedness for the two groups since it seems to have higher correlation for the healthy group. The positive correlation in this case seems to be somewhat contradictory since it, according to previous research, should be more likely that more crowdedness generated less studying of packages, and less crowdedness more studying of packages. Hence, we would have expected a negative correlation between study packages and crowdedness. Now, our results indicate the opposite, the more crowded the more studying of packages occurred, with of course the awareness of the relatively low correlation of 0.3. This therefore seems contradictory with the findings from Grossbart et al. (1990) who found that crowding caused less browsing and product comparison. It also stands in contrast to the findings from Cashwell and Padberg (1992) who claim that when consumers are more stressed and hurried, as in a crowded situation, less studying of product labels occur. One possible explanation for our findings is that consumers might be concerned whether other people see their product selection and by studying packages they thereby show them that they care about the product content. However, this reasoning is not supported by the theoretical framework as described below in part 5.1.7.

### 5.1.5 Study Assortment

According to our results, there is a significant difference between the healthy and regular group in that consumers who buy healthy product study the assortment to a higher degree and that consumers who buy regular products to a higher degree walk straight to the chosen product. However, when looking at pasta and breakfast cereal separately, there is only significant difference for breakfast cereal.

Study of assortment can be seen as pre-purchase searching in which, according to Bloch *et al.* (1986), the consumer tries to enhance its purchase decision by increasing the quality and satisfaction. Hence, the consumer studies the overall assortment to make sure that the right product is chosen from the many alternatives. This is especially true for consumers who buy healthy products since they, as previously argued, has more involvement and the purpose of the purchase (i.e. increase health) makes the choice important and even risky. With all the alternatives available for the health conscious consumer, there is a likelihood that the consumers experiences what Bloch *et al.* (1986) define as choice uncertainty which corresponds to the complexities involved in choosing between many fairly similar alternatives within a product category.

In our correlation analysis, we found that study of assortment correlated significantly with study package of chosen product and study other packages than chosen. These correlations existed for both regular and healthy products, but were stronger for healthy varieties. This in combination with the fact that consumers who choose healthy also studied the assortment more and study the chosen package more could indicate that the package might be more important for the healthy product. The package might influence the likelihood of approach behaviour towards the product by, for example, leading to arousal in the consumer, which then leads to more exploration (Donovan and Rossiter, 1982). The packaging has become a very important communication tool for marketers. Consumers are today influenced by many in-store stimuli, by which the package seems to be important. The package can contain something that seems appealing to most consumers, independent of whether the product is familiar or unfamiliar. For a product with lower involvement or high familiarity such as breakfast cereal, it is often enough for the consumer to study the visible elements of the product in order to gather sufficient information (Silayoi and Speece, 2005) and hence only study the assortment and not the chosen product's packaging.

The study assortment variable can also be related to the placement variables since what captures the interest of the consumer can be influenced by for example shelf placement and aisle placement. As argued by Underhill (2003), the consumers are more likely to see products that are placed in eye-level than products placed high or low on the shelves. However, no correlations were found for study assortment and placement in aisle or on shelf in this study. One possible reason for this is the time spent before choosing the product is higher for healthy products. The time variable also correlates significantly with study assortment. Hence, if the consumer spends more time, placement variables might be of less importance, as the consumer looks at all the shelves.

The assortment of the store can have an influence on the alternative evaluation that the consumer does and hence influence the variables study assortment and study chosen package. As argued by Oppewal and Koelmeijer (2005) more valuation occurs for large assortments. This was clearly the case at this store since the assortment for breakfast cereal and pasta was very extensive. The selection of healthy options was also extensive, implying that the

consumer who wanted to choose a healthier product had a lot of alternatives to choose from. This, together with the higher involvement as previously argued, should then increase the study of assortment variable for the healthy consumer.

### 5.1.6 Crowdedness

There is no significant difference of crowdedness when choosing a healthy or regular product, neither combined nor when looking at the categories independently. In the correlation analysis, we found that crowdedness correlated with time, study of chosen and other packages and study of price sign for regular products. The correlations for the healthy products were somewhat different and the variable correlated significantly with only time, study of other packages and study assortment. However, crowdedness had more correlation with study other packages for healthy products and, as previously discussed, this seemed somewhat paradoxical since the correlation was positive and not negative. Hence, the more crowded, the more study of packages occurred and the other way around. This was also true for the significant correlations with the variables time, chosen product (regular) and study assortment (healthy) which also had a positive correlation, even though previous research has found that human variables such as crowding has a negative affect on browsing and comparison thereby leading to less time spent (Grossbart *et al.* 1990). The only variable that seems to correlate negatively with crowdedness was study price sign for regular products, indicating that the more crowded the less study of price sign occurs (and the other way around). However, since these correlations are so weak, it is hard to draw any clear conclusion regarding these variables relationship with crowdedness. More than anything, this could indicate that there exists no linear association between the variables and crowdedness.

Perhaps this can be somewhat explained by time pressure. In order to do this we need to assume that crowdedness creates a stressed feeling that makes people feel there is time pressure. For higher involvement products many consumers believed it to be important to still make time in order to evaluate the product (Silayoi and Speece, 2004). Since health products are according to us of higher involvement this should indicate that even though the consumers are stressed, they take time to study the product. Perhaps this does not explain why the consumers to a larger extent study packages when crowded, but at least it indicates that the result should at least not be lower than without crowdedness.

### 5.1.7 Study Price Sign

The t-test shows that there is a significant difference if consumers study large price signs before choosing a product depending on if the product of choice is a healthy product or a regular product. Those who choose healthy products study the price sign to a higher degree. When looking at the product categories independently, only the pasta products have a significant difference.

A possible reason for the higher degree of studying price sign can be, as previously argued, that those who buy a healthy product are more involved in the purchase, which as argued by Lockshin *et al.* (1997) could lead to more cognitive effort being put into the evaluation of alternatives. As previously stated our results show that consumers who buy healthy spend more time, evaluated chosen product more and study the assortment to a higher degree. Therefore, it is likely that someone who spends that much cognitive effort into the evaluation of the chosen product and the alternatives, also studies the available price information before making the product selection. Study price sign also showed small significant correlations

with study chosen package for the healthy product group, indicating that there is a small association between the variables. Thus, studying the package might also be combined with study the price, indicating that the consumer makes a fairly thorough analysis when trying to evaluate the healthy product.

Related to the reasoning above is what type of price sign is used since different price signs are different in their effectiveness in reaching the consumers (McKinnon, 1981). In this case fairly large price signs were used, but no benefit signs (signs with information regarding the product usage etc.). As argued by McKinnon (1981) these price signs without benefit are less noticeable by the consumers and primarily act as a differentiator for the products rather than as a buying stimulus. Even though the signs had bright colours which according to (Jansson *et al.* 2004) increases the detection rate for the consumers, the signs might not have been that noticeable for consumers who did not spend much time browsing or evaluating the available choices. Hence it could be argued that one possible reason that the consumers who buy healthy studied price sign more is because they spent more time and did more evaluation before choosing and hence had a better chance of noticing the price signs.

We also found that a significant amount of the consumers who studied the large price signs also chose a product that had a large price sign. As indicated by previous research, price is very important factor when buying foods to more than half of the population price is the main factor to influence their choice of product (Swedish Health Summit, 2003). This was also confirmed by the results from this study since 66% of the regular consumers who studied a large price sign also chose a product that had a large price sign. In comparison, 81.5% of the consumers who chose healthy did the same. Hence, price information seems important for consumers who choose healthy and the choice could be depending upon whether the price information exists. This indicates that even though the consumer is concerned about their health, they are also aware of the prices.

Another possible explanation is that there might be a perception of health products as more expensive and therefore more consumer who buy healthy products examine the price signs before choosing product in order to make sure it is not the most expensive, or too expensive or just to make sure there is no better deal. However, since we have not measure attitudes to prices we do not know whether the attitudes to prices actually influenced the consumer's decision

### 5.1.8 Product Placement

Our results indicate that the variable placement on shelves has a significant difference for healthy and regular products. Healthy products are to a higher degree chosen from the upper shelves than regular products. These results can be fairly conclusive since the space allocation analysis indicates that there is variation in shelf placement and hence the healthy products are fairly evenly distributed on the different shelf-levels.

According to the literature, the most favourable shelf location for a product is in eyelevel position or just above (Underhill, 2003 and Drèze *et al.*, 1994). However, as our results indicate above or at eyelevel were not the most frequent shelf-level for either product category. In fact, as previously states, the most frequent shelf-level for both products were under eyelevel, even though healthy products were chosen from the upper shelves to a higher degree than regular products. There can be different explanations for these phenomena. First, the lower shelves for breakfast cereal were quite large and a many products were piled in such

a way that they were clearly visible to the consumers. Second, the lower shelves also showed many of the well known brands such as Barilla and Kellogg's and those brands are likely to be found by the consumers' independent on the shelf placement.

The higher degree upper shelf selection for healthy products could in part be attributed to our findings that healthy consumers study assortment more and studies the chosen package more. As Underhill (2003) points out, it is easier for the consumer to rest their eyes on products in or just above eyelevel. Thus, the consumer who studies the assortment might be more likely to choose a product in this level. This is also related to going straight to the chosen product, rather than study assortment, since walking straight to a product implies that the consumer already knows where the product is and hence shelf level might matter less to those consumers.

Another explanation, related to the above one, is that the regular consumer might not need to validate their purchase to the same extent as the healthy consumer since they, as previously argued, are less involved and has less risk in their purchase. They can therefore choose the same product every time and never study the assortment or packages to make sure that they have the best (healthiest) alternative. Hence, they walk straight to the product and relies less on product placement. They already know what it looks like and most likely where it is located.

Our results indicated that there were no differences between healthy and regular products on the variable aisle placement. In fact, the distribution between the different aisle dimensions were very similar between the products and compared to one another indicating that the variable has little influence on products chosen. This then stands in contrast to the findings of Underhill (2003) who claims that aisle placement can have affects the consumers' choice. Of course, it is not possible to say that the aisle placement has no affect on, for example, sales since we have not tested to move the products around and measure the differences in sales.

## 5.2 General Concluding Discussion

As discussed above there are some significant differences between consumers who buy healthy products and those who buy regular products. In general the differences indicate that the healthy consumer is more involved and has more knowledge than the regular consumers. This is in accordance with among other researcher Bogie *et al* (2005) who claims that those who have a higher knowledge of nutrition also are more aware of their own health and are therefore also more likely to try to affect the same by eating healthy This indicates that it is necessary to separate regular consumers from healthy consumers when marketing products. As explained by Gira and Swedish Health Summit (2003) consumers consume healthy products due to many different reasons. When marketing products it is important to know for what reasons a consumer choose the product.

Packaging seems to be a very important communication tool for marketers in an environment full of stimuli and competition. As explained, many consumers choosing healthy products spend more time before deciding; they study the assortment and read on the chosen package to a larger extent than consumers who chooses regular products. This is an indication on that marketing on packages for healthy consumer is a probable success factor. But in order to make a regular consumer read on a package, the information on the package probably has to be more eye catching than for a healthy consumer due to the fact that the consumers choosing regular products do not study the packages to the same extent as healthy consumers. Rather, they evaluate the visible elements as described by (Silayoi and Speece, 2004). Ippolito and

Mathios (1991) claim that producer health claims do result in higher knowledge and awareness among consumers. By producing packages that convey the health characteristics of the product so that they are easier to see for the regular consumer who study assortment and packages to a lesser degree, the producers might be able to convince these consumers to buy their healthier option. Hence, the information should be placed on the front of the package. Still, without the actual awareness and care for their health, the consumers who buy regular varieties might be harder to convince. To overcome this obstacle, the producer has to convince the regular consumer of the healthy side of the product as well as other attributes such as flavour and price.

The package is not the only element that might influence the purchase of a healthier product. How the product is placed on the shelves might also have an influence since the healthy consumer studies the assortment more and evaluate the alternatives to a higher degree than regular consumers. As argued by Oppewal and Koelmeijer (2005), the assortment size and alternatives available for the consumer is likely to influence what product is bought. It is important that a large assortment of healthier products is somewhat differentiated so that not too much cognitive effort is put into determining the differences between the products. Too much cognitive might, as suggested by Garbarino and Edell (1997), lead to that an alternative with less effort required (i.e. a regular product) gets chosen instead. To group the products on brand-to-brand basis might be helpful so that the consumer can choose between the different flavours within each brand (Winer, 1992). The consumer who chooses healthy then only has to compare the health attribute of the different brands. When the choice of brand is made, the consumer can easily choose a flavour within that brand.

5.2.1 The Behaviour of the Healthy Consumer

As previously stated this chapter aims at discussing the empirical data results and provide explanations for the variations in behaviour between healthy and regular consumers by the use of existing theory. In the theoretical framework chapter, we presented a framework model that meant to illustrate the connection between health awareness; in-store stimuli and buying behaviour (see section 3.3.3). In this final part of the analysis chapter, we want to extend the model to incorporate what we now know about the consumer who chooses to buy a healthy breakfast cereal or pasta product. This extended figure shows the specific behavioural variables tested in this study that was typical of the healthy consumers (i.e. existed to a higher degree for these consumers). The in-store stimuli that showed to have an affect on the behaviour of the healthy consumer are also included.

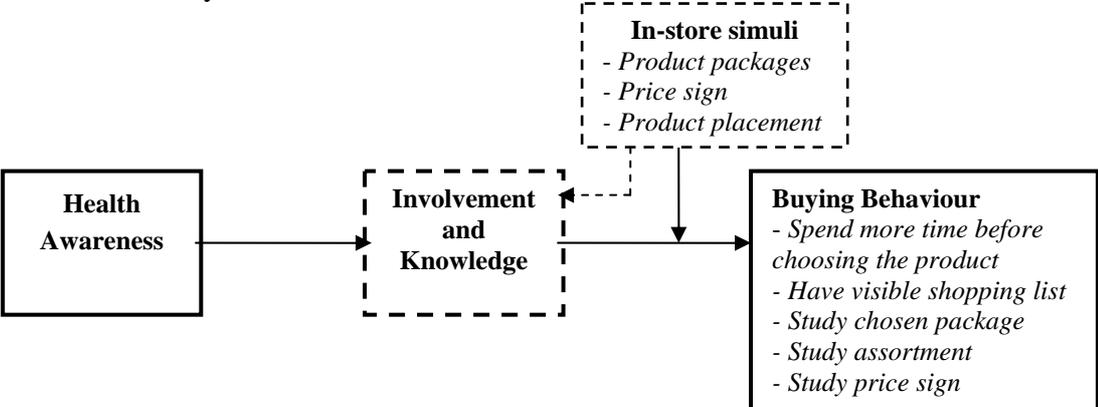


Figure 6: Extended framework model – The behaviour of the healthy consumer

## 6. Conclusions

*This chapter will provide a conclusion of the study and an attempt to answer the problem definition and purpose will be made. Further, the theoretical and practical contributions of the study will be discussed. Finally, the chapter ends with suggestions for further research.*

### 6.1 Conclusions of the Study

To start by shortly answering the problem definition; much of the results indicate that there are behavioural differences between consumers choosing healthy products and consumers choosing regular products. In summary, the behavioural differences when both pasta and breakfast cereal are combined are;

- Healthy consumer takes longer time before choosing a product than regular consumers
- Healthy consumers more often have a visible shopping list than regular consumers
- Healthy consumers more often study the chosen package than regular consumers
- Healthy consumers more often study the assortment before deciding what product to choose while regular consumers more often walk straight to the chosen product
- Healthy consumers more often study price than regular consumers
- Healthy consumer more often choose products placed above eyelevel than regular consumers

As a part of our purpose, we wanted to increase the knowledge of how consumers behave in the stores and more specifically how the choice between different varieties can influence the purchase behaviour. Our results clearly indicate that consumers behaviour in the stores can be influenced both by in-store stimuli such as price signs and packaging, as well as by the actual product choice alternatives facing the consumers. If the product is of a healthier type, the consumer changes his or her behaviour in accordance with the importance of making a “correct” (i.e. the healthiest) choice.

Another aim in our purpose was to provide explanations to why differences in behaviour between healthier and regular varieties exist. As was argued in the analysis chapter, our theoretical framework allows us to make some inferences to why there are differences. Much of the behavioural patterns suggest that involvement and knowledge on health and healthy products could explain why there is more browsing, evaluation of alternatives and more time spent by consumers who buy the healthier alternative. The choice of a healthier product is more important to the consumer and hence brings more evaluation of the product. However, our results indicate that there are some differences between the product categories in how the consumers choose the healthier alternative, indicating that healthy consumer behaviour can vary even between two fairly similar product categories. Hence, even though the overall behaviour indicates more involvement for healthy consumers, the differences between the two product categories shows that the product type might pose different levels of involvement and hence different alternative evaluation behaviour.

#### 6.1.1 Theoretical Contributions

As was discussed initially in the problem discussion, the knowledge gaps on in-store buying behaviour and more specifically on how consumers actually choose a healthier alternative was many and far between. Many of the previous studies had focused on how abstract store

stimuli such as scent and colours can influence the consumer's behaviour in the store and at the point of purchase (e.g. Spangenberg *et al.* 1996, Mitchell *et al.* 1996, and Jansson *et al.* 2004). There were some studies that had focused more directly on in-store health marketing and its impact on sales (e.g. Närhinen *et al.*, 2000 and Achabal *et al.*, 1987) but we found no study that, in a more direct sense, had attempted to measure the behaviour of the consumer when choosing a healthier alternative. As was proposed by previous research, health concerns can influence the product choice since the underlying motives (i.e. to improve one's health) are of clear importance to today's Swedish consumers (e.g. Gira and Swedish Health Summit). However, no research had been conducted on how this health awareness actually influences behaviour. This study has contributed to the existing knowledge base by showing how some behavioural variables actually differ when a consumer chooses a healthy product instead of a regular product. This knowledge is useful in a theoretical sense because this shows how consumer behaviour can be influenced by store assortment (the variety of healthy products offered) and by store stimuli such as packaging. We argue that this knowledge adds to the research conducted in laboratories and the research on differences in sales, since those types of studies, although informative, somewhat undermines the complexities of consumer in-store behaviour. By studying what actually happens in front of the shelves in an actual store, an understanding of the importance of evaluation of alternatives can be increased.

This study also adds to the existing knowledge base on approach and avoidance behaviour (as proposed by Donovan and Rossiter, 1982) can occur in an in-store setting because even though this study has made no attempt to examine the emotional aspect of the environmental psychology model, actual approach behaviour has been observed and measured. However, caution should be taken to overestimate our studies results since the data collection method has not allowed us to measure the relative importance of all store stimuli in comparison to the involvement with healthy products. What actually causes the approach or avoidance behaviour is difficult to determine. Still, since no clear attempt has been made to actually determine different types of approach or avoidance behaviour towards different types of products, this study shows indications on what behaviour can occur and hence creates a foundation that can be useful for future research (see section 6.3 for more discussion on suggestions for further research).

Finally, this study contributes to the theoretical knowledge on how different variables such as study package, study assortment, time spent, study price sign and crowding actually occurs and influences each other. Many of the previous studies have focused on how one specific variable affect sales or product evaluation, but very few have attempted a broader perspective and tried to incorporate different variables and their influences. This study enabled us to look at a set of variables and their influences on the choice of a particular product type in comparison to another. Of course, this should not be overestimated since this study has only looked at a smaller set of variables that have previously shown to be of relevance. Hence an exploratory study could probably discover several other and possible more influential variables. However, this study has made an attempt to create a broader perspective of what happens in a store, which can set the ground for more studies on behavioural variables importance for other product choices.

### 6.1.2 Practical Contributions

The last part of the purpose of this study was to contribute to the existing knowledge base on how retailers can influence consumer to purchase healthier varieties. Based on the measurement on behavioural differences between healthy and regular consumers, we have

created some knowledge on possible ways to influence the consumer to purchase more healthy products. As our results indicate, the consumers who choose healthy products spend more time studying the assortment and the package and consequently are able to evaluate the alternatives seem very important to these consumers. Hence, by creating a store environment that minimizes the cognitive effort for the consumer, retailers might be able to influence the consumer to choose healthier alternatives. For example, because the consumer studies the assortment as a whole before choosing a product, placing the alternatives so that they can be easily compared could possibly influence what products the consumer chooses. As previous studies have indicated that both assortment size (Oppewal and Koelmeijer, 2005) and product grouping (Simonson and Winer, 1992) can affect the evaluation of alternatives, the retailer should consider all the possible outcomes of how the assortments are displayed. For example, healthy products that are similar to a regular alternative should be placed close to that alternative since the consumer needs to know that there is a healthy alternative to the regular product. Hence, to place all healthier products in one place might not be the most effective from an evaluation perspective since the consumer then has to spend very much time trying to evaluate the health aspect of all the alternatives and figure out which tastes good and offer a good value for money. The value for money part seems to be a particularly important side here because, as our findings indicate, consumers who choose healthy also study the price information available (large price signs) and choose products that have a large price sign. Thus, neglecting the pricing aspect could have a negative influence on the sales of healthier products.

The knowledge created in this study can also be beneficial to the manufacturers of healthier alternatives since it shows a clear indication that the product's appearance is very important to the consumer when choosing between different alternatives (i.e. to create approach behaviour towards the product). As indicated by our results, many consumers seemed hurried when shopping; leading to the time spent at studying different alternatives as well as the chosen product is limited. It is therefore very important to make sure that the health message to be communicated to the consumer is short, clear and powerful and placed in the front side of the package. This could increase the potential for the product to be noticed by the consumer who usually chooses a regular alternative since these consumers to a higher degree walk straight to the product and spend less time studying the package. It is also important that all the health benefits, in combination with information on price and flavour, are communicated clearly on the package so that the consumer choosing between healthy products can differentiate the product from the alternatives. This could be especially important for the two categories in which we have focused upon in this study since the assortments of pasta and breakfast cereals are very extensive and offer many similar alternatives in the eyes of the consumer. So even though, the healthy consumer studies the assortment and package more than the consumer who chooses regular products, the consumer still needs to be provided with the information in an easy manner to minimize the cognitive effort and increase the chance for the product to be chosen. One thing to note is that previous research has indicated that healthy consumers vary in their purpose of choosing the healthy product and therefore finding out the specific health target might be important to make sure that the information on the package is appropriate. In short, the right communication on the package can be a clear gain for suppliers to take advantage of.

## 6.2 Suggestions for Further Research

The knowledge gained from this study has several limitations, most of these stem from the methodological approach of the study. Observational studies have, as argued in the methodology chapter, several advantages but also disadvantages. For example, even though observations have enabled us to see actual behaviour rather than intended behaviour, the method inhibits our understanding of why consumers behave the way they do. Thus, observations only show behaviour, it does not explain behaviour. Therefore, we recommend further studies to include responses from the consumers in order to increase the understanding of why consumers chose healthy products. For example, the observations could be combined with survey methods or interviews to gather information on why the consumer behaved the way they did and why they choose a specific product. As could be seen in the analysis chapter, inferences had to be made to previous studies to explain the possible reasons behind the behaviour. In future research, concepts such as involvement levels for healthy products would need to be tested in order to see what actually causes the increased browsing and time spent for healthy alternatives.

Structured observations also pose the problem of choosing variables to study before actually conducting the observations. In this study, we choose variables that had been measured in previous studies and that had proven relevance as influencers of consumer in-store behaviour. However, this somewhat inhibits the study since variables not previously tested might be important influencers of in-store behaviour of healthy consumers. We therefore argue that further research needs to look at what other variables exist and how these interact with the basic behavioural variables tested in this study. This could be done by having more of an explorative research design with more open (i.e. not structured) observations.

Another limitation, related to the methodology of the study, is that the observations in this study were conducted in only one store. As discussed in the methodology chapter, the specific store was chosen because it fulfilled the criteria of a large store format and a high consumer flow. However, we believe that the store might have been somewhat limited in the variety of consumers who shop there since larger stores might have more planned “all-week” shoppers than smaller stores. Thus, the results from this study should probably not be generalized to other store formats. We therefore argue that it would be interesting to conduct the same study in different stores formats and different target consumers. In a more extensive study, the ability to generalise the results could be increased.

Finally, the results of this study indicate that consumers who choose healthy products spend more time evaluating the product by studying the package than consumers who choose regular products. A study that more closely examines this phenomenon could be of interest since the results indicate that the consumers validate their choice by studying the information on the package and hence what information that is being communicated on the package might be of importance to the healthy consumers. We therefore suggest a further study that would examine what parts of the package is of importance to the consumer, or more precisely what information the health conscious consumer is looking for when studying the package in the store. The knowledge gathered from such a study could be especially relevant for manufacturers who markets healthier alternatives since the right health message on the package has the potential of increasing the product’s likelihood of being chosen.

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## Appendix A

### Products (brands) considered healthy in this study:

#### Pasta:

Kungsörnen	Snabbmakaroner fullkorn (wholegrain) Lasagnette fullkorn (wholegrain) Spagetti fullkorn (wholegrain) Linguine fullkorn (wholegrain) Tagliatelle fullkorn (wholegrain) Fusilli fullkorn (wholegrain) Makaroner fullkorn (wholegrain) Penne fullkorn (wholegrain) Cotelli fullkorn (wholegrain)
Zeta	Spaghetti Tenuta al dente, Torhigihoni, Caratelli, Tortiglietto (low GI) Spagetti integrali (wholegrain) Spagetti Fusilli integrali (wholegrain) Lasagne integrali (wholegrain)
Axa	Sportpasta Gnocchi (wholegrain) Sportpasta Cortelli (wholegrain)
Dinkel	Dinkel fullkorn (wholegrain)
Barilla	Fusilli integrali (wholegrain) Spagetti integrali (wholegrain)
Finax	Viktväktarnas fullkornspasta fusilli (wholegrain) Viktväktarnas fullkornspasta rigate (wholegrain)

#### Breakfast Cereal

Axa	Sportflakes/jordgubb F-müsli banan F-müsli osötad banan/kanel F-müsli passion Harmoni fullkornskuddar Go'Mix naturell Go'Mix hallon Go'Mix mandel/honung
Quaker	Havrefras naturell Havrefras jordgubb

Kelloggs	Special K Active All Bran Fiber Bar All Bran Plus All Bran
ICA	Ica Gott Liv fullkornsflingor Ica Gott Liv müsli naturell Ica Gott Liv müsli frukt och bär
Finax	Crunch naturell Crunch röda bär Crunch äpple/kanel Müsli sunt och gott Müsli familjemüsli Müsli fruktmüsli Müsli sömmarmüsli Branmüsli naturell Müsli Lätt Viktväktarna fullkornsflingor Viktväktarna fullkornsflingor jordgubb
Nestlé	Fitness
B&P Handelskompagni	Bovete flingor
Start	Fullkorn light naturell Fullkorn light blåbär Fullkorn light röd citrus
Frebecco	Müsli Bär Müsli u/tillsatt socker (no added sugar)

# Appendix B

## Observational Schedule

Pasta or Breakfast cereal	Man or Woman
Product chosen healthy	
Product chosen regular	
Placement of chosen product: beginning	
Placement of chosen product: middle	
Placement of chosen product: end	
Placement of chosen product: gable	
Placement of chosen product: under	
Placement of chosen product: eyelevel	
Placement of chosen product: above	
Time before choosing product: 0-15 seconds	
Time before choosing product: 16-30 seconds	
Time before choosing product: 30+ seconds	
Visible shopping list	
Studied chosen package	
Studied 1-2 packages	
Studied 3-4 packages	
Studied 5 or more packages	
Studied the assortment as a whole walking or standing still	
Went straight to chosen product	
Alone in aisle	
Many people in the aisle (1 extra)	
Many people in the aisle (2 extra)	
Studied larger price sign	
Chosen product has larger price sign	
Chosen product is placed set aside	

# Appendix C

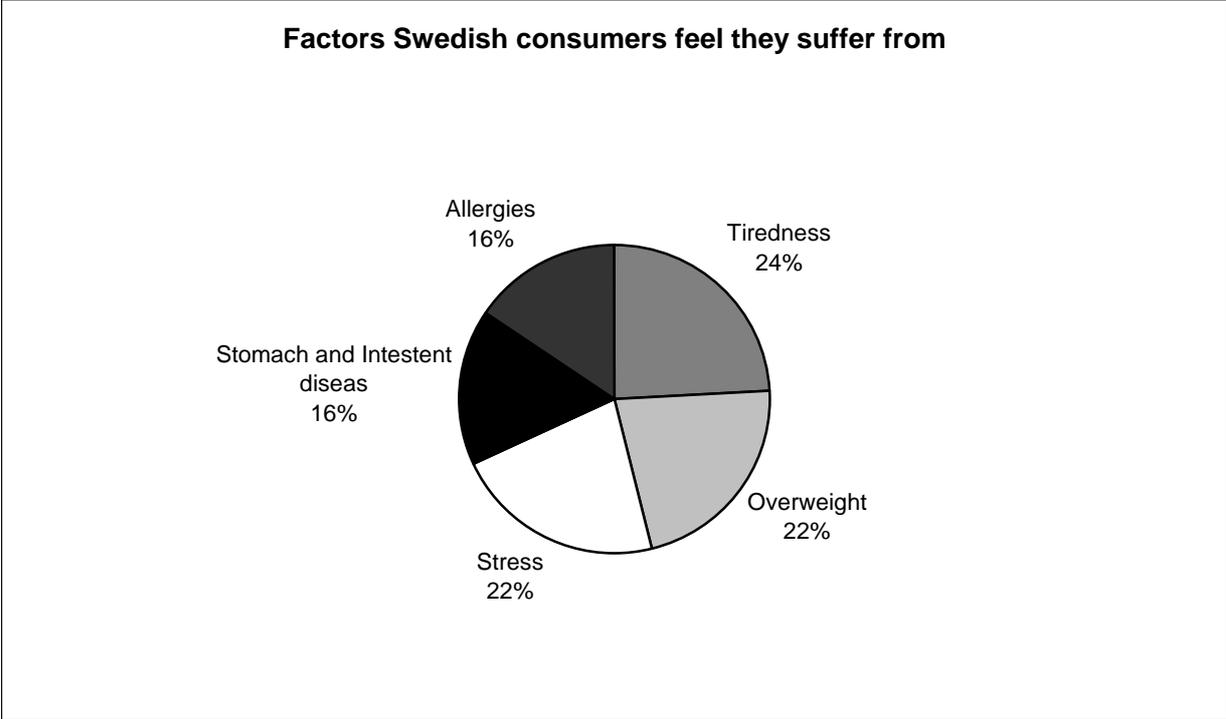


Diagram 1. (Swedish Health Summit, 2003)

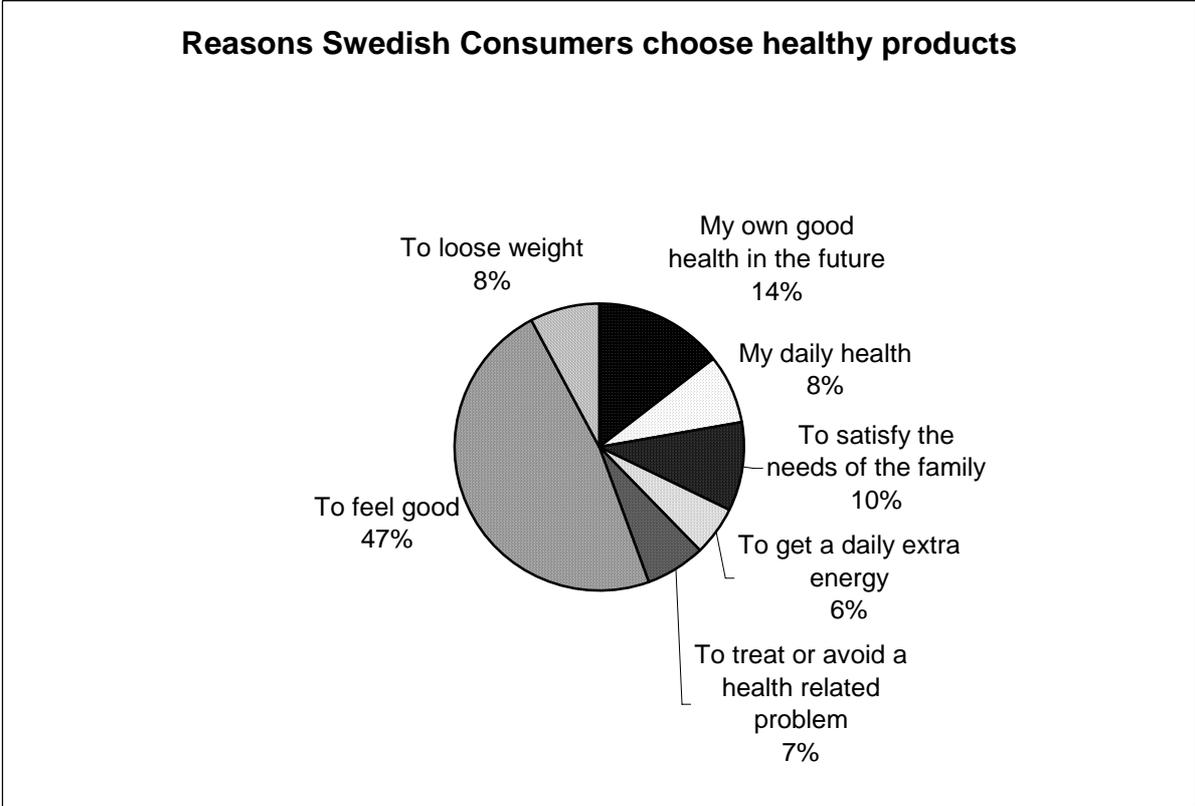


Diagram 2, (Swedish Health Summit, 2003)

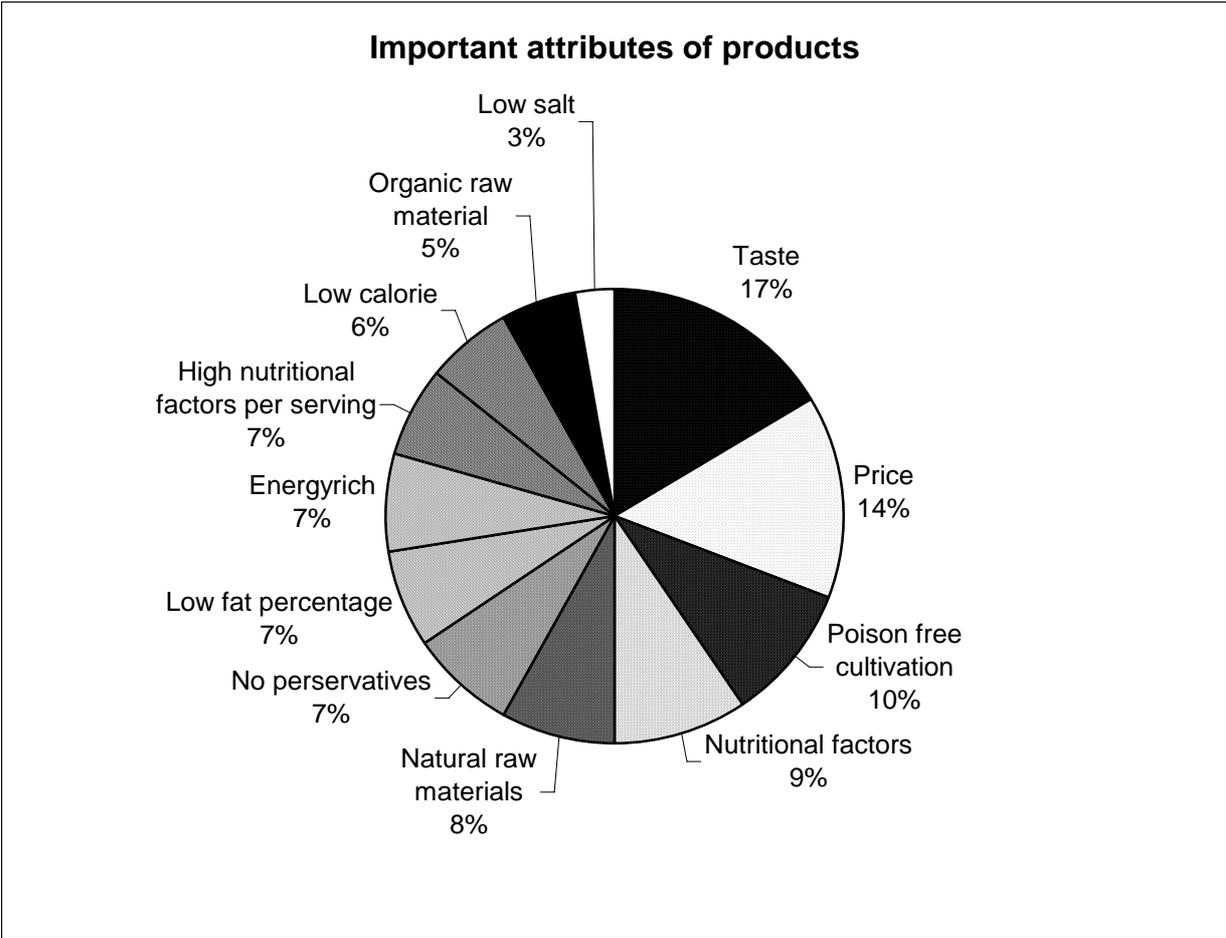


Diagram 3, (Swedish Health Summit, 2003)

# Appendix D

ICA (Crunchy)	AXA	Finax	Finax	Unrelated product	
ICA (Crunchy)	AXA		Finax	**	ICA Gott Liv
ICA (Crunchy)	AXA Go'Mix		Finax	W. W	ICA
ICA (Crunchy)	START Fullkorn		Frebecco		Euroshopper
START	START		Frebecco		Euroshopper

Breakfast Cereal: Muesli section

\*\* Dinkel

W.W = Weight Watchers

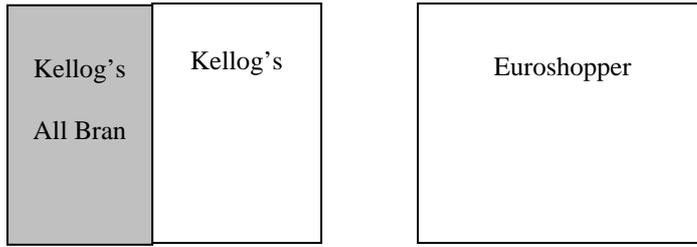
----- Basket

ICA	Frebecco	F R E B E C	B&P	A X A	N E S T L E	Nestle	K. Bran	K. Spec	ICA Special K.	ICA Gott Liv
Nestle	Kellog's Corn Flakes	Kellog's All Bran		Weight W.	Kellog's Special K.			ICA Special . K.		

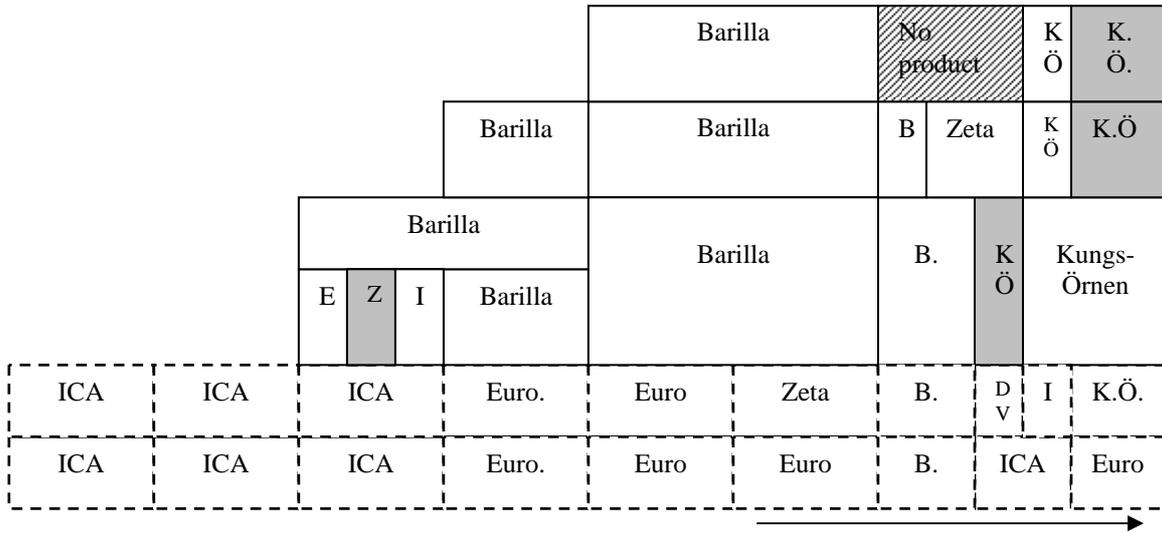
Breakfast Cereal: Section 1

Kashi	Q. Oats	W. Bix	Kell.	Q. Oat	AXA	ICA	Kellog's	Nestle
Kellog's	Quaker Oats Havre Fras				Quaker Oats	Kellog's	Kellog's	Nestle
Kellog's								
Kellog's								
Unrelated Product								

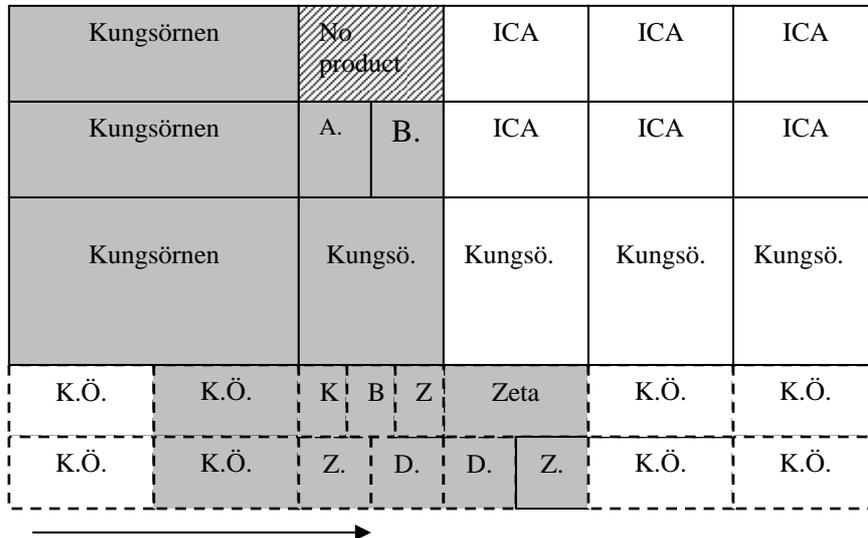
Breakfast Cereal: Section 2



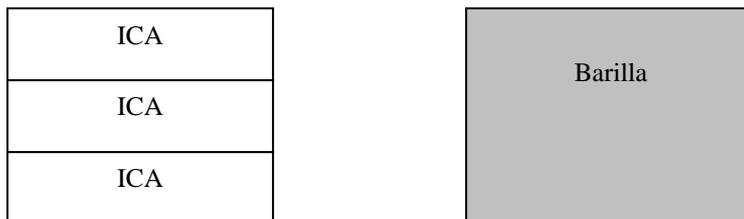
Breakfast Cereal: Gable 1 and 2



Pasta: Part 1



Pasta: Part 2



Pasta: Gable 3 and 4

# Appendix E

Map of the pasta and breakfast cereal section in the store

For more detailed explanations, see Appendix D.

