



***Swedish Consumers' Attitudes and
Purchase Intentions of Functional Food
A study based on the Theory of Planned Behavior***

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ABSTRACT

The purpose of this thesis was to increase the understanding of Swedish consumers' attitudes and purchase intentions of functional food for marketers by using the Theory of Planned Behavior (TPB). It was discovered that previous research conducted in Sweden concerning functional food centered largely on motivational factors for adoption, and perception of the health claims made by these products; however there was a lack in research concerning purchase intentions and a use of theory to evaluate both attitudes and purchase intentions.

Both qualitative and quantitative research methodology were utilized in this thesis. The qualitative research data consisted of 14 short interviews designed to elicit beliefs about purchasing functional food. The quantitative research data was gathered using a questionnaire specifically designed for the Theory of Planned Behavior (TPB). A total of 257 responses were received from students, employees, and members of the general public.

The results from the questionnaire revealed that Swedish consumers had slightly positive attitudes towards purchasing functional food and neutral intentions to purchase functional food. The results from the interviews revealed that amongst other things, Swedish consumers believed that functional foods provide beneficial health benefits, but they are quite expensive. Doctors and family were viewed as important when considering the purchase of functional food. And price and knowledge were viewed as controlling factors of whether or not these foods were purchased.

The results provided by this thesis will be helpful to marketers of functional food as they plan marketing related activities aimed at Swedish consumers.

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1. INTRODUCTION

In this chapter we will begin to define the background of functional food and the theory of planned behavior (TPB). Further, we will define the problem and state the reason why it is important to do further research in functional food with Swedish consumers, and why we aim to do the research with the TPB. Then, we state and justify our four research questions. Finally, we present our purpose and perspective of the thesis. Lastly, we describe the disposition of the eight chapters for this thesis.

1.1 Background

Today's consumers are becoming increasingly aware of the possibility that certain foods may contribute directly to improved health and overall well being. And because consumers' lifestyles have shifted to being more health conscious, manufactures have responded by supplying food that offers additional health benefits. These foods are referred to as *functional food* and claim to: improve overall health, prevent health-related diseases, and reduce health diseases such as high cholesterol and high blood pressure (Moller & Rowland, 2002, p. 483; Siró, Kápolna, B. Kápolna, & Lugasi, 2008, p.457; Gray, Armstrong, & Farley, 2003, p.21; EC Regulation).

Functional food is a rather new concept, and was developed in 1984. It was created by Japanese scientists, who studied the relationships between food products fortified with particular ingredients and the physiological effects they had on the body. The Japanese revolution in functional food increased the awareness for functional food in both the US and Europe (López-Varela, González-Gross & Marcos, 2002, p. 29; Menrad, 2003; Moller & Rowland, 2002, p. 483). Later, experts in the US and Europe discovered that functional foods could help lower the cost of healthcare for the country. For example a person with high cholesterol that eats functional food may prevent and/or reduce his/her health problems and that in turn will help lower healthcare costs. Further, the revolution for functional food opened up a new market which is beneficial to manufacturers (Siró, et al., 2008, p.457).

Now, over 25 years later, interest in the concept of functional foods is still increasing, most notably in the USA, Australia, and parts of Europe (Black & Campbell, 2006, p.20; Moller & Rowland, 2002, p. 483). In Sweden alone, the popularity of functional food has begun to increase substantially, and in the end of 2009, the amount of different functional foods products offered had increased. In fact, the Swedish functional beverage market has been the fastest growing regional market in Europe, and now has what is considered to be one of the most advanced functional foods industries in the world (Stenberg, 2007). Therefore we see it interesting to focus on the Swedish market. Currently, in 2010, the market is still increasing with such product lines as Verum, ProViva, Becel, and Oatly to name a few.

Moreover, we have seen that the theory of reasoned action (TRA) and its extended version, the theory of planned behavior (TPB), has recently received new awareness, especially in the area of consumer behavior and health. According to the TRA, a person's intention for performing a behavior is determined by that person's attitudes

toward performing the behavior and that person's subjective norm. The term attitude toward the behavior refers to a person's negative or positive evaluation of performing the behavior. And subjective norm refers to a person's perception of the social pressures accompanied with the decision to either perform or not perform the behavior. Furthermore, attitudes are a result of a person's behavioral beliefs (the person's beliefs about the likely negative or positive consequences of performing a given behavior). And subjective norm is an outcome of the person's normative beliefs (the likelihood that important individuals will approve or disapprove of a given behavior).

The TRA only applies to behaviors that can easily be performed or performed on a voluntary basis (Ajzen & Fishbein 1980, pp. 6-7). Therefore, the TRA was extended to the TPB to better explain human intentions and behavior. The TPB still contains the same elements as TRA, and two additional elements, control beliefs and perceived behavioral control (PBC) (Ajzen, 1991). Control beliefs concern a person's beliefs about which factors can facilitate or hinder his/ her intentions to perform the behavior, and control beliefs are assumed to influence PBC. And PBC is defined as the person's perception about how easy or difficult it is to actually perform a behavior (Ajzen, 1991, p. 196).

For previous studies using the TPB we have for example the research by Hansen, Jensen, & Solgaard (2004) who conducted a study about predicting online grocery buying intentions. The study was based on quantitative data collected from questionnaires. The data was used to compare the TRA and the TPB to each other and therefore analyze which theory was best of use for that particular behavior. Their findings revealed that the TPB was the theory that best explained the intentions for online buying. Further, O'Connor & White (2010) conducted a study to determine Australian consumers' willingness to try functional foods and vitamin supplements; questionnaires were used. And the questionnaires were used to discover the participants' attitudes, subjective norms, and perceived behavioral control (from the TPB), and also their willingness to engage in free product trials. O'Connor and White concluded that their findings provided support for the TPB and its predictive power for predicting peoples' willingness to trial functional foods and vitamin supplements. Furthermore, O'Connor & White, (2010 p. 75) state that the TPB has been established as a valid predictive model of health behavior, and has been used to predict people's intentions to eat healthy.

These previous studies have with their findings established that consumer behavior can be explained and predicted with the TPB. Furthermore, one previous study was located that was conducted in Sweden and used the TPB. Gummesson, Jonsson & Conner (1997, p. 298) concluded that the TPB is useful for understanding the consumers' determinants of various food choices. In summary, Gummesson, et al., (1997) used the TPB in their research for studying Swedish childrens' intentions to consume certain breakfast choices. And the choices were focused on healthy versus unhealthy choices. In this research the data was collected from questionnaires handed out to Swedish children in the range of 11-16 years old. They determined that attitudes were primarily a good predictor of intentions. Furthermore, in some cases the subjective norm could be used to predict intentions, and only in a limited number of cases they found that perceived behavioral control could predict intentions (Gummesson et al, 1997, p. 297).

1.2 Problem Definition

Despite the rise in popularity and significance of functional foods and beverages (Stenberg, 2007), there has been very little consumer research done on the subject. Furthermore, it was determined that the TPB is useful for understanding consumers' determinants of various food choices (Gummesson, et al. 1997). However, a large number of previous studies concerning functional food have not focused on the use of the TPB or consumer behavior. Instead, previous studies have focused considerably on functional food and their potential health benefits and the technology behind them (see Black & Campbell, 2006; López-Varela, et al., 2002). Because we do not see how these findings can provide an understanding for how marketers of functional food can create future success for the sale of their products in the Swedish market, we insist that consumer studies would be more valuable.

The consumer studies that do exist focus on topics such as motivational factors for adopting functional foods, consumer responses to health claims made by the marketers of these products, as well as consumer acceptance and perceptions. For example, in the study conducted by Niva (2006) she discovered how to predict if Finnish consumers would adopt or not adopt functional food. Her findings revealed that socio-demographic variables; gender, education, and occupational status, explained who would adopt functional food, and which type of functional food what be adopted. It was concluded that a consumer with high education and high occupational status was more likely to be a consumer of functional food. Also, it was found that personal health affected the prediction. A consumer that had high cholesterol levels and intended to lower it was more likely to be a consumer of cholesterol lowering products. Furthermore, consumers who had interest in their health were also considered more likely to be consumers of functional food (Niva, 2006).

The research conducted by Niva (2006) concerned the Finnish consumers; however, most of the consumer studies have been conducted in either the USA or Australia. For example Naylor et al. (2009) conducted their research at an American University with American students. They aimed to find out how consumers reacted to functional food health claims; they especially aimed to see how consumers reacted if there was conflicting information about the health claims. They found that consumers with a higher health consciousness were not affected by conflicting information about health claims when it came to purchasing functional food. Additionally, consumers with less health consciousness reduced their likeness of purchasing functional food when they faced conflicting information (Naylor et al. 2009).

Furthermore, an Australian study by Williams and Ghosh, (2008) summarized the current regulatory proposals and previous studies in functional food from Australia. For example, they summarized that the dietitians and marketing experts considered the current health claims to be misleading. It was determined from focus groups that Australian consumers were interested in functional food. However, the consumers did not trust manufactures and Williams and Ghosh discussed the need for strict government regulations.

Only a few studies have been conducted with Europeans and Scandinavians. And for the studies that were located, most often they were comparisons between countries. Furthermore, the studies have found that depending on the country, consumers have different attitudes toward functional food. For example the research conducted by Bech-Larsen & Grunert (2002) found that the Danish were strongly against functional foods and the Finnish had positive attitudes toward them. Sweden was not included in this study. Despite the potential of the Swedish market, we have only found two articles in the area and both are written by the same authors; Landström, Hursti, Becker & Magnusson (2007) and Landström Hursti & Magnusson (2009).

The first study, Landström, et al. (2007) aimed to determine Swedish consumers' attitudes toward functional food and consumption of functional food. They concluded that respondents who had positive attitudes toward functional food were also health-conscious. Further, respondents who had received a perceived effect from consuming functional food had positive attitudes toward functional food. Additionally, Landström, et al. (2007) suggested that further research should focus on consumers other than those that were health conscious when studying attitudes toward functional food. The second research, Landström, et al. (2009), aimed to determine Swedish consumers' attitudes, perceptions and perceived need of functional food. In this study, focus groups touched on topics such as comparing and defining functional foods versus normal food, distrust or trust in functional food, and the necessity of functional food. Landström, et al. (2009) did provide some information for Swedish consumers' perceptions and perceived need of functional food; however, they did not provide a definite statement for the Swedish consumer attitudes toward functional food. These two studies were the first to conduct research in the area of functional foods and Swedish consumers. Therefore, the two gave us an understanding of what has been done previously and what is missing in the research in the field of Swedish consumers' behavior and functional food. Most notably, there is a lack in findings for Swedish consumers' intentions of purchasing functional food. Also, there is a lack of theory utilization and how it could be used to explain attitudes and purchase intentions concerning Swedish consumers.

The possibility of using the TPB in a study of consumer behavior allows consumers' intentions toward performing a behavior to be determined. Furthermore, the TPB allows intentions to be determined, and also the determinants of intentions to be revealed. For example, how the salient behavioral beliefs have affected attitudes, which have affected intentions. Furthermore, one can find out which components of the TPB has the strongest affect on the intentions; meaning the elements that is viewed as the strongest predictor for performing a behavior. Understanding consumers' intentions, salient beliefs, and the strongest predictor of intentions allows a researcher to better understand why consumers perform or not perform a buying behavior. However, some researchers might have trouble defining the three beliefs: behavioral, normative, and control beliefs. According to Ajzen (1991, p. 189) "It is these salient beliefs that are considered to be the prevailing determinants of a person's intentions and actions". So, if a researcher has problem revealing the beliefs, then we can assume that the researcher has difficulty using the TPB for the prediction of intentions and action. However, on the basis of recent studies and their findings for the usefulness of predicting intentions, we see that potential and possibilities for the TPB are stronger than the difficulties.

Consumers' behavior is a central consideration for some businesses and therefore it is important that marketers understand their consumers (Hollywood, Armstrong & Durkin, 2007, p. 691). We see that Swedish functional food manufactures' future success depends on their understanding of Swedish consumers' attitudes and purchase behavior toward functional food; otherwise it will be difficult to reach target and potential customers with new and current products and marketing activities. For example, if marketers do not understand the Swedish consumers' attitudes toward and purchase intentions of functional food, there is a risk that they will face problems with their product launches. For example, they might set the price too high or do not use optimal advertising techniques.

In summary, we see the need to fulfill the gap of studies in Swedish consumers' behavior concerning functional food. We especially see the value of using the TPB which has shown to be useful for predicting and explaining consumer behavior (Ajzen & Fishbein, 2000, p. 27). We will continue where Landström et al. ended and increase the understanding for Swedish consumers' behavior concerning functional food. We aim to answer the following research questions.

1.3 Research Questions

Main research question:

1. What are Swedish consumers' attitudes toward and intentions of purchasing functional food?

Secondary research questions:

2. What is the strongest predictor of intentions to purchase functional food?
3. Which beliefs are salient in Swedish consumers concerning the purchase of functional food?
4. What are Swedish consumers' subjective norms and perceived behavioral control?"

Question one is the main research because its findings will bring us a step closer to gaining additional knowledge about the Swedish consumer's perspective concerning functional food and their position on adopting these products. Also, the findings from this question are considered to be quite significant for marketers' current marketing activities. For example, by knowing and understanding the Swedish consumers' current attitudes the marketers can evaluate whether or not they like where consumers' attitudes are and whether or not they would like to attempt to change the attitudes.

Further, we saw that the TPB could offer more knowledge for more than just one research question. The three secondary research questions can provide findings for functional food manufactures that may be of value and interest. However, these three questions are considered as secondary simply because we wanted to incorporate other aspects of the TPB, but we also wanted our research to have more of a focus on attitudes and purchase intentions.

1.4 Purpose of the Thesis

The purpose of the thesis is to increase the understanding of Swedish consumers' attitudes and purchase intentions of functional food in the area of consumer behavior, using the Theory of Planned Behavior.

We aim to find results that can increase the understanding for marketers and manufactures of functional food in Sweden; thereby providing additional information to aid in the effectiveness of marketing activities aimed at the Swedish consumer.

1.5 Perspective

Our research questions and purpose are created from a marketer's perspective. We see that marketers can obtain value from our results. For example, the results can provide help for a marketer to improve marketing activities such as promotional activities toward the Swedish consumer, and price setting. We especially see that results derived from research question number one are of importance for immediate decisions related to marketing activities. Findings for question three (*Which beliefs are salient in the Swedish consumers concerning the purchase of functional food?*) can be of value for future marketing activities, and provide ideas for future success.

1.6 Limitations

Our thesis has some notable limitations that we feel deserves attention. First of all, it should be addressed that this thesis only focused on functional food in general terms. Because we did not focus on specific products, the use of our findings is also somewhat limited. We could only provide implications for marketers in a general sense rather than making implications for certain products. Also, Swedish consumers may have different attitudes, subjective norm, and PBC when it comes to specific products.

In addition, our study was limited geographically to only include consumers in the city of Umeå; and also limited mainly to young adults and middle aged consumers. These factors could have provides a bias in the data that was collected. Furthermore, our respondents and interviewees were all quite comfortable with the English language and were asked to participate only in English. Therefore, the results may be limited to a certain segment of the Swedish population.

1.7 Disposition of the Thesis

Chapter 1 Introduction	<ul style="list-style-type: none">• Introduces the reader to the topic under investigation, necessary background information, and research questions.
Chapter 2 An Introduction to Functional Food	<ul style="list-style-type: none">• Introduces the reader to the concept of functional foods as well as an examination of functional foods in Sweden.
Chapter 3 Attitude Research & Consumer Behavior	<ul style="list-style-type: none">• Presents the literature necessary to comprehend the area of attitude research and its connection to consumer behavior.
Chapter 4 Methodology	<ul style="list-style-type: none">• Presents an overview of the approach used to conduct the research and considerations taken to complete the thesis.
Chapter 5 Empirical Results	<ul style="list-style-type: none">• Provides an overview of the findings from the research .
Chapter 6 Analyzing the Swedish Consumer	<ul style="list-style-type: none">• Presents an analysis of the research findings in connection with the theory and previous research.
Chapter 7 Discussion	<ul style="list-style-type: none">• Discusses the findings in relation to practical situations.
Chapter 8 Conclusion	<ul style="list-style-type: none">• Provides an overview of the research findings along with suggestions for further research.
Chapter 9 Reliability & Validity	<ul style="list-style-type: none">• Provides an explanation of credibility criteria for the thesis.

2. AN INTRODUCTION TO FUNCTIONAL FOOD

This chapter provides more information about the concept of functional food. An introduction of the Swedish market of functional food and a brief summary of the regulations for functional food is provided.

2.1 The concept of functional foods

In 1984, the concept of functional food was created after scientists and health authorities realized that the life expectancy of its citizens was increasing, and that health care costs would probably increase also. In a preliminary attempt to control healthcare costs, authorities recognized that an improved quality of life was essential to the growing elderly population, and the concept of functional food was created: food developed specifically to promote health or reduce the risk of disease (Siró et al., 2008, p. 457; European Food Information Council [EUFIC], 2006).

The definition of functional foods varies tremendously in the literature and there is currently no agreement on a formal definition. They range from simple: *'Foods that may provide health benefits beyond basic nutrition'* to more complex definitions such as: *'Food similar in appearance to conventional food that is intended to be consumed as part of a normal diet, but has been modified to sub-serve physiological roles beyond the provision of simple nutrient requirements'* (Bech-Larsen & Grunert, 2003, p. 9). In most countries, there is no legislative definition of functional foods; however, Japan is the exception. In 1991, Japan implemented a regulatory approval process for functional foods. These foods are known as (FOSHU) Foods for Specified Health Use.

In Europe, the legislation has no law for defining functional food; although, there is some evidence of authorities in Europe attempting to come to a consensus about the concept. The European Commission's Concerted Action on Functional Food Science in Europe (coordinated by the International Life Science Institute Europe), defined functional food as: *"a food product can only be considered functional if together with the basic nutritional impact it has beneficial effects on one or more functions of the human organism thus either improving the general and physical conditions or/and decreasing the risk of the evolution of diseases* (International Life Science Institute [ILSI] Europe, 2009; Siró et al., 2008, p. 457). In addition, some Swedish organizations have proposed definitions for the concept. The Functional Foods Centre in Sweden has defined functional food as: *"food products with scientifically proven and documented benefits to health and well-being"* (Bengtsson, 2009). And the Functional Food Science Centre defines functional food as: *"...foods designed to provide a specific and beneficial physiological effect on health, performance and/or well-being extending beyond the provision of simple nutrients"* (Functional Food Science Centre [FFSC], 2009).

2.2 Functional Food in Sweden

The first product to be approved in Sweden was named PrimaLiv. PrimaLiv was developed and launched by the manufacturer Skånemejeriet. And what was special about PrimaLiv was that it contained a portion of yoghurt and muesli, with beta glucans, that claimed to lower insulin levels and balance blood sugar levels, (Position Skåne, 2006). In 1994, Skånemejeriet was approved to launch their second functional food product, ProViva, (a probiotic fruit drink).

In the 1990s, Norrmejeriet launched a yoghurt named Verum, and was approved as a functional food. Verum claimed that it was yoghurt with active bacteria cultures and claimed to aid in stomach related problems (Verum, 2010).

Furthermore, Skånemejeriet launched a cheese named Julia/ Hjärtans ost, which was approved to claim a positive cholesterol-lowering effect, (Position Skåne, 2006). Another manufacturer is Pågen, which launched the bread named Leva. Leva was rich in omega-3 and was approved to claim health benefits that one receives by eating omega-3, (Pågen, 2010).

Another well-known product name is Oatly, developed by Ceba Foods, which consist of different products such as oat-milk drinks, and oat cream. Oatly's products are approved to claim that their products offer positive effects for one's general health and lowering cholesterol levels (Position Skåne, 2006).

Today, PrimaLiv, Julia and Leva have been taken off of the market due to lack of interest from the Swedish consumers (Skånemejeriet, 2010; S. Wiborn personal communication March 10, 2010). Currently, in 2010, we can see that the functional food market is expanding. For example, in 2007, ProViva signed a contract with an American company for sharing their "know-how". The resulting product was launched in 2008 in Denmark (Skånemejeriet, 2007, 2008). And in Sweden, ProViva and Verum are active in the market and extensions to product lines are coming each season (ProViva, 2010; Verum, 2010). More functional food products are expected to come. For example, Axa is in their research process to find out if their products; e. g Hjärtans-Müsli and Pasta, can be named as functional food (M Larsson personal contact April 2, 2010). Furthermore, different types of mineral water have been launched. One example is Vitamin Well which contains additional minerals and vitamins (Vitamin Well, 2010).

2.3 Regulations for Functional Food in Sweden

In the 1980s, Sweden had several debates about whether or not marketing and health claims for a specific category of food was acceptable. In 1988 one well-known manufacturer launched a margarine that contained additional polyunsaturated fat. The manufacturer claimed that the fat was good for use by people with high cholesterol. "The medical products division of the National Board of Health and Welfare (now the Swedish Medical Products Agency) argued that this was an illegal sale of drugs. And the marketing was withdrawn" (Asp and Bryngelsson, 2007, p. 107). The outcome of this action resulted in frustration and a working group, consistent of people from

authorities, decided that “medicinal product legislation should no longer apply to foods normally found on the dinner table” (Asp and Bryngelsson, 2007, p. 107).

In August 1990, Sweden’s first edition of “Swedish Food Sector’s Code of Practice on health claims in the labeling and marketing of food products” was published. And Sweden was the first country to introduce regulations for health claims on food (Asp and Bryngelsson, 2007, p. 107; Landström, 2009, p. 35). The Code indicated that health claims had to follow general nutrition recommendations and the health claim had to be supported by well documented scientific and published studies. Also, the health claim had to be recommended together with a balanced diet. The code was extended in 1994-1996 and the new version was published in 1997. The extended version had additional regulations. For example, a product which contained natural omega-3 fatty acid was allowed to claim health benefits one can receive by eating omega-3. In 1998, the Code was extended again. The extended version denoted that manufactures had the responsibility to inform the population of what functional food is and what health benefits the product can provide. Further, the Code stated that functional food products are divided into three categories; (1) Generic nutrient function claims (2) Generic reduction of disease risk claims (3) product-specific physiological claims (Asp and Bryngelsson, 2007, p. 110). Today, manufacturers have to follow the Code of Practice which was published in December 2007 (EC No 1924/ 2006). And according to the latest version the Code of practice, each category was defined like this:

For category 1: *‘nutrition claims’ means any claim which states, suggests or implies that a food has particular beneficial nutritional properties due to:*

- (a) the energy (caloric value) it*
 - (i) provides*
 - (ii) provides at a reduced or increased rate; or*
 - (iii) does not provide; and/or*
- (b) the nutrients or other substances it*
 - (i) contains*
 - (ii) contains in reduced or increased proportions; or*
 - (iii) does not contain; (EC No 1924/ 2006, p. L 12/8).*

Nutrient refers to “*protein, carbohydrate, fat, fibre, sodium, vitamins and minerals*”, all of which are listed in the Annex to Directive 90/496/EEC (EC No 1924/ 2006, p. L 12/8).

Category 2: *‘reduction of disease risk claims’ means any health claim that states, suggests or implies that the consumption of a food category, a food or one of its constituents significantly reduces a risk factor in the development of a human disease”.* (EC No 1924/ 2006, p. L 12/8).

Category 3: *“health claims’ refers to any claim that states, suggests or implies that a relationship exists between a food category, a food or one of its constituents and health”* (EC No 1924/ 2006, p. L 12/8).

So, category 1 concerns functional food products which include additional vitamins or minerals which can be used as a complement for a balanced diet, and is good for the general health. Also, functional food products that for example have high levels of fibre or are low in fat belong to this category because these products can be approved to claim health benefits for one's general health.

In category 2, there are functional food products which claim to reduce disease. For example, products that are approved to claim to reduce blood cholesterol levels or blood glucose levels belong to this category.

Category 3 includes functional food products which claim to have some kind of effect on the body. For example, a product can be approved to claim that it improves balance in your stomach because the product contains active bacteria cultures.

Below, Table 1 presents some of the approved (and not yet approved) functional food products in Sweden. The table lists the product name, manufacturer, description, physiological claim, which functional food category the product belongs to, if the product is approved as a functional food, and if the product is still active on the market. The fifth row is based on our assumptions which category the product belongs to (on the basis on the above explanation from the Code of Practice, EC No 1924/ 2006, p. L 12/8). Vitamin Well and Axa Müsli are not yet approved as functional food, so here we put them in a category as if they would have been approved. Seen in the table, Skånemejeriet is the biggest manufacture and blood cholesterol level is the most common physiological claim. As mentioned in the previous section, Primaliv, Julia/Hjärtans Ost, and PrimaLiv Musli have been taken out from the market.

Table 1
Functional Food Products Produced in Sweden

Product	Manufacturer (year)	Description	Physiological claim	FF Category	Approved as FF
PrimaLiv	Skånemejeriet, (2002)	Yoghurt and muesli with beta glucans	Blood glucose levels	2	YES (not at the market)
Becel pro.active	Unilever (2002 in Sweden)	Yoghurt drink (shot), milk drink and spread	Blood cholesterol level	2	YES
ProViva	Skånemejeriet, (2003)	Fruit drink and shot	Intestinal gas formation	3	YES
Julia/Härtans ost	Skånemejeriet, (2004)	Margarine cheese based on rapeseed oil	Blood cholesterol level	2	YES (not at the market)
Primaliv Müsli	Skånemejeriet, (2007)	Muesli with beta glucans	Blood cholesterol level	2	YES (not at the market)
Verum	Norrmejeriet (1990)	Yoghurt and soured milk	Intestinal gas formation	3	YES
Vitamin Well	Vitamin Well AB (2009)	Flavoured Drinks	Additional vitamins and minerals	1 (if accepted as ff)	NO
Müsli No 1 AXA Fiber Hjärta	AXA (Lantmännen) (2009)	Muesli with beta glucans	Blood cholesterol level	2 (if accepted as ff)	NO (Under testing)
Oatley	Oatley AB (2001)	Oat- Milk, Cream and Drinks	Blood cholesterol level	2	YES
Leva	Pågen (1990s)	Bread	High in Omega-3	1	YES (not at the market)

(Source; Adapted from Asp and Bryngelsson, 2007, p.112)

3. ATTITUDE RESEARCH & CONSUMER BEHAVIOR

This chapter presents an overview of the literature that is relevant to researching attitudes and predicting purchase intentions. It will begin by providing a review of attitudes and attitude research, relevant research that has been conducted earlier, and any controversies connected with the area. Then, the prediction of consumer behavior will be discussed which will provide an understanding of how the research area of predicting intentions has evolved and why it has become so important to consumer behavior. It is here that we will further explain the shortcomings of previous research concerning the assessment of Swedish consumers' attitudes toward and intentions of purchasing functional food. Finally, this chapter will conclude with a presentation of theories that are relevant for this thesis along with an explanation of our choice in theory.

3.1 *The Realms of Attitudes & Attitude Research*

3.1.1 *The Realm of Attitudes*

In the area of social psychology, the term 'attitude' enjoys a long history and can be traced back to having many definitions, mainly because the definition used or constructed depends on the type of phenomena being researched (Albarracín, Johnson, Kumkale & Zanna, 2005, p.3). The term is known to be used loosely and is actually used to classify a number of technical terms. For example, when a person has attitudes toward friends or respected others, it means liking or attraction. When a person has attitudes toward subcategories of people, we speak in terms of prejudices or favoritism. Attitudes toward work can be labeled job satisfaction. And attitudes toward the self are sometimes called self-worth, self-esteem, or self-image (Bagozzi, Gurhan-Canli, & Priester, 2002, p.5). However, some of the most widely used definitions of attitudes conceive of it as an evaluative tendency where we can assume that evaluative refers to expressing a judgment of some kind. Here are some examples of definitions of attitudes that express this sentiment:

“Attitude is a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor”. (Eagly & Chaiken, 1993, p.1)

“Attitudes can be described a learned predisposition to respond in a consistently favorable or unfavorable manner with respect to a given object”. (Fishbein & Ajzen, 1975, p. 6)

“Attitudes...predispose toward an evaluative response. Thus, attitudes are referred to as tendencies of approach or avoidance or as favorable or unfavorable”. (Osgood, Suci, & Tannebaum, 1971, p.189)

Throughout our investigation, we chose to refer to attitudes as being negative, neutral, or positive evaluations. This description is similar to the definitions above and provides a more accessible path to understanding attitudes.

When it comes to discussing the nature of attitudes, two main positions have emerged from previous literature. The first position asserts that an attitude has three components, affect, behavior, and cognition, and these components are essentially the anatomy of an attitude (Katz, 1960, p. 168; Rosenberg & Hovland, 1960, pp. 1-14). Affect refers to the positive or negative feelings that a person holds toward an attitude object. Here, attitude object refers to the entity being evaluated. Behavior refers to the actions and responses to the attitude object. And cognitive refers to beliefs that a person has about an attitude object (Rosenberg & Hovland, 1960, p.5; Katz, 1960, p. 168). This representation can be viewed in Figure 1.

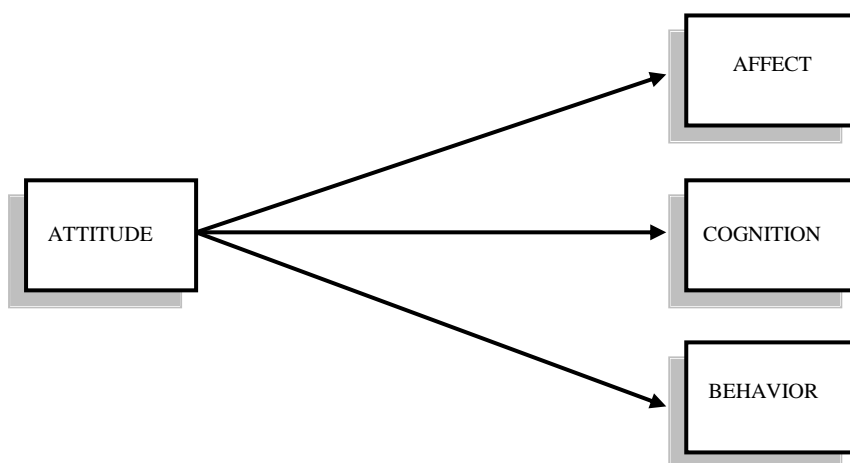


Figure 1. Attitude as Having Three Components. Adapted from *The Psychology of Attitudes* (p. 10), by Eagly & Chaiken, 1993, Orlando, Florida: Harcourt Brace Jovanovich.

However, other attitude researchers have concluded that an attitude does not actually consist of affect, behavior, and cognition and is completely distinguishable from these parts. Rather, the other view considers these three components to represent the types of responses that are antecedents of attitudes and allow researchers to diagnose attitudes (Eagly & Chaiken, 1993, pp. 10-16; Cacioppo, Petty & Green, 1989). In other words, these responses express evaluations of attitude objects and can therefore help reveal attitudes. This is illustrated in Figure 2. Throughout our thesis, we followed this particular view of attitudes because it complements the theory that was chosen for use. We specifically focused on the affect and cognition antecedents of attitudes because it is the affect that will produce the negative/positive evaluations of purchasing functional food, and it is the cognition antecedent that is responsible for producing beliefs about purchasing functional food. Actual behavior was not observed during this thesis, therefore, this antecedent was not considered in the evaluation of attitudes.

Because attitudes are one of the main focuses of this thesis, it is important to distinguish between the two types of attitudes that currently exist. The first type is *general attitudes* toward attitude objects such as pizza, the city library, or a particular ethnic group. The second type is attitudes toward performing specific behaviors such as purchasing

functional food. For example, if we wanted to evaluate attitudes toward functional food, we would be evaluating general attitudes. However, because we are evaluating attitudes toward *purchasing* functional foods, we are evaluating attitudes toward performing a specific behavior.

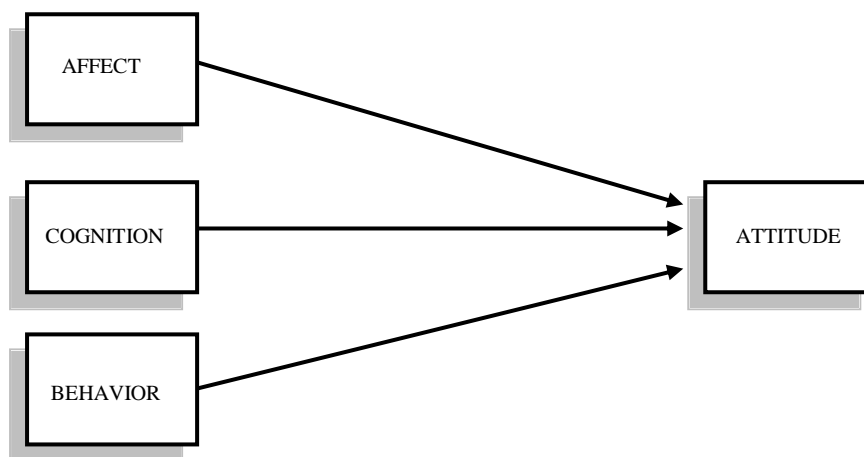


Figure 2. Attitude as Having Three Antecedents. Adapted from *The Psychology of Attitudes* (p. 15), by Eagly & Chaiken, 1993, Orlando, Florida: Harcourt Brace Jovanovich.

3.1.2 A Historical Perspective of Attitude Research

As mentioned in section 3.1.1, attitudes have had a long history in the area of attitude research. Thomas and Znaniecki (1918) can be credited with being one of the first to use attitudes to explain social behavior. They conceived of attitudes as being individual mental processes that determine a person’s actual or potential behavior (Thomas & Znaniecki, 1918, p. 19). So, very early on, it was evident that social scientists believed that attitudes could be used to explain and understand human behavior. This assumption virtually went unchallenged until an empirical study conducted by Richard LaPiere (1934) raised concerns that attitudes had very little to do with predicting actual behavior (Kraus, 1995, p. 59).

In LaPiere’s (1934) investigation, he accompanied a young Chinese couple while traveling across the United States and kept records concerning whether or not they received service at restaurants, motels, hotels, and inns. After visiting 251 establishments, they were refused service only once, in which the owner explained, “No, I don’t like Japs!” Other than that incident, they were treated politely and received courteous service at every establishment they visited. Following their travels, LaPiere mailed a letter to each establishment they had visited asking if they would accept “members of the Chinese race” as customers (LaPiere, 1934, p. 233). Out of the 128

that responded, 118 claimed that they would not accepted members of the Chinese race as customers. Therefore, LaPiere concluded while attitudes could be easily measured, attitudes were irrelevant in predicting behavior. His reasoning was because people did one thing and said another, and therefore, there was no correlation between attitudes (responses to the letter) and actual behavior (LaPiere, 1934).

To examine the issue that LaPiere had raised in his study, Stephen Corey (1937) tried to measure college students' attitudes toward cheating and attempted to predict actual cheating on a set of exams. The students' attitudes were assessed at the beginning of the semester. Over the next five weeks, the students took five exams. Corey provided opportunities for the students to cheat by returning the exams unmarked after he had recorded the scores. Then, the students were asked to grade their own papers. The difference between the recorded score and the score that the students had given themselves was summed over the five exams to obtain a "cheating score". The measures of cheating scores were found to be completely unrelated to the students' attitudes toward cheating; the correlation between the two was practically zero at .024 (Corey, 1937, p. 277).

As time went on, studies concerning the attitude-behavior relationship begin to frequently appear, and as the frequency increased, so did the indications that attitudes were poor predictors of actual behavior. One of the most notable and harshest criticisms of the attitude construct came from Allan Wicker's (1969) review of 47 empirical studies of attitudes and behavior. In his investigation, he drew attention to the growing amount of evidence concerning inconsistencies between attitudes and behavior. Wicker argued that attitude-behavior correlations were rarely above .30 and quite often near zero. He therefore concluded that attitudes were generally "unrelated or only slightly related" to actual behaviors (Wicker, 1969 p. 65).

Wicker's review had a tremendous impact on the area of attitude research and caused attitude researchers to react by putting forth efforts to try and explain the inconsistencies between attitudes and behavior. The inconsistencies were eventually attributed to poor methodology or measurement techniques (Kraus, 1995, pp. 59-60). For example, Ronald Dillehay (1973) pointed out that LaPiere's (1934) study failed to properly address the attitude-behavior relationship. Dillehay posed the question, "How likely is it that the person who waited on La Piere and his friends was the same person as the one who answered the questionnaire?" (Dillehay, 1973, p.888). This suggested a major flaw in methodology because attitude and behavior measures were most likely taken from different subjects. Dillehay also pointed out that LaPiere obtained behavior measurements before the attitude measurements, therefore making it possible that the behavior was consistent with the original attitude and that the attitude probably changed before it was measured.

Just a year later, both Herbert Kelman (1974) and Ajzen and Fishbein (1974) supplied further explanations for attitude-behavior inconsistencies. Kelman (1974, p.312) argued that Wicker's (1969) review focused on experimental studies and neglected survey data that provided stronger evidence of attitude-behavior correlations. Ajzen and Fishbein (1977, pp. 889- 913) went on to argue that attitude-behavior correlations will be high if the attitude and behavior measures correspond in their "action" (the behavior in

question) and “target” (the object in which the behavior is directed) elements. They stipulated that attitude measures that identify a target but no specific action will result in behavior measures that identify a target but no specific action. Likewise, attitude measures that identify a specific action and a specific behavior should result in behavior measures that identify both a specific target and a specific action. In this same study, they analyzed 109 studies that reported 142 attitude-behavior correlations. They concluded that all 26 studies that appropriately corresponded in their target and action elements resulted in attitude-behavior correlations that were greater than .40.

With the amount of explanations for attitude-behavior inconsistencies increasing, a new era of optimism emerged in the attitude research field. With more evidence of the kind above steadily compiling, the notion that attitudes could not predict behavior faded into the background (Kraus, 1995, p. 61). Although some researchers remain rather pessimistic about the attitude-behavior relationship (McGuire, 1985), many researchers have now focused their efforts on attitude change, structure, and function (Cacioppo et al., 1989; Pratkanis, Breckler & Greenwald, 1989).

3.2 Behavior, Intentions & Attitudes in Consumer Behavior

3.2.1 Social Psychology in Consumer Behavior - A Historical Perspective

As early as the 1940's, market researchers began to focus their attention on individual customers in the market place. Rather than relying on social sciences to help understand the individual consumer, market researchers turned to the behavioral sciences. For example, because social psychology put an emphasis on cognitive processes as the driver of human behavior, it began to be used as an effective means in understanding the psychology of consumers. It eventually became a popular belief that consumers were not logically but psychologically driven in their buying behavior (Sheth, 1985, p.6).

Early attempts to actually predict consumer behavior came in the form of trying to predict buying trends mainly focused on economic factors. Ferber (1954) insisted that the health of the economy was reflected by the sale of durable goods. He concluded that purchase intentions of buying these durable goods resulted in actual purchases, and therefore could assist in predicting economic trends. The notion that purchase intentions could predict economic trends went virtually unchallenged until it failed to anticipate the economic recession of the late 1960s and early 1970s. During the 1950s and early 1960s, there were fluctuations in intentions to buy a car. However, in the 1960s new car sales dropped dramatically while intentions to buy a car remained relatively high (Ajzen & Fishbein, 1980, p. 166).

Not only did findings like the one above discourage the use of purchase intentions as indicators of economic trends, it also led some researchers to question the relationship between purchase intentions and actual behavior at the individual consumer level (Ajzen & Fishbein, 1980, p. 166; McNeil, 1974). However, similar to the events that transpired when the attitude-behavior relationship was challenged, researchers began to

perform studies that could help prove that an intention-behavior relationship did exist. A study performed by Wilson, Mathews, and Harvey (1975) set out to demonstrate the relationship between purchase intentions and behavior. In their study, they solicited 162 housewives shopping in a mall and asked them to indicate their intentions of purchasing each of six brands of toothpaste. After filling out a questionnaire, the women were given an opportunity to choose one family sized tube of toothpaste from a display that contained all six brands. 85 percent of the women actually chose the brand consistent with their highest-ranked intention to purchase. They found these results to be significant and noteworthy because it supported the idea that intentions were an antecedent of actual behavior and therefore supported the intentions-behavior relationship.

An even more convincing case for the intention-behavior relationship came from Fishbein, Loken, Chung, and Roberts (1978, cited in Ajzen & Fishbein, 1980, p. 167). They conducted a study testing the intention-behavior relationship that concerned cigarette smoking. Although smoking is not a buying behavior, we still find it relevant to consumer behavior because it involves the consumption of a commercial product. So, their study involved 192 college women whom after having an interview indicated their intentions to smoke in the next week, the next month, and the next four months. The women self reported the amount of cigarettes they smoked during those time periods. Correlations were computed between whether or not the woman had smoked since the initial interview (behavior) and their corresponding intentions to smoke. The correlations were quite high, ranging from .71 for the four month time period, and .96 for the one week time period. This was a clear victory for researchers attempting to establish an intention-behavior relationship.

3.2.2 Contemporary Research in Attitudes & Intentions

Up until now, much of the focus has been on predicting actual behavior. However, because the main aim of our thesis is to predict the attitudes and intentions of Swedish consumers, the focus will now shift to these two concepts. Many studies have been conducted focusing on each of the two concepts in various areas of interest. The goal of predicting intentions have been applied to a wide range of interests such as predicting hunting intentions (Hrubes, Ajzen & Daigle, 2001), intentions to lose weight (Schifter & Ajzen, 1985), intentions to eat healthier (Øygard & Rise, 2006), and intentions to commit driving violations (Parker, Manstead, Stradling, Reason, & Baxter, 1992). Surprisingly, not many studies were located concerning predicting intentions and consumer behavior. The few that were located coincidentally placed an emphasis on the consumption of food; organic food, fatty foods, and purchase intentions of online groceries (Arvola, Vassallo, Dean, Lampila, Saba, Lähteenmaki, & Shepard, 2008; Saba, Vassallo & Turrini, 2000; Hansen, Jensen, & Solgaard, 2004).

Studies focusing on the prediction of consumer attitudes have also been prevalent, and researchers have studied areas from consumer attitudes toward fashion counterfeits (Kim & Karpova, 2010) to consumer attitudes toward store branded products (Guerrero, Colomer, Guàrdia, Xicola, & Clotet, 2000) However, studying functional food in the context of attitudes and consumer behavior seems to be a relatively new phenomena

with the earliest study located being from 1997 (Childs, 1997). Although a number of consumer attitudinal studies concerning functional foods have been conducted in the surrounding Scandinavian countries (Bech-Larsen & Grunert, 2003; Urala & Lähteenmäki, 2007; Niva, 2007), only a few have been conducted about Swedish consumers (Landström, Hursti, Becker, & Magnusson, 2007; Landström, Hursti, & Magnusson, 2009).

The study conducted by Landström, et al. (2007) investigated Swedish consumers' attitudes toward functional food as well as predicting the consumption of functional food. Part of the task was examining which demographic variables, diet related problems, and attitudes toward health were the strongest predictors of functional food consumption. According to their findings, consumers who were already interested in health and perceived a physiological benefit had positive attitudes towards functional food (Landström, et al., 2007, p. 1066). Concerning the prediction of consuming functional food, those with a higher level of education demonstrated a higher propensity to consume probiotic products. However, in general, the consumption of functional food was found to be better related to health-consciousness and positive physiological effects rather than socio-demographic variables. Also, those who had family members with diet-related problems or had diet-related problems themselves were found to be more likely to consume cholesterol lowering products or other products designed to lower disease.

The second study concerning Swedish consumers by Landström, et al. (2009) aimed to examine consumers' attitudes, perceptions and perceived need of functional food. The data was collected from 46 respondents in 10 focus groups. Discussions were focused on topics such as comparing and defining functional foods versus normal food, distrust or trust in functional food, and the necessity of functional food. According to their results, consumers were generally confused about the concept of functional foods, what they contain, and if they are actually healthy. Respondents also felt that functional foods were unnecessary if a person did not suffer from any health problems and a lifestyle change did not produce optimal health results. To add to this point, although participants felt that others might need functional food for health and diet related reasons, they did not conceive of themselves being a part of that group. This seemed to be a common view; younger participants thought that older people may need functional food due to problems such as diabetes or heart disease; while the older participants thought that younger people can benefit from eating functional food due to a lack of time to eat properly and exercise. Additionally, manufacturers of functional foods were perceived as unethical because they make extensive profits from the public's health problems. And finally, the price was seen as a problem because it was seen as being too expensive.

These studies are the first to explore the concept of functional foods concerning Swedish consumers and therefore can be of some value to a certain extent. However, these studies possessed some shortcomings that helped lead us to the development of our purpose and main research question. In the study by Landström, et al. (2007), "consumed" and "purchased" were used interchangeably in measurements as if to assume that they are the same phenomenon. In reality, these are two very different occurrences. A person consuming a product does not necessarily mean that they have

also purchased the product; and purchasing the product does not necessarily mean that they will consume it. Therefore, we cannot consider those measurements to be an accurate depiction of the situation. Also, no theoretical frame of reference was used, but rather a scale developed for a study about Finnish consumers was used to measure willingness to consume functional food. However, it is not clear how reliable this scale was considering it was developed during a study published during the same year and there is no evidence of it being tested for reliability. Also, the scale was not used as intended as one item intended for measurement was not included and two other items were added. Therefore, the measurements assessing the willingness to consume functional food are also questionable. In the study by Landström, et al. (2009) although they did provide rather descriptive views of consumers' perceptions and perceived need of functional food, no definite statement was made as to what consumer attitudes were toward functional food, even though it was one of the main aims of having the discussions.

3.3 Theories of Reasoned Action

As mentioned in section 3.2.1, the notion that consumers were actually psychologically driven in their buying behavior became a popular belief. In congruence with that perception, we chose to focus on theories of reasoned action for our thesis. According to Ajzen & Fishbein (1980, p. 5) theories of reasoned action make the assumption that people are rational and that they consider the implications of their actions before deciding to perform a behavior. Both the Theory of Reasoned Action (TRA) and the Theory of Planned Behavior (TPB) are considered to be theories of reasoned action (Ajzen & Fishbein, 2005, p. 192). Each theory will be explained in detail in the following sections.

3.3.1 The Theory of Reasoned Action

According to Ajzen and Fishbein (1980, p. 5) the ultimate goal of the (TRA) is to predict and understand a person's behavior. But before that can happen, it is necessary to examine the determinants of the behavior in question. The TRA stipulates that a person's intention of performing a behavior is a direct determinant of them actually performing the behavior. In addition, a person's intention is a direct determinant of their attitude toward performing the behavior and their subjective norm. The term *attitude toward the behavior* simply refers to a person's negative or positive evaluation of performing the behavior. *Subjective norm* refers to a person's perception of the social pressures accompanied with the decision to either perform or not perform the behavior. Furthermore, a person's beliefs are direct determinants of their attitude toward the behavior and their subjective norm. However, the TRA only applies to behaviors under complete volitional control. That is, behaviors that can be easily performed or performed on a voluntary basis (Ajzen & Fishbein 1980, pp. 6-7). Each of theoretical components will be discussed in more detail later in this section. But for now, the theory and the relationships between its components can be seen in Figure 3.

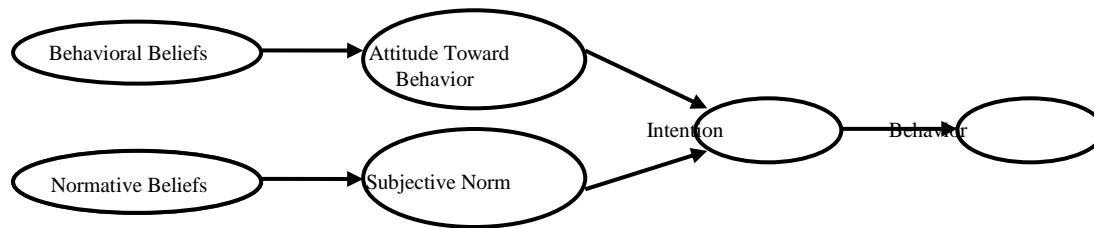


Figure 3. The Theory of Reasoned Action. Adapted from *Understanding Attitudes and Predicting Social Behavior* (p. 8), by Ajzen & Fishbein, 1980, Englewood Cliffs, New Jersey: Prentice-Hall Inc.

Predicting Intentions

Central to the TRA is an individual’s intention to perform a specific behavior. According to Ajzen, (1991, p. 181) intentions indicate how hard a person is willing to try and how much effort they are willing to put forth in order to perform a given behavior. As mentioned earlier, the theory assumes that an individual’s intentions are determined by two independent variables; *attitude toward the behavior*, and *subjective norms*. Additionally, intentions are indirectly determined by his/her beliefs about each one of those variables (see Figure 3). Therefore, intentions to perform the behavior should be successfully predicted provided that the appropriate measures of attitudes and subjective norms are taken (Ajzen & Fishbein, 1980, p. 167).

Behavioral Beliefs & Attitudes towards Behaviors

According to Ajzen and Fishbein (1980, p. 63) *behavioral beliefs* result in an *attitude toward the behavior* and refer to a person’s beliefs about the likely negative or positive consequences of performing a given behavior. *Attitude toward the behavior* refers to the degree to which a person has a negative or positive evaluation of the behavior. Therefore, behavioral beliefs are assumed to produce an overall negative or positive attitude toward the behavior (Ajzen & Fishbein, 2005 p. 193). For example, an individual’s overall attitude toward purchasing functional food can be assessed in two ways. By direct measurement in which a group of questions are asked in order to obtain an overall score that signifies the attitude (Ajzen, 2006, p. 4), or by using Fishbein’s Expectancy-value model of attitudes (EVM) (Fishbein & Ajzen, 1975, p. 29). For our thesis, we will be using the direct measurement technique rather than the EVM to evaluate attitudes.

The EVM is used to assess the overall attitudes of an individual and stipulates that an individual’s attitude toward a behavior (e.g. purchasing functional food) depends on the value attached to the consequences of performing the behavior. Each consequence is weighted by the subjective probability that the attitude toward the behavior is associated with these consequences (Fishbein & Ajzen, 1975, p. 29, Ajzen, 1991, p.191). In this instance, a consequence of purchasing functional food could be that it helps lower cholesterol. Thus, a person’s attitude toward purchasing functional food would be a

function of the person's evaluation or importance of functional food lowering cholesterol, and how likely the person thinks it is that functional foods actually do lower cholesterol. The Expectancy value model of attitudes used for attitude toward behavior is algebraically expressed in Figure 4.

$$A_o = \sum_{i=1}^n b_i e_i$$

Figure 4. The Expectancy Value Model of Attitudes. From *Belief, Attitude, Intention, and Behavior: An Introduction to Theory Research* (p. 301), by Fishbein & Ajzen, 1975, Reading, Massachusetts: Addison-Wesley Publishing Company.

In the equation, (A_o) is the attitude toward the behavior and refers to a person's overall attitude; (b_i) is the strength of each salient belief expressed as the subjective probability that the attitude toward the behavior is associated with the consequence (i). (e_i) is the evaluation of the consequence; and n is the number of salient beliefs (Fishbein & Ajzen, 1975, p. 301).

Normative Beliefs and Subjective Norms

According to Ajzen and Fishbein (1980, p. 73) *normative beliefs* result in *subjective norms* and are concerned with the likelihood that important individuals or groups (referents) will approve or disapprove of the behavior in question. Therefore, subjective norms refer to the general social pressures that may arise from performing or not performing a behavior. For example, an individual might feel pressure from his/her parents to purchase functional food; this is considered to be a subjective norm. As with measuring an attitude toward the behavior, subjective norms can also be measured directly or through an equation. However, for our thesis, we used direct measurements rather than using the equation to evaluate subjective norms. The equation for subjective norms is presented in figure 5.

$$SN = \sum_{i=1}^n n_i m_i$$

Figure 5. Equation for Subjective Norms. Adapted from *Belief, Attitude, Intention, and Behavior: An Introduction to Theory Research* (p. 302), by Fishbein & Ajzen, 1975, Reading, Massachusetts: Addison-Wesley Publishing Company.

In the equation, (n_i) is the strength of each normative belief and is multiplied by (m_i) , the person's motivation to comply with the important referents. (n) refers to the salient referents (Fishbein & Ajzen, 1975, p. 302).

3.3.2 The Theory of Planned Behavior

The TPB was developed by Ajzen as an extension of the TRA to improve the predicting power of the model and to better explain human intentions and behavior. As an extension of the TRA, the TPB still contains all the components from the TRA, but it incorporates two elements that were lacking in the TRA; control beliefs and perceived behavioral control (PBC). By considering these elements, the TPB surpasses the limitations of the TRA by not only allowing the prediction of behaviors that are under complete volitional control, but also those behaviors that are not under complete volitional control (Ajzen, 1991, p.181). Figure 6 illustrates the Theory of Planned Behavior.

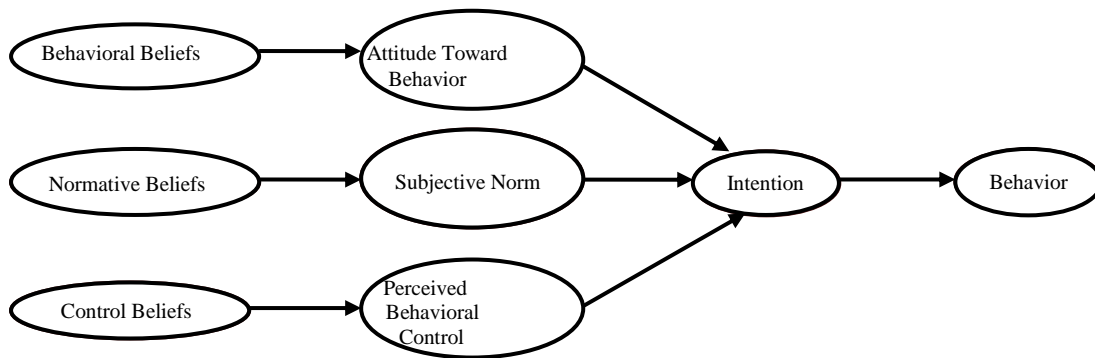


Figure 6. The Theory of Planned Behavior. Adapted from *The Theory of Planned Behavior* (p. 182), by Ajzen, 1991.

Control Beliefs and Perceived Behavioral Control

According to Ajzen (1991, p. 196) control beliefs are the direct antecedents of PBC and are concerned with beliefs about specific factors that may facilitate or hinder a person's intentions to perform the behavior and performance of the actual behavior. Therefore, PBC refers to a person's perception about how easy or difficult performance of the behavior is likely to be (Ajzen, 1991, p.196). According to Ajzen (1991 p.196) and Ajzen and Fishbein (2005, p.199) the more resources, opportunities, and confidence a person feels they have about performing the behavior, and fewer obstacles they anticipate, the greater should be their PBC over the behavior.

As mentioned earlier, PBC was added to the TRA to also accommodate behaviors that were not under complete volitional control, e.g. behaviors that are not straightforward, such as taking a walk. According to Ajzen (1991, p. 185), the addition of PBC should

become increasingly useful as volitional control over the behavior declines. As with measuring an attitude toward the behavior and subjective norms, PBC can also be measured directly or through an equation. However, for our thesis, we used direct measurements rather than using the equation to evaluate PBC. The equation for PBC is illustrated in Figure 7.

$$\text{PBC} = \sum_{i=1}^n c_i p_i$$

Figure 7. Equation for Perceived Behavioral Control. Adapted from *The Theory of Planned Behavior* (p. 197), by Ajzen, 1991.

In the equation, (c_i) is the strength of each control belief and is multiplied by (p_i) the perceived power of the particular control factor that facilitates or hinders intention to perform the behavior. (n) refers to the salient control beliefs (Ajzen, 1991, p.197).

3.3.3 Choice of Theory

From the theories of reasoned action, we chose to work with the Theory of Planned Behavior. Because we were interested in the relationship between attitudes and intentions and also identifying what the strongest predictors of intentions to purchase functional foods, the TPB seemed to be the most appropriate. Under the TPB, PBC is included and we were not restricted to researching behaviors only under volitional control. At first glance, purchasing functional food may seem like a behavior that is relatively straightforward and would not present any significant obstacles. However, we thought that this may not be the case, and that there may have been significant obstacles to purchasing FF for Swedish consumers that may prevent them from engaging in this behavior. However, because we were interested in the determinants of purchase intentions for functional food rather than the actual behavior of buying them, the TPB was only utilized up to the ‘intention’ component.

In addition a number of meta-analysis have been successful at providing evidence that support the theory’s assumption that intentions can predict measures of attitudes toward the behavior, subjective norms, and PBC with considerable accuracy (Albarracín, Johnson, Fishbein & Muellerleile, 2001; Armitage & Conner, 2001; Shepherd, Hartwick, & Warshaw, 1988; Godin & Kok, 1996). Such strong statistical support for predictive power of the theory further convinced us that the Theory of Planned Behavior could prove to be quite valuable. Also, we felt that it was crucial to use the original source (Ajzen, 1991) for the TPB as using other sources for the theory could result in obtaining biases from other authors; we had no way of knowing whether other authors’ interpretations of the TPB would have been as intended by Ajzen and Fishbein.

4. METHODOLOGY

This chapter explains the process and approaches taken to conduct the research and complete this thesis. First, our reason for the choice of topic and preconceptions will be stated. Having these two in mind, the use of ontology and epistemology will be explained. Then, the use of deductive approach, and the combined use of quantitative and qualitative research method is justified. Also, for facilitating the understanding of our results, the use of questionnaires and interviews for the belief elicitation study is defended. Last, we motivate our sampling process which describes how we gained a sample of 257 Swedish consumers.

4.1 Choice of topic

The choice of topic was decided based on our knowledge and interest in the field of business administration. We both have an education in business administration; management and marketing to be exact. Although we have interests in these fields, we especially have interest in the area of consumer behavior and consumers' attitudes.

Theories are different in their way of handling an issue and aims for different outcomes. Most often, the demographic and socio-culture variables are used to explain consumers' attitudes and behavior. Reading consumer behavior literature we found two theories which were well-known in the area; *the theory of planned behavior* (TPB), by Maritn Fishbein and Icek Ajzen, and *the theory of reasoned action* by Ajzen. One of us had briefly heard about these theories and after extensive reading, we found the theories valuable and interesting for use in our thesis.

As managers and marketers we have been educated to assume that consumers' attitudes and behavior are different depending on the situation and the product type. Therefore, we decided to narrow our focus to the area of food products. Because we saw that even the food market is complex and consumers have different attitudes towards different products, we decided to narrow our focus to functional food. Functional food is rather new in Sweden, and Swedish consumers have uncertainties about functional food products; just to name a few concerns, what physiological effects it can provide or if it is harmful is unclear. (Landström, et al., 2009, p. 34). We experienced that there is a need to increase the understanding and knowledge about Swedish consumers' attitudes and purchase intentions toward functional food.

From previous research we saw that a number of studies had been conducted for consumer behavior and functional food, but these studies are based on consumers from the US (see Naylor et al, 2009), Finland (see Niva, 2006; Urala & Lähteenmäki, 2006) and other European countries such as Belgium (see Verbecke, 2006). Additionally, we only found two articles about the Swedish consumers and functional food. We see the importance of contributing to increased knowledge and understanding of Swedish consumers and functional food with the use of the TPB. The increased understanding provides valuable information for marketers that may aspire to improve marketing related activities aimed at the Swedish consumer.

4.2 Preconceptions

We are two students with different preconceptions, backgrounds, childhood, experiences, and culture. One of us is Swedish native, Elin, and the other is American native, Christine. We speak different languages, have been raised differently and have taken our undergraduate and high-school degrees in different school systems. This indicates that what we see and hear in the social world results in different understandings. According to Johansson (1993, p. 25; Holme and Solvang, 2006, p. 29; Saunders, Lewis, & Thornhill et al. 1997, p. 6) preconceptions do influence research. Therefore, we see it important to discuss our preconceptions in this section.

From the beginning of the research process to the end product, our preconceptions have been present and have influenced our thought processes and decisions. For example, our ways of looking at consumer behavior as constantly changing and our interest in the rather new concept of functional food have influenced our direction for the thesis, and our way of working toward finding answers for our research questions. During the process we had discovered our differences in preconceptions and learned to cooperate.

Throughout, the thesis we have gained knowledge in consumer behavior and functional food which we value for future work situations. In the beginning, Christine was more familiar with the concept of functional food and could name different functional food products from the US market. But, neither of us was unfamiliar with functional food products on the Swedish market, and which health benefits the products claimed to provide. We had assumptions that the market was small and there were no well-known brands that could be claimed to be functional food products. Also, we did not know if the market for functional food was expanding or decreasing. By reading articles (e. g Landström, et al. (2007) we discovered that we had already consumed several functional food products such as ProViva, Verum and Becel, without realizing that they were actually functional foods. Through e-mail correspondence with the functional food manufactures Skånemejeriet, and Norrmejeriet, we discovered that the market is currently expanding and new functional food products have been launched in these past few years (A. Backe, personal communication February 25, 2010; M. Skogelid, personal communication March 8, 2010).

Further, in the beginning of the research, we were not familiar with the Theory of Planned Behavior or the Theory of Reasoned Action. Christine had in a marketing course become familiar with the concepts, and therefore had general knowledge of them. However, we had to become more familiar with the theories before we could use it. By reading articles we gained knowledge about the theories and also we discovered how previous researchers had used the theories. And we believe that our preconceptions have influenced our way of viewing, understanding and interpreting the theories used in this thesis.

Both of us have been studied abroad; Christine is currently doing so. And we both have personal experience of consumers having different attitudes and behaving differently in different countries and cultures. Therefore, we agreed with previous research that Swedish consumers are neither similar to Europeans or Finnish consumers (e. g

Landström, et al., 2009). And for the thesis we agreed to focus only on Swedish consumers' attitudes and purchase intentions.

To end this section we argue that we were aware of the differences in our preconceptions. And, in the research process it became obvious that we had different views of writing a thesis. Therefore, we had to be careful in the research process, and in most cases combined our views. We see that this combination improved our thesis, because we could complement each other and solve problems throughout the research process. We had careful discussions before we made any decisions about the thesis.

4.3 Research Philosophy

This section explains our research philosophy. It is important to remember that choice of research philosophy is influenced by our preconceptions (explained in section 4.2). Furthermore, the choice has to be based on the use of theory because the theory also has its assumptions of the social world. In turn, the use of research philosophy influenced our choice and use of research methodology and research structure (Holme & Solvang, 2006, p. 29; Johansson, 1993, pp. 25-27; Saunders, et al. 1997, p. 83). Therefore, we see the importance of stating our research philosophy before we can move further and explain and justify our choice and use of research methodology and research structure.

The thesis aims to answer these four research questions: (1) *What are Swedish consumers' attitudes towards and intentions of purchasing functional food?* (2) *What is the strongest predictor of intentions to purchase functional food?* (3) *Which beliefs are salient in the Swedish consumers concerning the purchase of functional food?* (4) *What are Swedish consumers' subjective norms and perceived behavioral control?* With the use of the Theory of Planned Behavior (TPB), we needed quantitative statistical data. We believe that the founder of the TPB, Ajzen, viewed the social world in congruence with the natural sciences and therefore should follow the same principles and procedures as natural sciences. As future marketers and managers, we do not always agree that the social world should be viewed with the same principles and procedures as natural sciences. Instead we could argue that the social world is special, and natural science principles are not appropriate to be adapted to the social world. However, we saw value of using the TPB and decided to set our preconceptions to the side and adopt the theory as it was constructed. In other words, our use of the TPB and statistical data for finding answers to our research questions suggested that we employed the epistemological view which is called the positivism perspective (Bryman, 2008, p. 13; Remenyi, Money, Williams & Swartz, 2005, pp. 33-37; Saunders, et al., 1997, p. 83).

Furthermore, the TPB did not affect how we viewed social entities, it was in accordance with our view. And with our preconceptions we viewed consumers' behavior and consumers as social entities which are the creators of the social reality. And their behavior is in constant change where the changes come from their own perceptions in behavior and from other social entities. For the ontological considerations, we are close to the subjectivist view (Bryman, 2008, pp. 18-19; Johansson, 1993, p. 40; Saunders, et al., 1997, p.84). For example, for finding answers to our research question three (*Which beliefs are salient in the Swedish consumers concerning the purchase of functional food?*) we decided to interview a sample of 14 Swedish consumers (see section 4.11 for

further details). We maintain that we have a subjectivist view because of our interpretation of the subjectivist view; e. g consumers' behavior is in constant change. To be able to answer the research questions, we demanded data that could obtain their current beliefs.

In summary, we argue that we have used positivism and subjectivist aspects. However, it is difficult to be pure positivism and subjectivist because there are a number of research philosophies. And most often one happens to be between two approaches, and therefore show small indications from other research philosophies (Johansson, 1993, pp.43-44).

4.4 Research Approach

We started out our research process by defining the choice of topic, the theory we would use (*TPB*) then we stated our four research questions. Together, choice of theories and research questions led us to collect statistical data through questionnaires handed out to Swedish consumers, and qualitative data through interviews. The collected quantitative data was interpreted through the use of the SPSS program; and we were able to define our results and analyze them. This way of conducting research showed strong indications of being a deductive approach.

The main reasons for our claim for the use of the deductive approach is that we decided to define the use of theory and collect quantitative data and qualitative data, before we derived our results (Bryman, 2008, pp. 9- 11; Saunders, et al., 1997, pp.85-87). Furthermore, characteristics we had in common with the deductive approach are that we aimed to explain the relation between variables e. g between Swedish consumers' attitudes and purchase intentions of functional food.

According to Bryman (2008, p.9; Saunders et al, 1997, p. 86) the deductive approach is used to test stated hypothesis. However, we did not state a hypothesis. Instead, we found it more valuable from our perspective (marketers of functional food) to receive results from research questions that could be more explanatory. We view hypothesis as a pre-determined research test asking if the hypothesis can be accepted or not. Therefore, we see that researchers determine whether or not he/ she can accept or modify the used theory. We view our research questions to be more open than hypothesis testing would have been. We see that hypothesis can be accepted or rejected. On the other hand, research questions can be looked at in a broader perspective and one could focus on finding answers and analyzing these findings. And we see that research questions could improve our ability to find valuable results which could benefit marketers and others who may have interest in our findings. Also, by using research questions we had the opportunity find out valuable information; we could increase the reliability and validity because the answers improve the chances of measuring what we aimed to measure.

4.5 Choice of Research Method

As mentioned in the previous section, we started our thesis by deciding choice of topic, and use of theories. And together with our focus on functional food and Swedish consumers the theories led us to state our research questions. The research questions have been in mind for all decision-making throughout our research process. With the used theory and the theory's model we decided to collect and analyze both quantitative and qualitative data in answering the research questions. The quantitative data was collected through questionnaires which were handed out to a sample of 455 native Swedish. Our analyzed data allowed us to answer our research questions. According to Bryman (2008; Saunders et al, 1997) this process is similar to the process of the quantitative method.

Further our research process also showed indications for using the qualitative method. We used a small sample of 14 native Swedish. We did an interview with each of them and asked them seven questions. Their answers were used to answer one of the research questions; question three. And, the use of qualitative data was necessary for us to perform the belief elicitation study. Also, this need of qualitative data is connected with our research philosophy; subjectivist aspect; we view consumers to be in constant change which act on their perceptions. Therefore, we see it important to obtain their current beliefs for functional food. According to Bryman (2008, pp. 22-23; Saunders, et al., 1997, pp.379-380) this belongs to the qualitative method.

According to Bryman (2008, pp.22-29); Holme & Solvang, (2006, pp. 82-83); Johansson, (1993, pp. 72-73), the choice of research method influences the researcher's ability to answer the research question (s). Because we did not want to limit our results we decided to do a thesis combining quantitative research qualitative research methods. In accordance with Holme and Solvang (2006, pp.86-87), we argue that combining qualitative and quantitative research strengthen our thesis reliability and validity. By combining quantitative- and qualitative method we were able to reduce the criticism quantitative research has. We did not only focus on numbers we also considered Swedish words (current beliefs toward functional food by having the interviews). Also, by combining quantitative data and consumers' words we had the ability to reduce the risk of missing out on important information (Holme & Solvang (2006, p. 16) Johansson (1993, pp. 72-73). And, therefore we can claim that the combination improved the thesis's reliability and validity.

4.6 Data Collection

Secondary data was collected to increase our knowledge of the theory of reasoned action (TRA), the theory of planned behavior (TPB), functional food, and consumer behavior. The collection of scientific articles was done through the use of the database named *Samsök*, (provided by Umeå University) At *Samsök* we used the function *MetaSearch* to get access to the databases; for example Business Source Premier and Emerald. Also, the database Google scholar (www.google.com/scholar) was used.

We collected scientific articles that concerned the creation and development of theories for consumer behavior, and explained the development and use of the TRA, and TPB.

Also, we collected articles that took positive positions and negative critiques of the theories. And, we collected articles of studies conducted with the use of the TRA, and the TPB. Furthermore, we decided to complement articles with books written about the TRA, and the TPB. Because the theories were created in the 1980s, we discovered that the original text for the theories were in books written by the founders of the theories, Fishbein and Ajzen. Fishbein was responsible for the EVM, and both Ajzen and Fishbein are responsible for the TRA. The TPB was extended by Ajzen. The books used were: *Understanding Attitudes and Predicting Social Behavior*, and *Belief, Attitude, Intention, and Behavior*.

Furthermore, we collected articles in which studies had been conducted in the field of functional food and consumers' attitudes. We found a number of articles about functional food and the consumers' behavior toward the functional food. But only two which had been focused on Swedish consumers, by Landström, et al. (2007) and Landström, et al. (2009).

The collection of primary data will be addressed later in section 4.8.

4.7 Evaluation of Secondary Data

Our understanding and view of the theories were affected by the collected and used secondary data. And that will in the end affect our end results. It is therefore important for us to evaluate the scientific articles we used and that we are critical toward the secondary data in the reading (Kylén, 2004, pp. 140-145; Johansson, 1993, p.87).

We decided to use the original articles (as far it was possible). We collected and read articles and two books about the TRA, the TPB, and for the concept of attitudes. Furthermore, we collected and read articles that were both positive and negative toward the use of the TPB. With the use of numbers of articles and by combining these with the textbooks, we received a greater understanding for the theories, and our thesis therefore received a higher reliability.

In the reading of secondary data, we discovered that articles where authors only discussed the use of the TPB most often recommended that the model should contain more elements (Rhodes & Corneya, 2003). Meantime, the articles which used the theory in practice most often used the TPB as recommended by Ajzen and Fishbein (for example see Berg, Jonsson & Connor, 2000; O'Connor & White, 2009). These differences between practice and theory showed that there is difficulty in using the theories in practice and that there are different understandings for how to use the models and equations.

For the collection of articles written about functional food and Swedes, we had problems locating articles. There were numbers of articles written about functional food and Finnish, American, Australian, and Danish consumers. However, there were not many articles about Swedish consumers' attitudes toward functional food and the located articles were most often written by the same authors; *Landström, et al.* Landström et al. started to publish their scientific articles about functional food and Swedish consumers in the 2000s, and their latest article was published in 2009. Having

studies conducted and written by the same authors limited our perspective; these four authors are the only perspective we can read about functional food and Swedes. For the thesis, we read scientific articles with research conducted with functional food in different countries such as Finland, Australia, and Denmark. Therefore, we were able to track the research process from other researchers in functional food, and we could evaluate Landström et al, researchers. Most commonly, each country had the same few author (s) conducting research about functional food and consumers' attitudes and behavior. For example Niva (2006) and Urala and Lähteenmäki (2006) are well-known in the research for Finnish consumers and functional food. Also, Brunso and Grunert (2003) have conducted research about Danish consumers and functional food. The realization that there are just a few researchers for each country signifies that functional food and consumer behavior is a rather new research area.

4.8 Research Strategies and Research Tool

According to Saunders, et al. (1997, p. 90) the choice for our research strategy should be based on our research question(s) because the research strategy will be our plan for how to answer our research questions. Based on the research questions we wanted a research strategy that would allow us to investigate the relationship between variables e. g Swedish consumers' attitudes and purchase intentions. Furthermore, we wanted a research strategy that allowed us to have a high degree of control in the process of collecting and analyzing the quantitative data. Finally, we demanded a research strategy that kept the research costs low and would allow us to send out questionnaires by e-mail and by handing them out. On the basis of these criteria, the questionnaire was the research strategy to be used (according to Bryman, 2008, p. 165; Saunders et al, 1997, p.92). The survey allowed us to investigate the variables, gave us control over the data collection and analysis process and kept the research costs low.

Moreover, for the qualitative data from the interviews, we needed to be able to collect and analyze. We needed a technique which would allow us to categorize the data, for better understanding the Swedish consumers. According to Bryman (2008, pp. 274-276; Kent, 2007, p.322) categorizing words with similar meanings is called content analysis. The content analysis allowed us to reduce the huge amount of words into a smaller amount of to categorize, which facilitated our results and analysis process.

Research Tools

We decided to use two research tools; one for the quantitative data, (questionnaires in English) and one for the qualitative data (an interview guide).

The reason for the use of questionnaires was that we could send out most of them through e-mail, which benefited both the respondents and the researchers. The respondents had the benefit of fulfilling the questionnaire when they had the time. And we had the benefit of saving time since meeting each respondent was not necessary. Also, by sending out questionnaires through e-mail, we received quantitative data without interference from our beliefs and assumptions.

Before, the questionnaires were sent out, we did a pilot test of the questionnaires with a sample of five Swedes. We wanted to find out if the sample had any problems such as understanding the questions, or trouble fulfilling the questions. The sample had no trouble fulfill the questionnaire, and no comments about how to improve the questionnaire. Therefore, we were able to send out the questionnaires through e-mail. If the questionnaire had shown that there were difficulties in comprehension, then we would had decided to conduct interviews using the questionnaire (survey interviews). The survey interviews would have aided the respondents in fulfilling the questionnaire since the researchers would have been available for any assistance (Holmen & Solvang, 2006, p.175; Kent, 2007, pp.184-185).

Furthermore, we decided to use the interview guide to aid in eliciting responses for the belief elicitation study. The interviews were conducted by way of face to face interviews. The full interview guide can be seen in appendix 2. The belief elicitation study will be discussed in further detail in section 4.10.

4.9 Construction of the TPB Questionnaire

As mentioned in section 3.9 we decided to use questionnaires as our method of primary data collection. The questionnaire was specifically designed in accordance to procedures devised by Ajzen (2002), and Osgood, Suci, and Tannibaum (1971). However, because we were not attempting to obtain an actual behavior measure, but rather an intention measure, we did not use Ajzen and Fishbein (1974) target and action elements in the design of the questionnaire (see section 3.1.2 for an explanation of target and action elements).

Throughout the questionnaire, the attitude toward purchasing functional food, subjective norm, PBC, and intentions of purchasing functional food was measured using standard direct measure techniques outlined by Ajzen (2002 pp. 4- 8). These measures were obtained using the semantic differential scale designed by Osgood, Suci, and Tannibaum (1971) because of its popular use in attitude research as well as its ease of construction. The scale elicited single responses scored from 1 to 7 and consisted of bipolar adjective pairs (*bad-good, disapprove-approve*). When measuring attitudes, 1 represented the most negative attitudes towards purchasing functional food, and 7 represented the most positive. When measuring subjective norms, PBC, and intentions, 1 represented low and 7 represented high.

For ease of analysis, the items that assessed attitudes toward purchasing functional food were grouped together (questions 1a-1e); items assessing subjective norms were grouped together (questions 2 and 3); items assessing PBC were grouped together (questions 4 and 5); and finally items assessing intentions were grouped together in questions 6 and 7. The questionnaire was self-reporting and consisted of a total of 7 questions with question 1 containing five parts. The questionnaire can be found in appendix 1.

Attitude toward the Behavior

To measure attitudes toward the behavior (i.e. purchasing functional food), five 7-point bipolar adjective scales were used. For the five scales, participants were asked to evaluate what purchasing functional means to them. For example, the wording for one of the scales was, “For me, purchasing functional food is *worthless-valuable*” where 1 = *worthless* and 7 = *valuable*.

Subjective Norms

To assess subjective norms regarding purchasing functional foods, two 7-point scales were used. The first scale required participants to answer the following statement: “Most people who are important to me think that (*I should not – I should*) purchase functional food”, rated on a 7 point scale where 1 = *I should not* and 7 = *I should*. The second scale read: “The people in my life whose opinions I value (*Do not purchase – Do Purchase*) functional food” rated on the same 7 point scale where 1 = *Do not purchase* and 7 = *Do Purchase*.

Perceived Behavioral Control

To measure PBC regarding purchasing functional food, two 7-point scales were used. Respondents were asked to rate the extent of control they felt they had over purchasing functional food via two statements. The first statement read, “If I wanted to I could purchase functional food”, rated on a 7-point scale where 1 = *Definitely false* and 7 = *Definitely untrue*. The second statement read, “It’s mostly up to me whether or not I purchase functional food”, rated on the same 7 point scale where 1 = *Strongly disagree* and 7 = *Strongly agree*.

Intentions

Intentions to purchase functional food were measured on two 7-point scales. One the first scale, respondents were asked to indicate whether they intended to purchase functional food where 1 = *Extremely unlikely* and 7 = *Extremely likely*. The second scale asked participants to indicate whether they would try to purchase functional food where 1 = *Definitely False* and 7 = *Definitely true*.

4.10 The Belief Elicitation Study

Salient beliefs had to be identified from a representative sample of the population consisting of 14 participants. Participants were asked via an interview to answer a total of seven open ended questions that were intended to obtain their behavioral, normative, and control beliefs concerned with purchasing functional food. Table 2 presents which questions were used to obtain each theoretical concept. All questions were based on those recommended by Ajzen (2000, p. 8-13) and Ajzen and Fishbein (1980, pp. 68-76).

Table 2
Interview Questions used for Belief Elicitation

Behavioral Beliefs	1. What do you believe are the <i>advantages</i> of purchasing functional food?
	2. What do you believe are the <i>disadvantages</i> of purchasing functional food?
	3. Is there anything else you associate with purchasing functional food?
Normative Beliefs	4. Are there any individuals or groups who would <i>approve</i> of you purchasing food?
	5. Are there any individuals or groups who would <i>disapprove</i> of you purchasing food?
Control Beliefs	6. What factors or circumstances would enable you to purchase functional food?
	7. What factors or circumstances would make it difficult or impossible for you to purchase functional food?

The answers produced by these questions were considered to be the salient beliefs of the representative sample concerning purchasing functional food. However, because so many different answers were given in the participants' own words, a content analysis was conducted to categorize the beliefs based on similarity, as suggested by Ajzen and Fishbein (1980 p.68). For example, 'better health', 'might get food that is good for your body', and 'helps your stomach feel better' are all similar and clearly seem to refer to the same effect: 'provides beneficial physiological effects'. After all responses were categorized, each category received a label such as that mentioned above: 'provides beneficial physiological effects'.

The next step was to select a subset that would represent the beliefs that were the most commonly held by the population. Therefore, beliefs were chosen based on the frequency that they were mentioned. In the end, a total of 10 beliefs had been chosen as salient. The final selection of salient beliefs and their frequencies are shown in the results chapter under Table 5.

4.11 Time horizon for handing out the Questionnaire

Based on the time and resources we were given for our thesis, we decided to hand out our questionnaire at a particular point of time. We decided to do the elicitation study interviews, in the beginning of April. The pilot test for the questionnaire was done in one day. Then the questionnaires were sent and handed out at the end of April, during a one week period. The same questionnaire was handed out for all respondents. This way

of working is called cross sectional (Bryman, 2008, 44; Remenyi et al, 2005, p. 47) and means that the data is collected at a particular point of time.

4.12 Sampling Procedures and Respondents

We used two samples, one for collecting quantitative data from the questionnaire, and one sample for collecting qualitative data from the belief elicitation study. According to Rudberg (1993, p. 132) it is important that the used sample represents the aimed population. And our research questions focus on the Swedish population, therefore, we aimed for samples that represent the Swedish population. Also, based on recommendations from previous research by Landström, et al. (2007, p. 1068) we focused on different consumers and not only consumers with health related diseases. We will explain the sample criteria and sampling process below.

To begin, for the elicitation study, we decided to include both females and males, and both students and employees. Also, we strived for an almost equal balance between gender, and occupation. Furthermore, the participants were chosen according to the non-probability sampling technique named convenience sampling; this is where the sample is based on people we know; friends and work colleagues (Remenyi, et al., 2005, p. 193). The reason for this is that these participants were available, easily attainable; because we knew them beforehand we knew who was a student and who was an employee, and therefore we could have a balance between the two. The reason for both students and employees being used is that we wanted to determine beliefs for both categories, and not only represent students' beliefs for example. The sample consisted of 14 participants (see composition in chapter 5). And the interview guide was used for face to face interviews, without our suggestions for answers because we wanted the participants to answer whatever came to their mind when hearing the questions. For collecting the primary data from the interviews we met the participants one by one. Each interview took 10-15 minutes and none of the interviews were recorded; because one of us took notes during the interviews while the other conducted the interviews. The participants decided the time and place to meet just to ensure that the participants felt comfortable enough answering the questions (Johansson, 1993 p.120). The interviews were not transcribed verbatim but instead we recorded key adjectives that described their beliefs. After each interview, the interviewees were shown the notes and asked if we had the correct understanding.

Furthermore, the sample for questionnaires was based on both probability sampling and non-probability sampling techniques. The criteria were that we wanted to have samples of Swedish females and males, students, employees, and the general public (non-workers or students). The reason is that we wanted to have a sample that represented different groups of the Swedish population. However, we did not include children and teenagers. We aimed for a sample of 250 Swedish consumers.

The probability sampling technique named simple random sampling was used to find students for the sample (Remenyi, et al. 2005, p.194). The reason for this is that we did not know that many students beforehand and therefore we saw the benefit of sending out part of the questionnaires through e-mail. Also this helped us to save time and money. We contacted Umeå Student Centrum (K. Persson personal communication,

April 19, 2010), and for the probability sample, we followed the steps by Bryman (1993, p. 132). There are approximately 12 000 students at Umeå University, however, the international students were omitted from that list. Then, we decided to have a list of 247 student e-mail addresses. On the basis of this decision, Student Centrum could print out a list of 247 random students for us. We did not expect that all students regularly check their student e-mails, therefore 247 e-mail addresses were chosen to ensure that some would respond. We received 44 fulfilled questionnaires.

Then we used a non-probability sampling technique called convenience sampling for the remaining sample (Remenyi, et al, 2005, p. 193). First, 80 questionnaires were sent out to friends and work colleagues. The reason for the use of these respondents was that they were easily accessible and that they could represent a good part of the employees in the sample.

Furthermore, we handed out 133 questionnaires to people at public places such as Iksu, Umeå University, and Umeå city library. Handing out the questionnaires we let the respondents fulfill the questionnaires without our assistance in order to insure that we had no influence on their answers. Here, we had the opportunity to collect respondents from the general public and employees. Also, we had the ability to contact more students for the sample. The reason for these personal hand-outs of the questionnaires was to find a good balance between gender and occupation in the sample.

In total we sent and handed out 455 questionnaires. And with a sample of 257, we had a response rate of 56.5 percent. To increase the response rate, we motivating the respondents we contacted through email with free coupons for functional food products (provided by Skånemejeriet and Norrmejeriet). Our reason for using motivation was that we could see that it motivated the respondents to take the time to fulfill the questionnaire, and also to shown the respondents that we cared about receiving their opinions.

According to Holme and Solvang (2006, p. 183) a researcher should put energy into the research and not use a sample consistent of only friends. Holme and Solvang argue that a probability sample will provided more valuable results. We follow their argument and agree that a probability sample gives more valuable results. However, we decided to use both non-probability and probability sample because we saw the possibility of receiving a higher response rate in a short amount of time; we only had the period of one week. And our non-probability samples responded quicker than the probability sample. Also, because we did not influence our respondents during the time they were answering the questionnaire, we felt that our non- probability sample could provide valuable responses.

4.13 Methodology Considerations

We had a response rate 56.5 percent, and it was lower than 100 percent because not all of send out questionnaires were fulfilled and returned. Because we were sending and handing out the questionnaires during a time period of six days, we understood that all sent out questionnaires would not be fulfilled and returned. For example, we knew that most of the students had personal e-mails which they use more frequently than their

student e-mail. So, in order to still receive a good part of students for our sample we sent out the questionnaire to a rather big group of students, 247, just to increase the likeness that some of the students would see the questionnaire and have time to return it before the due date. Furthermore, reasons for unreturned surveys might have included respondents having language issues because the survey was only offered in English (as mentioned in limitations); or it could have been that the students were unfamiliar with the functional food concept; or it could have been that the students did not see any value to fulfilling a questionnaire when he/she was too busy with his/her own work. By sending out the questionnaire to 247 students which not all were expected to answer, it could be claimed that it lowered the response rate; however, we did not know beforehand who would answer the questionnaire, and therefore, we needed to send out many questionnaires to ensure that we would have enough students for our sample.

Considering that both questionnaires returned from e-mails and hand-outs were fulfilled without interference from the researchers, we did not have reason to believe that the answers rendered from each method would provide any bias.

Also, as mentioned previously, we sent and handed out the questionnaire to employees and students we knew and those that were at the Iksu, Umeå city library, and the University. And in this part of the sample we received a higher response rate; almost all those who were asked fulfilled the questionnaire. So, we assume that the questionnaire was easily understood and the low response rate from the students was due to lack of personal contact; apparently personal contact is a good tactic to motivate respondents to take the time to fulfill a questionnaire.

5. EMPIRICAL RESULTS

In this chapter, we aim to provide an overview of the data that was collected from our research. These results provided the answers to our research questions and were obtained using multiple functions in the SPSS program and procedures designed by Ajzen and Fishbein (1980). The results will first be organized according to demographic results, and then in accordance with our research questions. Interpretation and specific information about how the results were obtained will also be offered.

5.1 Demographic Results

In this part of the results presents the demographics of the respondents from the questionnaires and interviews will be presented. These results were processed through the SPSS program. The demographic results for the questionnaire will be presented first followed by the results for the interviews.

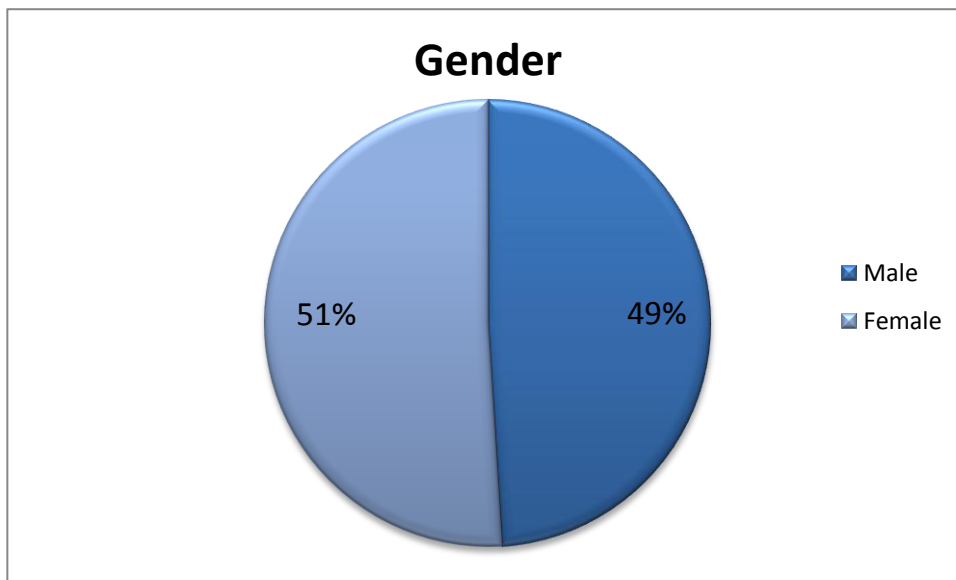


Figure 8. Gender of Questionnaire Respondents.

In figure 8, we can see that the gender of the respondents is almost equal. 51% of the respondents were female and 49% were male. In order to obtain a good sample of the population, we were aiming for equal amounts of males and females.

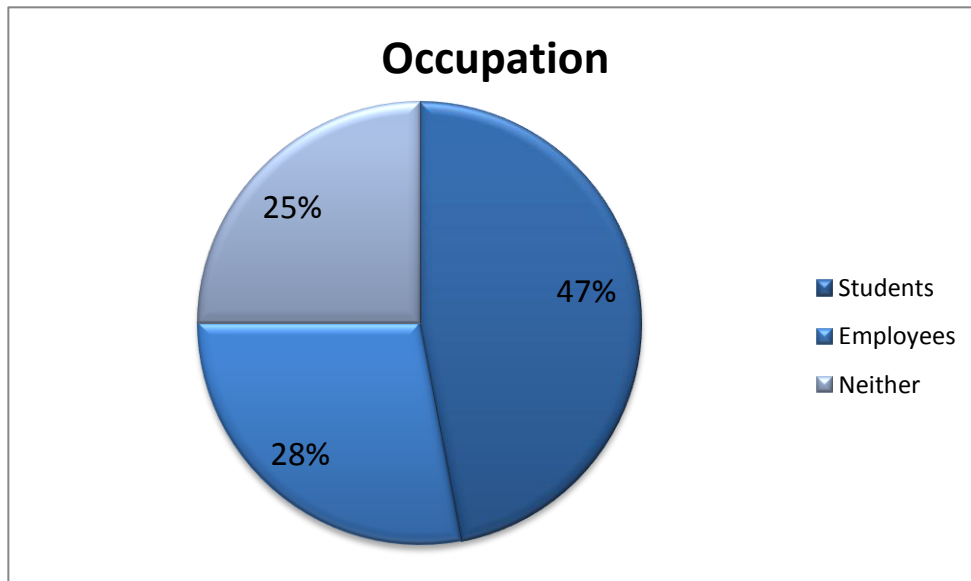


Figure 9. Occupations of Questionnaire Respondents.

In Figure 9, we can see that most of the respondents from the questionnaire are students, 47%. 28% of respondents were employees of some kind. And respondents whom were neither students nor employees represented the least amount of respondents with 25%.

Table 3
Distribution of Respondents for the Questionnaire

	Males	Females	Total	% of Sample
Students	59	62	121	47 %
Employees	25	47	72	28 %
Neither	41	23	64	25 %
Total Males	125			48.6 %
Total Females		132		51.4 %
Total Sample			257	100 %

Table 3 shows a more detailed picture of the demographics for the respondents of the questionnaire. In addition to the percentages of genders and occupations, number counts and totals for the genders and occupations are shown. As we can see, 125 of the respondents were male and 132 were female. A total of 121 respondents were students, 72 were employees and 64 were neither.

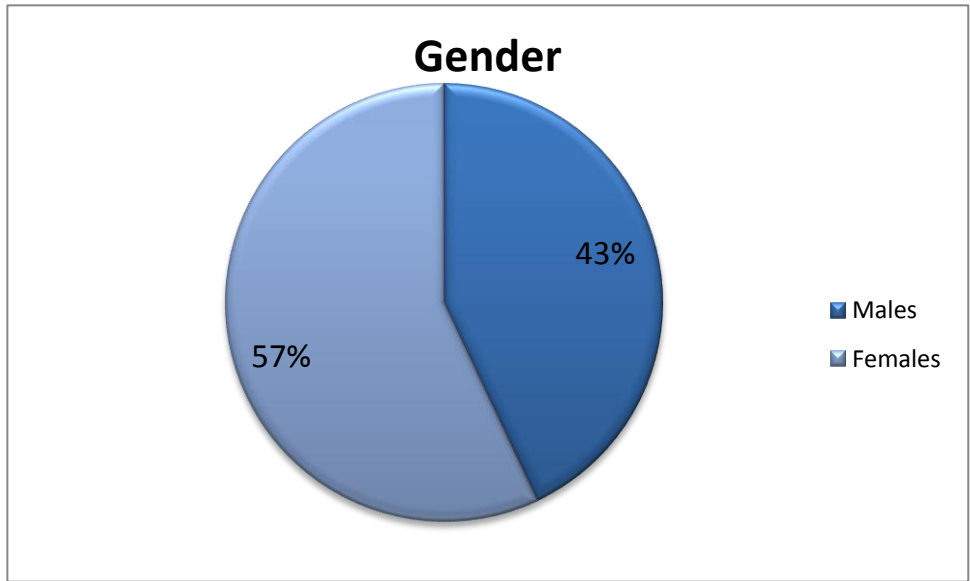


Figure 10. Gender of Interview Participants.

Figure 10 shows the gender of the interview participants from the belief elicitation study. We can see that the majority of the participants were female at 57%, and the minority of participants was male at 43%.

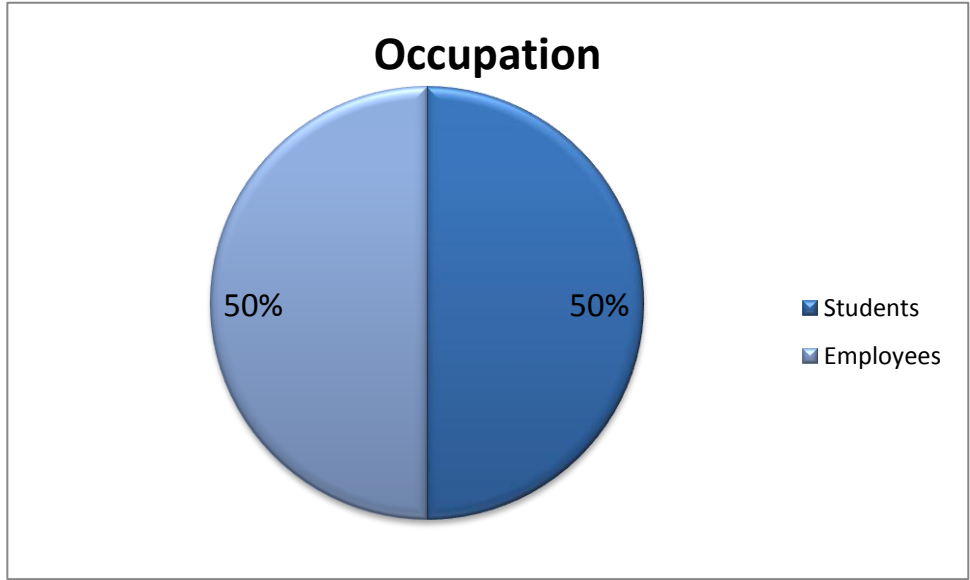


Figure 11. Occupations of Interview Participants.

Figure 11 shows that the occupations of the interview participants are equal. 50% of the participants were employees and 50% were students.

5.1.2 Results for the Research Questions

This section provides the results according to our research questions. Statistical results from the questionnaire as well as the results from the belief elicitation study are presented within the interpretations. To obtain the results, the data was processed using various functions of SPSS and by following procedures designed by Ajzen and Fishbein (1980) (see section 3.11 for further details). A description of the SPSS functions used to obtain certain results will be provided.

RQ 1: What are Swedish consumers' attitudes towards and intentions of purchasing functional food?

The results concerning the first part of this question, attitudes, are presented in Figure 12, Table 4, Table 5, Figure 13, and Table 6. A brief description of the results will be given, followed by an interpretation of the results, and then the answer to the research question. But first, we begin with an explanation of how the results were obtained via SPSS.

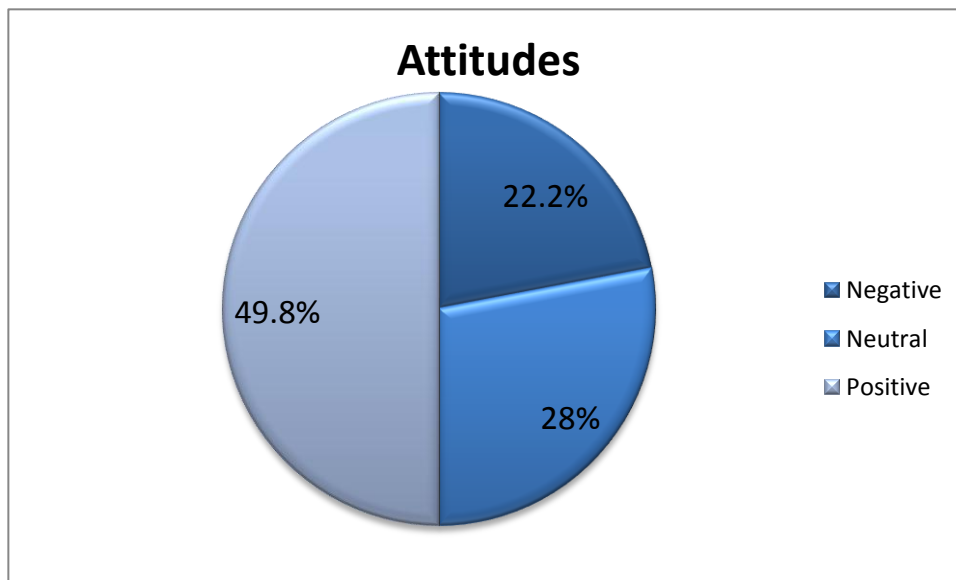


Figure 12. Swedish Consumers' Attitudes toward Purchasing Functional Food.

Figure 12 presents the Swedish consumers' attitudes towards purchasing functional food. To assess the attitudes, the responses from the five-part question 1 were averaged in order to obtain an overall attitude score; this was completed for every questionnaire. After the attitude score was established for each case, the scores were entered into SPSS. Because the scale was from 1 to 7, it was decided that scores ranging from 1 to 3.4 would constitute a negative attitude; scores from 3. to 4.5 would be a neutral attitude, and scores from 4.6 to 7 would constitute a positive attitude.

As we can see, in Figure 12, 49.8%, the majority of respondents, have positive attitudes towards purchasing functional food. We can also see that there is not a great difference between the respondents who have negative attitudes and those that have neutral attitudes. Also, we can see that the least amount of respondents, 22.2 %, hold negative attitudes toward purchasing functional food.

Table 4
Frequency Counts for Individual Attitude Scores

	Frequency	Percent	Valid Percent	Cumulative Percent
1.00	2	.8	.8	.8
1.60	2	.8	.8	1.6
1.80	2	.8	.8	2.3
2.00	4	1.6	1.6	3.9
2.20	4	1.6	1.6	5.4
2.40	2	.8	.8	6.2
2.60	4	1.6	1.6	7.8
2.80	6	2.3	2.3	10.1
3.00	15	5.8	5.8	16.0
3.20	10	3.9	3.9	19.8
3.40	6	2.3	2.3	22.2
3.60	6	2.3	2.3	24.5
3.80	16	6.2	6.2	30.7
4.00	14	5.4	5.4	36.2
4.20	16	6.2	6.2	42.4
4.40	20	7.8	7.8	50.2
4.60	10	3.9	3.9	54.1
4.80	6	2.3	2.3	56.4
5.00	22	8.6	8.6	65.0
5.20	18	7.0	7.0	72.0
5.40	8	3.1	3.1	75.1
5.60	10	3.9	3.9	79.0
5.80	8	3.1	3.1	82.1
6.00	16	6.2	6.2	88.3
6.20	2	.8	.8	89.1
6.40	4	1.6	1.6	90.7
6.60	4	1.6	1.6	92.2
7.00	20	7.8	7.8	100.0
Total	257	100.0	100.0	

Table 5
Frequency Counts & Percentages for Attitudes in Categories

	Frequency	Percent	Valid Percent	Cumulative Percent
Negative	57	22.2	22.2	22.2
Neutral	72	28.0	28.0	50.2
Positive	128	49.8	49.8	100.0
Total	257	100.0	100.0	

Table 5 presents a different depiction of consumers' attitudes toward purchasing functional food. Along with percentages, frequency counts for categories are also displayed. We can see that 128 respondents had positive attitudes toward purchasing functional food. 72 respondents had neutral attitudes, and 57 had negative attitudes.

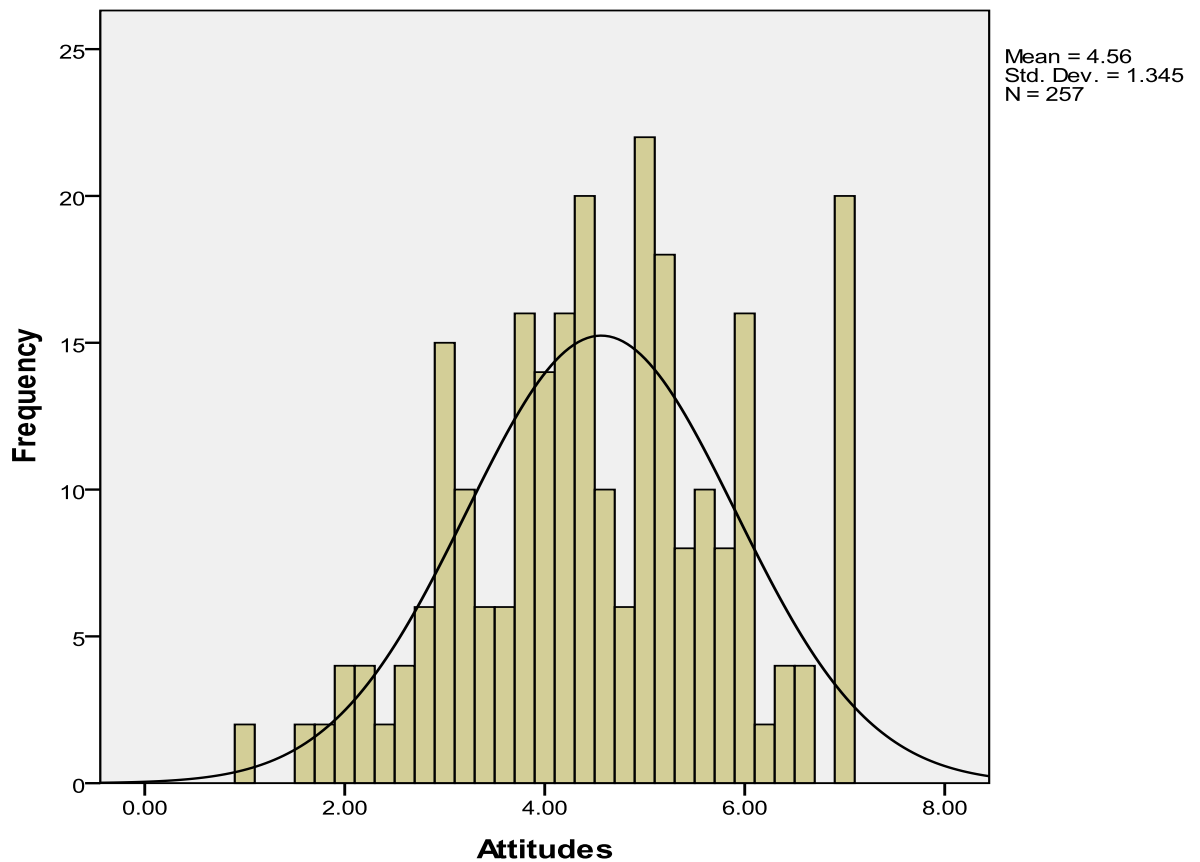


Figure 13. Sample Distribution for Attitudes.

Table 6
Descriptive Statistics for Attitudes

Number of cases	257
Mean	4.56
Median	4.4
Mode	5
Skewness	-0.09
Standard Deviation	1.345

Figure 13 above displays the histogram of the sample distribution for attitudes toward purchasing functional food. We can see that the mean is 4.56 and the standard deviation is 1.345. Presented here in Table 6 are the descriptive statistics for attitudes. Other than the number of cases, standard deviation, and mean, the median (4.4), the mode (5), and skewness (-0.09) are presented as well. We can see that the mean is higher than the median, but the median is not higher than the

mode. Additionally, the skewness for a perfect normal distribution is 0; however, a measure of +/-1 is acceptable as a normal distribution. Furthermore, if we look at Figure 13, we can see that the imposed distribution shape is neither skewed to the left nor right, but it is of normal shape. Together, these factors help support our conclusion that the sample distribution is normal.

So, to begin answering the first part of the question concerning attitudes, we should return to Table 5. We can see that the highest frequency counts and highest percentages are in the positive category, 128 and 49.8%. Further, in Table 6, we see that the mean is 4.56; quite close to the 4.6 score needed to be considered a positive attitude. If we look at Figure 13, we can see that we have a few spikes in cases below the mean; just around the 3.00 and 4.00 marks. We suspect that those cases are responsible for slightly lowering the mean, which may have otherwise provided a mean that may have fallen within the positive category. Also, in Table 6 the standard deviation is relatively small at 1.345, meaning that there are more cases that scored around the mean rather than scoring to one extreme or the other, and further solidifying the assertion that the data is normally distributed. And lastly, the mode is 5, meaning that that was the score that was repeated most often (see Table 4); the mode is also within the positive category range. Therefore, all these factors combined lead us to conclude that Swedish consumers hold a slightly positive attitude toward purchasing functional food.

Moving on to the second part of the question concerning purchase intentions, we can look to Figure 14, Table 7, Table 8, Figure 15, and Table 9. As with attitudes; a brief description of the results will be given, followed by an interpretation of the results, and then the answer to the research question. We will first begin with an explanation of how the results were obtained via SPSS.

Figure 14 presents the Swedish consumers' intentions to purchase functional food. To assess the intentions, the responses from questionnaire questions 6 and 7 were averaged in order to obtain an overall purchase intentions score. After the purchase intentions score was established for each case, the scores were entered into SPSS. Similar to attitudes, scores ranging from 1 to 3.4 were considered low; scores from 3.5 to 4.5 would be a neutral purchase intention, and scores from 4.6 to 7 would constitute a high purchase intention. Looking at Figure 14, we can see each category for intentions is

fairly similar to one another. However, the majority of respondents still had high purchase intentions at 35%. Following very close behind was neutral purchase intentions at 34.2%. And finally, 30.7% had low purchase intentions.

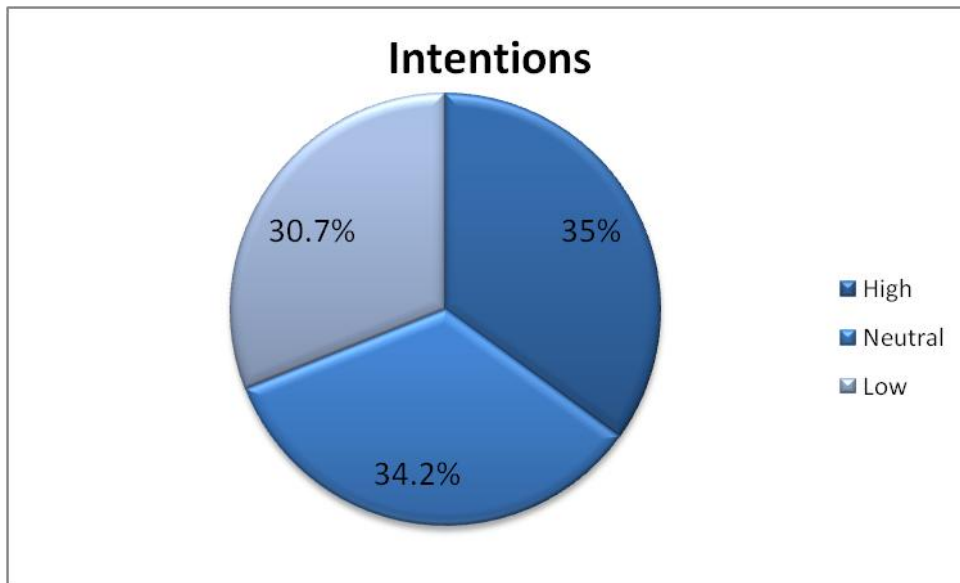


Figure 14. Swedish Consumers' Intentions to Purchase Functional Food.

Table 7
Frequency Counts for Individual Intention Scores

	Frequency	Percent	Valid Percent	Cumulative Percent
1.00	17	6.6	6.6	6.6
1.50	2	.8	.8	7.4
2.00	22	8.6	8.6	16.0
2.50	16	6.2	6.2	22.2
3.00	22	8.6	8.6	30.7
3.50	14	5.4	5.4	36.2
4.00	56	21.8	21.8	58.0
4.50	18	7.0	7.0	65.0
5.00	28	10.9	10.9	75.9
5.50	16	6.2	6.2	82.1
6.00	32	12.5	12.5	94.6
6.50	4	1.6	1.6	96.1
7.00	10	3.9	3.9	100.0
Total	257	100.0	100.0	

Table 8
Frequency Counts & Percentages for Intentions in Categories

	Frequency	Percent	Valid Percent	Cumulative Percent
High	90	35.0	35.0	35.0
Neutral	88	34.2	34.2	65.8
Low	79	30.7	30.7	100.0
Total	257	100.0	100.0	

Table 8 presents another representation of consumers' intentions to purchase functional food. Along with percentages, frequency counts are also displayed. We can see that 90 respondents had a purchase intention. 88 respondents had a neutral purchase intention, and 79 had a low purchase intention.

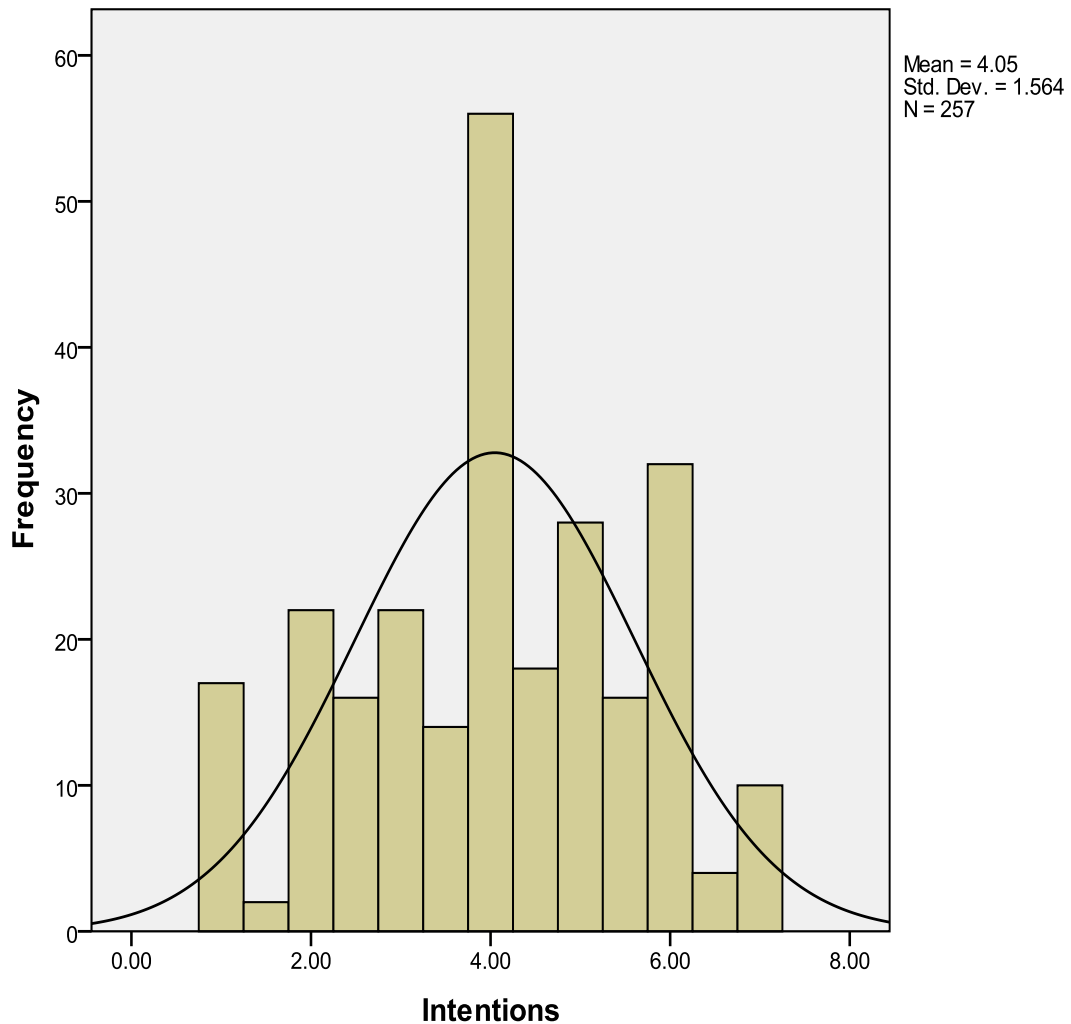


Figure 15. Sample Distribution for Intentions.

Table 9
Descriptive Statistics for Intentions

Number of cases	257
Mean	4.05
Median	4
Mode	4
Skewness	-0.164
Standard Deviation	1.568

Figure 15 above displays the histogram of the sample distribution for subjective norms concerning the purchase of functional food. We can see that the mean is 4.05 and the standard deviation is 1.568. Presented here in Table 9 are the descriptive statistics for intentions. Other than the number of cases, standard deviation, and mean, the median (4), the mode (4), and skewness (-0.164) are presented as well. We can see that the mean is higher than the median, but the median is

not higher than the mode; they are equal. Additionally, the skewness is in the range of +/-1. Further, we can see in Figure 15 that the imposed distribution shape is normal. Together, these factors point to the sample distribution being normal.

Moving on to begin answering the second part of the question concerning purchase intentions, we can look to Table 8 for this. As we can see, the frequency counts and percentages are at their highest under the ‘high’ category, 90 and 35%. However, the percentages for high and neutral categories are so close together with only .8 of a percentage between them, we cannot rely on the percentages alone to tell us what the intentions are. Looking at Table 9, we can see that the mean is 4.05 which lies in the neutral category; remember that scores from the neutral category lie between 3.5 and 4.5. Also, keeping in mind that the sample is normally distributed, the standard deviation is just 1.568 suggesting that most of the cases actually scored around the mean of 4.5. And finally, the mode is 4 which were repeated a total of 56 times (see Table 7). So, although the frequency counts and percentages for the categories showed a slight lead in the high category, the normal distribution, standard deviation, skewness, mode, and median all point to purchase intentions being neutral.

RQ 2: What is the strongest predictor of intentions to purchase functional food?

The results concerning this question are presented in Tables 10, 11, and 12. As with the previous question; a brief description of the results will be given, followed by an interpretation of the results, and then the answer to the research question. First, we will begin with a description of how the results were obtained via SPSS.

Presented in Table 10 are the correlations between consumers’ attitudes and purchase intentions. Pearson’s R in SPSS was used to measure the strength of the relationships between these two variables. When using Pearson’s R, the correlation coefficient can range from -1 to +1. The more the correlation between the two components departs from zero and approaches either -1 or +1, the stronger the relationship will be.

Table 10
Correlations Between Attitudes & Intentions

		Attitudes	Intentions
Attitudes	Pearson	1	.636**
	Correlation		
	Sig. (2-tailed)		.000
	N	257	257
Intentions	Pearson	.636**	1
	Correlation		
	Sig. (2-tailed)	.000	
	N	257	257

** . Correlation is significant at the 0.05 level (2-tailed).

Looking at Table 10, we can see that attitudes and intentions have a correlation coefficient of .636. Because the value is positive and quite close to +1, we can say intentions and attitudes are highly correlated. The correlation between the two components is statistically significant at 0.05, with 1 representing a perfect relationship. Also, the significance level of .000 falls below the conventional threshold of .05 indicating that a true relationship between these two components exists.

Table 11
Correlations Between Intentions & Subjective Norm

		Intentions	Subjective Norm
Intentions	Pearson	1	.555**
	Correlation		
	Sig. (2-tailed)		.000
	N	257	257
Subjective Norm	Pearson	.555**	1
	Correlation		
	Sig. (2-tailed)	.000	
	N	257	257

** . Correlation is significant at the 0.05 level (2-tailed).

Presented in Table 11 are the correlations between consumers' subjective norms and purchase intentions. Pearson's R in SPSS was used again to measure the strength of the relationships between these two variables. Looking at the correlation coefficient for intentions and subjective norm in Table 11, we can see that these two components are also highly correlated with a correlation coefficient of .555. However, the relationship of these two components is not quite as strong as the relationship between intentions and attitudes. Again, the significance level is at .000, indicating a true relationship exists.

Table 12
Correlation Between Intentions & Perceived Behavioral Control

		Intentions	PBC
Intentions	Pearson Correlation	1	-.080
	Sig. (2-tailed)		.200
	N	257	257
PBC	Pearson Correlation	-.080	1
	Sig. (2-tailed)	.200	
	N	257	257

Presented in Table 12 are the correlations between consumers' PBC and purchase intentions. Pearson's R in SPSS was used again to measure the strength of the relationships between these two variables. Looking at the correlation coefficient for intentions and PBC in Table 12, we can see that the correlation coefficient of intentions and PBC is $-.080$ and the significance level is $.200$. The correlation coefficient is quite far from -1 and fairly close to 0 . When the correlation coefficient approaches 0 , there is absolutely no correlation between the two components. Also, the statistical significance level is quite a bit larger than $.05$ at $.200$ indicating that we cannot assume that there is a relationship between the two variables. One may ask why there is no correlation between PBC and intentions. This could be attributed to the possibility that purchasing functional could be considered a behavior under volitional. But we will return to this idea in further detail when PBC is discussed under research question 4.

According to Ajzen and Fishbein (1980, p. 98) a positive correlation supports the assumption that a person's intentions increase as his attitude toward the behavior becomes more positive. Furthermore, the higher the correlation, the stronger the relationship, and the better a person's intentions can be predicted. So to answer the question: What is the strongest predictor of intentions to purchase functional food?; we simply look back to Tables 10, 11, and 12. Looking at the correlation coefficients for each pair, we can see that intentions and attitudes have the highest positive correlation at $.636$ and therefore have the strongest relationship. If we go by Ajzen and Fishbein's assumptions, we can assume that because the correlation is so strong between attitudes and intentions, attitudes is a very good predictor of intentions and the strongest predictor in this case. Additionally, we can also assume that if attitudes change and become more positive, so will the intentions to purchase functional food.

RQ 3: Which beliefs are salient in Swedish consumers concerning the purchase of functional food?

The results concerning this question are presented in Table 13. A description of the results will be given along with an interpretation. Finally the answer to our research question will be provided. These results were obtained by following procedures designed by Ajzen and Fishbein (1980) (see section 4.11 for further details).

Table 13
Salient Beliefs Concerning Purchasing Functional Food

<i>Labels for beliefs concerning purchasing Functional Food</i>	<i>Frequency of mentions</i>
<u>Behavioral Beliefs</u>	
‘Provides beneficial health benefits’	13
‘Decreases the effects of health related diseases’	7
‘Convenient way to improve health’	6
‘Provides unnecessary nutrients for healthy individuals’	7
‘May cause the body harm’	7
‘Costs a lot of money’	12
<u>Normative Beliefs</u>	
‘Doctors’	9
‘Family’	6
<u>Control Beliefs</u>	
‘Price’	11
‘Knowledge’	6
Total	84

Table 13 presents the results from the belief elicitation study. The final selection of salient beliefs and their frequencies are shown. As we can see, ‘provides beneficial health benefits’ has the highest frequency count of 13. Therefore, this belief is the one chosen by the population as the most salient behavioral belief. A ‘convenient way to improve health’ had the lowest frequency count of 6. Although it is technically a salient belief, it is the least salient of them all. ‘Doctors’ and ‘Family’ were identified as the referents or those “important people” who would have an influence over them purchasing functional food. However, ‘doctors’ were recognized as the most salient with a frequency count of 9. ‘Price’ and ‘knowledge’ were identified as the salient control beliefs with ‘price’ being the more salient of the two with a frequency count of 11.

If we take another look at Table 13, we can see that there are salient behavioral beliefs that resulted from what participants considered advantages of purchasing food, and also disadvantages of purchasing functional food (see appendix 2 for belief elicitation questions). The behavioral beliefs that were considered advantageous to the participants were considered to be ‘positive’ salient beliefs, and those that were considered disadvantageous were considered to be ‘negative’ salient beliefs. We can see that ‘provides beneficial health benefits’, ‘decreases the effects of health related diseases’, and ‘convenient way to improve health’ are all positive salient beliefs and account for 50% of behavioral beliefs with a total frequency of 26. Moving on to the negative salient beliefs, we can see that ‘provides unnecessary nutrients for healthy individuals’,

‘may cause the body harm’, and ‘costs a lot of money’ are all negative salient beliefs and account for the other 50% of behavioral beliefs.

That being said, answering this question is relatively simple. Because the results in Table 13 are from the belief elicitation study which was meant to obtain consumers’ salient beliefs; the salient beliefs and answer to the question is also presented in Table 13.

RQ 4: What are Swedish consumers’ subjective norm and perceived behavioral control?

The results concerning the first part of the question, subjective norm, are presented in Figure 16, Table 14, Table 15, Figure 17, and Table 16. A description of the results will be given, followed by an interpretation of results, and finally the answer to the research question. First, we will begin with an explanation of how the results were obtained via SPSS.

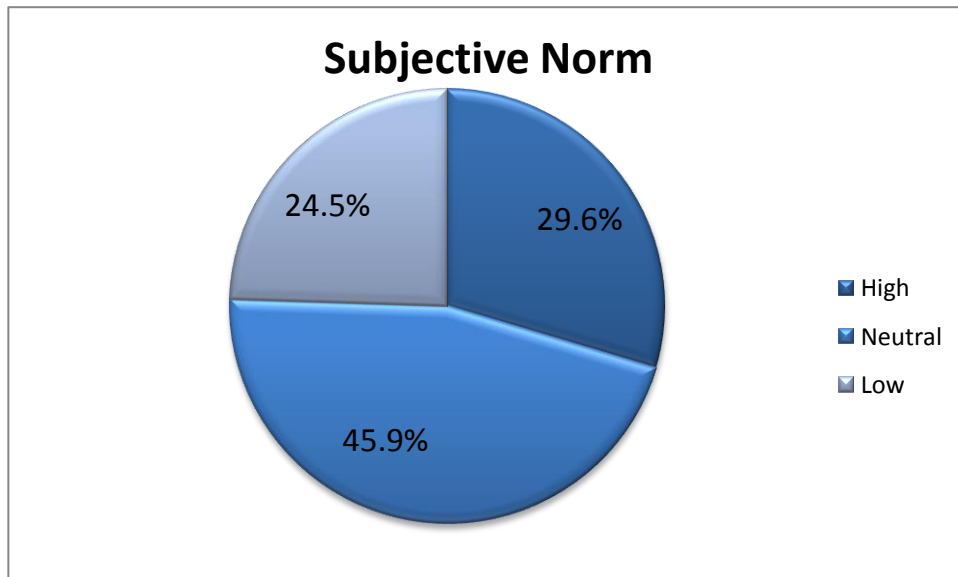


Figure 16. Swedish Consumers’ Subjective Norm Concerning Purchasing Functional Food.

Figure 16 presents the Swedish consumers’ subjective norm concerning purchasing functional food. To assess the subjective norm, the responses from questionnaire questions 2 and 3 were averaged in order to obtain an overall subjective norm score. After the subjective norm score was established for each case, the scores were entered into SPSS. As with attitudes, scores ranging from 1 to 3.4 were considered low; scores from 3.5 to 4.5 would be a neutral subjective norm, and scores from 4.6 to 7 would constitute a high subjective norm. Looking at Figure 16, we can see that the majority of respondents had a neutral subjective norm with 45.9%. The minority of respondents had a low subjective norm with 24.5%; and 29.6% had a high subjective norm.

Table 14
Frequency Counts for Individual Subjective Norm Scores

	Frequency	Percent	Valid Percent	Cumulative Percent
1.00	4	1.6	1.6	1.6
1.50	4	1.6	1.6	3.1
2.00	10	3.9	3.9	7.0
2.50	15	5.8	5.8	12.8
3.00	30	11.7	11.7	24.5
3.50	14	5.4	5.4	30.0
4.00	70	27.2	27.2	57.2
4.50	34	13.2	13.2	70.4
5.00	26	10.1	10.1	80.5
5.50	18	7.0	7.0	87.5
6.00	22	8.6	8.6	96.1
6.50	4	1.6	1.6	97.7
7.00	6	2.3	2.3	100.0
Total	257	100.0	100.0	

Table 15
Frequency Counts & Percentages for Subjective Norms in Categories

	Frequency	Percent	Valid Percent	Cumulative Percent
High	76	29.6	29.6	29.6
Neutral	118	45.9	45.9	54.1
Low	63	24.5	24.5	100.0
Total	257	100.0	100.0	

Table 15 provides a more detailed representation of consumers' subjective norms concerning the purchase of functional food. Along with percentages, frequency counts are also displayed. We can see that 76 respondents had a high subjective norm. 118 respondents had neutral subjective norms, and 63 had low subjective norms.

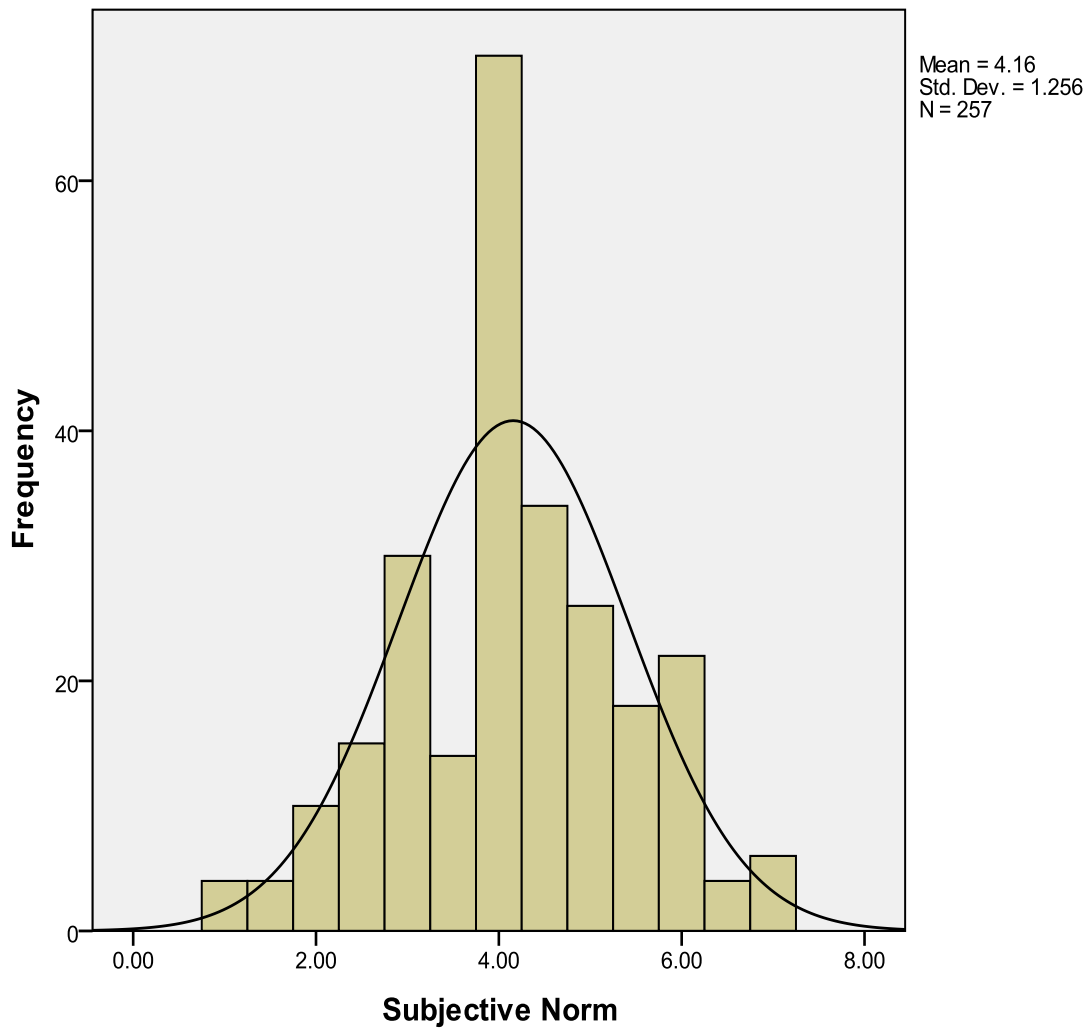


Figure 17. Sample Distribution for Subjective Norm.

Table 16
Descriptive Statistics for Subj. Norm

Number of cases	257
Mean	4.16
Median	4
Mode	4
Skewness	-0.066
Standard Deviation	1.256

Figure 17 above displays the histogram of the sample distribution for subjective norms concerning the purchase of functional food. We can see that the mean is 4.16 and the standard deviation is 1.256. Presented here in Table 16 are the descriptive statistics for subjective norms. Other than the number of cases, standard deviation, and mean, the median (4), the mode (4), and skewness (-0.066) are presented as well. We can see that the mean is higher than the median, but the median is not higher than the mode; it is equal. Additionally, the skewness is in between +/- 1. Further, we can see in Figure 17 that the imposed distribution shape is normal. Together, these factors point to the sample distribution being normal.

Figure 17 above displays the histogram of the sample distribution for subjective norms concerning the purchase of functional food. We can see that the mean is 4.16 and the standard deviation is 1.256. Presented here in Table 16 are the descriptive statistics for subjective norms. Other than the number of cases, standard deviation, and mean, the median (4), the mode (4), and skewness (-0.066) are presented as well. We can see that the mean is higher than the median, but the median is not higher than the mode; it is equal. Additionally, the skewness is in between +/- 1. Further, we can see in Figure 17 that the imposed distribution shape is normal. Together, these factors point to the sample distribution being normal.

To begin answering the first part of this question concerning the subjective norm, we should return to Table 15. We can see that the highest frequency counts and highest percentages are in the neutral category, 118 and 45.9%. Further, in Table 16, we can see that the mean is 4.16 which lies within the neutral category. Also, keeping in mind that the sample is normally distributed, the standard deviation is just 1.256 suggesting that most of the cases actually scored around the mean of 4.16. And finally, the mode is 4 which were repeated a total of 70 times (see Table 14). Therefore, all these factors combined lead us to conclude that Swedish consumers have a neutral subjective norm concerning the purchase of functional food.

Moving on to the second part of the question concerning perceived behavioral control, we can look to Figure 18, Table 17, Table 18, Figure 19, and Table 19. As with attitudes, intentions, and subjective norm; a brief description of the results will be given, followed by an interpretation of the results, and then the answer to the research question.

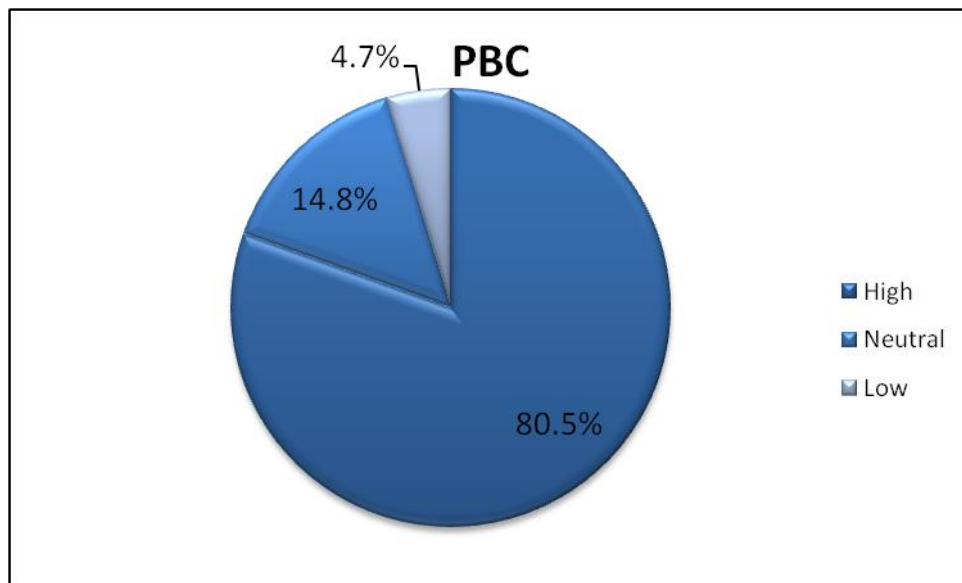


Figure 18. Swedish Consumers' PBC Concerning Purchasing Functional Food.

Figure 18 presents the Swedish consumers' PBC concerning purchasing functional food. To assess the PBC, the responses from questionnaire questions 4 and 5 were averaged in order to obtain an overall PBC score. After the PBC score was established for each case, the scores were entered into SPSS. As with attitudes and subjective norms, scores ranging from 1 to 3.4 were considered low; scores from 3.5 to 4.5 would be a neutral PBC, and scores from 4.6 to 7 would constitute a high PBC. Looking at Figure 18, we can see that the majority of respondents had a high PBC with 80.5%. The minority of respondents had a low PBC with just 4.7%; and 14.8% had neutral PBC.

Table 17
Frequency Counts for Individual PBC Scores

	Frequency	Percent	Valid Percent	Cumulative Percent
3.00	12	4.7	4.7	4.7
3.50	2	.8	.8	5.4
4.00	16	6.2	6.2	11.7
4.50	20	7.8	7.8	19.5
5.00	24	9.3	9.3	28.8
5.50	24	9.3	9.3	38.1
6.00	52	20.2	20.2	58.4
6.50	28	10.9	10.9	69.3
7.00	79	30.7	30.7	100.0
Total	257	100.0	100.0	

Table 18
Frequency Counts & Percentages for PBC in Categories

	Frequency	Percent	Valid Percent	Cumulative Percent
High	207	80.5	80.5	80.5
Neutral	38	14.8	14.8	85.2
Low	12	4.7	4.7	100.0
Total	257	100.0	100.0	

Table 18 presents a more detailed description of consumers' PBC concerning purchasing functional food. Along with percentages, frequency counts are also displayed. We can see that 207 respondents had a high PBC. 38 respondents had a neutral PBC, and 12 had a low PBC.

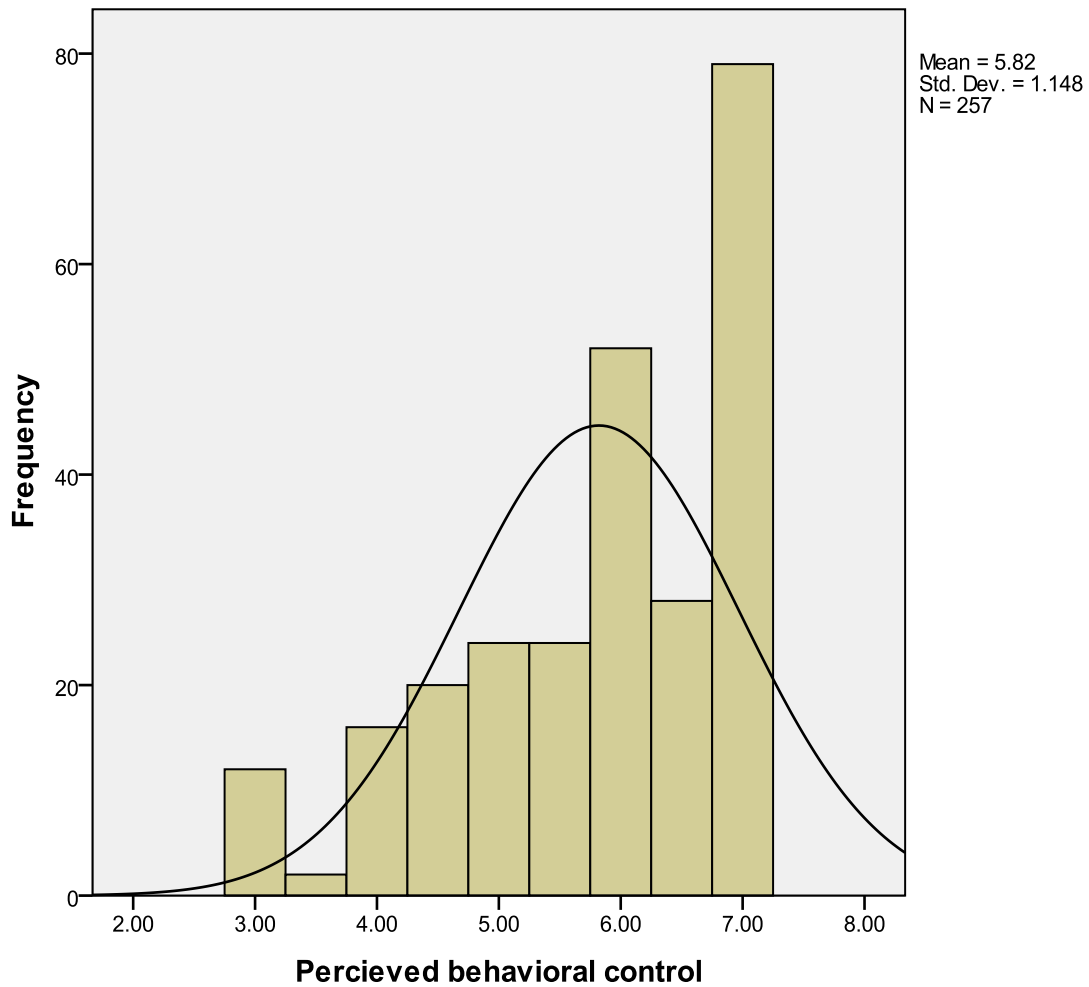


Figure 19. Sample Distribution for PBC.

Table 19
Descriptive Statistics for PBC

Number of cases	257
Mean	5.82
Median	7
Mode	6
Skewness	-0.814
Standard Deviation	1.148

Figure 19 above displays the histogram of the sample distribution for PBC concerning the purchase of functional food. We can see that the mean is 5.82 and the standard deviation is 1.148. Presented here in Table 19 are the descriptive statistics for the PBC. Other than the number of cases, standard deviation, and mean, the median (7), the mode (6), and skewness (-0.814) are presented as well. We can see that the mean, median and mode are slightly similar to each other.

Further, the skewness is in the range of +/-1. Further, we can see in Figure 19 that the imposed distribution shape is normal. Together, these factors point to the sample distribution being normal.

Moving on to the second part of the question concerning perceived behavioral control, we can look to Table 18 for this. As we can see, the frequency counts and percentages are at their highest under the 'high' category, 207 and 80.5%. Further, in Table 19, we can see that the mean is 5.82 which lies within the high category. Keeping in mind that the sample is normally distributed, the standard deviation is just 1.148 suggesting that most of the cases scored around the mean of 5.82. And finally, the mode is 6 which were repeated a total of 52 times (see Table 17). Therefore, all these factors combined lead us to conclude that Swedish consumers have a high perceived behavioral control concerning the purchase of functional food.

Returning to our previous conversation concerning the nonexistent correlation between PBC and intentions; we mentioned that perhaps the result could be attributed to the possibility that purchasing functional could be considered a behavior under volitional. Well, according to our results, Swedish consumers' perceive themselves as having a lot of control over whether or not they purchase functional food; therefore we can assume that purchasing functional food is in fact a behavior under volitional control. According to Netemeyer, Burton, and Johnston (1991), the theory of planned behavior is better at predicting behaviors that are goal-oriented, or has a low degree of volitional control; and the theory of reasoned action is better at predicting behaviors under a high degree of volitional control. Therefore, the use of the TPB for this particular behavior may help explain the low correlation between PBC and intentions.

6. ANALYZING THE SWEDISH CONSUMER

The previous chapter presented the research results and findings from our research. This chapter will analyze and discuss those findings in connection with the theoretical framework. The analysis will be presented with the TPB. Finally, we will analyze with previous research by Landström, et al. (2007) and Landström, et al. (2009) for Swedish consumers and functional food.

6.1 The Theory of Planned Behavior

In section 3.4 it was stated that the TRA's ultimate goal is to predict and understand a person's behavior (Ajzen & Fishbein, 1980, p.5). Further, we explained that the TRA only applies to behaviors under complete volitional control (Ajzen & Fishbein, 1980, pp. 6-7). Therefore, the TRA had been extended to the TPB (see the figure below) (Ajzen, 1991, p. 181). And we decided that the TPB was the theory of choice for our research. As a reminder, the reason for our choice was that we wanted to find out if Swedish consumers faced significant obstacles for purchasing functional food which may affect their intentions of purchasing of functional food. Therefore, we will now analyze this issue.

Chapter 3 described all the elements of the TPB. Here we will analyze our findings in accordance with the elements. The same order of chapter 3 will be followed.

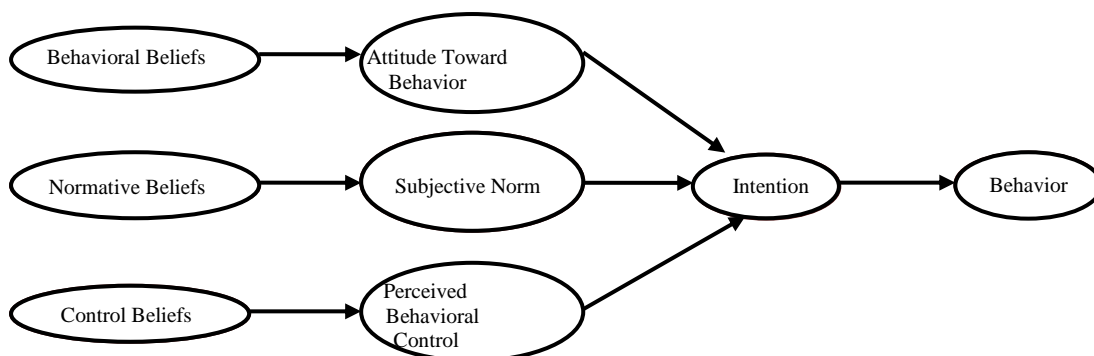


Figure 6. The Theory of Planned Behavior. Adapted from *The Theory of Planned Behavior* (p. 182), by Ajzen, 1991.

Behavioral Beliefs & Attitudes towards Behaviors

To begin, *behavioral beliefs* are assumed to lead to *attitude toward behavior* (Ajzen & Fishbein, 2005, p.193). And it is interesting to see that our findings are strengthened by the theory.

Looking at the findings, we see that from the elicitation study approximately 50 percent of the stated behavioral beliefs were positive. The calculation for this is as follows: (1) provides beneficial health benefits (frequency 13); (2) decreases the effects of health related diseases (frequency of 7); and (3) convenient way to improve the health

(frequency of 6). In total these have a frequency of 26, [13+7+6]. In total, the frequency for all behavioral beliefs were 54, and 26 divided by 54 is approximately 50 percent. Further, we saw that the positive attitudes toward purchasing functional food were also approximately 50% of the sample. So, positive behavioral beliefs and positive attitudes toward purchase are almost equal to each other. For these findings, we see this as an indication that a person's positive behavioral beliefs are actually influenced by that person's positive attitude toward purchasing functional food. Because we assume that the positive behavioral beliefs lead to positive attitudes, we can also assume that negative behavioral beliefs are expected to lead to negative attitudes. For example, the remaining 50 percent of the behavioral beliefs account for the disadvantages that consumers felt that purchasing functional food would offer. From the elicitation study we had three behavioral beliefs which were stated to be disadvantages of purchasing functional food. We assume that these findings can explain the findings for negative and neutral attitudes (the remaining 50 percent of attitudes; 22.2 percent for negative and 28 for neutral). However, we did not ask the interviewees in the elicitation study to scale their answers for behavioral beliefs, and therefore we do not know how strong the stated disadvantages are. We can assume that the beliefs which are viewed as highly disadvantages would result in negative attitudes, and disadvantages in lesser strength can lead to neutral attitudes. For example, 'costs a lot of money' can be seen differently depending on the person, their circumstances, and personal experience. A higher price can be seen as positive if a consumer relates high price with high quality. However, a high price can create obstacles for other consumers; but this does not have to result in negative attitudes toward that product, just negative attitudes toward the high price. Therefore, we assume that 'costs a lot of money' is a neutral behavioral belief. If we translate this into statistics, we have a frequency of 12 (for 'costs a lot of money') divided by 54 (the total frequency for behavioral beliefs), which gives us a percentage of 22.2. And this percentage is exactly the same as the neutral attitudes. So, we definitely can see that their behavioral beliefs lead to attitude toward the behavior.

Moreover, if we disregard the statistics for a moment and analyze the relationship between behavioral beliefs and attitudes with words, we would get similar results. For example, if we take the behavioral belief, '*provides beneficial health benefits*' it can be interpreted that these words most likely would infer positive attitudes toward the purchase of functional food. One behavioral belief that was considered disadvantageous, '*may cause the body harm*' can infer that this behavioral belief leads to negative attitudes. So, it can be assumed that there are relationships between behavioral beliefs and attitudes, even without statistical numbers. However, as illustrated in the findings, there are a number of behavioral beliefs for one behavior; in this, it is purchasing functional food. And one person can have both positive and negative beliefs at the same time. So, it is here that statistical numbers become necessary. According to our results, we had a frequency of 26 for advantageous behavioral beliefs, and 12 for neutral and 16 negative. So, the end result, the attitude will be dependent upon the evaluation of all behavioral beliefs. In conclusion, the TPB strengthened our findings and it can be assumed that there are indeed relationships between behavioral beliefs and attitude toward the behavior.

Normative Beliefs and Subjective Norms

In Figure 6, we can see that the theory assumes that *normative beliefs* result in a *subjective norm*. As a reminder, normative beliefs concern a person's evaluation for the likelihood that important individuals or groups will approve or disapprove the behavior in question. And a subjective norm refers to the general social pressures that a person feels about performing or not performing the behavior (Ajzen & Fishbein, 1980, p.73). Also, in this case our findings are strengthened by the theory.

Returning to the findings, we can see that 'doctors' and 'family' were stated as normative beliefs from the elicitation study. So we can assume that if a person values his/her doctor's or family's opinion concerning the purchase of functional food, we would assume that the person would behave according to their opinions. If we leave the statistical numbers for a while, and focus on the wording, we would agree that this relationship is true. For example, if we consider a person who has 'doctor' as a normative belief, and the doctor recommended purchasing functional food, we would assume that the person would follow the recommendation of purchasing functional food. And therefore, we also assume that this person feels the social pressure from the doctor to actually purchase functional food. Also, we can assume that the same would be true for the 'family' normative belief. For example, a person who has a family member as a normative belief and the family member is against purchasing functional food, we can assume that the person values the family member's opinions, and therefore would feel social pressure to forgo purchasing functional food. In conclusion, we can see why it is assumed in the theory that normative beliefs lead to subjective norm.

Now, taking a look at the statistics, we can see that 'doctors' had the highest frequency for normative beliefs. Furthermore, the subjective norm was found to be neutral overall; 45.9 percent of the sample had a neutral subjective norm. So, what can we conclude from these numbers? Can we assume that there is a relationship between the normative beliefs and subjective norm?

To answer this, we return to the results from the elicitation study. There was a total frequency of 15 normative beliefs, and there were 14 participants; so we can see that most of them only stated one person as a normative belief even if they were allowed to state as many as possible. On the basis of these results, we assume that the participants did perceive of many people who actually could influence their purchase of functional food. However, we did not ask the participants to scale their answers so we do not know how much power the normative belief has for each participant. For example, just because the elicitation study revealed a low frequency for normative beliefs does not mean that we can assume a low social pressure. But, in this case we assume that the participants do not feel too strongly affected by normative beliefs. And looking at the statistics, we have findings indicative of an overall neutral subjective norm. Furthermore, our findings reveal an equal balance between high and low subjective norms. So, some of the respondents actually feel more social pressure than the majority, additionally some respondents do not feel a social pressure at all for purchasing functional food. For respondents who revealed a higher subjective norm, we can either assume that the respondent has one person who asserts high pressure for purchasing or

not purchasing functional food, or the respondent has many people who together assert this social pressure.

It is interesting to note that we did not include many older people in the sample; instead we had nearly 50 percent students, and 28 percent employees. It can be argued that older people face more health related problems such as high blood pressure and high cholesterol, and therefore we could assume that this group of people would feel a higher degree of social pressure for purchasing functional food. Therefore, we can assume that these findings might have showed a high subjective norm if the sample had consisted of 50 percent older people, instead of 50 percent students.

In conclusion, the TPB supports our findings and there was found to be a relationship between normative beliefs and subjective norm.

Predicting Intentions

Next is the intentions to purchase functional food, and it is understood that intention is influenced by attitude toward the behavior and subjective norm (Ajzen & Fishbein, 1980, p.167). First, a reminder that intention to perform a specific behavior indicates how hard a person is willing to try and how much effort they are willing to put forth in order to perform a given behavior (Ajzen, 1991, p.181).

The preceding subsections in this chapter analyzed and concluded that our findings provided support for the relationship between behavioral beliefs and attitudes, as well as between normative beliefs and subjective norm. So, do we also have findings for the relationship between attitude and intention, and between subjective norm and intention?

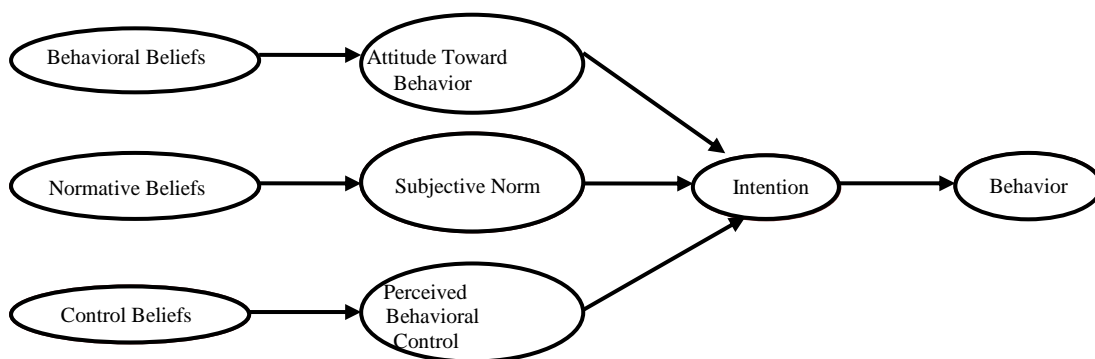


Figure 6. The Theory of Planned Behavior. Adapted from *The Theory of Planned Behavior* (p. 182), by Ajzen, 1991.

If we analyze this relationship on the basis of the above analysis, we would assume that the assumption of this relationship existing is also true. For example, we have analyzed that positive and negative behavioral beliefs lead to positive and negative attitudes, so can we assume this leads to low and high intentions? Furthermore, we analyzed that

positive and negative normative beliefs lead to high and low subjective norm, so can we assume that this leads to high and low intentions?

Taking a look at the findings, we can see that there are correlations between attitudes and intentions, and between subjective norm and intentions. The findings show that both relationships are correlated, and have a true relationship. Shown in the findings, we have a correlation coefficient of .636 for attitudes and intention and a correlation coefficient of .555 for subjective norm and intention. However, the relationship between attitudes and intention is the stronger. Why?

First we should mention that none of the articles and books by Ajzen and Fishbein, mention whether or not the correlations should be equal. And we assume that the correlations do not have to be equal in power. Referring back to our results, we can see that the sample consist of 47 percent students, 28 percent employees and 25 percent other. The 50 percent positive attitudes toward purchasing functional food can be assumed to be stronger than the 50 percent neutral subjective norm. Meantime, positive attitudes are mathematically stronger than neutral subjective norm. And if they both are 50 percent, then we look to the correlations and see that the relationship for attitudes had a higher correlation coefficient.

So, we have findings that conclude that intentions are correlated with both attitudes and subjective norm. So, we can assume that the correlation with attitudes and subjective norm result in an overall evaluation for intention. So the 50 percent of positive attitudes are lowered by the 50 percent of neutral subjective norms. If it had been discovered that only one could influence intention, then we would have expected to see intention to be the same as that particular component. For example, if subjective norm had been discovered to not influence intention, then we would have expected to see intentions as high.

Control Beliefs and Perceived Behavioral Control

Explained in section 3.4.2, control beliefs are the direct antecedents of PBC and concern beliefs about specific factors that may facilitate or hinder a person's intentions to perform the behavior and performance of the actual behavior. The more resources, opportunities, and confidence a person feels they have about performing the behavior, and fewer obstacles they anticipate, the greater their PBC should be over the behavior (Ajzen, 1991, p.196). As a reminder, we wanted to see if there were any obstacles for Swedish consumers' intentions of purchase of functional food. In the beginning of the research we assumed that the TPB was of good use for this research.

From the findings we saw that the control beliefs were stated to be 'price' and 'knowledge' (knowledge about functional food). In total we had a frequency of 17 for all control beliefs which means most of the 14 participants only mentioned one control belief. The price was found to be the strongest control belief. A consumer who does not have lot of money can conceive of the high price as an obstacle for purchasing functional food. And, the more one knows about a product, the less worried they are about product ingredients. So, we can assume that lack of knowledge about functional food products is seen as an obstacle for actually purchasing them. Furthermore, we saw

that the PBC was really high, 80.5 percent of the sample had high PBC. And, why is the perceived control behavior so high for purchasing functional food?

The reason for using TPB was that we did expect the PBC to be high but not this high. Because this indicates that the respondents do not face such high obstacles for their intentions to purchase functional food. And we can see one explanation for the high PBC. The sample consisted of 47 percent of students, 28 percent employees (adults) and 25 others (adults). We assume that most of the students and adults have control over their own food purchases. Further we assume that the respondents that did not scale for a high PBC are living in a family or in a relationship where more than one person makes decisions about the food purchases. The findings for control beliefs; price and knowledge, does not seem to affect the PBC too much. This leaves us to ponder why control beliefs do not affect the PBC more? We will return to this question after we have analyzed the correlation between PBC and intention.

Taking a look at the findings we can see that a correlation does not exist between PBC and intentions. Our findings give us assumptions that even if a person has the resources, opportunities, and does not face any obstacles, that person would not have high intentions to purchase functional food. On the basis of these findings, should we assume that PBC should not be used as a predictor for the intentions of purchasing functional food? Should we assume that the model for TPB is not true? Should manufactures stop providing opportunities for the Swedish consumers because they will not increase their intentions of purchasing of purchasing functional food anyhow? No, we would not recommend that. Returning to findings that control beliefs did not have too big of an impact on PBC; we argue that control beliefs are important to consider and that these can still be considered to affect intentions. We did not ask the participants to scale their answers for control beliefs and we cannot see if knowledge and price is viewed as high, low or neutral. Instead, it can be argued that both control beliefs; 'knowledge' and 'price' have an effect on intentions. For example, Elin did not know beforehand about the strict regulations for functional food. This lack of knowledge had decreased her intentions to purchase functional food. In the same process, increasing her knowledge resulted in an increased intention to purchase functional food. Before her increased knowledge, she saw the price of functional food as too high coupled with the lack of knowledge; these factors affected her intentions of purchasing of functional food.

Therefore, it can be argued that control beliefs affect intentions toward functional food. However, whether or not these control beliefs go through PBC is something we are unsure of. Instead, it could be argued that marketers of functional food should consider control beliefs instead of PBC. Even if we did not aim to test the model, we can suggest another link (See the figure below).

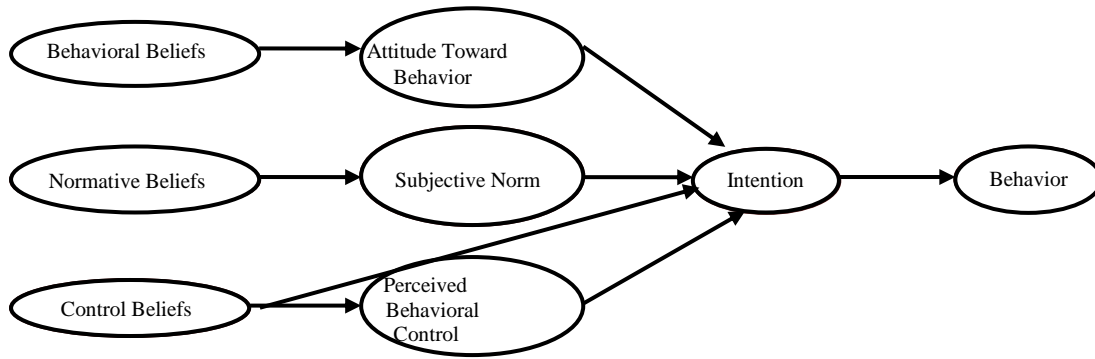


Figure 20. New version of the TPB

From the analysis in congruence with our findings and the TPB, we found support for the relationships between:

- 1) *Positive Behavioral Beliefs => Positive Attitude toward Behavior => Intentions of purchasing functional food*
- 2) *Normative Beliefs => Subjective Norm => Intentions of purchasing functional food*

Furthermore, from the TPB we discovered that control beliefs did not have too much impact on PBC; however we still believe that a relationship exists. We can see that there is a relation between:

- 3) *Control beliefs => Intentions*

So, we conclude that our findings are strengthened and supported by the use of the TPB. From the above analyzed relationships and findings, we can suggest new links in the TPB model.

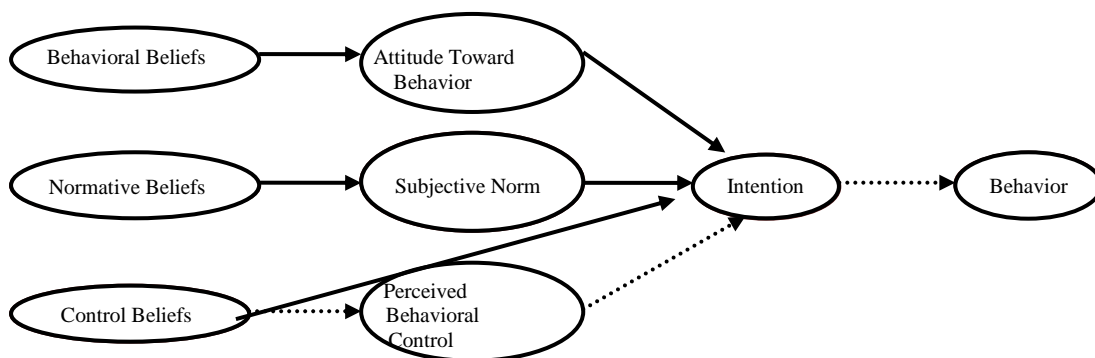


Figure 21. Our interpretation of the TPB model

There are no changes for the relationships between behavioral beliefs, attitudes and intention; and neither did we suggest any changes between normative beliefs and intention. Furthermore, PBC was found to have no correlation with intentions. However, we assume there are in some cases correlations between the two, so we show

it with a dotted arrow. Furthermore, we have findings that support the assumption that control beliefs affect PBC, even if we could not see it directly, so we have placed a dotted arrow between control beliefs and PBC. And because we analyzed control beliefs as being important, we placed a new arrow between control beliefs and intention. As mentioned previously, we did not investigate the actual behavior, and therefore the line is dotted.

6.2 Contemporary Research in Attitudes & Intentions

In the introduction chapter we stated that we would continue where Landström et al. ended and increase the understanding about Swedish consumers' behavior concerning functional food. Therefore, it can be of value to analyze their findings (see section 3.2.2) together with our findings and the TPB.

The first mentioned study determined that the consumption of functional food was found to be better related to health-consciousness and positive physiological effects rather than socio-demographic variables. Landström, et al., (2007) did not use the TPB; however, we can see that their findings can be interpreted with the TPB: For example, Landström, et al (2007) determined that Swedish consumers who were already interested in health, and perceived a physiological benefit had positive attitudes towards functional food. One can assume that the consumers already interested in health and perceived physiology benefits are the result of behavioral beliefs. Based on the wording, we state that these words associate with advantageous behavioral beliefs. We do know that the research did not demand the respondents to scale their interest or perceived physiology benefit, but as mentioned, the words clearly indicate that the respondents feel these as advantages from functional food. As mentioned earlier, this results in positive attitudes towards functional food. Analyzed above we can see that a person who feels strong advantages in behavioral beliefs most likely results in them having positive attitudes. Furthermore, our findings for behavioral beliefs were: (1) provides beneficial health benefits; (2) decreases the effects of health related diseases; and (3) convenient way to improve health; and these findings are similar to Landström, et al. (2007). As mentioned earlier, our behavioral belief findings supported a connection to attitude. Landström, et al. (2007) concluded that their research with socio-demographic variables was not enough, and that there was need for other variables. However, here we recommend that the TPB model can be of use; and furthermore, we can see that the following relationship exists: *behavior beliefs => attitude*. And we assume that this leads to *intention*.

Further, Landström et al., (2007) found that Swedish consumers who had family members with diet-related problems or had diet-related problems themselves were found to be more likely to consume cholesterol lowering products or other products designed to lower disease. Here, we can see that family members have an effect on a Swedish consumer. Furthermore, we can assume that a consumer whom has diet-related problems has been talking with his/her doctor, and therefore feel a need to for example, lower their cholesterol by consuming functional foods. From our findings, we have family and doctor as normative beliefs, which affect the subjective norm or degree of social pressure for purchasing of functional food. The respondents in Landström, et al.

were not asked to scale their answers. However, we can assume that a person who has diet-related diseases feels a stronger pressure for purchasing functional food than a person who does not have diet related diseases. If we consider the TPB for Landström, et al. (2007) we can assume that these findings can be interpreted into the TPB model. Family members with diet-related problems or had diet-related problems themselves are seen as normative beliefs which can coerce the person into consuming functional food (subjective norm). So, we can see that the following relationship exist: *normative beliefs => subjective norm => intention*

Moreover, Landström, et al., (2007) found that those consumers with higher degrees of education demonstrated a higher propensity to consume probiotic products. We assume that consumers with a higher degree of education can more easily search for information that they are looking for, e. g they know how and where to search for scientific articles about functional food. Also, one can assume that consumers with higher degrees of education are more familiar with medical terms. And a consumer who is not familiar with the terms might get confused and therefore reduce their likelihood of consuming functional food. Additionally, the respondents in the Landström, et al. (2007) study stated the problem of too highly priced functional food products. Comparing these findings with ours, we had price and knowledge for control beliefs. We analyzed that high price could be seen as an obstacle if the consumer does not have the money. And we analyzed that a lack of knowledge about functional food product is seen as an obstacle for the purchase of the products. Comparing knowledge and education we can assume that there are similarities between the two; high degree of education most likely results in high knowledge of the product because that person knows how to search for information and familiarize themselves with medical terminology. Again, we can see that Landström's (2007) findings can be interpreted into the TPB model. However, we do not know how the respondents would scale their control beliefs, price, and education. Therefore, we do not know how strong the PBC would be. But, we do know that Landström, et al., (2007) stated that the price and education affected the prediction of consumption; which can be assumed to be obstacles or opportunities for the intention and behavior. So, we can assume that they the relationship: *control beliefs => PBC => intentions*

By analyzing Landström, et al's. (2007) findings with our findings and the TPB we can see that the TPB is useful. Also, by analyzing with our findings we can be even surer that our findings are strengthened by the use of the TPB in explaining and understanding Swedish consumer behavior concerning their intention and attitudes toward functional food. Also, we can see why previous researches recommend the TPB for understanding consumer behavior (see in introduction chapter, Gummesson, et al. 1997; O'Connor & White, 2010).

To continue, we have the second study concerning Swedish consumers by Landström, et al. (2009). This study aimed to examine consumers' attitudes, perceptions and perceived need of functional food. However, we see that they did provide descriptive views of consumers' perceptions and perceived need of functional food, however there was no definite statement made as to what consumer attitudes were toward functional food, even though it was one of the main aims of having conducting the study. Compared to our study, and Landström et al, (2007), this research is based on focus

groups, and not on quantitative data. Therefore we will not analyze their findings in the same depth as Landström, et al., (2007) because that would result in too many assumptions.

To begin, Landström, et al., (2009) found that the respondents were generally confused about the concept of functional foods; what they contained, and if they are actually healthy. Here, we could assume that the confusion results from behavior beliefs. For example, the statement 'may cause the body harm' has some connections with our findings for disadvantageous behavioral beliefs. Because this research was conducted with focus groups no scaling was used in their answers and therefore no findings for how much confusion there was among the respondents was recorded. Furthermore, the findings do not tell if the confusion resulted in positive, neutral or negative attitudes. So, we cannot see if there are any connection between behavior beliefs, attitude, and intention.

Additionally, the respondents felt that functional foods were unnecessary if a person did not suffer from any health problems and a lifestyle change did not produce optimal health results. For these findings, we can assume a connection with normative beliefs. We can assume that those consumers who do not suffer from health related problems do not have to value other people's opinion about purchasing functional food. And therefore that person would not face any social pressure about purchasing functional food. However, as stated previously, we cannot make too many assumptions, and we did not locate any findings that showed a relationship between normative beliefs, subjective norm, and intention.

Lastly, the respondents perceived the manufacturers of functional foods as unethical because they make extensive profits from the public's health problems. And also this research revealed that the price was perceived as problematic. Again, we can state that price is viewed as a control belief, which can in some situations been viewed as an obstacle, which affects the consumer's intentions of purchasing functional food. Furthermore, the ethical dilemma can be seen as an obstacle as well. For example, consider a person who does not want to purchase functional food because they feel that that manufacturer is just out to make a profit from his/her health related diseases. Then we can assume that this is an obstacle which reduces the intention of purchasing functional food. Again, we cannot take too many assumptions, and therefore we cannot state that there are relationships between control beliefs, PBC and intentions.

7. DISCUSSION

Our findings are presented in chapter 5 and analyzed in chapter 6. What can be said about the findings and how can one use these in practice? We will in this chapter discuss this issue and connect it with our stated problem definition from chapter one.

Our problem definition ends with our statement that consumers' behavior is a central issue for some businesses. We saw that the Swedish functional food manufactures' future success is dependent upon their understanding of Swedish consumers' attitudes and purchase intentions. In Sweden alone, the popularity of functional foods has begun to increase substantially. And from education and personal experiences, we have seen that new products can have difficulty gaining acceptance on the market. Additionally, we only found two previous studies about functional food and Swedish consumers, (Landström, et al., 2007; Landström, et al., 2009). Also, we found that previous studies had focused on functional food and their potential health benefits and the technology behind them; we did not understand how these findings could provide an understanding of consumer behavior, and guide manufacturers to future success.

Therefore, we aimed to find results that could increase the marketers understanding about Swedish consumers' behavior toward functional food in Sweden. We especially valued the findings for attitudes and intentions. And we argued that the increased understanding could help marketers adjust or create effective marketing activities aimed at the Swedish consumer.

Briefly, we discovered a positive attitude toward functional food and neutral intentions. Attitude was found to be the strongest predictor of intentions to purchase functional food. And for salient behavioral beliefs, 'provides beneficial health benefits' had the highest frequency. Normative beliefs were doctors and family, and control beliefs were price and knowledge. Lastly, subjective norm was neutral and PBC was extremely high at 80.5%.

So, what can be told from these findings? And how can the marketers use this in practice?

7.1 Implications for Marketers and Manufacturers

On the basis of the findings for positive attitudes toward functional food, we can see that this indicates that Swedish functional food manufactures can continue with their production of functional food. Shown in the findings, 50 percent of the sample was found to have positive attitudes, and 22 percent had neutral attitudes. That means that functional foods do not have a positive image in 100 percent of Swedes minds. Although we cannot expect all consumers to have positive attitudes toward purchasing functional food, marketers clearly do have the potential to change a lot of minds and better reach the consumers. We can draw from our findings to help suggest ways to do this.

In our findings, attitudes are not the only element that affects purchase intentions. Our findings conclude that normative beliefs/subjective norm and control beliefs/PBC affect

intentions as well. Therefore, we can see the value that marketers can obtain from our findings. For example, considering the control beliefs, it is clear that knowledge is viewed as an obstacle for consumers' intention to purchase functional food. Therefore, we suggest that the marketers strive to educate the Swedish consumers via their marketing activities. For example, to confront the obstacle of knowledge, marketers could utilize grocery store intercepts to offer free trials of functional food products and take the opportunity to educate consumers and address the uncertainties that may be lingering. Marketers can also attempt to make labels, print, and television advertisements more informative and more comprehensible to the general public.

Additionally, the fact that knowledge should be increased and doctors are viewed as the most important referent in this issue can prove to be valuable. For example, consumers' knowledge can also be increased through contact with their doctors. From the results we can see that the subjective norm is neutral, which implies that Swedes care somewhat about social pressures concerning this issue; and if doctors are considered influential people in this case, then consumers are more likely to trust the information given to them and could ultimately result in a purchase. Now that marketers know the potential influence that doctors can have on consumers, it would be wise to consider them in promotional activities such as word of mouth, and commercial advertisements. Marketers could explain the use of functional food and its benefits to doctors and convince them to support and encourage the use of these products. And if the patients truly value their doctor's opinions, then an increase in consumption may occur. However, we do recommend that marketers explain the functional food EU regulations for doctors because we can assume that not all doctors know about the strict regulations for functional food. Doing this may also raise confidence in doctors concerning these products, which could in turn raise the confidence of their patients. It is important to emphasize that we are not recommending that marketers attempt to maliciously manipulate consumers via their doctors; we are only recommending that marketers utilize ethical means of recruiting the medical community as another way of reaching consumers.

Furthermore, the price was mentioned as the other control belief as well as a behavioral belief (labeled as 'costs a lot of money'). Here we have two different beliefs suggesting a common problem: price. This is clearly quite an important issue for consumers and one of the main obstacles of purchasing functional food. As mentioned in the analysis chapter, high price does not necessarily result in negative attitudes toward the product, but it can obviously result in negative attitudes towards purchasing the product. A Swedish consumer may adore a fruit drink from ProViva, but if the price is too high to encourage a purchase, or repeat purchases, this could potentially result in a negative attitude towards purchasing that fruit drink. If this becomes the case, then who is the high price really beneficial for? It can be argued that the manufacturers can increase their profits, but increased profits do not go very far when target consumers cannot be effectively reached. As mentioned in chapter two, there have been a number of functional food products that have been taken off of the market in Sweden due to "lack of interest". Could this have anything to do with the overtly stated belief of price being an issue? Quite possibly. We are not recommending that manufacturers simply lower their prices because we know that is not always the answer to the dilemma, and we also realize that production can be quite pricy. We are simply suggesting that marketers and

manufacturers take a serious look at what Swedish consumers are willing to accept as prices for these types of products and consider their company's competences and capabilities. Perhaps a price reduction is feasible, but it can also prove to be detrimental.

8. CONCLUSION

This concluding chapter provides a brief overview of the research findings and the limitations of our research. Additionally, suggestions for further research will be presented, followed by credibility criteria.

8.1 Brief Overview

Here we will state our findings. First to remind you, we will restate our research questions and purpose.

Our main research questions:

1. What are Swedish consumers' attitudes towards and intentions of purchasing functional food?

And secondary research questions:

2. What is the strongest predictor of intentions to purchase functional food?
3. Which beliefs are salient in Swedish consumers concerning the purchase of functional food?
4. What are Swedish consumers' subjective norms and perceived behavioral control ?”

The purpose of the thesis was to increase the understanding of Swedish consumers' attitudes and purchase intentions of functional food in the area of consumer behavior by the use of the Theory of Planned Behavior (TPB). Furthermore, we aimed to find results that could increase the manufacturers and marketers understanding about Swedish consumers and functional food. Therefore, providing them with additional information that could help them during the process of creating marketing activities.

The thesis was based on a combination of quantitative and qualitative methodology, where questionnaires were used for the former and an interview guide was used for the qualitative data. The questionnaires were sent and handed out to a sample of 455 Swedish consumers, and the response rate was 56.5 percent. For the interviews we had a sample of 14 Swedish consumers. Quantitative data was analyzed with the SPSS system and qualitative data with the use of content analysis.

The conclusion for first question is that attitudes were positive and intentions were neutral. For attitudes, we found that approximately 50 percent of the sample, had positive attitudes, and there was an almost an equal balance between negative and neutral attitudes. The findings were strengthened by the normal standard deviation and the mode of 5. Furthermore, we analyzed that positive attitudes were an outcome of the positive behavioral beliefs. We found that there was a relationship between attitudes and behavioral beliefs; and because we saw that the positive behavioral beliefs accounted for 50 percent of total behavioral beliefs, we saw that the overall attitude toward purchasing functional food was overall positive. For intentions we found that the sample

had fairly neutral intentions toward purchasing functional food; 35 % positive intentions, 34.2 % neutral and the remaining negative intentions. Although, the positive attitudes scored the highest percentage, we concluded that the intentions were neutral. The reason being that the mean was found to be at 4.05, the mode at 4, and the distribution was normal where most of the cases were found around the mean. We analyzed that the reason for neutral intentions was due to its correlation with attitudes and subjective norm. We found that there is a relationship between intentions and attitudes, and between subjective norm and intentions.

The conclusion for question two was that the strongest predictor of purchasing functional food was attitudes. It was found that there is a true relationship between attitudes and intentions; and the two had a correlation coefficient of .636. Furthermore, we had findings for a true relationship between intentions and subjective norm. However, they had a correlation coefficient of .555. Also, no relationship was found for perceived behavioral control and intentions because the correlation coefficient was quite far from -1. Therefore, the attitude was stated to be the strongest predictor of intentions to purchase functional food. Further, we analyzed that the reason that attitudes was the strongest predictor is that positive attitudes are stronger than the neutral subjective norm. We concluded that strong positive behavioral beliefs led to strong positive attitudes, which strongly affect intentions. Also, we concluded that low frequencies of normative beliefs led to a neutral subjective norm, which affected intentions, but not as strongly as attitudes.

The conclusion for question three is that there are positive, negative and neutral behavioral beliefs, two normative beliefs, and two control beliefs. The most salient behavioral belief was; “provides beneficial health benefits”. Furthermore, we found two more positive behavioral beliefs; “convenient way to improve health” and “decreases the effects of health related diseases”. Additionally, we had “provides unnecessary nutrients for healthy individuals” and “may cause the body harm” as negative behavioral beliefs; and “costs a lot of money as somewhat neutral. And these behavioral beliefs were analyzed to explain the attitudes. It was found that positive behavioral beliefs accounted for the same percentage as positive attitudes, 50%; and neutral behavioral beliefs had the same percentage as neutral attitudes, 22.2%. For normative beliefs we had family and doctors. And these beliefs were analyzed to influence subjective norm. The low frequency of normative beliefs had a low influence on subjective norm, and therefore it resulted in a neutral subjective norm. Lastly, for control beliefs we had price and knowledge. We could not conclude that there was a relationship between control beliefs and PBC. Instead we could argue that there is a relation between control beliefs and intentions.

For the final question, we concluded that the subjective norm was neutral. We found that the sample had a neutral subjective norm, at the frequency of 118 and 45.9% of the sample. Furthermore, the mean was 4.16, the mode was 4 (repeated a total of 70 times) and the normal distribution showed that most of the cases lied around the mean. The reason for the neutral subjective norm was based on the low frequency of normative beliefs.

In addition, the perceived behavioral control was found to be high with a frequency of 207 and 80.5% of sample. The, evidence for this was that the mean was 5.82 and the mode was 6. Also, we mentioned that this could be a result that purchasing functional foods could be considered a behavior under volitional control. Here, we could not conclude that there was a relationship between control beliefs and PBC. However, we saw that control beliefs affected intentions, and therefore we decided to draw a new arrow in the TPB model (see the figure below).

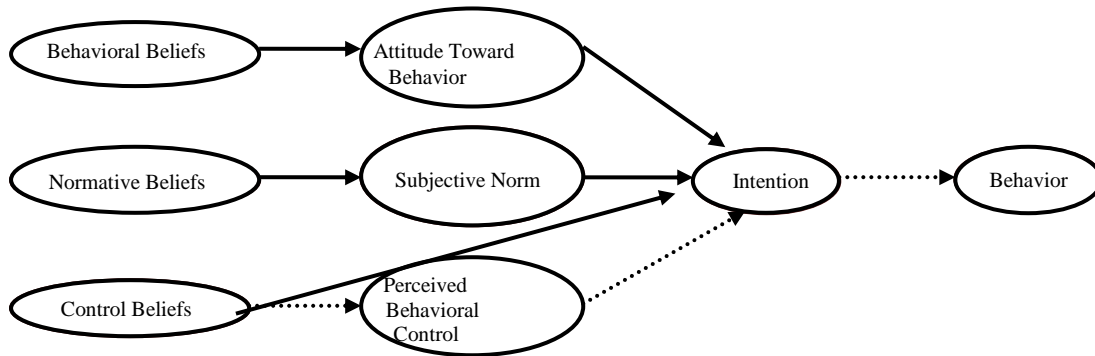


Table 21: Our Interpretation of the TPB Model

Compared to the original version of the TPB model, there are no changes in the model between behavioral beliefs, attitudes, and intentions. And there were no changes done for the relationships between normative beliefs and intention. However, PBC was found to have no correlation with intention, therefore we a dotted arrow. We also analyzed that control beliefs were important, so we draw a new arrow between control beliefs and intention. And even if it is so, we did not have any findings that supported a relationship between control beliefs and PBC; however, we still assume that some sort of relationship exists, so we drew a dotted arrow. Because we did not aim to investigate actual behavior, the arrow is dotted.

These are the relationship we concluded from our findings:

- 1.) *Positive Behavioral Beliefs => Positive Attitude toward Behavior => Intentions of purchasing functional food*
- 2.) *Normative Beliefs => Subjective Norm => Intentions of purchasing functional food*
- 3.) *Control beliefs => Intentions*

We concluded that our findings were strengthened by the use of the TPB. From the above analyzed relationships and findings, we can draw new arrows in the TPB model.

8.2 Suggestions for Further Research

First, we recommend that if future investigations are to be done, that it is done in studies where the specific functional food categories are used. Thus, it could be possible to find out if there are any differences between the three product categories and the TPB components. This would provide more understanding about functional food and Swedish attitudes and intention toward purchasing these food products. However, if the researcher wants to define the three categories in one questionnaire, it might be confusing for the respondents (unless they know that functional food can be classified into three categories). Instead, we recommend that the researcher either does one research for one category at a time or uses in-depth interviews. Thereby, the researcher can explain and discuss directly with the participants while filling in the questionnaire.

Furthermore, we propose that the same research questions, used in our study, are put to use in focus groups. Hence, we could see if the researcher would come to a different conclusion than what we did with the use of the questionnaires. The reason is that in a focus group the participants can discuss with each other and the discussions can reveal findings that are hard to reveal with the use of only a questionnaire. However, in this case it might be hard for the researcher to translate words into the TPB, and therefore we recommend that the researcher uses a different consumer behavior theory.

In addition, we can see the benefits of conducting the same research (same questionnaire, same belief elicitation study and same sample) in the time horizon; longitudinal. Here the researcher would find out how the attitudes, intentions, etc. change after one, two or after ten years. The reason for this study would be to reveal if the consumers have become more familiar with functional food, and we can see if the evaluation for purchase or not purchase functional food is still based on the same salient beliefs. For example, are doctors and family still seen as normative beliefs?

9. RELIABILITY & VALIDITY

For some of our choices for the methodology of the thesis, we claimed that our choices e. g the use of a combination of qualitative- and quantitative methods, improved the thesis' reliability and validity. Briefly, reliability concerns if the research has been conducted carefully. This means that a research should be able to be conducted once again, by another researcher, and still receive the same results. And high reliability signifies high trust in a research and its findings. Validity concerns if the research actually measured what it intended to measure. To ensure a high validity it is important that the appropriate research method be used (Bryman, 2008, pp.149-154; Kylén, 2004, pp. 11-15; Rudberg, 1993, pp. 64-69).

Functional food is rather new in Sweden and therefore we assume that the Swedish consumers' attitudes and purchase intentions toward functional food will not be the same in e. g 2014 as today, in 2010. The change of attitudes will be depending on for example; new information provided by manufactures, new products on the market, if a consumer receives or not receives health benefits from the use of functional food etc. Therefore, we can assume that a second research that uses our research questions might not end up with the same results as we received. And that is because we believe that consumers will change their behavior beliefs which affect their attitudes, which influence intentions; and we assume the same for the other relationships in the TPB model. However, if we assume that the inside variables; e. g behavioral beliefs, normative beliefs, to be stable over time and there are no outside factors; e. g new information from manufactures, then we can assume that there is a high possibility that the researcher (s) will end up with the same findings as we did. To compensate for our beliefs that both inside and outside variables are not stable, we have tried to facilitate the research process for a second research. And we did so by carefully describing our choice for the research method. We also, described our research process and we included our questionnaire and interview guide in the appendix.

In addition, we aimed to use original articles because it increases the trust of our thesis which positively influences the thesis' reliability. However, the TPB has been understood differently by several researches (see Kim ad Karpova, 2010; Rhodes, Blanchard and Matheson, 2006), and neither can be ensured to be a correct use of the models. However, we compensate for this by carefully explaining our understanding and our way of using the models in chapter three.

Furthermore, we combined quantitative data with qualitative data (belief elicitation study) because our view is that attitudes and purchase intentions are unstable variables. Hence, with the use of qualitative data, we argue that we improved our ability to find the answers for Swedish consumers. Also, by combining quantitative data and qualitative data we argue that we received more trustworthy findings and improved validity.

One might argue that a sample of 14 Swedish consumers is small. However, we found that the participants were similar in their answers and we had no problem to categorizing their answers. And if it had been shown that we had no chance at categorizing their answers we would have had to interview more participants; but we

saw no need in doing that because their answers were so similar. And interesting to mention, is that the answers were similar even if the sample consisted of different types of participants; females and males, students and employees. Additionally, one might wonder why we did not include these questions into the questionnaire. The answer is that these questions were not intended to be part of the TPB direct measurement questionnaire. We also wanted the participants to answer with the first words that came to them. And if we would have had the questions in the questionnaire, then the respondents might have been affected by the other questions, and therefore affected the findings for salient beliefs.

Lastly, we aimed to see the research questions from a marketing perspective and we discussed that the results were found to be of value for the marketers and manufactures of functional food. We feel that the used methods were appropriate for our thesis. For example, it was appropriate that we focused on research questions and not on hypothesis because we feel that the findings provided more open answers than we would have gotten by the use of hypothesis. Furthermore, we feel that the combination of quantitative and qualitative methods were useful for our research process. Therefore, we claim that our thesis has indications of reliability and validity.

REFERENCES

- Ahlström, Anders. (2008, Mai) Skånemejeriet, ProViva sa lugna oroliga danska magar <<http://www.skanemejerier.se/sv/Press/Pressrum/2008/ProViva-ska-lugna-oroliga-danska-magar/>> [Retrieved 2010-03-02]
- Albarracín, D., Johnson, B.T., Fishbein, M., & Muellerleile, P.A. (2001). Theories of reasoned action and planned behavior as models of condom use: A meta-analysis. *Psychological Bulletin*, 127 (1), 142-161. doi: 10.1037/0033-2909.127.1.142.
- Albarracín, D., Johnson, B.T., Kumkale, G. T., & Zanna, M.P. (2005). Attitudes: Introduction and scope. In D. Albarracín, B.T. Johnson, M.P. Zanna, ed. *The handbook of attitudes*. Mahwah: Lawrence Erlbaum Associates, Inc. pp. 3-19.
- Ajzen, I. (1991). The Theory of Planned Behavior, *Organizational Behavior and Human Processes*, 50, 179-211, doi; 10.1016/0749-5978(91)90020-T.
- Ajzen, I. (2006). Constructing a TPB questionnaire: Conceptual and methodological considerations. Icek Ajzen: Theory of Planned Behavior, <<http://www.people.umass.edu/aizen/tpb.html>> [Retrieved 2010-03-23]
- Ajzen, I., & Fishbein M. (1973). Attitudinal and Normative Variable as Predictors of Specific Behaviors. *Journal of Personality and Social Psychology*, 27 (1), 41-57. doi:10.1037/h0034440
- Ajzen, I., & Fishbein, M. (1974). Factors influencing intentions and the intention-behavior relation. *Human Relations*, 27 (1), 1-15. doi:10.1177/001872677402700101
- Ajzen, I., & Fishbein M. (1977). Attitude-Behavior Relations: A Theoretical Analysis and Review of Empirical Research. *Psychological Bulletin*, 84 (5), 888-918. doi: 10.1037/0033-2909.84.5.888.
- Ajzen, I., & Fishbein M. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs: Prentice-Hall, Inc.
- Ajzen, I., & Fishbein M. (2000). Attitudes and the Attitude- Behavior Relation: Reasoned and Automatic Processes. *European Review of Social Psychology*, 11, 1-33. doi; 10.1080/14792779943000116.
- Ajzen, I., & Fishbein M. (2005). The influence of attitudes on behavior. In D. Albarracín, B.T. Johnson, & M.P. Zanna, ed. *The Handbook of Attitudes*. Mahwah: Lawrence Erlbaum Associates.
- Armitage, C.J., Conner, M. (2001). Efficacy of the theory of planned behaviour: A meta-analytic review. *British Journal of Social Psychology*, 40 (4), 471-499.
- Arvola, A., Vassallo, M., Dean, M., Lampila, P., Saba, A., Lähteenmäki, L., & Shepherd, R. (2008). Predicting intentions to purchase organic food: The role of affective and moral attitudes in the Theory of Planned Behaviour. *Appetite*. 50, 443–454. doi:10.1016/j.appet.2007.09.010

Asp, N-G., & Bryngelsson, S. (2007) Health claims in the labelling and marketing of food products; the Swedish food sector's Code of Practice in a European perspective. *Scandinavian Journal of Food and Nutrition*, 51 (3), 107-126. doi: 10.1080/17482970701652203

Backe, A. (2010) Contact for information for ProViva [e-mail] (personal communication February 25, 2010 and March 8, 2010)

Bagozzi, R.P., Gurhan-Cali, Z., & Priester, J.R. (2002). *The social psychology of consumer behaviour*. Buckingham: Open Press University

Berg, C., Jonsson I., & Connor, M. (2000). Understanding choice of milk and bread for breakfast among Swedish children aged 11-15 years: an application of the Theory of Planned Behaviour. *Appetite*, 34, 5-19. doi:10.1006/appe.1999.0269

Bech-Larsen, T., & Grunert, K. G. (2003). The perceived healthiness of functional foods A conjoint study of Danish, Finnish and American consumers' perception of functional foods. *Appetite*, 40, 9-14. doi:10.1016/S0195-6663(02)00171-X

Bengtsson, N. (2009). Functional Food in Sweden <http://www.worldfoodscience.org/cms/?pid=1001170> [Retrieved 2010-03-11]

Black, I., & Cambell, C. (2006). Food or Medicine? *Journal of Food Products Marketing*, 12 (3), 19-27. doi: 10.1300/J038v12n03_02

Brunso, K., & Grunert, K. (2003) The perceived healthiness of functional foods A conjoint study of Danish, Finnish and American consumers' perception of functional food, *Appetite*, 40, 9-14, doi: 10.1016/S0195-6663(02)00171-X

Bryman, A. (2006). *Samhällsvetenskapliga metoder*, Liber AB, Sweden

Bryman, A. (2008). *Social Research Methods*, 3rd edition, Oxford University Press

Cacioppo, J.T., Petty, R.E., & Green, T.R. (1989). Attitude structure and function: From the tripartite to the homeostasis model of attitudes. In A.R, Pratkanis, S.J. Breckler, & A.G. Greenwald, ed. *Attitude structure and function*. Hillsdale: Lawrence Erlbaum Associates. pp. 275-309.

Childs, N.M. (1997). Foods that help prevent disease: Consumer attitudes and public policy implications. *Journal of Consumer Marketing*, 14 (6), 433-447. doi: 10.1108/07363769710186015.

Consumer Reports on Health. (2007) Functional – or dysfunctional foods- Is it practical to 'eat your medicine' instead of talking pills? <<http://www.ConsumerReportsoHealth.org>> [Retrieved 2010-02-08]

Corey, S.M. (1937). Professed attitudes and actual behavior. *Journal of Educational Psychology*, 28 (4), 271-280. doi: 10.1037/h0056871.

Dillehay, R.C. (1973). On the irrelevance of the classical negative evidence concerning the effect of attitudes and behavior. *American Psychologist*, 28 (10), 887-891. doi: 10.1037/h0035580.

Eagly, A.H., & Chaiken, S. (1993). *The psychology of attitudes*. Fort Worth: Harcourt Brace Jovanovich, Inc.

EC Regulation (EC) No 1924/ 2006 Of the European Parliament and of the council of 20 December 2006 on nutrition and health claims made on foods, *Official Journal of the European Union*,

EUFIC (European Food Information Council) (2006). Backgrounder Functional Foods <<http://www.eufic.org>> [Retrieved 2010-03-10]

Ferber, R. (1954). The role of planning in consumer purchases of durable goods. *The American Economic Review*, 44 (5), 854-874. Stable URL: <http://www.jstor.org/stable/1807706>.

Fishbein, M., & Ajzen I. (1972). Attitudes and Opinions. *Annual Review of Psychology*, 23, 487-544. doi:10.1146/annurev.ps.23.020172.002415

Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behavior: An introduction to theory and research*. Reading: Addison-Wesley Publishing Company, Inc.

Functional Food Science Centre (FFSC). (2010). <http://www.ffsc.lu.se/functional-foods> [Retrieved 2010-04-19]

Godin, G., & Kok, G. (1996). The theory of planned behavior: A review of its applications to health-related behaviors. *American Journal of Health Promotion*, 11 (2), 87-98.

Gray, J., Armstrong, G., & Farley H. (2003). Opportunities and constraints in the functional food market. *Nutrition & Food Science*, 33 (5), 213-218. doi:10.1108/00346650310499730.

Guerrero, L., Colomer, Y., Guàrdia, M.D., Xicola, J., & Clotet, R. (2000). Consumer attitude towards store brands. *Food Quality and Preference*, 11 (5), 387-395. doi:10.1016/S0950-3293(00)00012-4.

Gummesson, L., Jonsson, I., & Conner, M. (2007) Predicting intentions and behaviour of Swedish 10-16-year-olds at breakfast. *Food Quality & and Preference*, 8 (4), 297-306. doi: 10.1016/S0950-3293(97)00013-X.

Hansen, T., Jensen, J.M., & Solgaard, H.S. (2004). Predicting online grocery buying intention: A comparison of the theory of reasoned action and the theory of planned behavior. *International Journal of Information Management*, 24 (6), 539-550. doi: 10.1016/j.ijinfomgt.2004.08.004.

- Hollywood, L.E, Armstrong,G.A & Durkin, M.G. (2007). Using behavioural and motivational thinking in food segmentation. *International Journal of Retail & Distribution Management*, 35 (9), 691-702; doi; 10.1108/09590550710773245
- Holme I. M., & Solvang, B. K. (2006). *Forsknings metodik, Om kvalitativa och kvantitativa metoder*, 2 upl. Studentlitteratur.
- Hrubes, D., Ajzen, I., & Daigle, J. (2001). Predicting hunting intentions and behavior: An application of the theory of planned behavior. *Leisure Sciences*, 23 (3), 165-178. doi: 10.1080/014904001316896855.
- International Life Science Institute [ILSI] Europe (2009). The European Commission Confucerted Action on Functional Food Science in Europe (FUFOSE). <<http://www.ffsc.lu.se/functional-foods>> [Retrieved 2010-03-11]
- Johansson, Lindfors, M-B. (1993). *Att utveckla kunskap; Om metodologiska och andra vägval vid samhällsvetenskaplig kunskapsbildning*, Studentlitteratur,
- Katz, D.(1960). The Functional Approach to the Study of Attitudes. *The Public Opinion Quarterly*, 24 (2), 163-204. Stable URL: <http://www.jstor.org/stable/2746402>.
- Kelman, H.C. (1974). Attitudes are alive and well and gainfully employed in the sphere of action. *Journal of Abnormal Psychology*, 84 (2), 172-174. doi: 10.1037/h0076972.
- Kent, R. (2007). *Marketing Research, Approaches, Methods and Applications in Europe*, Thomson
- Kim, H., & Karpova, E. (2010). Consumer Attitudes Toward Fashion Counterfeits: Application of the Theory of Planned Behavior. *Clothing & Textiles Research Journal*, 28 (2), 79-94. doi: 10.1177/0887302X09332513
- Kraus, S.J. (1995). Attitudes and the prediction of behavior: A meta-analysis of the empirical literature. *Personality and Social Psychology Bulletin*, 21, 58-75. doi: 10.1177/0146167295211007.
- Kylén, J-A. (2004) *Att få svar intervju, enkät, observation*, Bonnier Utbildning.
- Landström, E., Hursti, U-K., Becker, W. & Magnusson, M. (2007). Use of functional foods among Swedish consumers is related to health-consciousness and perceived effect. *British Journal of Nutrition*, 98, 1058-1069. doi:10.1017/S0007114507761780.
- Landström, E., Hursti, U-K. & Magnusson, M. (2009). Functional foods compensate for an unhealthy lifestyle. Some Swedish consumers' impression and perceived need of functional foods. *Appetite*, 53 (1), 34-43. doi:10.1016/j.appet.2009.04.219.
- LaPiere, R.T. (1934). Attitudes vs. action. *Social Forces*, 13 (2), 230-237. Stable URL: <http://www.jstor.org/stable/2570339>.
- Larsson, M. (2010). Contact for information for Axa [e-mail] (personal communication April 2, 2010).

López-Varela, S., González-Gross, M., & Marcos, A. (2002). Functional foods and the immune system: a review. *European Journal of Clinical Nutrition*, 56, (3), 29–S33. doi: 10.1038=sj.ejcn.1601481.

McGuire, W. J. (1985). Attitudes and attitude change. In G. Lindzey & E. Aronson, ed. *Handbook of social psychology*. 3rd edition. New York: Random House. pp. 233-346.

McNeil, J. (1974). Federal programs to measure consumer purchase expectations. *The Journal of Consumer Research*, 1 (3), 1-10. Stable URL: <http://www.jstor.org/stable/2488773>.

Menrad, K. (2003). Market and marketing of functional food in Europe. *Journal of Food Engineering*. 56, 181-188. doi: 10.1016/S0260-8774(02)00247-9.

Moller, B., & Rowland, I. (2002) Functional foods: at the frontier between food and pharma. *Current Opinion in Biotechnology*. 13, 483–485. doi: 10.1016/S0958(02)00375-0.

Naylor W R., Droms C M., & Haws K. L. (2009). Eating with a Purpose: Consumer Response to Functional Food Health Claims in Conflicting Versus Complementary Information Environments. *Journal of Public & Marketing*, 28 (2) 221-233. doi: 0.1509/jppm.28.2.221.

Netemeyer, R.G., Burton, S., & Johnston, M. (1991). A comparison of two models for the prediction of volitional and goal-directed behaviors: A confirmatory analysis approach. *Social Psychology Quarterly*, 54 (2), 87-100. Stable URL: <http://www.jstor.org/stable/2786928>.

Niva, M. (2006). Can we predict who adopts health-promoting foods? Users of functional foods in Finland. *Scandinavian Journal of Food and Nutrial*, 50 (1), 13-24. doi:10.1080/11026480600655378.

Niva, M. (2007). All foods affect health: Understandings of functional foods and healthy eating among health-oriented Finns. *Appetite*, 48 (3), 384-394. doi:10.1016/j.appet.2006.10.0006.

Oatley. (2010). Oatley Home page < <http://www.oatley.se/>> [Retrieved 2010-03-08]

O'Connor, E., & White, K. M. (2010). Willingness to trial functional foods and vitamin supplements: The role of attitudes, subjective norms, and dread of risks. *Food Quality and Preference*, 21, 75–81. doi: 10.1016/j.foodqual.2009.08.004

Osgood, C.E., Suci, G.J., & Tannenbaum, P.H. (1971). *The measurement of meaning*. Urbana: University of Illinois Press.

Øygaard, L., & Rise, J. (2006). Predicting the intention to eat healthier food among young adults. *Health Education Research*, 11 (4), 453-461.

Parker, D., Manstead, A.S.R., Stradling, S.G., Reason, J.T., & Baxter, J.S. (1992). Intention to commit driving violations: An application of the theory of planned

behavior. *Journal of Applied Psychology*, 77 (1), 94-101. doi: 10.1037/0021-9010.77.1.94.

Persson, J. (2007, September) Skånemejeriet, Skånemejeriet exporterar ProViva concept till USA <<http://www.skanemejerier.se/sv/Press/Pressrum/2007/Skanemejerier-exporterar-ProViva-koncept-till-USA/>> [Retrieved 2010-03-02]

Persson, K. (2010). Contact for student e-mail address [telephone] (personal communication April 19, 2010)

Position Skåne. (2006). Functional food from Sweden's breadbasket. <<http://www.skane.com/cmarter/cmarter/20060124-U91K-NVBX-KPN6.PDF>> [Retrieved 2010-02-12]

Pratkanis, A.R., Breckler, S.J., & Greenwald, A.G. ed. (1989). *Attitude structure and function*. Hillsdale: Lawrence Erlbaum Associates.

Proviva. (2010). ProViva Home page <<http://www.proviva.com>> [Retrieved 2010-02-23]

Pågen. (2010). NAMN <<http://www.pagen.se>> Pågens historia [Retrieved 2010-03-08]

Remenyi, D., Money, A., Williams, B. & Swartz, E. (2005). *Doing Research in Business Management. An Introduction to Process and Method*. Latest ed. London: Sage Publications

Rhodes, R. E., Blanchard C. M., & Matheson, D. H. (2006). A multicomponent model of the theory of planned behaviour. *British Journal of Health Psychology*. 11, 119-137. doi: 10.1348/135910705X52633

Rhodes, R. E., & Courneya, K. S. (2003). Investigating multiple components of attitude, subjective norm, and perceived control: An examination of the theory of planned behavior in the exercise domain. *British Journal of Social Psychology*, 42, 129-146. doi:10.1348/014466603763276162

Rosenberg, M.J., & Hovland, C.I. (1960). Cognitive, affective, and behavioral components of attitudes. In M.J. Rosenberg, C.I. Hovland, W.J. McGuire, R.P. Abelson, & J. Brehm, ed. *Attitude organization and change*. New Haven: Yale University Press. pp. 1-14.

Rudberg, B. (2007). *Statistik; Att beskriva och analysera statistiska data*, statistiska data. Lund: Studentlitteratur.

Saba, A., Vassallo, M., & Turrini, A. (2000). The role of attitudes, intentions and habit in predicting actual consumption of fat containing foods in Italy. *European Journal of Clinical Nutrition*, 54 (7), 540-545.

Saunders, M., Lewis, P., & Thornhill A. (1997). *Research methods for business students* 3rd edition. FT Prentice Hall. Pearson Education.

Schifter, D. B., & Ajzen, I. (1985). Intention, perceived control, and weight loss: An application of the theory of planned behavior. *Journal of Personality and Social Psychology*, 49 (3), 843-851. doi: 10.1037/0022-3514.49.3.843.

Sheppard, B. H., Hartwick, J., & Warshaw, P.R. (1988). The theory of reasoned action: A meta-analysis of past research with recommendations for modifications and future research. *Journal of Consumer Research*, 15, 325-342. doi: 10.1086/209170.

Sheth, J.N. (1985). History of consumer behavior: A marketing perspective. In C.T. Tan & J.N. Sheth, ed. *Historical Perspectives in Consumer Behavior: ACR Singapore Conference*. July 1985. pp. 5-7.

Siró, I., Kápolna, E., Kápolna, B., & Lugasi A. (2008). Functional food. Product development, marketing and consumer acceptance- A review. *Appetite* 51 (2008), 456-467. doi:10.1016/j.appet.2008.05.060.

Skogelid, M. (2010) Contact for information for Verum, [e-mail] (personal communication March 8, 2010)

Skånemejeriet (2010) Home page, <<http://www.skanemejeriet.se>> [Retrieved 2010-03-08]

Stenberg, M. (2007). Agriculture Food & Beverages- Functional Foods Section Profile – Stockholm Sweden, < <http://www.ats-sea.agr.gc.ca/eur/4539-eng.htm>> [Retrieved 2010-02-12]

Thomas, W.I., & Znaniecki, F. (1918). *The polish peasant in Europe and America: Monograph of an immigrant group*. Boston: Badger.

Urala, N., & Lähteenmäki, Liisa. (2007). Consumers' changing attitudes toward functional food, *Food Quality and Preference*, 18, 1-12, doi; 10.1016/j.foodqual.2005.06.007

Verbeke, W. (2005). Functional foods; Willingness to compromise on taste for health?, *Food Quality and Preference*, 17, 126-131. doi; 10.1016/j.foodqual.2005.03.003

Verum (2010) Berättelsen om Verum <<http://www.verum.se/historia/>> [Retrieved 2010-03-08]

Vitamin Well (2010) Vitamin Well produkter <<http://www.vitaminwell.se/produkter.php>> [Retrieved 2010-03-29]

Wiborn, S. (2010) Contact for information for Leva (Pågen) [e-mail] (personal communication March 10, 2010)

Wicker, A. W. (1969). Attitudes versus actions: The relationship of verbal and overt behavioral responses to attitude objects. *Journal of Social Issues*, 25 (4), 41-78.

Williams, P., & Ghosh, D. Health claims and functional foods. *Nutrition & Dietetics*, 65, 589-593. doi;10.1111/j.1747-0080.2008.00268.x.

Wilson, D.T., Mathews, H.L., & Harvey. (1975). An empirical test of the Fishbein behavioral intention model. *The Journal of Consumer Research*, 1 (4), 39-48. Stable URL: <http://www.jstor.org/stable/2488706>.

APPENDICES

Appendix 1: The Theory of Planned Behavior Questionnaire

Survey on Purchasing Functional Food

This questionnaire deals with the views of Swedish consumers about functional food. Functional foods are those designed to offer additional health benefits. Examples include Proviva, Activia, Verum, and Becel.

Please complete the questionnaire in its entirety. It should only take a few minutes. To answer, please indicate your selection by circling, highlighting, or marking the number that best suits your circumstances and opinions. Make only one selection per question.

Please indicate your gender.

- Male
 Female

Please indicate your occupation.

- Student
 Employee
 Neither

1. For me, purchasing functional food is

Harmful	1	2	3	4	5	6	7	Beneficial
Bad	1	2	3	4	5	6	7	Good
Worthless	1	2	3	4	5	6	7	Valuable
Foolish	1	2	3	4	5	6	7	Wise
Undesirable	1	2	3	4	5	6	7	Desirable

2. Most people who are important to me think that ___ purchase functional food

I should not	1	2	3	4	5	6	7	I should
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3. The people in my life whose opinions I value ___ functional food

Do not Purchase	1	2	3	4	5	6	7	Purchase
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4. If I wanted to I could purchase functional food

Definitely false	1	2	3	4	5	6	7	Definitely true
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5. It's mostly up to me whether or not I purchase functional food

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

6. I intend to purchase functional food

Extremely unlikely 1 2 3 4 5 6 7 Extremely likely

7. I will try to purchase functional food

Definitely false 1 2 3 4 5 6 7 Definitely true

Is there anything else you would like to add about purchasing functional foods?

Thank you for your participation! 😊

Appendix 2: Belief Elicitation Interview Guide

First, I would like to thank you for taking the time to meet with me today. I'd like to take this opportunity to find out what your experiences and thoughts are about functional foods. Functional foods are those designed to offer additional health benefits. Some examples include Proviva, Activia, Verum, and Becel. The interview should take between ten and fifteen minutes. If at any time you have questions, please don't hesitate to ask.

Demographic Information:

1. What gender do you identify with?
2. Do you consider yourself to be a student, employee, or neither?

Belief Elicitation Questions:

1. What do you believe are the *advantages* of purchasing functional food?
2. What do you believe are the *disadvantages* of purchasing functional food?
3. Is there anything else you associate with purchasing functional food?
4. Are there any individuals or groups who would *approve* of you purchasing functional food?
5. Are there any individuals or groups who would *disapprove* of you purchasing functional food?
6. What factors or circumstances would enable you to purchase functional food?
7. What factors or circumstances would make it difficult or impossible for you to purchase functional food?

Is there anything else you'd like to add? Thank you for your time.



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