

Influence of perceived health effects of organic produce on consumer choice

A literature review on the motivation 'health' for choosing organic food.



BSc Thesis Health and Society

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May-June 2016

Preface

Before you lies the thesis “Influence of perceive health effects of organic produce on consumer choice”, it was written to fulfil the graduation requirements of the Bachelor Health & Society at the University of Wageningen. I was engaged in writing this thesis from May till the end of June 2016.

Months before I had to start writing, I knew that I wanted to write my thesis about organic food. My mother has purchased organic food my entire life and she always said that she did that because organic products are healthier. So I wondered if this was true and I also wanted to discover if others had the same motivation. These questions led me to the subject of my thesis.

When I started writing my thesis I struggled a lot with finding the right theories and literature, but by putting a lot of time and hard work into it I managed to finish it in time. It was a good learning experience and I really would like to thank my supervisor for her great guidance and support during this process.

I hope you enjoy your reading.

Lisa van der Meer

Wageningen, July 1, 2016.

Summary

Aim: Several studies show that health effects of organic products are unknown. However, perceived health effects are a motivation to purchase organic products. This thesis examines how these perceived health effects influence the consumer choice.

Method: This thesis is a literature study, consisting of 36 studies about perceived health effects, the motivation health and other motivations and factors that influence the consumer choice for organic produce.

Results: Consumers perceive organic products as healthy, mainly because they contain fewer pesticides, have no artificial additives, are not genetically modified and possibly have more nutrients. 'Health' is also a main motivator for consumers to purchase organic products and next to this environmental concern is also a strong motivator. Education, age, gender, family size and household income also influence the consumer choice.

Discussion: Health was found to be the key motivator for consumers to purchase organic products and environmental impact was found to be of almost as great of an influence as health. A possible explanation for this is that people are first of all egoistically motivated, which would mean that they are at first focused on their own health and that's why health is the main motivator. Only if a person can achieve personal side-benefits from doing something for the environment, and in this case that would be purchasing organic products, environmental impact can be the main motivator.

Keywords: health, organic, environment, motivations, consumer choice.

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1. Introduction

1.1 Problem statement

Interest in organically produced food is increasing throughout the world in response to concerns about conventional agricultural practices, such as food safety, animal welfare, the environment and human health (Yiridoe, Bonti-Ankomah & Martin, 2005). The global demand for organic food is growing with 10 to 30 percent per year. The market for organic food now accounts for 2% of the world's retail food market (Lim, Yong & Suryadi, 2014). Thus, people are increasingly interested in organic products and the demand keeps growing. However, it's unknown how consumer decisions for organic products are formed, and what kind of motivations and factors influence this choice.

An interesting fact is that 'health' appears to be a motivation for consumers to choose organically produced foods, but evidence about health effects of organic products is lacking (Yiridoe et al., 2005). One of the main concerns that consumers have regarding their health, is contamination by bacteria, viruses, worms, mycotoxins and agro-chemicals in conventionally produced foods (Lairon & Huber, 2014). Lairon and Huber (2014) concluded that the difference between conventionally produced foods and organically produced foods is that 41% of conventional foods samples that were tested were contaminated and only a very small percentage of the organic products were contaminated. Moreover, these were only minimally contaminated. Tasiopoulou, Chiodini, Vellere, and Visentin (2007) also studied the amount of pesticides in conventional and organic products. They concluded that the conventional samples were 10-fold greater contaminated by pesticides than organic food samples. Thus, according to both studies, consumers would only absorb a very small amount of pesticides when they consume organic products and a larger amount if they would consume conventional products

However, the long-term health effects of conventional products being more contaminated than organic products are largely unknown (Lairon & Huber, 2014). There is no scientific evidence about either the health effects of conventional contaminated products or organic products that are less contaminated. However contamination appears to be one of the main health concerns that consumers have and also a reason for consumers to choose organic foods (Yiridoe et al., 2005). It is therefore interesting to find out how consumers perceive the health effects of organically produced food and to what extent 'health' motivates consumers to purchase organic products. The aim of this thesis is to define to what extent perceived health effects of organically produced foods influence consumer choice.

1.2 Research questions

This aim leads to the following research question:

To what extent do perceived health effects of organic produce influence consumer choice?

To give an answer to this question, the following sub-questions need to be answered:

- 1) Do consumers perceive organic products as 'healthy'? Do they perceive them as healthier than conventional products?
- 2) To what extent is 'health' a motivation to purchase organic products, and what are potential explanations for that?
- 3) How strong is the motivation 'health' in relation to other motivations that influence consumer choice for organic produce?
- 4) Which other factors play a role in the consumer decision-making process for organic products?

1.3 Outline of this thesis

In order to approach the different questions that are outlined above, chapter 2 will explain the definitions of the concepts 'health' and 'organic food' that are used in this thesis. It will also explain the different factors and motivations that are included in the *Conceptual Purchase Decision Framework (CPDF)* by Yiridoe et al. (2005). Also the definitions of certain aspects of the *Health Belief Model (HBM)* (Hochbaum, Rosenstock & Kegels, 1952) are addressed, that will be used in chapter 5. Chapter 3 explains the method that is used to conduct this research. The next chapter provides an answer to the first sub-question by looking at different studies that explain if organic products are perceived as healthy and also at different studies that explain if consumers perceive them as healthier than conventional products. In chapter 5 an answer to sub-question 2 is provided 5 by first taking into account different studies that explain to what extent 'health' can be a motivation for consumers to purchase organic products. In the second part of chapter 5 different theories are used to support this. First certain aspects of the HBM that can explain this are discussed and thereafter *consumer demand for 'good health'* (Grossman, 1972) and the *basis value theory* (Aertsens, Verbeke, Mondelaers & van Huylenbroeck, 2009). On the basis of the CPDF by Yiridoe et al. (2005) chapter 6 and 7 will give an answer to sub-question 3 and 4. Chapter 6 explains the relation between the motivation 'health' and other motivations that are mentioned in the CPDF. Chapter 7 looks at other factors, besides motivations, from the CPDF, which can also affect consumer choice for organic produce. Chapter 8 is the final chapter of this thesis, which will answer the main research question. Strengths and limitations from this thesis and recommendations for further research are also be given.

2. Theoretical framework

A theoretical framework must be outlined to gain insight in the influence of perceived health effects of organic produce on consumer choice and the relation between ‘health’ and other motivations and factors that influence consumer choice for organic produce. In this theoretical framework concepts and theories that are used will be explained.

First, the definitions of the concepts health and organic food will be given. The second subchapter describes the Consumer Purchase Decision Framework (CPDF) and the Health Belief Model (HBM). On the basis of the CPDF the different motivations and factors that influence the consumer choice for organic products will be discussed. It will help to gain insight in the relation between the different motivations and the motivation ‘health’ for choosing organic products and also in other factors, besides motivations, that may influence the consumer choice for organic produce. The HBM will help to gain more insight into *why* consumers are motivated to buy organic products when they perceive them as healthy. The HBM is developed by Hochbaum et al. (1952) to describe how health behaviour is determined by personal beliefs or perceptions about a disease and the strategies available to decrease its occurrence. In this thesis the model will be used to analyze health behaviour in relation to consumer choice for organic food and not a disease. This thesis will therefore only use the perceptions of the model that are applicable to this research.

2.1 Concepts

2.1.1 Health

Prah Ruger (2010) developed a concept named health capability. Health capability describes the conditions that affect health and one’s ability to make health choices. This concept includes health agency and health outcomes. Health agency is defined as “people’s ability to achieve health goals that they value and ability to act as agents of their own health” (Prah Ruger, 2010). Health outcomes are the outcomes of the actions to maintain or improve health (Prah Ruger, 2010). Hence, this concept takes into account the fact that people seek good health and have the ability to pursue health goals.

This thesis will only use the concept ‘health agency’, because this concept focuses on the individual choice to pursue health by choosing organic products. This thesis focusses on how consumers perceive health effects of organic products and how they live up to this perception. Health agency states that people can make their own health choices and that is also assumed in this thesis. Health outcomes are not relevant in this thesis because it focuses on the influence of *perceived* health effects of organic products on consumers choice and does not look at health outcomes after consumers have chosen these products.

Further, how ‘health’ itself is defined will not be taken into account because this thesis looks at the perception of health effects of organic produce and does not focus on how consumers perceive health in general. Also, in the literature that is used, different researchers describe the relation between the perception of health effects and organic consumption, but they do not describe what they understand by health. Thus, it isn’t possible to retrieve what these researchers understand by health and so this is not taken into account.

2.1.2 Organic food

The European Community (EC) defines ‘organic’ as: coming from or related to organic production. ‘Organic production’ is a sustainable management system for agriculture that is based on the following general principles (Regulation, 2007):

- “a) there should be respect for the systems in nature and cycles and sustainment and enhancement of the state of soil, water, air and biodiversity, of the health of plants and animals and of the balance between them;
- b) contribution to a high level of biodiversity;
- c) responsible use of energy and natural resources, such as water, soil, organic matter and air;
- d) respect of high animal welfare standards and, in particular, fulfilment of animals’ species-specific behavioural needs;
- e) appropriate design and management of biological processes based on ecological systems using natural resources.”

The main differences with conventionally produced food are the technology or production processes, the principles used and the low amount of synthetic chemicals that is used in organic food (Lairon & Huber, 2014; Yiridoe et al., 2005). In this thesis, it is assumed that the products that have been used in various studies on organic produce, have been produced on the basis of these requirements.

2.2 Theory

2.2.1 Consumer Purchase Decision Framework

According to Yiridoe et al. (2005) consumer purchase decisions to buy organic products are influenced by exogenous factors, knowledge and awareness, product related factors (perceived attributes and product characteristics), social and demographic variables and economic factors (see Figure 1).

Exogenous factors are external factors that include certification, packaging and labelling and product availability. These factors give a consumer information about organic products (Yiridoe et al., 2005).

Knowledge and awareness entails consumers’ knowledge on what is organic and what makes organic unique. When a consumer does not have knowledge about this, he or she is not able to differentiate between two alternative products (Yiridoe et al., 2005).

Product related factors (perceived attributes and product characteristics) are factors that are attributed to the organic product by consumers and can be served as a motivation for them to purchase organic products (see Figure 1). When a consumer believes that organic products have unique attributes (for example organic products have better health effects, are better for animal welfare or have a higher nutritional value) compared to conventionally produced alternatives, this can be a motivation for the consumer to purchase organic products (Yiridoe et al., 2005).

Social and demographic variables include gender, occupation, age, education and family size. These are underlying factors that may also have an influence on the decision to purchase organically produced foods (Yiridoe et al., 2005).

Economic factors include household income, product price and price of related products. These are the only factors that directly influence the purchase decision to buy organic products (Yiridoe et al., 2005).

As can be seen in Figure 1, all the factors and motivations that have been explained above have an influence on the organic product purchase decision of consumers. Some have a direct influence and others have an indirect influence on each other. Because they all have an influence they form a framework. This framework is used because it takes into account not only personal considerations and beliefs, but also exogenous factors like certification and labelling. Using a framework that takes into account a lot of different perspectives, helps to keep a broader vision about the possible influences on consumer choice for organically produced foods. Furthermore, this framework is formed in a review done by Yiridoe et al. (2005), where they examined different researches that explained the influence of factors and motivations on consumer choice for organic produce. Thus, different results and explanations were taken into account, which makes it a strong framework.

Chapter 6 will analyze the influence of the different motivations on consumer choice for organic produce, which are mentioned at the product related factors, namely health benefits, animal welfare, food safety, impact on environment, production process, nutrition, sensory characteristics and value on the basis of this framework. The main focus will be the relationship between these different motivations and the motivation 'health' for choosing organic products. Chapter 7 will analyze the influence of the other factors that are also mentioned in the framework, which are exogenous factors, knowledge and awareness about organic products, social and demographic variables and economic factors on the consumer choice for organic products.

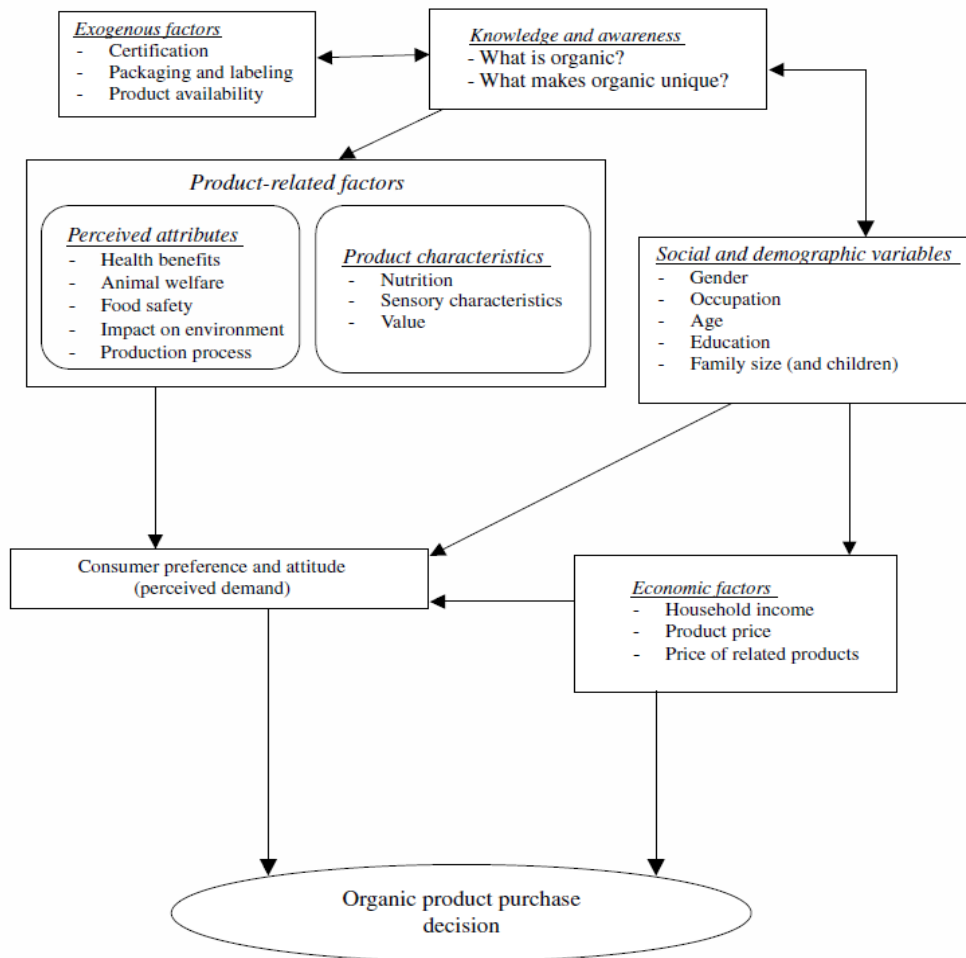


Figure 1: Conceptual framework of factors that affect organic consumer attitudes and purchase decisions (Yiridoe et al., 2005)

2.2.2 Health belief model

The HBM states that health behaviour is determined by personal beliefs or perceptions about a disease and the strategies available to decrease its occurrence (Hochbaum et al., 1952). As can be seen in Figure 2 four perceptions serve as the main constructs of the model: perceived severity, perceived susceptibility, perceived benefits and perceived barriers. Each perception can be used alone or in combination to explain health behaviour. Recently, more constructs were added to the model: cues to action, motivating factors and self-efficacy (Hayden, 2013).

As this thesis does not focus on perceptions or personal beliefs about *diseases*, the HBM is not fully in line with this subject. However, different aspects of the model can be used to explain why consumers are motivated to purchase organic products, when they perceive them as healthy. The aspects that can be used are: perceived benefits, perceived barriers, cues to action and self-efficacy. The other aspects are not applicable because they cannot be used to explain why consumers are motivated to purchase organic products. These aspects focus too much on health behaviour that is influenced by a disease and cannot be applied to health behaviour that is influenced by consumer choice for organic products. Furthermore, the modifying factors (age, sex, ethnicity, socioeconomic

and knowledge) that are also stated in this model, are factors that are also mentioned in the CPDF. The influence of these factors on perceived health effects of organic products on consumer choice will be explained in chapter 7.

Perceived benefits is someone’s opinion about the value or usefulness of a new behaviour in the risk of developing a disease (Hayden, 2013). In relation to organic food, an example would be that if someone believes that by consuming organic products instead of conventionally produced foods he/she will improve their health, he/she is probably more likely to do so.

The second construct of the HBM that can be used explains the evaluation of the *perceived barriers* an individual sees. If an individual perceives a lot of obstacles, the chance that he or she will adopt to a new behaviour is quite low (Hayden, 2013). Hence, if it is too difficult to purchase organic products, people are less likely to do so.

Cues to action can also be used and these are people, things or events which encourage people to change their behaviour (Hayden, 2013). An example could be hearing a story from someone else about the perceived health effects of organic products. That story could influence the motivation to purchase organic products.

The last construct is *self-efficacy*. This is the belief in someone’s own ability to do something (Teasdale, 1978). If someone believes that a new behaviour is beneficial (perceived benefit) and that he or she does not perceive a lot of barriers (perceived barriers) to adopt to the new behaviour, chances are that the new behaviour will be tried (Hayden, 2013). Thus, when a consumer believes that by consuming organic products he/she will improve their health and there are not many barriers perceived, the chance that he/she is motivated to purchase organic products is quite large.

As can be seen in Figure 2 all the constructs influence each other and by placing the constructs that are used, in this model, it can be explained how these different constructs together can influence the motivation for consumers to choose organic products and the purchase behaviour. Chapter 5 discusses this idea. This model is chosen because since Hochbaum et al. have created it in 1952 it has been tested multiple times, analyzed, adjusted and proven to be applicable, which makes it a strong model.

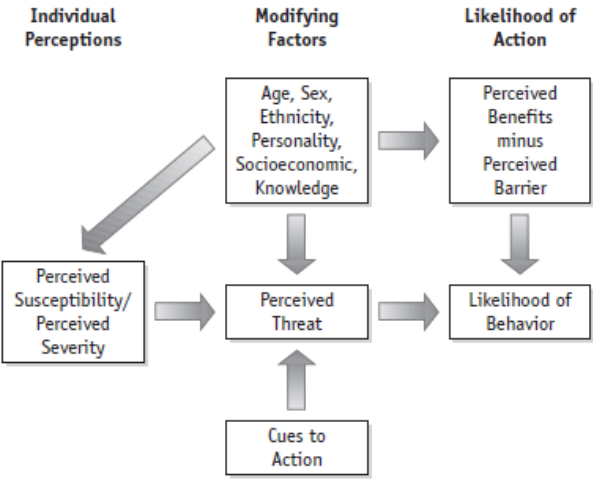


Figure 2: Health Belief Model (Hayden, 2013)

3. Method

3.1 Search method

This thesis consist of a literature review. Firstly, it analyzes the perceived health effects of organic products. Secondly it addresses if health was a motivation for purchasing organic products. After that the motivation 'health' is compared to other motivations that influence the consumer choice for organic produce. Lastly, other factors that may also have an influence on this consumer choice are analyzed.

The different databases that were used to obtain relevant literature were: SCOPUS and Global Search provided by Wageningen UR. Also a snowball search via references of other articles, particularly reviews, was carried out. Before the search for information was started the research question was divided into search concepts. Relevant and appropriate articles were found by using Boolean operators, which combine or exclude search terms in order to create a more specific search quest. The search quest that is used: ("organic food" OR "organic produce" OR "organic") AND ("perception" OR "preference" OR "food choice" OR "consumer choice" OR "attitude" OR "health perception" OR "health effects").

3.2 Inclusion criteria

Articles that focused on the perceived health effects of organic food, 'health' as a motivation for organic products and articles that described other motivations and factors that influence the organic food choice, were included in this thesis. Also literature that explained the HBM (Hochbaum et al., 1952), the CPDF (Yiridoe et al., 2005) and the consumer demand for 'good health' (Grossman, 1972) was included.

3.3 Exclusion criteria

Articles and reviews about perceived health effects, 'health' as a motivation for organic products and other motivations and factors that influence consumer choice for organic food published before 1995 were excluded, because they are not up to date. The subject area was limited to social sciences. Also studies that were not published in English have not been used in this thesis.

3.4 Search strategy

In Table 1 an overview is given of the search terms that were used and the databases in which was searched. The number of hits, and the number of hits after refining for solely social sciences can be seen. After refining the hits solely to social science, these hits were cited by relevance. When all these titles were read, the first selection was made. The studies that were not included in the first selection did not focus on different factors influencing consumer choice for organic products or they complied with other exclusion criteria. The next step was reading the abstracts of the selected articles. After reading these abstracts a new selection of 22 articles was made.

Table 1: Search terms with useful results

Search term		Database	Hits	Hits after refining to solely social science	First selection	Downloaded after reading abstracts
“organic food” OR “organic produce” OR “organic”		Scopus				
AND	“perception” OR “preference” OR “food choice” OR “consumer choice” OR “attitude” OR “health perception” OR “health effects”		9424	603	28	17
“organic food” OR “organic produce”		Global Search provided by Wageningen UR				
AND	Perception		24	24	3	2
	Preference		36	36	1	0
	“Food choice”		40	40	3	1
	“Consumer choice”		9	9	2	0
	Attitude		12	12	3	1
	“health perception”		1	1	1	0
	“health effects”		13	13	2	1
	TOTAL					22

These 22 selected articles were downloaded and the abstracts, conclusions and discussions of these papers were read. After this, another 6 papers were excluded from the selection, which lead to a new selection of 16 papers. These 16 articles were fully read, which lead to an exclusion of 3 articles and a final selection of 13 articles applicable to this research. Via snowball search in references of these 13 articles, another 23 were selected. Therefore, this thesis is based on 36 articles.

4. Perception ‘health’ in relation to organic products

Most consumers purchase organically produced food because they believe that these products have unique attributes compared to conventionally grown alternatives (Yiridoe et al., 2005). The focus of this thesis is the attribute ‘health’ and to be able to give an answer to the main research question, it is first of all important to discover if consumers perceive organically produced foods as healthy. Next to that it is also important to find out if consumers perceive them as healthier than the conventionally grown alternatives. Further in this chapter, possible explanations for *why* consumers could perceive organic products as healthy are provided.

4.1 Do consumers perceive organic products as ‘healthy’?

To be able to claim if consumers perceive organic products as healthy, different studies will be taken into account. Petrescu and Petrescu-Mag (2015) conducted a survey among 420 people from the North-West Region of Romania to find out if these consumers perceived organic products as healthy. It became clear that a large majority of consumers believed that organic food is healthier than conventional food (87%). Bruschi, Shershneva, Dolgopolova, Canavari, and Teuber (2015) also conducted a questionnaire about the perception of organic products. Only urban Russian customers with responsibility for food grocery shopping were invited to participate. The results showed that urban Russian consumers perceived organic products especially as healthy (see Figure 3). These consumers worried about food additives in conventional food and associated this with health risks. Because they associated conventional foods with health risks, they perceived organic products as healthy.

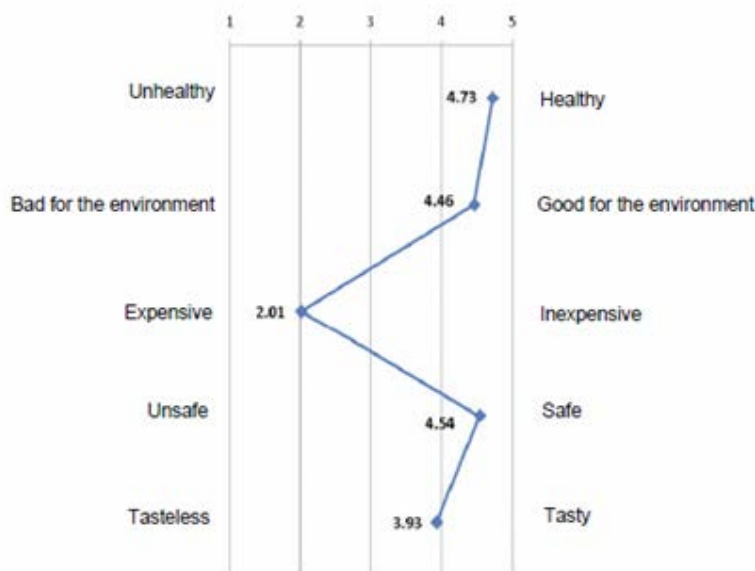


Figure 3: Perceptions of organic food, mean value (N=160) (Bruschi et al., 2015)

Thus according to both these studies, most of the consumers believe that organic products are healthy. Another study also states this, but they also examined if there had been substantial changes in the way consumers thought about organic foods. They carried out a questionnaire at two different

points in time, in 1998 and in 2001 (Shepherd, Magnusson & Sjöden, 2005). Both times 2000 respondents from Sweden filled in the questionnaire. The authors concluded that consumers believed that organic foods were “healthier” than conventional foods. An interesting note was that fewer consumers thought that organic foods were healthier than conventional foods in 2001 than in 1998. But there was no significant difference in the perception of consumers about organic food (Shepherd et al., 2005).

Hence, after analyzing these three different studies (Bruschi et al., 2015; Petrescu & Petrescu-Mag, 2015; Shepherd et al., 2005) it can be stated that consumers perceive organic products as healthy and as healthier than conventional foods.

4.2 Why do consumers perceive organic products as healthier?

After discovering that consumers perceive organic products as healthier than conventional foods, it is interesting to find out *why* consumers perceive these products as healthier. As mentioned in the background section, organic products contain less pesticides than conventional foods, which is a reason why consumers perceive organic products as healthier. Food safety concern stands for the concern of consumers regarding residues in food resulting from chemical sprays, fertilizers, artificial additives and preservatives, which is linked to the farming method that is used to produce these products (Yee, Yeung & Morris, 2005). Organically grown products are produced with less pesticides than conventional foods and consumers believe that especially because of this the organically grown products pose fewer risks to their health (Association, 2000). Next to that, Williams and Hammitt (2001) argue that most consumers believe that their perceived food safety concerns about conventionally produced foods are justified. Particularly for pesticide related risks, consumers perceive relatively high risks associated with the consumption of conventional foods compared with other public health hazards, like microbial pathogen risks or natural toxin (Williams & Hammitt, 2001). Because of these food safety concerns about conventional products, consumers purchase organically produced foods (Williams & Hammitt, 2001).

Another concern that consumers have is about artificial additives (Bruschi et al., 2015). “Artificial additives are substances that are added to food to enhance its taste and appearance or to preserve the flavour” (Food & Administration, 2013). In conventionally processed foods there are more than 500 additives permitted to use, compared with around 30 in organically processed foods. Especially the additives that have been linked to for example allergic reactions or asthma are prohibited to use in organic products (Association, 2000). This is also a reason why consumers perceive organic products as healthier than conventional products.

Consumers are also concerned about Genetically Modified Organisms (GMOs) and almost all consumers agree that using gene technology in food production, this may have undesirable effects on personal health and nature in the long run (Millock, Wier & Andersen, 2004; Zagata, 2012; Zanolini et al., 2013). This is because consumers generally perceive the use of GMOs in food production as negative, with the main concern that it is not known how such products will influence the health of future generations. Organic products do not contain any GMOs and that is why it is a reason for consumers to perceive them as healthier than conventional products.

Another reason that explains why consumers perceive organic products as healthy – not related to food safety concerns - is the nutrient content of organically produced food. Consumers perceive organic products as healthier because they believe that they contain more nutrients than conventional products. Nutrients include all kinds of vitamins and minerals (Association, 2000). The review done by Association (2000) states that in organically grown crops vitamin C contents are generally higher. However, the amount of trace minerals in organic fruits and vegetables have been declining, so they state that the influence of farming practices on the amount of nutrients in organically produced foods needs further research. Thus it is not quite clear if the nutrient contents in organic produced foods are higher than in conventional produced foods, but consumers do perceive organically produced foods as more nutrient-rich.

Hence, even though there is no scientific evidence that organic products, which contain less pesticides, have almost no artificial additives, are not genetically modified, and possibly contain more nutrients, have a more positive effect on human health than conventional foods, consumers still believe that they pose fewer risks to their health and that they are healthier (Association, 2000).

5. 'Health' as a motivation to purchase organic products

The previous chapter showed that consumers perceive organic products as healthy, especially because organically produced foods contain less pesticides, have almost no artificial additives, are not genetically modified and may have more nutrients. However, to what extent is this also a motivation for consumers to purchase organic products? In this chapter different studies that give an answer to this question this will be discussed and also different theories that could explain this will be given.

5.1 'Health' as a motivation

Three studies found health as the key motivator for consumers to purchase organically produced food (Aldanondo-Ochoa & Almansa-Sáez, 2009; Fotopoulos & Krystallis, 2002; Magnusson, Arvola, Hursti, Åberg & Sjöden, 2003). Nevertheless, not all studies agree with this, for example Michaelidou and Hassan (2008) stated that consumers are conscious about their health and feel responsible for the state of their health and that's why they consider health as an important motivator for purchasing organic products, but it is the least important motivation for consumers to purchase organic products. Thus, the studies that are stated here have contradicting conclusions. Because of this Paul and Rana (2012) made a structured questionnaire to find out what the main reason was for consumers to buy organically produced food. 463 organic food purchasers from India participated in this research. The researchers chose this country because from all developing countries India has the largest potential market for organic food, as India has been one of the main followers of organic food (Paul & Rana, 2012). Respondents marked 'healthy' as the only individual reason for purchasing organically produced food (see Figure 4). However, 51% of respondents also stated that the overall benefits they aim for in organic products are healthy content, environmentally friendly packaging and environment friendly technology (Paul & Rana, 2012). Thus, according to this research, health was the most important single motivator for the respondents to purchase organic food.

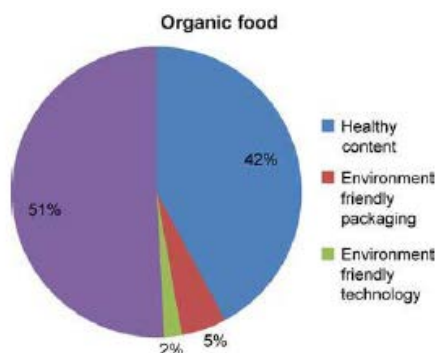


Figure 4: Reasons for buying organic food (Paul & Rana, 2012)

The above studies show that for a lot of consumers health is an important motivator for purchasing organically produced foods, but it seems that there are more motivations that play a role in the decision-making process for organic products (Michaelidou & Hassan, 2008; Paul & Rana, 2012). The relation between other motivations and the motivation 'health' will be discussed in chapter 6.

5.2 Explaining why 'health' is a motivation for consumers to purchase organic products

To explain why 'health' can be a motivator for consumers to purchase organic products, different theories can be used. First different aspects of the HBM will be used to explain why 'health' is a motivation for consumers to purchase organic products. The next section discusses two other theories that can give an explanation.

5.2.1 Health Belief Model

As has been mentioned in section 2.2.2 there are different aspects of the HBM that can give an explanation for *why* health can be a motivator for consumers to purchase organic products. These different aspects are: perceived benefits, perceived barriers, cues to action and self-efficacy. By placing these different constructs in the model, which can be seen in Figure 2, section 2.2.2, it can be explained how these different constructs together can influence the motivation 'health' for consumers to purchase organic products and the actual purchase behaviour.

If a cue to action (*modifying factors*), makes someone perceive organic as healthy and conventional products as non-healthy, he/she will perceive organic products as a benefit to their health. When this is true for someone, he/she will perceive purchasing organic products as very beneficial for their health. In the case of a disease, a very negative perception leads to a high perceived threat, which influences the likelihood of the behaviour (see Figure 2). In this case the positive perception about organic products leads to a perceived positive effect, which influences the likelihood of the behaviour. The behaviour would be purchasing organic products. Next to the perceived positive effect, if someone perceives their self-efficacy as high as well (*likelihood of action*) this also directly influences the likelihood of the behaviour. This would mean that someone believes that organic products improve his/her health (perceived benefits) and does not see too many obstacles (perceived barriers) to purchase these products. Thus, the cue to action influence the motivation of the consumer to purchase organic products and self-efficacy directly influences the behaviour of purchasing these products.

5.2.2 Other theories

As has been mentioned in the last section, different aspects of the HBM could give an explanation of why health could be a motivator for consumers to purchase organic products. However, as argued, not every aspect of this model is applicable. This is why there are two other theories presented that can be interpreted as potential explanations. These theories are believed to be additional to the HBM.

Grossman (1972) developed a model of *consumer demand for 'good health'*. It states that on one side deterioration in human health is a main reason for consumers to consider buying organically produced foods. On the other side consumers buy organic food as an investment in good health. Nobody wants their health to deteriorate, so that motivates people to protect themselves against depreciation losses by buying certain types of 'insurance'. An example of such 'insurance' that a consumer could consider, is purchasing organic food (Yiridoe et al., 2005). Hence, this theory explains why 'health' could be a motivator for consumers to purchase organically produced foods.

Another theory that provides an explanation for 'health' as a motivator is the *basis value theory*. According to this theory every culture has ten basic values and everyone recognizes these values (Schwartz, 2012). One of these values is *security*, which is defined as safety, harmony, and stability of society, of relationships and of oneself (Schwartz, 2012). Aertsens et al. (2009) linked this value to health as a motivation to buy organic products. They believe that health is linked to security, and because security is one of the values every consumer/individual strives for, this is a motivation for consumers to buy organically produced foods.

Presenting these different theories shows that there are plenty of possible explanations why consumers would be motivated to buy organic products when they perceive them as healthy. Only different aspects of the HBM could be used to give an explanation and as an addition to this the consumer demand for good health and the basis value theory are used.

6. Relation between the motivation ‘health’ and other motivations that influence consumer choice for organic produce

The CPDF designed by Yiridoe et al. (2005) takes into account different factors that influence organic product purchase decisions. The previous chapter showed that the motivation ‘health’ plays an important role in this decision. Interesting to find out is to what extent other motivations also play a role in this decision making process. To be able to give an answer to the main research question: *How do perceived health effects of organic produce influence consumer choice?* the relation between the different motivations and the motivation “health” needs to be explained. According to the CPDF (see Figure 1, section 2.2.1) the different motivations for purchasing organic products are: health benefits, animal welfare, environmental impact, food safety, production processes, nutrition, sensory characteristics and value. In this chapter the motivations environmental impact, animal welfare and sensory characteristics and their relation to the motivation health will be discussed. Food safety, nutrition and production process are already mentioned in the chapter about *why* consumers perceive organic products as healthy. Value was not mentioned in the found literature that was used to analyze the relation between the different motivations and the motivation health, so this motivation will not be discussed in this thesis.

6.1 Environmental impact and ‘health’

The positive effects of the organic production method on the environment is also a motivation for consumers to purchase organic products. The difference between the motivation health and environment is that health is an intrinsic product quality and the reduction in pollution is a public (non-excludable) product (Aldanondo-Ochoa & Almansa-Sáez, 2009). This means that if consumers are motivated to buy organic products because of the personal (private) health effects, they choose organic products because it helps themselves. However when they choose organic products because of the environmental effects, they buy them because it has a positive effect on everyone (public). According to Aldanondo-Ochoa and Almansa-Sáez (2009) these two attributes are related to each other and are the two main incentives for consumers to buy organically produced food. The preference for these two motivators is analyzed by willingness to pay for different milk production systems. The results state that 58.5% of milk consumers, are willing to pay for both environment-friendly technology and health, 20% is only willing to pay for healthier production systems and 8.5% only for environmental impact (Aldanondo-Ochoa & Almansa-Sáez, 2009). Hence, the public and private attributes are related to each other and consumers are willing to pay a premium for both environment and health gains that can be achieved through organic production systems, but the motivation ‘health’ does weigh a little heavier than the motivation ‘environment’ (Aldanondo-Ochoa & Almansa-Sáez, 2009). In addition to this, Chryssohoidis and Krystallis (2005) & Shepherd et al. (2005) also concluded that environmental motives influence organic food choice to a lesser extent than health. However there was also one study that did not agree with this, they stated that the motivation environment was stronger than the motivation health (Durham & Andrade, 2005).

A study by Cicia, Del Giudice, and Ramunno (2009) also state that the motivations health and environment are related to each other, but in a different way. Cicia et al. (2009) used a laddering interview technique (LIT) to help consumers reflect on the attributes they ascribe to a product and to explain on which personal reasons their product choices are based (Cicia et al., 2009). 45 consumers were interviewed and health and environment were perceived as the most important motivations for consumers to buy organically produced food. The authors assume that these motivations, environment and health, are related to each other. They believe that the wellbeing of an individual depends not only on a physical component related to using organic products, but also on a psychological component related to positive environmental effects (Cicia et al., 2009). Thus, by purchasing organic products the wellbeing of an individual is influenced by both health and environment. Which means that the environment also influences the personal health and that's why they are both equally important motivations.

The first study stated that environment and health are both related to each other, but it depends on the mind-set of consumers which motivation they have for purchasing organic products. Three out of the four studies concluded that health was a stronger motivation than environment. The last study claimed that the different motivations both influence personal health, so they cannot be mistaken for two separate motivations. In general, based on these different studies, it can be concluded that environment and health are both motivations that have a great influence on the consumer choice. The motivations are formed by the attitude consumers have towards either health or environment or both and it depends per person which one is stronger. The opinions about which motivation is stronger or if they have to be seen as one motivation, are divided. However, most of the studies stated that when the motivations are seen separately, the motivation 'health' on its own is slightly stronger.

6.2 Animal welfare and 'health'

According to the CPDF by Yiridoe et al. (2005) the welfare of animals is also a motivation for consumers to purchase organic products. The motivation is based on the concern about the welfare of animals. In reaction to the intensification of agricultural animal production, consumer concern about farm animal welfare has risen (Harper & Makatouni, 2002). Bennett (1996) stated that the majority of consumers is concerned about animal welfare and because they want to improve animal welfare standards they are willing to pay more for organic products. According to Harper & Makatouni (2002) animal welfare is not a strong motivator for consumers to purchase organic products. They state that the primary motivator for purchasing organic products is the concern consumers have about the health effects of conventional foods. Next to that consumers are also concerned about the welfare of intensively-produced farm animals and the environmental impact (Harper & Makatouni, 2002). Millock et al. (2004) also claimed that to a lesser extent environmental impact and animal welfare have influence on organic food choice than the attitude consumers have towards health aspects of organic products. Thus it appears that consumers are concerned about the welfare of animals but this concern does not really translate into a motivation to purchase organic products. It appears that in relation to the motivation health, health is a much stronger motivation than animal welfare.

6.3 Sensory characteristics and 'health'

After looking at the relation between the motivations health and environment and health and animal welfare, it is also interesting to discover what kind of role the motivation sensory characteristics of organic food plays in the decision-making process for purchasing organic products. Next to that it is also important to find out how strong this motivation is in relation to the motivation 'health'. Sensory characteristics are product taste, visual appeal and freshness of the product (Yiridoe et al., 2005).

As can be seen in Figure 3, section 4.1, consumers perceive organic products as tasty in comparison with the conventionally produced alternatives (Bruschi et al., 2015). Dipeolu, Philip, Aiyelaagbe, Akinbode, and Adedokun (2009) carried out a survey to also discover if consumers perceive organic products as tastier. It turned out that most of the respondents did perceive organic products as tastier than non-organic food and they also mentioned that they perceived them as healthier. Chryssohoidis and Krystallis (2005) even argued that the most important motive for consumers to purchase organic products are healthiness and better taste. Thus according to these researches consumers perceive organic products as tasty and it is also a motivator for consumers to purchase organic products.

Next to taste, freshness is also mentioned to be a motivator for consumers to purchase organic products. According to Millock et al. (2004) freshness, taste and health aspects of organic food mainly influence organic food choice. In Figure 4 it can be seen that sensory appeal is an important motivator for consumers to purchase food products in general, so both conventional and organic (Lockie, Lyons, Lawrence & Mummery, 2002). Now looking at the motivations for only organic consumers, it appears that sensory appeal is an important motivation. Health however seems to be a more important motivator (Lockie et al., 2002).

Thus, according to the different researches, taste, freshness and sensory appeal of organic products are motivations for consumers to purchase organic products. There is even claimed that the motivations taste and freshness are as strong as the motivation health (Millock et al., 2004).

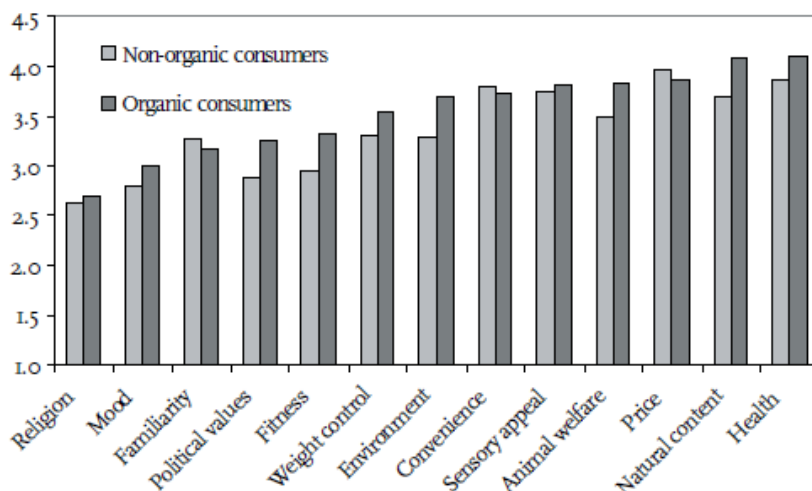


Figure 4: Motivating factors behind food choice (Lockie et al., 2002)

After analyzing the different motivations that may have an influence on consumer choice for organic products, it can be stated that environmental and health benefits are the primary motives for consumer to purchase organic products. When these motivations are seen separately, 'health' on its own is maybe a slightly stronger motivation than environment. Animal welfare and sensory characteristics also influence the choice for organic products, but not to such a great extent as health.

7. Influence of other factors on consumer choice for organic produce

In the previous chapter the role of the different motivations that influence the consumer choice for organic products, according to the CPDF, has been analyzed. The CPDF states that apart from the different motivations, there are also other factors that play a role in the consumers choice for organic products (Yiridoe et al., 2005). As can be seen in Figure 1, section 2.2.1, the different factors that also have an influence on the organic product purchase decision are: exogenous factors, knowledge and awareness about organic products, social and demographic variables and economic factors. In this chapter the influence of these different factors on the consumer choice will be presented.

7.1 Exogenous factors (certification, packaging and labelling and product availability) and knowledge and awareness

The first way to come in contact with organic products is mostly through seeing these products in either the supermarket, an organic store or on a local food market. Thus if organic products are not available in the direct environment of a consumer, this can be a main limitation for buying organic food (Bruschi et al., 2015). Bruschi et al. (2015) discovered that if the availability is a limitation for consumers to buy organically produced food, this does not seem to be related to negative perceptions or attitudes of consumers.

When organic products are available, consumers have to trust the information on the labels of the organic products, because mistrust in food certification and labels is a serious obstacle that prevents consumers from purchasing organic food (Bruschi et al., 2015). Especially in parts of the world where the process of organic standardization and certification isn't uniform and the organic sector isn't well developed, there are only a few people that truly believe in organic labels (Yiridoe et al., 2005). In Western industrialized countries however, many potential organic customers are sceptical about organic labels, which may hold consumers back from purchasing organic products (Yiridoe et al., 2005).

Apart from labels, the lack of information about the influence of 'organic' on the welfare of animals or the environment retains consumers from buying organic products (Harper & Henson, 2001). Thus, if a consumer has knowledge about organic products and is aware of them, but does not fully trust the labels of the organic product or lacks the information about the influence 'organic' has, this prevents him or her from buying organically produced foods. However, several other researchers do not agree with this; they state that the greater the awareness and additional knowledge about organically produced food, the more positive influence it has on attitudes towards organic food and levels of consumption (Chryssochoidis, 2000; McEachern, Seaman, Padel & Foster, 2005; Stobbelaar et al., 2007).

Hence, it is hard to say if more information and knowledge about organic products leads to either increased or decreased purchases of organically produced foods.

7.2 Social and demographic variables (education, age, gender, family size and occupation)

The level of education has an influence on consumer choice for organic products (Lockie et al., 2002). The number of people that consumes organically produced foods increases with both general and science education (Lockie et al., 2002). Fotopoulos and Krystallis (2002) stated that when consumers have higher levels of education, they are more willing to purchase organic products. Also when the level of education increases, the frequency of purchasing organic fruit increases. The effect on the purchase frequency of other organic products was not significant (Dimitri & Dettmann, 2012). Thus, the higher educated people are, the more willing they are to purchase organic products.

Looking at organic consumption in different age groups, women aged 30-45 with children, who have a high disposable income, include organic food in their purchase (Dimitri & Dettmann, 2012). Also especially younger households include more organic food in their purchase than older people (Paul & Rana, 2012). After people reached their 60s, the amount of organic purchases drops. A possible explanation for this could be that the income is lower, because people started their retirement (Lockie et al., 2002). Which would mean that an older age isn't a direct influence on the consumer choice, but it is influenced by another factor than age, namely income. The influence of economic factors will be discussed in the next paragraph. Nevertheless, it seems that younger people consume more organic products than older people.

As stated in the last section, women with children include organic products in their purchase (Dimitri & Dettmann, 2012). Lockie et al. (2002) stated that women are more likely to consume organic food, because women may feel greater responsibility for feeding their children. Another social-demographic variable that may influence consumer choice is family size. Dimitri and Dettmann (2012) focused on households that are single or are not single. The difference they discovered is that single households are less likely to purchase organic food products than households that were not single. The influence of occupation on consumer choice for organic products was not found in the literature. A possible explanation for this may be that this factor does not play an important role in the decision making process.

The results from all these studies indicate that a high educated younger woman with children is more likely to purchase organic products than a low educated older man without children.

7.3 Economic factors (household income, product price and price of related products)

Product price, which is often the main barrier for the demand of organic food, does not represent an absolute obstacle to the intention of consumers to buy organic products (Bruschi et al., 2015). This is because the price is stated to be a quality indicator for food products and that's why a premium price for organic products is accepted (Bruschi et al., 2015). What this means is that consumers accept the premium price when they believe they can get certain gains from organic products, such as health benefits or environmental gains. But if their income is too low, the high price of organic products in comparison with the low price of conventional produced foods, does form a direct barrier for them to purchase organic products (Aldanondo-Ochoa & Almansa-Sáez, 2009; Lockie et al., 2002).

In addition to this, as can be seen in Figure 1, section 2.2.1, economic factors are the only factors that directly influence the consumer purchase decision for organic products, because even if someone is very motivated to purchase these products, but does not have the resources, he or she will not be able to buy them.

Next to the product price, household income appears to have an influence as well. According to Loureiro, McCluskey, and Mittelhammer (2001) a higher household income purchases organically produced foods more frequently than lower income households

After looking at the different factors that may influence the consumer choice for organic produce, it has been found that it's hard to say in what kind of way or how strong knowledge and awareness and exogenous factors have an influence. Education, age, gender and family size however do have an influence. This can also be stated for economic factors, mainly household income.

In summary, consumers do perceive organic products as healthy and main reasons for this were that organic products contain less pesticides, have almost no artificial additives, are not genetically modified, and possibly contain more nutrients. Health was also an important motivation for consumers to purchase organic products. Different aspects of the HBM (Hayden, 2013), the 'consumer demand for good health' (Grossman, 1972) and the 'basis value theory' (Schwartz, 2012) gave an explanation for *why* health can be a motivation. After looking at all the different motivations individually in relation to the motivation health and all the factors that have an influence on consumer choice for organic produce according to the CPDF by Yiridoe et al. (2005), it can be stated that the motivation environment and health have a strong influence on the consumer choice. Health appeared to be slightly stronger, but the opinions about which one is stronger are divided. Education, age, gender, family size and economic factors appeared to be the factors that also have an influence on consumer choice.

8. Discussion & Conclusion

The aim of this thesis was to define to what extent perceived health effects of organically produced foods influence consumer choice, because health appeared to be a reason for consumers to purchase organic products. Overall, this thesis showed that perceived health benefits have a large influence on the consumer choice for organic products, especially because consumers believe in various health benefits from organic products. They believe that organically produced foods have a lot of health benefits due to the fact that they contain less pesticides and less artificial additives than conventional products, they contain no GMOs and they possibly have a higher nutritional value than conventionally produced alternatives. Apart from the fact that consumers perceive organic products as healthy, health was also found to be a key motivator for consumers to purchase organically produced food (Aldanondo-Ochoa & Almansa-Sáez, 2009; Fotopoulos & Krystallis, 2002). However, according to the CPDF by Yiridoe et al. (2005) this isn't the only motivation for consumers to purchase organic products. Environmental impact, animal welfare and sensory characteristics are also motivations that influence consumer choice and they were analyzed in relation to the motivation health. Environmental impact was found to be of almost as great of an influence as health, when the motivations were seen separately. The motivations that consumers have are formed by the attitude towards either health or environment and it depends per person which one is stronger. The beliefs about which motivation is stronger are divided. However, most of the studies stated that when the motivations are seen separately, the motivation 'health' on its own is slightly stronger. A possible explanation for this, according to Magnusson et al. (2003), is that people are at first more egoistically motivated and that is why health is the main motivator. If a person can achieve some personal side-benefits from doing something for the environment, and in this case that would be purchasing organic products, only than environmental impact can be the main motivator.

The CPDF stated that next to the different motivations, there are also other factors that can have an influence on consumer choice for organic produce. According to the results the factors that can have an influence are certain social and demographic variables and economic factors. It is showed that highly educated young women with children, who have a high disposable income are more likely to purchase organic products (Dimitri & Dettmann, 2012).

The results of this thesis show that the motivation 'health' for purchasing organic food is especially influenced by the belief consumers have about organic products. Different aspects of the HBM gave an explanation for this, namely that if someone perceives organic products as beneficial for their health and does not perceive to many barriers to purchase these products they will be motivated to buy organic products. In addition to the HBM 'the demand for good health' explains the motivation for purchasing organic products by stating that consumers invest in their health buy purchasing organic products, because nobody would want their health to deteriorate. At last the 'basis value theory' stated that consumers are motivated because according to Aertsens et al. (2009) health is linked to security and security is one of the values everyone strives for. Thus, the motivation health has a great influence on consumer choice for organic produce.

The CPDF by Yiridoe et al. (2005) mapped different motivations and factors that have an influence on consumer choice. However, this model did not state that the importance of the different motivations and factors, which was analyzed in this thesis. After finding a lot of literature about the influence of almost all these different motivations and factors, it can be stated that this framework includes many of the important motivations and factors that influence the consumer choice for organic produce. And so this thesis supports the strength of this framework. However, using this framework also ensured that only these motivations and factors were taken into account. Thus maybe there are also other motivations and factors that influence this consumers choice that are not examined in this thesis.

Like all researches, this thesis has some strengths and limitations. Strengths are that different studies which focused on different motivations and factors were used. Next to that the research populations that were used were from a lot of different nationalities, which makes it more valid to draw a general conclusion about motivations and factors that may have an influence on consumer choice for organic produce. Limitations are that a lot of researches draw a lot of different conclusions, which makes it difficult to point out with absolute certainty that health is the main motivator for purchasing organic products. Also for this thesis only the CPDF by Yiridoe et al. (2005) was used and due to time limitations it was not possible to include another model. By using another model motivations and factors that have an influence on consumer choice for organic produce could be compared to each other to make sure that there are not motivations or factors missed in the analysis.

Future research could investigate if this attitude consumers have about health effects is also influenced by for example marketing strategies about organic products. Further the used literature focused on organic products in general, so future research should analyze if consumers have different motivations for different kinds of organic products. Also the motivation 'value' that is included in the CPDF (Yiridoe et al., 2005) was not found in the used literature, so in future research this concept should be examined.

The demand for organic products has been growing (Lim, Yong & Suryadi, 2014) and this thesis showed that the perceived health effects play an important role in the consumer choice for these products.

9. References

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