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**THE ROLE OF NUTRITION AND HEALTH CLAIMS IN THE PURCHASING
OF FUNCTIONAL BEVERAGES**

Effects on purchasing intent among Finnish and American consumers

Master's Thesis in
International Business

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ABSTRACT

The motivation for this thesis emerged from the era of health-oriented eating. Consumers are increasingly more aware of the impact proper nutrition has on the state of health and more willing to adopt health-oriented changes into their diets and eating habits. Understanding how functional foods and beverages fit into this development and how health and nutrition claims as marketing efforts shape individuals purchasing intent is relevant for individuals, companies, and societies in promoting healthy eating.

The research question of this thesis focuses on the role of health and nutrition claims in influencing the purchasing intent of functional beverages among Finnish and American consumers. Additionally, it aims to shed light on the motivations behind functional beverage purchases, explore how claims are used as a mean of marketing, and study the interplay between consumer characteristics and claims advertising – all from a cross-cultural point of view.

The findings suggest that functional beverages do not share the same exceptional, positive position in the minds of consumers as other functional products. The concept of fortified waters and the claims used in them are more prone to criticism and distrust due to the health-enhancing effects being perceived as an added benefit, not a “solution” to a health problem. Furthermore, significant differences between Finnish and American consumers exist; while the former perceives consuming fortified water as a balancing act between the utilitarian value of staying healthy and the hedonic value of enjoyment, the latter acts more on personal preferences indicating a more polarized relationship between the two values.

Research limitations, including the regional scope and specific characteristics of the study samples and research design, affect the generalizability of results to a wider population. Such action should be taken with caution.

KEYWORDS: functional food; functional beverages; fortified water; health claims; nutrition claims; marketing, decision-making; purchasing intent

1. INTRODUCTION

Food consumption in modern societies has experienced multiple developments during recent years marking the era of health-oriented eating (Niva 2007). The contemporary public discussions regarding food emphasize its role as not only a mean to get essential nutrients but as a way to improve individuals' physical and mental well-being while preventing diseases (Jauho & Niva 2013; Menrad 2003). Consumers are, therefore, increasingly aware of the impact proper nutrition has on the state of health and are more willing to adopt health-oriented changes into their diets and eating habits (Niva 2007). This development has significant implications for societies globally as healthier food decisions can help ease the burdens overconsumption and obesity among other nutrition-related diseases impose on healthcare systems (Kaur & Singh 2017; Menrad 2003).

Another development within food consumption is a phenomenon regarded as the “scientification” of eating. Nutrition and biomedical research together with technological developments bring forth detailed knowledge on the relationship between nutrition and health. (Niva 2007.) This allows food industries to innovate and produce novel food products with specific health benefits and reformulate existing ones to match the desires of health-conscious consumers (Jauho & Niva 2013; Nielsen 2015). Food attributes such as sugar, trans and saturated fat, cholesterol, and sodium are reduced or eliminated from products whereas protein and fiber are added to products. (Nielsen 2015.) This growing awareness among consumers coupled together with scientific advancements have contributed to the emergence of a new food category referred to as *functional foods*. These functional products are foods that have health-enhancing effects beyond ordinary nutritional ones yet are consumed as part of a normal diet (de Boer & Bast 2015).

According to the Global Health and Wellness Report by Nielsen (2015), consumers globally look for functional foods that either reduce the risk of disease and/or promote good health. Food manufacturers are responding proactively to this trend by bringing novel – and *highly* profitable – functional products to the market which purport specific health benefits. One of the most prominent and fastest growing segments within the functional food sector is the functional beverages family which is expected to reach a global market value of 93.6 billion US\$ in 2019 (Cision 2018; Marete, Jacquier &

O’Riordan 2011). Health-consciousness and busy lifestyles of today’s consumers along with the idea of “healthiness-on-the-go” have prompted a rising demand for convenience beverages with functional attributes. Ingredients such as vitamins, amino acids, probiotics, and Omega-3 fatty acids are added to beverages to provide specific health benefits (e.g. boosting metabolism, controlling inflammation) and/or reduce the risk of disease (e.g. fatigue, nutritional deficiencies). (Mordor Intelligence 2018.)

The above-mentioned health trends are also visible in food packaging, where presented information is more and more commonly linked to health benefits (Masson, Debucquet, Fischler & Merdji 2016). Healthy food decisions are facilitated through nutrition information such as labelling and health and nutrition claims. Although the underlying purpose of these labels and claims is to improve decision making by conveying relevant food content and health benefit information to the consumers, they can also be misunderstood, lack scientific proof, be vague or even false. (Provencher & Jacob 2016; van Trijp & van Der Lans 2007.) Several cases have been reported where companies have used false or unproven claims to increase profits and been found guilty of deceptive marketing and misleading consumers. These cases have called for stricter regulations of food companies’ communication strategies. (Katan 2004.)

Based on experience, functional foods’ and beverages’ potential should be promising. Their definition – and main selling proposition for that matter – of being products consumed as part of a normal diet but being modified to deliver health-enhancing effects beyond ordinary nutritional ones seems to solve the dilemma between health and habits. As consumers want to buy healthy foods yet simultaneously are reluctant to change their (unhealthy) eating habits, functional foods enable individuals to lead a healthier lifestyle without changing their diet. However, based on previous studies, accepting functional foods as the solution to the health vs. habits dilemma varies between countries and Europeans have been found to be less accepting in comparison to Americans. Since consumers can be expected to substitute conventional food products with functional ones only if the latter is perceived comparably healthy, country- and culture-dependent differences in acceptance rates may be clarified by exploring different perceptions of how a food product is deemed healthy. (Bech-Larsen & Grunert 2003; Jonas & Beckmann 1998.) Thus, studying the use of health and nutrition claims – methods utilized in

conveying health information and influencing the healthiness perception – in the marketing of functional beverages from a cross-cultural point of view proves to be important.

1.1. Research interest and gap

This thesis is based on a personal interest in healthy eating and food products containing health-enhancing attributes. Studying how health-conscious purchasing decisions are made and what impacts them is interesting as it has significant implications not only on an individualistic but also on a societal level. Obesity and other nutrition-related health issues such as high blood pressure and risk of cardiovascular disease are serious global problems affecting the life expectancy of societies negatively while simultaneously increasing the costs of health care (Kaur & Singh 2017; Menrad 2003). Although it is ultimately consumers' decision which foods they decide to buy and whether they take care of their state of health, large consumer goods companies and their marketing units are responsible for providing the market with countless of high-calorie treats and putting billions into directing consumers' decisions and behaviour into buying them (Cosgrove-Mather 2006). With food products, many consumers fail to pay attention to the number of calories and nutritional value when foods are shown as healthy even if they are not (Chandon & Wansink 2007). This raises a dilemma between market demand and the sense of social responsibility – or lack thereof – in companies (Cosgrove-Mather 2006).

The purpose of health and nutrition claims is to help consumers make better-informed purchasing decisions and food choices (Verbeke, Scholderer & Lähtenmäki 2009). However, some food companies have capitalised on this with claims advertising that merely creates an illusion that one is making a health-conscious decision with the reality being something else (Gilliland 2016). This has resulted in the controversial and complex nature of food advertising and consumers' scepticism towards health claims (Horovitz 2015). Therefore, studying the use of health and nutrition claims in the marketing of functional foods creates the possibility to explore what kind of *scientifically substantiated* claims attract consumers and how they can help facilitate and support healthy purchasing decisions. Building a framework for ethically sound and socially responsible marketing among functional foods is of great importance as the underlying intention of the food

category is to enhance health and/or prevent diseases. Misleading, scientifically invalid, or false claims take away from the socially conscious purpose of functional foods.

This study on the role of health and nutrition claims in the marketing of functional beverages and the impact on decision making among Finnish and American consumers strives to advance the study field of functional food consumption but also on a broader scale the international marketing communications discipline within the context of food. Previous studies have explored the use of various marketing communications methods such as claims, symbols, and labels purporting health-related information and examined their role in consumer behaviour. These studies have been conducted on several different product categories ranging from breakfast cereal to packaged meals (e.g. Shaefer, Hooker, Neal & Stanton 2016) and in several different countries (e.g. North America, Schaefer et al. 2016; Scandinavia, Neuman, Osowski, Sydner & Fjellstrom 2014; and Southern Europe, Carrillo, Fiszman, Lähteenmäki & Varela 2014). Cross-cultural studies within this field have also been conducted mostly between countries exhibiting different food cultures (e.g. Denmark and Spain, Carrillo et al. 2014), different cultural values (e.g. Denmark and the U.S., Bech-Larsen & Grunert 2003), and/or different topic-specific consumer perceptions (e.g. food-neophobia in Russia and Germany, Dolgoplova, Teuber & Bruschi 2015). However, studies comparing Finland and the U.S. are almost non-existent and studies exploring the use of health-related information on beverages *specifically* very limited – this thesis aims to change that.

In addition to this study advancing the field of international marketing communications in the context of food, the thesis also strives to contribute to the novel study field of functional foods. It does so by addressing a research gap in three domains. First, functional beverages and the use of health and nutrition claims in them have not been studied widely by academia despite the segment being the fastest growing within the functional food sector (Marete et al. 2011). Many research papers have focused their efforts on health and nutrition claims role in the marketing of dairy products, oils and fats (e.g. margarine spreads), and confectionary (e.g. Padhi et al. 2015; van Kleef, van Trijp & Luning 2005). Second, studies that have been conducted within the field of functional beverages have focused on dairy- or fruit-based drinks and claims fitting to these categories (e.g. Rebouças, Rodrigues, Freitas, Ferreira & Costa 2017; Sabbe, Verbeke,

Deliza, Matta & van Damme 2009). This paper takes a unique stance as it focuses on vitamin and mineral enriched water-based beverages (i.e. fortified waters). Third, although studies on health claims have been conducted mostly in the United States (U.S.) and in Northern European countries (Masson, Debucquet, Fischler & Merdji 2016) to which the context of this thesis also applies to, comparisons between the U.S. and Finland have not been presented in earlier studies. This thesis achieves that by providing cultural and other contextual differences between the two countries and their consumers in the process of acquiring functional beverages prompted by health and nutrition claims.

1.2. Purpose, research question and objectives

As the role of healthy food products is becoming more and more important and consumers globally are more health-conscious than ever (Gustafson 2017), studying the consumption and purchasing of food products with health benefits is highly relevant. Furthermore, the significant rise in the consumption of *functional beverages* and the consumer trends behind it (Cision 2018; Marete et al. 2011) highlight the suitability of this functional food segment for future research. The study focuses on the U.S. and Finland making it possible to study cultures with varying diffusion rates, regulatory frameworks, and consumer characteristics. Consumers' attitudes towards the product grouping differ between the two nations due to cultural differences in general perceptions about health, nutritional awareness, and perceived importance and characteristics of functional foods among other things. As values are abstract beliefs about desirable goals that have a significant impact on attitudes and behaviours, it is sensible to use differences in cultural values as the basis for selecting countries (i.e. Finland and the U.S.) to be compared in this study. (Bech-Larsen, Grunert & Poulsen 2001.) The cultural differences presented in this study have been based on Hofstede's cultural dimensions and the differing country scores between Finland and the U.S.

The aim of this research is to deepen the overall understanding and knowledge on the topic of health and nutrition claims' impact on the purchasing of functional beverages – more specifically of fortified waters. Understanding how marketing through claims affects consumers' purchasing intent can help facilitate healthier purchasing decisions in terms of food. Hence, the research question is as follows:

(1) How do health and nutrition claims affect the purchasing intent of functional beverages among Finnish and American consumers?

To support the research question and guide the direction of the thesis, three objectives are established. These objectives will make the process of answering the main research question more explicit and clarify the action steps needed in the writing process. Hence, the objectives are:

(1) To examine Finnish and American consumers' motivations for buying functional beverages

(2) To explore the use of health and nutrition claims as a marketing mean, and examine the effect on purchasing decisions

(3) To study the interplay between consumer characteristics and claims advertising from a cross-cultural point of view

1.3. Scope of the study

This section defines what has been excluded intentionally from the research and clarifies the key terms used in the thesis. The delimitations and definitions of the study are presented in the following subsections.

1.3.1. Delimitations

As the purpose of this study is to examine the impact health and nutrition claims have on the purchasing intent of functional beverages among Finnish and American consumers some delimitations are present and need to be elaborated further. First, the thesis will only focus on functional food products. As there are many definitions for the term but no official or commonly accepted definition, this research will use the working definition by the European Commission Concerted Action on Functional Food Science in Europe (FUFOSE) which is elaborated in the subsection *definitions*. Therefore, to be in line with the working definition, the thesis will not take into account products considered organic, naturally healthy foods, or dietary supplements, for instance.

Second, as the functional food and beverages market is diverse in terms of products, the scope of the study has been narrowed down to ensure relevance and generalisability of research results. Therefore, functional beverages – the fastest growing functional segment (Cision 2018) – is chosen to be the focus of the study due to its prominent stance in both the selected functional food markets. However, as there are many different types of functional beverages the range of this research has further been refined by choosing to focus solely on fortified waters. This particular product family has not yet received attention within the functional food research domain (cf. dairy- or fruit-based drinks) making it an attractive alternative and this thesis a novel approach advancing the study field of functional food consumption.

Third, as the aim of the study is to explore the impact health and nutrition cues have on the purchase intent of health-enhancing products, large entities of the consumer buying process will fall out of the scope of this research. Focus will be laid only on the point of purchase where package information such as health and nutrition claims have an impact. This leaves out other essential parts of the purchasing process such as need recognition, information search, and post purchase behaviour (Bareham 1995: 5). Furthermore, this study will focus solely on personal and cultural factors impacting purchase leaving out other influencing variables such as psychological and social factors. Fourth, although previous research has acknowledged other product characteristics that might impact consumer preference of functional beverages (e.g. Kaur & Singh 2017), this research will only take into account health and nutrition claims as information cues. Therefore, influential determinants such as taste, price, and other visual or sensory cues in packaging will be left out of the study even though these might have an impact on the purchasing intent of consumers in a real-life setting.

Finally, the context of the study has also been narrowed down to only consider the food and nutrition industries and consumers in the United States and Finland. These two countries have been chosen based on access to research respondents and differences in the food and nutrition industries and consumption patterns. Furthermore, examining two countries and their consumers assures that the international perspective is present and that cultural comparisons can be made. The number of countries (i.e. two) was based on the fact that a more in-depth cross-country analysis on functional beverage purchases could

be made. To conclude, this thesis will focus solely on the purchasing intent and decision making of functional beverages prompted by health and nutrition claims. As a disclaimer, the purpose of this research is not to study or determine whether functional beverages actually convey significant health benefits nor is the intention to make dietary suggestions as the effectiveness of such products on different individuals cannot be certified.

1.3.2. Definitions

For clarification, the most significant terms of the thesis are defined as follows.

Term	Definition
Functional food	<i>“Refers to a food that beneficially affects one or more target functions in the body beyond adequate nutritional effects in a way that is relevant to either an improved state of health and well-being and/or reduction of risk of disease. It is consumed as part of a normal food pattern. It is not a pill, a capsule or any form of dietary supplement.”</i> (European Commission 2016).
Functional beverage	Refers to a non-alcoholic drink containing ingredients such as vitamins, minerals, amino acids, or added fruit and vegetable ingredients which are claimed to have specific health benefits beyond those of regular nutrition (Medical Dictionary 2018).
Fortified water	Refers to a functional beverage with added fortifying compounds such as minerals and vitamins. Commercial names in the marketplace include fortified water, vitamin water, power water, and fitness water. (Mohammadi et al. 2015.)
Nutrition claim	Refers to a statement or a suggestion that a food contains beneficial nutritional properties, such as “low fat”, “no added sugar”, and “high in protein” (EFSA 2018).
Health claim	Refers to any statement that certain health benefits can result from consuming a given food, for example a food can help reinforce the body’s natural defences (EFSA 2018).
Purchase intent	Refers to <i>“the sum total of cognitive, affective, and behavioural towards adoption, purchase, and use of the product/service”</i> (Dadwal 2019).

Table 1. Definitions for most significant terms

1.4. Structure of the study

The outline of this thesis follows the general structure presented widely in academia (e.g. Robson 2002; Saunders, Lewis & Thornhill 2016: 531). It fits particularly well the deductive approach of this research where literature is first reviewed to establish the current state of knowledge on the topic at hand. This further guides the adoption of a fitting method and finally the process comes to a close when findings are reported in a factual manner and their contribution to the state of knowledge is considered carefully. (Saunders et al 2016: 531.) To specify, the paper begins with the introduction consisting of the background, interest, research gap, and scope of the study. Furthermore, research question and supporting objectives are presented in this section. Next, the focus moves onto the literature review and the theoretical framework of the study, namely, functional food and beverages environment, claims advertising, and purchasing of functional beverages. Subsequently, the paper discusses the methodological choices (e.g. research philosophy and design) and moves onwards by presenting the empirical findings and their linkage to the theoretical framework of the study. Finally, the conclusions, limitations, implications, and ideas for future research are presented. The structure of the thesis is illustrated in Figure 1.

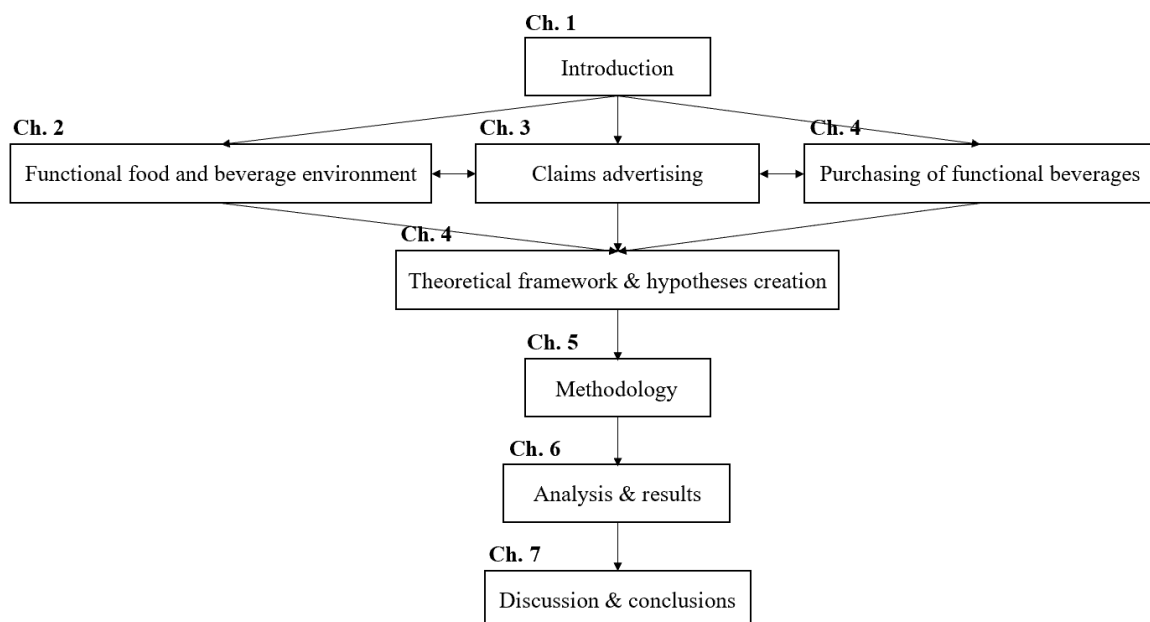


Figure 1. Thesis structure

2. THE FUNCTIONAL FOOD AND BEVERAGES ENVIRONMENT

The advancements in life sciences and technology together with the growing acceptance of the relationship between nutrition and health among the public has enabled the emergence of functional foods and beverages (Roberfroid 2000; van Kleef et al. 2005). Despite the lack of a unanimous definition for foods conveying health benefits, the term *functional foods* has established its presence in the media and among food manufacturers both in the U.S. and Finland (Urala, Schutz & Spinks 2011). However, as the term itself is regulated by law only in its birth country Japan (Jones & Varady 2008), issues arise as to which products can be regarded as functional (i.e. having health promoting/disease preventing attributes). Therefore, the vagueness of the term may lead to consumer confusion instead of consumer confidence in functional products (Urala et al. 2011).

Regardless of the possibility of consumers rejecting functional foods based on the lack of definition, the functional food and beverage industry is experiencing significant success globally with sales estimated to peak 192 billion US\$ by 2020 (Kaur & Singh 2017). Furthermore, the functional beverages family – the fastest growing functional segment – is expected to top a market value of 93.6 billion US\$ by 2019 (Cision 2018). Global consumer trends such as wellness-oriented lifestyles, “healthiness-on-the-go”, and rising awareness in health-related matters function as notable growth factors for the industry. Consumers are looking for healthy convenience drinks to fit their busy lifestyles and have the overall intention of staying healthy. Especially millennial consumers are keen on wellbeing and the most prominent consumer grouping advancing the successfulness of health-enhancing functional products. (Gustafson 2017; Mordor Intelligence 2018.)

The following subsections will elaborate the functional food and beverages environment further by describing the regulatory frameworks, utilized definitions, market characteristics, and functional beverage categories in the target countries of Finland and U.S. After this chapter a comprehensive overview on the context of the thesis has been established and a more precise examination regarding health and nutrition claims and the purchasing of functional beverages can be provided in the following chapters.

2.1. The emergence of functional food

Functional food as a term is considered relatively new dating back to the early 1990s in Japan where a policy referred to as FOSHU (foods for specified health use) was initially introduced. FOSHU, regarded as the first regulatory framework for functional foods, enabled the production and marketing of health-promoting foods and as an initiative spurred growth within the global functional foods market – especially in the U.S., the European Union, and Canada. (Aluko 2012: 7.) The policy came into effect in 1991 and marked the date for legally authorized commercialization of some functional foods while simultaneously approving the presentation of a health claim (Arai et al. 2014). One could, however, argue that the development of health-promoting foods has been in the making for a long time and has its roots in the early civilization. From the popular quote from Hippocrates (460–370 BC) “Let food be thy medicine and medicine be thy food” to the ancient Chinese saying, “Medicine and food are isogenic”, food as a provider of nutrients allowing our body to function properly and as to having a role in disease prevention have been well-established facts for long (Aluko 2012: 7; Arai et al. 2014).

Recently, modern Western societies have studied functional food science vigorously and the food consumption field and related policies focus nowadays on preventive measures against diseases (Arai et al. 2014; Niva 2007). Healthy eating as a mean for health promotion and/or disease prevention is not only a widely discussed topic in the political programmes but also in public discussions. This development within the field of food together with the “scientification” of eating has created a beneficial stand for functional foods. Rapid progress in medicine and life sciences studying the interconnections between health and nutrition, or more precisely, between food components and disease risks, brings science to the dinner table. (Niva 2007; Niva & Mäkelä 2007.) Moreover, technical developments in food manufacturing and engineering allow the development of products with innovative technologies and the enrichment of food with new, health-enhancing ingredients (van Kleef, van Trijp, Luning & Jongen 2002). As summarized by Niva and Mäkelä (2007), consumers growing interest towards health and healthy eating, the search for market differentiation and added-value products within the food industry, ageing populations, and the need to cut public health care costs have opened a huge opportunity for functional foods and the companies behind them.

2.2. Regulatory frameworks

Functional foods as a food product category is complex and multifaceted due to the fact that many countries lack the legislative definition for the term. Hence, separating functional food from conventional food is difficult even for food and nutrition experts. (Niva 2007.) However, the European Union and the U.S who were quick to adopt the food product category after the FOSHU policy, have various regulatory bodies that govern the marketing and manufacturing of health-enhancing food products (Aluko 2012: 7). In the EU, functional foods have not been defined by legislation, but legal efforts are directed towards controlling the use of health claims in packages and marketing (Niva 2007; Serafini, Stanzione & Foddai 2012). In other words, product compounds, plants, and ingredients are regulated only on a national level (Serafini et al. 2012). However, there exists a working definition for functional foods in the EU that defines the products in the category as foods containing health promoting and/or disease preventing, biologically active components which are intended to be consumed as part of a normal food pattern. (European Commission 2016; Serafini et al. 2012.)

2.2.1. Regulations in Finland

As the definition for functional foods is not clear on a global or EU level, it also lacks accuracy in Finland. According to a preliminary report on functional foods in Finland made by the Research Institute of the Finnish Economy, a health-enhancing product (i.e. functional food) is one that contains a compound or a feature that has a positive impact on one's health. Additionally, the impact must be statistically significant and indicated in at least two independent clinical tests¹. (Hernesniemi 2004.) As a member state of the EU, Finland also regulates only the nutrition and health claims that are used in the marketing of functional food. Evira, the Finnish Food Safety Authority, controls the use of health and nutrition claims in Finland, but each claim needs to be authorized first by the European Commission (Evira 2018). A more detailed description on the definitions and use of health and nutrition claims will be presented later in the thesis.

¹ Clinical tests must be conducted with a normal daily dosage, in normal conditions, and to a sufficient population (Hernesniemi 2004).

2.2.2. Regulations in the U.S.

In the U.S., functional foods are regulated by the Food and Drug Administration (FDA), but the product group is not specifically defined by law (FDA 2018a; Serafini et al. 2012). The FDA works under the authority of two acts: (1) the Federal Food, Drug, and Cosmetic Act of 1938 which regulates all foods and food additives and (2) the Dietary Supplement Health and Education Act of 1994 which controls dietary supplements and their ingredients. (Serafini et al. 2012.) The two acts already indicate a broader definition for functional foods. In Europe the definition for functional food only includes foods designed to improve health whereas in the U.S. functional foods not only contain nutritionally enhanced foods but also supplements and naturally healthy foods. Due to the broader definition, the term *nutraceuticals* is used in the U.S. interchangeably with the term functional food although subtle differences between the two exist. Functional foods are considered as products that resemble conventional foods but have demonstrated health benefits. Nutraceuticals, on the other hand, are natural derived commodities that are found in foods, dietary supplements, and herbal products but used in the form of pills, capsules, and liquids. (Shahidi 2012.) It is important to understand the difference between the two terms and their use in the U.S. context.

Country	Functional food definition
Japan ²	Foods containing ingredient with functions for health and <i>officially approved</i> to claim its physiological effects on the human body. Intended to be consumed for the maintenance/promotion of health or specific health uses by people who wish to control health conditions.
European Union ³	A food that beneficially affects one or more target functions in the body beyond adequate nutritional effects in a way that is relevant to either an improved state of health and well-being and/or reduction of risk of disease. It is consumed as part of a normal food pattern. It is not a pill, a capsule or any form of dietary supplement.
Finland ⁴	A product that contains a compound or an attribute with a positive effect on health. The impact on health must be statistically significant and scientifically proven in at least two independent clinical studies.
USA ⁵	Substances that provide essential nutrients often beyond quantities necessary for normal maintenance, growth, and development, and/or other biologically active components that impart health benefits or desirable physiological effects.

Table 2. Functional food definitions based on region

2.3. Functional food market

In line with the increasing attention and concern towards health, functional food is attracting interest in the global marketplace (Bagchi, Preuss & Swaroop 2016). The absolute size of the product group's market within EU and globally is challenging to estimate as the functional food definitions vary and there is no clear, universal guideline which food products are considered functional (Siró, Kápolna, Kápolna & Lugasi 2008; Stein & Rodríguez-Cerezo 2008). For instance, in many cases in the U.S., the functional food market size is estimated for nutraceuticals and functional foods combined whereas the term nutraceuticals is rather unknown in Europe and left out when considering the functional food environment. Therefore, country- or region-specific differences exist in the way the functional food market size is calculated and estimated. However, based on

² MHLW Japan (2018). Japanese Ministry of Health, Labour and Welfare, Foods for Specified Health Uses (FOSHU).

³ European Commission (2016). European Commission, Concerted Action on Functional Food Science in Europe (FUFOSE), working definition.

⁴ Hernesniemi (2004). The Research Institute of the Finnish Economy ETLA, a preliminary study on functional food cluster in Finland

⁵ Marirosyan & Singh (2015). Institute of Food Technologists IFT.

the definition that functional food products are products to which ingredients with additional health-value have been added to, the global functional food market is estimated at 33 billion US dollars (Hilliam 2000). Other scholars have suggested the market value to be larger, Sloan (2002) at 47.6 billion US\$ and Benkouider (2004) at 61 billion US\$. Consistent in all the above-named research papers is, however, the fact that the market size is expected to grow rapidly in the future. Kaur and Singh (2017) projected the functional food and beverages market's estimated worth to peak 192 billion US\$ by 2020. United States represents the largest market segment for functional foods followed by Europe and Japan. In total these three main markets contribute over 90% of all functional food product sales. (Benkouider 2004.) The U.S. being the most dynamic and prominent segment, their estimated market share is over 50% and the functional food market constitutes 2-3% of the U.S. food market as a whole (Menrad 2003). Significant growth is expected since the regulatory framework in the U.S. is more favourable than that of Europe (Hilliam 2000). The European market share of functional foods is estimated between 4 to 8 billion US dollars varying on the used definition (Menrad 2003). The value of 2003 has, however, increased from that to 15 billion US\$ by 2006 indicating again the notable growth of the market (Kotilainen, Rajalahti, Ragasa & Pehu 2006). However, the functional food market share of the total European drink and food market is still below 1%. Another aspect worth noting is the heterogeneity of the European market and the large regional differences that exist in the use and acceptance of functional foods. For instance, consumers interest towards functional food products is particularly higher in Central and Northern European countries than in the Mediterranean countries where consumers value natural and fresh foods since they are seen more beneficial for health. (Menrad 2003; van Trijp 2007.) Consumers acceptance of functional food and the cultural differences will be covered more in depth later in the thesis.

The functional food cluster in Finland is significant in relation to the size of the country. According to the preliminary study on functional food in Finland by Hernesniemi (2004), the total revenue of companies either producing functional food end products or ingredients to functional foods is estimated at over 200 million euros. Furthermore, significant investments are made to research and education units within the field of functional food – the yearly researcher investment being roughly 100 million euros. Among the EU member states, Finland is one of the most prominent countries when it

comes to the R&D of functional food products. Quality ingredients, high-level and extensive research, and good availability of technology risk financing has created an efficient platform for the development of functional food products in Finland. Furthermore, since the knowledge of Finnish consumers is at a relatively high level, they have been open-minded as to trying out novel foods. (Hernesniemi 2004.)

2.3.1. Functional beverages market

The functional beverages market is the fastest growing segment within the functional food sector – being valued at over 80 billion US\$ in 2015 (Marete, Jacquier & O’Riordan 2011; Cision 2018). The segment experienced annual growth of 14% in the U.S. between the years 2002 and 2007 and in 2012 functional beverages constituted 59% of the total U.S. functional food market (Sloan 2012). On the other hand, the functional beverages market in most of the EU member states is still relatively small and fragmented in comparison to the U.S. In 2003, 20 percent of all sales of functional beverages took place in Europe whereas the Asia-Pacific and Australasia together with the Americas constituted over 40 percent of all sales. According to Menrad (2003) and Stein and Rodríguez-Cerezo (2008), Germany is considered as the only country having a sizeable functional beverage market with a market volume of 89 million US\$ in 1999 and overall high consumption of functional drinks. However, Nordic consumers have expressed great interest towards products containing health benefits which indicates growth (Scott-Thomas 2013).

The rise in the health care and wellness awareness together with busy lifestyles – especially among the millennial generation – has prompted a growing demand for “healthiness-on-the-go” beverages with functional attributes. Consumers are particularly looking for the use of natural ingredients and variations in daily beverages including hydration with performance and preventive measures for specific health conditions. (Mordor Intelligence 2018.) The global functional beverages industry is expected to reach a market value of 93.6 billion US\$ by 2019 and healthy growth is expected especially in the U.S., UK, and China (Cision 2018). Furthermore, significant potential can be seen in countries such as Australia, India, and Russia (Mordor Intelligence 2018). The growth estimates and consumer trends on the rise highlight the significance of functional beverages as the product group and its relevance for further research and studies such as

this thesis. The U.S. and Finland as countries of interest, present an interesting opportunity to study differences between the largest functional beverages market and a much smaller, yet prominent market characterized by highly health-conscious consumers and their relatively positive attitude towards functional products (Niva 2007).

2.4. Attributes of functional products

The ambiguous definition for functional foods globally affects the marketing of functional food and the evaluation of food products that can be justified as functional (Jauho & Niva 2013). As functional foods are seen as products that are not needed for the body to function but still provide physiological benefits that contribute to better overall health, questions arise as to how to measure and substantiate the generated health effects (Jones & Varady 2008). Furthermore, defining what is a health benefit ‘beyond adequate nutritional effect’, what counts as an ‘improved state of wellbeing’, and what is a nutrient requirement versus what is a functional food health benefit proves to be challenging due to the generic definitions (Jauho & Niva 2013; Jones & Varady 2008). Some functional food products have a clear target effect, such as cholesterol-lowering spreads, while others indicate a promise to improve general wellbeing or resistance to illness, such as bioactive bacteria in dairy products. As the term functional food is defined by law only in Japan (Jones & Varady 2008), other countries for example in the European Union have addressed definitional issues by regulating the use of nutrition and health claims on functional food products, not the actual category per se (Jauho & Niva 2013).

There are multiple different ways of how to classify functional foods including: (1) food group (e.g. beverages, oils & fats), (2) diseases expected to be prevented or reduced (e.g. diabetes, osteoporosis), (3) physiological impact (e.g. immunology), (4) biologically active ingredient category (e.g. minerals, antioxidants), (5) physico-chemical attributes (e.g. texture, colour), and (6) production process (e.g. chromatography) (Juvan, Bartol & Boh 2005). As the purpose of this thesis is to examine the functional beverages group, a general description of the product cluster will be provided together with a more detailed description on the main product grouping – namely fortified waters.

2.4.1. Functional beverages

Functional beverages are referred to as the most active product group in the functional food family. This is due to many reasons related to ease of meeting consumer demands (e.g. content, appearance, size, and shape), ease of distribution and storage (refrigerated and shelf-stable products), and ease of developing products with desirable nutrients and active compounds. (Corbo, Bevilacqua, Petruzzi, Casanova & Sinigaglia 2014.) In fact, functional beverages are known for their high concentrations of functional ingredients. Some of the products in the functional beverage category are ready to drink teas, vitamin waters, sports, performance, and energy beverages (Wootton-Beard & Ryan 2011). Further, Corbo et al. (2014) have categorized functional beverages into four groups: (1) dairy-based beverages enhanced with probiotics or other bioactive components (e.g. ω -3 fatty acids), (2) vegetable and fruit beverages complemented with polyphenols, soluble fibre, vitamins, and minerals, (3) sports drinks enriched with electrolytes (e.g. potassium, sodium, calcium, and magnesium), vitamins, and carbohydrates, and finally (4) energy drinks that often contain an “energy mix” of caffeine paired with B vitamins, taurine, and guarana. However, one important product grouping missing from the categorization is that of water-based functional beverages – of which fortified waters is one example.

2.4.2. Fortified waters

Water is considered the best carrier of essential nutrients which is why it is enhanced and enriched to target specific health concerns (Dutra-de-Oliveira, Marchini, Lamounier & Almeida 2011). Most commonly water-based functional beverages are fortified with minerals (e.g. calcium, magnesium, zinc) and vitamins (e.g. D, B₆, B₁₂). These fortified waters aim to supplement diets with micronutrients and folate while promoting certain health conditions (e.g. bone health, proper immune system) and preventing specific diseases (e.g. nutrient deficiencies, cardiovascular diseases). (Mohammadi, Khashayar, Tabari, Sohrabvandi & Moghaddam 2016.) Much epidemiological evidence exists to support the claim that vitamins and minerals have a vital role in the human organism (Mohammadi et al. 2016; Özer & Kirmaci 2010). The most frequently stated health benefits of the above-mentioned vitamins and minerals are listed in Table 3.

Mineral- or vitamin-enriched water-based functional beverages are typically commercially promoted as fortified waters, power waters, and vitamin waters (Foster & Vasavada 2003: 17). The aim of these products is to provide a reasonable portion of the daily intake recommendation for vitamins and minerals in each serve. According to Mohammadi et al. (2016), the fortification of water has made a significant contribution to better intake of these nutrients. Fortified waters should, however, not be confused with flavoured waters which are enriched with flavouring aroma or additives such as vitamin- or energy-producing herbs (Mohammadi et al. 2016). Most of these flavoured waters contain, however, sweeteners (e.g. sucralose, aspartame) and are therefore considered as a replacement for soft drinks among consumers (Backas 2009; Mohammadi et al. 2016).

Nutrient	Benefit
Calcium (Ca)	Calcium has a vital role in muscle contraction, bone structure, nerve impulse transmission, cell signalling, and blood clotting. Sufficient intake of Ca lowers the risk of osteoporosis, rickets, and hypertension. (Cotruvo 2006.)
Magnesium (Mg)	Magnesium plays an important role in synthesis of protein and nucleic acid and is required for normal insulin sensitivity and vascular tone. Mg assures proper function of immune system and like Ca is an essential preventive mineral against osteoporosis. (Cotruvo 2006.)
Zinc (Zn)	Zinc is a vital mineral for a healthy immune system, correct synthetization of DNA, healthy childhood growth, and wound healing (NIH 2016a).
Vitamin D	Sufficient intake of vitamin D has multiple benefits including; maintaining healthy bones and teeth, supporting the immune and nervous system. It may also prevent a range of conditions such as cancer, multiple sclerosis, and type 1 diabetes. (NIH 2016b.)
Vitamin B ₆	Vitamin B ₆ is important for muscular function, heart health, energy, and the digestive tract. It is involved in the production of hemoglobin and needed for proper brain development and function. (NIH 2018.)
Vitamin B ₁₂	Vitamin B ₁₂ helps make DNA and helps keep nerve and blood cells healthy. The vitamin also helps prevent a type of anemia referred to as megaloblastic anemia. (NIH 2011.)

Table 3. Commonly stated health benefits of the most used vitamins and minerals

2.5. Functional foods and consumer attitudes

Foods and beverages with specific health effects are becoming a part of everyday lives of Americans (Sloan 2008). Similarly, the healthfulness in food products is a key consideration among Finns when making purchasing decisions (Urala & Lähteenmäki 2007). However, since the novelty of the product grouping and its exceptional position in the minds of consumers might be fading, food companies and their marketing units need additional information on consumers' opinions about functional foods and beverages (Urala et al. 2011). As the development of novel foods with health effects is strongly connected to marketing, understanding consumers' awareness, trust, and attitudes toward functional products will allow food producers to tailor attractive products with motivating messages (Mark-Herbert 2004; Wade 2006). In fact, according to Howard and Sheth (1969: 467), consumers' attitude towards a product is directly linked to the purchase intention and, thus, to the purchase decision. Therefore, studying consumers attitudes towards functional beverages is of great interest as the underlying motive of this thesis is to examine the purchasing intent of functional beverages.

According to Schiffman and Kanuk (2004: 253), attitudes are learned predispositions which lead to either favourable or unfavourable behaviour towards a certain object. To understand the relationship between attitude and purchasing behaviour in the context of functional beverages, the tri-component attitude model illustrated in Figure 2 will be utilized. As stated in the model, attitudes consist of three components: (1) cognition, (2) affect, and (3) conation. The three components are consistent meaning that a change in one component produces related changes in other components. As marketing managers find it difficult to influence consumers' intended purchasing behaviour (conation), they strive for influencing behaviour indirectly through beliefs (cognition) or feelings (affect) about the product at hand. Next, more detailed descriptions the three components will be provided with respect to the context of functional beverages and the target consumers of Finnish and American nationality.

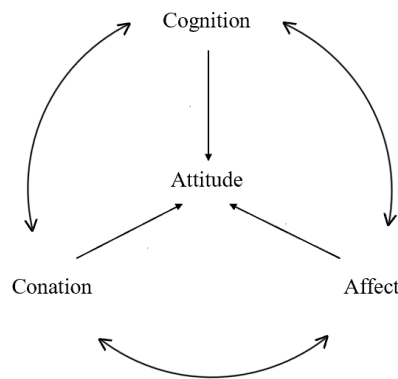


Figure 2. Tri-component attitude model adapted from Schiffman and Kanuk (2004: 256)

2.5.1. The cognitive component of attitude

The first part in the tri-component attitude model consists of an individual's *cognitions* – the knowledge and perceptions acquired through direct experience with the attitude object and related information. The knowledge and deriving perceptions transform into beliefs; that is, the consumer trusts the object holds certain attributes and that specific behaviour leads to certain outcomes. (Schiffman & Kanuk 2004: 256.) When it comes to functional food and/or beverages, the perceptions consumers have towards such products and their perceived health outcomes varies (Urala & Lähteenmäki 2004). Furthermore, the level of prior knowledge of functional food is different across countries and therefore affects consumers' attitudes towards the product grouping (Schnettler, Adasme-Berriós, Grunert, Márquez, Lobos, Salinas-Oñate, Orellana & Sepúlveda 2016).

According to Urala et al. (2011), the concept of functional food and beverages is vague for U.S. consumers. Familiarity with the term is at a low level, knowledge over what products can be considered as functional is limited, and health benefits play a finite role in making food choices. Furthermore, consumers in the U.S. lack trust towards functional food -related information presented by food manufacturers, food retailers, and media. This kind of hidden suspicion may implicit that should negative consequences from consuming functional foods occur, doubt and mistrust awake, and consumers may react quickly (Urala & Lähteenmäki 2007). Additionally, a large portion of consumers do not know whether they would benefit from consuming functional foods – thus, the motivation to pay attention to health effects in foods is low. Making the term familiar and reliable in

the U.S. is therefore key as it has already been proven in many studies that simple and informative communication of the product's health benefits and positive outcomes in an individual's body promote the consumption of functional foods. As stated by Urala et al. (2011), the best way to achieve this is through clear and understandable communication from independent authorities and nutrition specialists. Further, communication of the health benefits should lean on well-grounded scientific evidence. (Urala et al. 2011.)

In Finland the concept of functional food and beverages is better understood and positively accepted by consumers (Niva 2007; Urala et al. 2011). This may be due to the early development of functional foods in Finland (1990s) and wide public discussions regarding such products (Niva 2007) which have contributed significantly to the level of knowledge. Furthermore, Finland is also a country with relatively positive public opinions regarding technological development such as that of biotechnology in food production (Bauer & Gaskell 2002), resulting in trust among consumers towards health-enhanced food items. In fact, Finnish consumers trust health information coming from authorities and are quite confident with information coming from newspapers, retailers, and even food manufacturers. (Urala & Lähteenmäki 2004.) Additionally, Finnish consumers are more willing to accept the healthiness of specific functional enrichments than their American counterparts (Bech-Larsen & Grunert 2003).

2.5.2. The affective component of attitude

The affective component consists of the consumer's emotions or feelings about a certain product or brand. In consumer research these feelings and emotions are treated as evaluative in nature; that is, an individual's assessment of the attitude object is typically either "favourable" or "unfavourable" or "good" or "bad". (Schiffman & Kanuk 2004: 257.) With regards to the food consumption context, there are two main emotions: guilt and pleasure. These derive from two conflicting values related to food consumption referred to as the hedonic value of enjoyment and the utilitarian value of staying healthy. (Wansink & Chandon 2006.) Consumers may conclude anticipated emotional outcomes based on their evaluation of the healthiness of the food item and the consequences of consuming it. The perceived healthiness is connected to the cognitive dimension as the healthiness evaluation is based on the consumers' objective and subjective knowledge of

a product. (Kim, Park, Kim & Ryu 2013.) Should a consumer evaluate the healthiness of the product positively, anticipated guilt decreases and pleasure increases. In other words, a positive assessment of food healthiness makes people feel they are doing the right thing and might promote the purchasing of functional foods. (Hur & Jang 2015.)

As mentioned in the cognitive element paragraph, consumers in the U.S. do not trust functional food -related information and a large portion of consumers are unsure whether they would benefit from consuming functional foods, thus, making the motivation to look for health effects low (Urala et al. 2011; Urala & Lähteenmäki 2007). This might impact the affective component as the perceived healthiness of a functional food item may stay on the negative side instead of a positive assessment that would decrease anticipated guilt and increase pleasure. Furthermore, the dominant anticipatory emotion deriving from food consumption among U.S. consumers is guilt (Rozin, Fischler, Imada, Sarubin & Wrzesniewski 1999) – which is also often linked to the context of fast food (Hur & Jang 2015). Feelings of guilt, shame, and regret after food consumption is preserved in the individual's memory together with other cues such as current mood, personal interest in health-related matters, and type of food. These memories influence, and to some degree determine, future actions in similar situations. (Hur & Jang 2015.) Therefore, in the context of purchasing health-enhancing products such as functional food, having a negative experience with maintaining one's health for instance, might result in avoidance of behaviours that might prompt negative feelings. Thus, the purchasing of functional foods would not be promoted but rather discouraged on an individualistic level.

Emotions role in the context of healthy food consumption, or functional food for that matter, has not been studied extensively in Finland. However, as mentioned earlier, Finnish consumers hold a rather positive view about enhanced food products, they trust the health information coming from authorities, newspapers, retailers, and food manufacturers, and the concept of functional food and beverages is well understood (Niva 2007; Urala et al. 2011; Urala & Lähteenmäki 2004). These statements might indicate that the level of knowledge regarding functional foods and beverages is at a high level, thus, contributing to a positive assessment on the perceived healthiness of such a product. This on the other hand, might establish evidence for the rise in anticipated pleasure among Finnish consumers resulting in feelings of doing the right thing and therefore increase the

purchasing of functional foods. (Hur & Jang 2015.) However, there is a wide array of factors such as diet goals, perceived social pressure, and personal motivations that influence consumers – both Finnish and American – emotions and, therefore, play a role in the attitudes formed towards functional foods and the purchasing intent of these food items (Kim et al. 2013; McEachan, Conner, Taylor & Lawton 2011). These personal and cultural determinants will be covered more in depth in Chapter 4.

2.5.3. The conative component of attitude

The final component of the tri-component attitude model is that of conation which refers to the tendency or likelihood of a certain action or behaviour towards an object being undertaken by an individual. In marketing and consumer research, conation is often treated as an expression of the consumer's purchasing intent. (Schiffman & Kanuk 2004: 258–259.) There are many indicators within the field of conventional and functional food consumption that predict purchasing intent. However, due to the large number of factors that might influence the actual behaviour without conscious awareness on the individual's side, past purchase behaviour has been found to best predict future actions (Solomon, Bamossy, Askegaard & Hogg 2013: 308). Additionally, strong emotional control reduces intentions' impact on behaviour (Kuhl 1984; Weijzen, De Graaf & Dijksterhuis 2008) and health consciousness predicts behavioural intentions and purchase decisions within the field of healthy foods strongly (DiPietro, Remar & Parsa 2016). These statements give indication that individuals who can resist hedonistic temptations such as consuming sugary, calorie-dense beverages might opt for a healthier alternative (e.g. fortified water) and a health-motivated consumer will look for health-enhancing products above other options. All in all, an intention is more likely put in action when the individual anticipates only a few obstacles in performing a specific behaviour or if one perceives social support and anticipates positive consequences from performing it (Masalu & Åstrøm 2001).

In the U.S., consumer studies have reported lower frequencies of healthy food consumption, despite American consumers' intention and aspiration to eat healthily and their continuing confidence in the ability to manage one's own health. Correspondingly, perceptions of taste and enjoyment of healthy foods have been declining whereas an increase has been noted in consumer awareness for food component/health benefit

associations. (IFIC 2009; Siro, Kápolna, Kápolna & Lugasi 2008.) It seems that while American consumers' awareness and good, healthy intentions increase, they are not directly converted to behavioural actions or patterns due to preventing barriers. According to the International Food Information Council Foundation IFIC (2009), these barriers include taste, do-ability, familiarity, and cost. While the consumption of functional foods and beverages might increase in the future due to better consumer awareness on health-related matters, a future challenge of motivating American consumers to act and sustain beneficial lifestyle changes remains (IFIC 2009).

Healthy eating is an important aspect of food consumption in Finland and Finnish consumers are regarded as more health-oriented than pleasure-oriented when compared to their counterparts in other European countries such as the UK and the Netherlands (Roininen, Tuorila, Zandstra, de Graaf, Vehkalahti, Stubenitsky & Mela 2001). Consumers' understanding over what constitutes a healthy diet is typically a combination of current nutrition recommendations, views put forth by experts on healthy eating, and own interpretations of a proper diet. As Finns trust nutrition information coming from authorities and other parties (Urala & Lähteenmäki 2004), this might indicate that intentions to eat healthy also increase. However, according to Järvelä, Mäkelä, and Piironen (2006), when choosing a food product in a supermarket the healthfulness of it is often no more than a good intention among Finnish consumers. Similarly as in the U.S., when health concerns have to compete with considerations such as flavour or price, good intentions might not convert into actual actions. Intentions indicate what consumers may regard as worth attaining and meaningful, but these ideals are not always attainable in everyday life which highlights the complexity of choosing food in practice and the compromises that might have to be made. (Järvelä et al. 2006.)

3. CLAIMS ADVERTISING IN FUNCTIONAL BEVERAGES

As nutritional and health-related attributes are invisible and intangible for consumers, nutrition and health claims have been established to communicate product healthfulness (Sabbe, Verbeke, Deliza, Matta & Van Damme 2009). These claims aim at helping consumers make better-informed, healthier food purchasing decisions (Verbeke et al. 2009). Furthermore, for companies claims advertising creates an opportunity to differentiate their products from competitors and potentially affect consumers' responses to novel foods (e.g. functional). However, commercializing functional food products through health and nutrition claims proves to be complex and risky due to special requirements and restrictions. For instance, such claims are increasingly restricted through legal constraints and scientific substantiation requirements especially in the EU. (van Kleef et al. 2005.) The regulatory framework in the U.S. is more favourable which to a certain extent explains the superiority of the functional food market size (Hilliard 2000).

Despite the field of nutrition and health claims becoming more restricted, food companies still have freedom in which claims they focus on and how specifically do they communicate these claims to the consumers (van Kleef et al 2005). However, consumers' awareness and understanding over functional food products and their health claims might be limited resulting in the difficulty of developing effective and persuasive health claims and communicating them properly (Kotilainen et al. 2006). Food companies ought to consider framing factors such as most popular health claims and health concerns, health claim and carrier compatibility, and the healthiness perception of the base product (Bech-Larsen & Grunert 2003; Young 2000). Moreover, whether the health claim emphasizes positive contributions to the state of health or highlights the relationship to a disease has an impact on the perception a consumer creates of the product (van Kleef et al 2005).

The following subsections will deepen the knowledge of the functional food and beverages environment established in the previous chapter by examining types of claims used in the marketing of such products, how these claims are regulated, and how they connect with the consumer and their attitudes towards functional beverages. An extensive outlook on claims advertising coupled with the comprehensive overview on the context

of this thesis presented earlier, will enable a detailed exploration of the personal and cultural factors influencing the purchasing of functional beverages in the next chapter.

3.1. Health and nutrition claims

To facilitate healthier food decisions, marketers have started to communicate health benefits and/or disease preventing attributes through nutrition and health claims on functional food packages (Jones & Varady 2008; Provencher & Jacob 2016). As established earlier in this thesis, since functional food is defined by law only in Japan, other countries and regions (e.g. the U.S and EU) have focused their regulatory actions towards controlling the use of health and nutrition claims (Niva 2007; Serafini et al. 2012). These two types of claims differ as nutrition claims refer to a food product's beneficial nutritional properties such as no added sugar, whereas health claims refer to the product's ability to treat certain states of health such as reinforce the body's natural defences (EFSA 2018; Martirosyan & Singh 2015). The EU and the Finnish Food Safety Authority, Evira, have also defined a term *functional health claim* which describe the role of nutrients or other substances in either growth or development of the body's physiological, psychological and behavioural functions or weight control (Evira 2018).

3.1.1. Regulation in the European Union

The regulatory framework for health and nutrition claims in the EU (the Nutrition and Health Claim Regulation, NHCR) came to effect in 2007 (Moors 2012). The key purpose of the NHCR is to protect consumers from misleading, incorrect or false marketing communication efforts by ensuring all used claims are scientifically substantiated. (European Parliament and the Council 2006; Moors 2012.) As mentioned in the previous paragraph, there are two types of claims (i.e. health and nutrition claims) and both types are regulated by the NHCR. According to the European Food Safety Authority, EFSA, health claims are further divided into three categories: (1) general function claims (health benefit based on scientific evidence), (2) new function claims (health benefit based on newly developed scientific evidence), and (3) claims on the reduction of disease risk or claims on children's development and health. (European Parliament and the Council 2006.) The European Commission keeps a register of permitted nutrition and health

claims which currently has 233 authorised claims (European Commission 2018). Some of the claims relevant to fortified waters are presented in Appendix 1.

3.1.2. Regulation in the U.S.

In the U.S. the Food and Drug Administration, FDA, defines regulations for health and nutrition content claims. All health claims undergo a petition process where the FDA assesses whether or not the claim meets the set requirements. For instance, an authorized health claim must meet the Significant Scientific Agreement Standard (SSA) where qualified experts have acknowledged that the claim is supported by sound scientific evidence on the substance-disease relationship. The SSA Standard is meant to be a strong standard providing high levels of confidence in the validity of the stated relationship between substance and disease. However, in the U.S. there are also qualified health claims in addition to authorized ones. Qualified health claims are supported by some scientific evidence but do not meet the requirements for the SSA Standard. To ensure that these claims are not misleading or false, qualified health claims must be accompanied with a disclaimer or other statement certifying the level of supporting scientific evidence. As for nutrition claims in the U.S., the Nutrition Labelling and Education Act of 1990, permits the use of such claims if they have been authorized by the FDA and made in accordance with the regulatory body's authorizing regulations. (FDA 2018b.) Some of the relevant *authorized* claims are presented in Appendix 2.

3.2. Claims and the consumer

The success of functional foods in the marketplace and the long-term consumption of them, depends on the consumers' acceptance and satisfaction of the claimed benefit. An understanding of the responses and reactions of consumers towards products carrying a specific health or nutrition claims is, therefore, highly important. According to multiple studies such as those of Tuorila and Cardello (2002) and Mialon, Clark, Leppard and Cox (2002), health benefits have a clear effect on the likelihood of purchase and that such claims affected sensory ratings and consumers' perceived healthiness beneficially. However, there also exists contradictory findings such as those of Sabbe et al. (2009), who concluded in their study on the effect of health claims on consumer acceptance of antioxidant-enhanced fruit juices that health information adds very little value to the

product if it is considered intrinsically healthy. Similarly, a study by Bech-Larsen and Grunert (2003), gathers that consumers accept the enrichment of “non-healthy” foods more easily than those that are considered healthy per se while Balasubramanian and Cole (2002) found that consumers search for nutrition information more in food categories seen as credible carriers of such claims. These results provide important insights on the significance of the fit between the carrier and the functional ingredient and in which situations claims advertising is seen as credible.

Health information in functional food packages portrayed through claims can be seen affecting consumers’ perceptions, feelings, and likelihood of purchase as established in the previous chapter. Therefore, approaching the connection between consumers and health and nutrition claims through the tri-component attitude model presented earlier in the thesis may provide interesting findings. Exploring the use of claims as a marketing mean and their role in relation to the cognitive, affective, and conative dimensions allows the in-depth examination of consumers’ attitudes towards claims advertising in functional beverages and ultimately the assessment of the effects on purchasing decisions. Health and nutrition claims can be considered as marketing stimuli (i.e. cues/inputs) which affect the three dimensions and, thus, the attitude a consumer holds towards functional beverages. Attitude, on the other hand, is directly linked to purchase intentions and actual purchase decisions (Howard & Sheth 1969: 467). The connection is illustrated in Figure 3 and imitates the input-process-output model of consumer behaviour presented widely in academia (e.g. Kotler & Armstrong 2012: 135) in a very simplified manner.

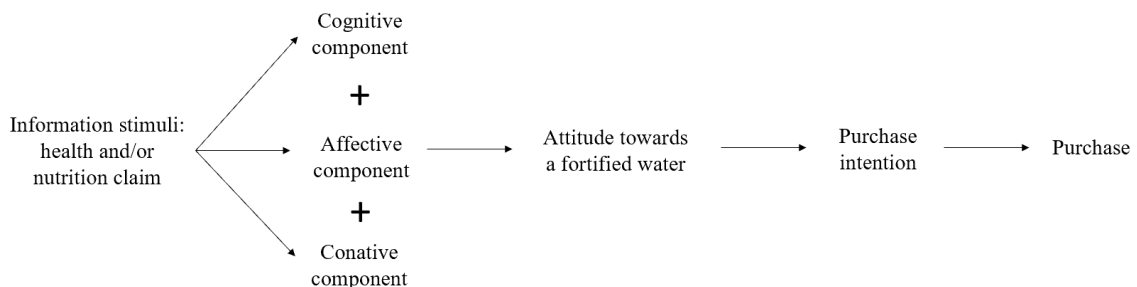


Figure 3. Simplified and modified version of the input-process-output model of consumer behaviour (Kotler & Armstrong 2012: 135)

3.2.1. Knowledge and perception of claims

The health benefits of functional foods and beverages are often communicated to the consumers through health and nutrition claims which act as “short-cut cues” with the purpose of prompting further investigation of the product and labelling (Coleman, Miah, Morris & Morris 2013). To truly ease consumers’ decision-making and facilitate healthier purchasing decisions, which is the claimed motive of these statements, health and nutrition claims ought to be understandable and truthful (Grunert, Scholderer & Rogeaux 2011; Verbeke et al. 2009). In fact, the new EU regulation on nutrition and health claims (No 1924/2006) states two requirements for consumer protection: (1) claims cannot be false, ambiguous, or misleading to consumers and (2) the beneficial effects in the claim are expected to be *understood by an average consumer* (European Parliament and the Council 2006). Consumers’ perceptions and knowledge over health and nutrition claims do, however, vary due to a wide array of subjective affecting variables such as level of health-consciousness, personal need to pay attention to state of health, or gender, age, education and previous use (Urala, Arvola & Lähteenmäki 2003). Next, some general information of the cognitive dimension in relation to claims advertising in functional foods will be presented. Evaluation of the effects of personal and cultural factors on the purchasing intent of functional beverages will be presented in Chapter 4.

Health and nutrition claims purport information about the product’s health benefits yet the information itself may not come across as a strong enough reason for purchasing a functional product if the consumer is not motivated to adopt or use the information. Furthermore, even if the information is adopted it is not necessarily used due to lack of trust towards the message and/or source of information. In some cases, the health benefitting component may be unknown, or the consumer does not understand the relationship between the component and state of health (Urala, Arvola & Lähteenmäki 2003). However, health claims can enhance consumers’ perception of the functional product’s level of healthiness – especially if consumers believe they are knowledgeable about health. Subjective knowledge typically increases the likelihood that consumers will locate themselves close to stimuli associated with that knowledge. In this case, navigating to the healthy places in a store and looking for health information in product packages (Bech-Larsen & Grunert 2003; Moorman, Diehl, Brinberg & Kidwell 2004).

Although health and nutrition claims can enhance consumers' perception of product healthiness, many studies have also indicated that the healthiness perception is more dependent on the perception of the nutritional qualities of the base-product than any type of claim (Bech-Larsen & Grunert 2003). This conclusion was made in studies on both Finnish and American consumers (Bech-Larsen & Grunert 2003; Urala et al. 2003). Some differences as to how claims advertising is viewed, however, do exist between the two nations. For instance, among Finnish consumers health and nutrition claims are viewed as advantageous most likely owing to the overall acceptance of functional foods in the country. Nevertheless, foods and beverages enriched with vitamins and minerals were not regarded as truly health enhancing but as allegedly functional products. Thus, some products' functionality and healthiness perception remain at the level of marketing gimmicks among Finnish consumers. (Bech-Larsen & Grunert 2003; Niva 2007.) In the U.S., on the other hand, Bech-Larsen et al. (2001) found American consumers less knowledgeable about nutrition than Finnish or Danish consumers. The level of nutrition knowledge coupled with a more liberal health claim legislation might cause food manufacturers and marketers to take advantage of consumers through statements simplifying diet/disease issues while highlighting positive benefits without comparable emphasis on negative dimensions of health. (Ippolito & Mathios 1994.)

3.2.2. Emotions in correlation with claims

As established earlier in the thesis, there are two main emotions in food consumption (i.e. pleasure and guilt) which derive from two conflicting values: (1) hedonistic value of enjoyment and (2) utilitarian value of staying healthy (Wansink & Chandon 2006). When selecting food products, consumers often consider tastefulness and healthfulness as incompatible attributes resulting in a phenomenon referred to as the health-pleasure trade-off (Keller, Sternhal & Tybout 2002; Nørgaard & Brunsø 2009). Since consumers' willingness to compromise taste for health is speculative, many marketing efforts such as claims advertising are employed to alter the trade-off and affect the dynamics of multisensory and emotional food experience (Bialkova, Sasse & Fenko 2016; Schifferstein, Fenko, Desmet, Labbe & Martin 2013; 2006). Emphasizing the healthfulness of the product through health and nutrition claims has been found to foster positive consumer evaluations on the overall nutrition content and healthiness perception

of the product (Andrews, Burton & Kees 2012). Furthermore, it has been concluded that consumers' expectations about food properties which claims advertising portrays enhance product evaluation, choice, and consumption (Wansink & Chandon 2006).

Although most studies within the field of claims advertising and healthy food consumption indicate results that health and nutrition claims prompt positive emotions in consumers, contradictory findings exist as well. For instance, Grunert, Wills, and Fernández-Celemín (2010) concluded that health and nutrition claims are often ignored or paid minimal attention to when shopping for everyday food products. Furthermore, Coleman et al. (2014) reported in their study that consumers' overall feelings about health claims were negative ranging from irrelevant at best to marketing gimmicks and scams at worst, emphasizing the prevalence of the trust/distrust theme. Some studies (e.g. van Trijp & van der Lans 2007; Verbeke et al. 2009) have focused their efforts on studying the relationship between the claim type and consumers' emotional response. Concepts of life and death marketing have been introduced with inconsistent findings as to whether a health enhancement or a disease risk reduction claim is more successful. Death marketing has not only caused negative emotions such as worry and anxiety in consumers but also proved to be a successful method in marketing functional products that reduce the risk of physiologically related illnesses. Life marketing, on the other hand, has been found to prompt positive feelings and trust to the health-enhancing ability of the product but also to be more unsuccessful in comparison to death marketing. (Coleman et al. 2014.)

American and Finnish consumers' emotional responses to health and nutrition claims have not been studied to a great extent. However, since Finnish consumers are regarded as more health-oriented than pleasure oriented in comparison to British and Dutch consumers (Roininen et al. 2001), this might, for instance, indicate that the health-pleasure trade-off of food choice is easier among Finns who tend to regard healthiness as the prime consideration. American consumers, on the other hand, have shown high levels of anxiety towards food and great concerns about calorie intake, dieting, and appearance in comparison to other nations such as France, Belgium, and Japan. The general negativity and related emotions towards food coupled with the abundance of food products and increased portion sizes might make opting for a healthy food option more difficult. (Rodríguez-Arauz, Ramírez-Esparza & Smith-Castro 2016.)

3.2.3. Claims in increasing purchasing intent

Health and nutrition claims influence consumers' attitudes towards functional food products and a positive overall attitude towards an item will affect the purchasing intent in the end (Nayga 1996; Küster & Vila 2017). Some of the factors related to claims advertising such as healthiness perception of the product, information credibility, and physical appearance can either increase or decrease the likelihood or tendency of purchase – based on whether the evaluation is positive or negative (Küster & Vila 2017). The level of healthiness, typically portrayed through claims, can help a consumer establish a positive perception of the product at hand (Ellison, Lusk & Davis 2013). Especially the consumer's health-consciousness, which is described as the degree of health actions taken, influences perceptions, purchase intentions, and willingness to pay. High health-conscious consumers react more strongly to health initiatives such as health and nutrition claims and are more potential customers for the functional food industry. (Lee, Conklin, Cranage & Lee 2014.) However, the credibility of the claim can affect the healthiness perception and subsequent purchasing intent positively or negatively (Lee, Lee & Kwon 2015). Consumers tend to evaluate whether the information presented on the package is accurate and comes from a credible source. If this is found to be the case, a positive perception of the product is established by the consumer. (Lee et al. 2015.) In other words, consumers who perceive higher levels of credibility evaluate the information cues such as claims presented on the package more positively and are likely to act based on that information. Credible health claims can, therefore, facilitate future purchases of functional products. (De Mello et al. 2007.)

4. PURCHASING OF FUNCTIONAL BEVERAGES

There are many factors influencing the decisions to buy and consume functional food products (Kaur & Singh 2017). Consumers' characteristics such as age, gender, and education together with the personal motivation towards health-related matters play a critical role in how functional foods are accepted (e.g. Kraus 2015; Schnettler, Horacio, Lobos, Sepulveda & Orellana 2015; Vecchio, Van Loo & Annunziata 2016). Furthermore, consumers' interest in maintaining a good overall health and the understanding of how functional food contributes to the state of health increases the probability of consuming functional products (e.g. van Kleef et al. 2015).

Culture also has an essential role in shaping consumer behaviour as individuals' basic values, perceptions, wants, and behaviours develop based on their cultural setting. It can impact how easily consumers are to adopt novel products (Van den Bulte & Stremersch 2004), how individuals view wellbeing and therefore healthy eating (Ahuvia 2002), what kind of emotions individuals from certain societies typically feel and how they shape their eating behaviour (Hofstede 2011), and how food is being used to express oneself (Levine et al. 2016). Based on the unique cultural environment and personal characteristics, individuals' exhibit different ways to approach situations such as functional food consumption or food consumption in general. In modern societies where consumption is characterised by a myriad of different factors, the process of purchasing functional beverages becomes quickly a complex phenomenon.

As previous sections have elaborated the functional food and beverages environment and examined how health and nutrition claims connect with the consumer and their attitudes, this section will complete the theoretical framework by assessing the personal and cultural factors influencing the purchasing of functional beverages. This allows for a detailed exploration of the interplay between consumer characteristics and health and nutrition claims in the process of acquiring fortified waters, in the actual research stage.

4.1. Consumer behaviour in the context of functional food

Thus far it has been established that consumers' attitude towards a product is directly linked to purchase intention and, therefore, to the purchase decision (Howard & Sheth 1969: 467). Furthermore, health and nutrition claims can be considered as marketing stimuli (i.e. cues/inputs) that much like in the input-process-output model of consumer behaviour (e.g. Kotler & Armstrong 2012: 135) function as the company's marketing efforts affecting the attitude of the consumer – or in other words the three components of attitude, namely cognition, affect and conation (Schiffman & Kanuk 2004: 256). What hasn't yet been covered in this thesis are the internal and external factors that greatly influence the interaction between the thought processes, emotions, and intended behaviour (Blythe 2013: 7). To be consistent with the scope of the study, this thesis will focus solely on personal factors excluding other internal factors such as psychological ones. Furthermore, as this study is a cross-cultural one, focus regarding the external factors will only be laid on culture factoring out other influencing variables such as social factors and certain sub-categories of culture (e.g. subculture, social class). Finally, it is worth noting that as the study field of functional food consumption is young, information may be scarce, thus, affecting the comprehensiveness of the following paragraphs.

4.1.1. Personal factors

Personal characteristics have a pivotal role in determining consumers' behavioural patterns and purchasing decisions. Consumers change the goods and services they buy over their lifetimes, different lifestages shape what individuals want and need, occupation and economic situation often determine the range of store and product choices, and lifestyles, personalities and self-concepts govern values that drive purchasing behaviour. (Kotler & Armstrong 2012: 145–147.) Keeping these personal characteristics acting on consumer behaviour in mind, we can establish a relatively representative socio-demographic profile of a functional food consumer in light of recent studies.

According to various studies (e.g. Anttolainen, Luoto, Uutela, Boice, Blot, McLaughlin & Puska 2001; Childs 1997; Hilliam 1996; Teratanavat & Hooker 2006), a typical functional food consumer in the U.S. and Europe is a well-educated, higher income class female older than the age of 55. Prodanović and Lazović (2015) further conclude that functional food is mostly consumed among women with small children who live in the

city. In general, higher socio-economic groups have better knowledge and higher awareness regarding health issues as well as higher willingness and ability to pay a price premium which functional food products typically exhibit (Hilliam 1996). Additionally, consumers with a higher education level are significantly more likely to report being aware of health and nutrition claims and demonstrate a greater use of nutrition labels compared to consumers with a lower education level (Vella, Stratton, Sheeshka & Duncan 2014). Furthermore, healthy food such as functional food products tend to be available in places where such consumers live – often these are urban cities rather than rural or food desert areas inhabited by lower income consumers (Hardin-Fanning & Rayens 2015).

As to the gender matter, female consumers are more likely users or buyers due to being more reflective and having moral and ecological misgivings about food and health issues in comparison to men who tend to demonstrate a more uncritical and traditional view of eating (Gilbert 1997). Moreover, women are primarily responsible for food purchasing in families (Bech-Larsen & Scholderer 2007) and specifically the presence of young children in households impacts food choices through higher quality consciousness, food risk aversion, and search for nurturing benefits in wholesome foods that lay a strong, healthy foundation for children's growth (Childs 1997; Gilbert 2000).

The functional food consumer profile is, however, not as straightforward when considering the matter of age. As was mentioned before, many studies have concluded that middle-aged and elderly consumers are more likely to buy health-enhancing products simply because they, or members of their social circle, are more likely to be diagnosed with lifestyle-related diseases (Verbeke 2006). Other studies have, however, spoken for younger consumers' higher interest in wellbeing and health-enhancement and willingness to try novel products (Gustafson 2017). For that reason, it is important to emphasize that both the type of food and its claim significantly impact the customer demographics of a certain functional food product. According to van Kleef et al. (2005), younger consumers seek foods that enhance health (e.g. controlling body weight) while older consumers demand products that reduce the risk of disease (e.g. lower cholesterol and blood pressure). This highlights the prevalence of the health enhancement/risk reduction theme that is strongly tied to age and highly characteristic to functional food consumption.

Finally, consumers who value a healthy lifestyle and are health-conscious, demonstrate higher levels of functional food consumption (Lee et al. 2014). According to Urala and Lähteenmäki (2003), consumers connect functional foods with feelings of wellbeing, being a better person, and having control over one's life and health. In other words, consumers who purchase functional foods feel they make socially acceptable, "right" choices and take care of themselves. Therefore, functional foods are not only consumed in search for the rewarding feeling of controlling one's own health but also to evoke positive impressions in other people. However, a positive health concern that prompts functional food purchases can come with social costs as Saher, Arvola, Lindeman and Lähteenmäki (2004) concluded in their study that individuals who intended to buy functional food products were regarded as innovative yet less-friendly, selfish, and uncompassionate in comparison to customers intending to buy conventional products.

4.1.2. Cultural factors

Cultural factors have a broad and deep influence on consumer behaviour. Growing up in a certain society teaches children a set of basic values, perceptions, wants, as well as behaviours and these cultural influences on purchasing behaviour can vary greatly between countries. (Kotler & Armstrong 2012: 135–139.) Next the influencing factor of culture will be assessed by utilizing Hofstede's cultural dimensions which are the following: (1) power distance, (2) individualism, (3) masculinity, (4) uncertainty avoidance, (5) long-term orientation, and (6) indulgence (Hofstede Insights 2019). A more detailed definition for each dimension is presented in Table 4 below.

Dimension	Definition
Power distance (PDI)	<i>“The extent to which the less powerful members of institutions and organisations within a country expect and accept that power is distributed unequally.”</i>
Individualism (IDV)	<i>“The degree of interdependence a society maintains among its members.”</i>
Masculinity (MAS)	<i>“What motivates people, wanting to be the best (masculine) or liking what you do (feminine).”</i>
Uncertainty avoidance (UAI)	<i>“The extent to which the members of a culture feel threatened by ambiguous or unknown situations and have created beliefs and institutions try to avoid these.”</i>
Long-term orientation (LTO)	<i>“How every society has to maintain some links with its own past while dealing with the challenges of the present and future.”</i>
Indulgence (IVR)	<i>“The extent to which people try to control their desires and impulses.”</i>

Table 4. Definitions of Hofstede's cultural dimensions (Hofstede Insights 2019)

Hofstede’s work on culture is the most widely used pieces of research among practitioners and scholars. Although the cultural dimensions offer valuable insight into cross-cultural studies and have been perceived as theoretically sound and empirically valid, the constructs have also been criticized due to methodological and theoretical limitations (e.g. over generalizability). (Søndergaard 1994.) Hofstede’s measures, although not perfect, have been effective in predicting certain criteria and continue to carry valid meaning (Peterson & Smith 1997) which is why the dimensions will be used in this thesis to structure culture’s influence on functional food consumption. However, it is worth noting that barely any research has been published that would study healthy food consumption through Hofstede’s cultural dimensions (Sun, Horn & Merritt 2009) and therefore studies on the effect of Hofstede’s constructs upon an intention to consume functional foods is non-existent. This thesis strives for a novel approach by examining culture’s influence on functional food consumption by utilizing the six cultural dimensions by Hofstede.

Country/Dimension	PDI	IDV	MAS	UAI	LTO	IVR
The U.S.	40	91	62	46	26	68
Finland	33	63	26	59	38	57

Table 5. Country comparison based on dimension scores (Hofstede Insights 2019)

Power distance

The U.S. has a fairly low score on the power distance dimension (40) which indicates that authority has a negative connotation, focus is on equality in rights, and opportunity and independence are highly valued within the society (de Mooij 2005: 60–61). As for food consumption, societies scoring low on this dimension have been found to express higher willingness to accept, adopt and appreciate new products (Van den Bulte & Stremersch 2004). However, it has also been established that low power distance belief results in impulsive buying behaviour directed towards vice products (Zhang, Winterich & Mittal 2010). Within the food domain, these are typically sugary and calorie-dense food and beverage products that consumers are likely to overconsume at the consumption stage although they would later regret doing so (Jain 2012). Low power distance is therefore connected to lack of self-control which results in impulsive buying that is prominent in the U.S. According to Zhang et al. (2010) restraint from temptations can also occur automatically for people who have repeated practice which demonstrates that impulsive consumption isn't always the case in low power distance societies. This highlights the fact that Hofstede's dimensions cannot predict consumer behaviour in a precise manner as we are all complex individuals with different backgrounds.

Finland, much like the U.S. scores low on the power distance dimension (33) and again similar behavioural patterns as described above apply in part to the Finnish culture and society. Individuals from lower power distance societies seek more variety in their purchases and are prone to impulsive buying behaviour. Although typically impulsive buying behaviour is related to consumption of unhealthy food products, whether it results in purchasing of novel, health-enhancing products among health-conscious consumers is an interesting possibility to explore. Also, the fact that low power distance encourages all family members to take part in decision-making, develop their own opinions, and evaluate all sides of an argument might counterbalance impulsive behaviour. Finally, consumers from low power distance cultures indicate less interest to expressing status which results in lower spending willingness. (Hofstede 2011.) This might impact negatively the purchasing of functional food products that tend to be premium priced (Hilliarn 1996).

Individualism

The United States is one of the most individualistic countries with a high score of 91 on Hofstede's individualism dimension (Hofstede Insights 2019). Practices, policies, products, and institutions prioritize and highlight independence and agency stems from free choice, expressing personal preferences, and taking actions that are enjoyable, intrinsically motivated, and free from others' influence (Hamedani, Markus & Fu 2013). Eating behaviour is a phenomenon that is directly linked to this culturally normative way of being. Mealtimes are used to express the independence of the self by taking control and making choices that match personal preferences. Although healthy eating is viewed as the "right" way to behave, many Americans struggle to actually eat a healthy diet regularly. (Levine et al. 2016).

There is a plethora of different variables that factor in on the question why Americans struggle to eat a healthy diet although healthy eating is a valued goal within the culture (Levine et al. 2016). Part of the answer is the high individualism that leaves room for a wide range of behaviours considered acceptable in contrast to more interdependent cultures where a greater "pressure" to meet others' expectations of what is "right" exists (Gelfand et al. 2011). Although individualism in the U.S. *can* predict healthy eating – and therefore possibly the consumption of functional foods – it requires delicious and nutritious foods made available for consumers and positive past experiences with healthy eating. More often individualism predicts extremes in behaviour such as eating very healthy or very unhealthily. In some cases, individualism can make Americans more willing to customize meals and diets to fit personal healthy eating goals yet in others the individualistic approach can foster frequent snacking and eating unhealthy foods to satisfy cravings – especially when healthy eating is not a salient goal. (Levine et al. 2016.)

Finland is also considered an individualistic country with a score of 63 on this dimension. Therefore, the behavioural patterns described above can be seen applying to the Finnish cultural context as well - although not necessarily in such a drastic manner. This is due to the relatively large gap between the individualism scores between Finland and the U.S. In sum, people in individualistic cultures tend to prioritize positive emotions and personal wellbeing which is strongly linked to individuals' self-esteem and a sense of personal achievement (Ahuvia 2002; Uchida & Oishi 2016). More positive evaluations of wellbeing (Ahuvia 2002) may present greater health benefits via the relationship between

positive affect and healthier lifestyle choices (e.g. healthy diet) (Grant, Wardle & Steptoe 2009). However, this emphasis on personal wellbeing may cause individuals with low wellbeing to feel anxiety which may result in harmful coping practices (e.g. smoking or excessive alcohol consumption), thus, resulting in negative impacts on individuals' health (Verger et al 2009). Finally, Okely and Gale (2018) concluded in their study on the interaction between individualism and wellbeing in predicting mortality that wellbeing is strongly related to self-rated health and cardio-vascular mortality in individualistic cultures. Cardio-vascular diseases are the number one killer in Finland (Yle 2017) which supports the statement above but can also at least in diagnosed cases lead to individuals choosing functional products such as cholesterol-lowering spreads (Niva 2007). This may further advance the consumption of products belonging to the functional food family.

Masculinity

The U.S. scores high on the masculinity dimension (62) which is visible in the American behavioural patterns (Hofstede Insights 2019). Masculine societies view performance and success as important values and especially in the U.S., individuals strive for the best they can be and live by a “can-do” mentality (de Mooij 2005: 65; Hofstede Insights 2019). Additionally, in masculine cultures children learn to admire the strong (de Mooij 2005: 65). Scoring high on the masculinity dimension has implications specifically on public self-consciousness which in turn has been found to impact healthy eating. These cultures place greater emphasis on values such as success, power, and money, and individuals tend to be more publicly self-conscious than their less conspicuous counterparts. Public self-consciousness concerns the public components of the self-schema which includes physical attributes. Therefore, it is logical that greater concern for physical attributes causes individuals to place emphasis on healthy eating and dieting which might also contribute to consumption of functional foods. (Sun et al. 2009.) Furthermore, as Americans strive for the best they can be, these values can also function as a notion to purchase health-enhancing products allowing individuals to optimize their health.

Unlike the U.S., Finland is considered a feminine society based on the score of 26 on this dimension (Hofstede Insights 2019). It is important to emphasize that this dimension does not refer to individual characteristics but to the distribution of values between the genders.

In feminine cultures both men and women tend to be modest, caring, humble, and have heightened concern for the environment. (Hofstede 2011.) Furthermore, members of such societies are people-oriented, consider small as beautiful and value quality of life more than winning (cf. masculine cultures) (de Mooij 2005: 65). As “more feminine” values are prominent in these societies they can also affect food consumption and healthy eating. For instance, in feminine societies it is important for brands to promote a product that improves the lives of people. Functional food products with health-enhancing effects might fall into this category and, therefore, be attractive to consumers in feminine societies (de Mooij & Hofstede 2010). Also, eco-friendly functional foods and beverages may prove to be appealing due to shared environmental values in feminine cultures.

Uncertainty avoidance

Americans score below average (46) on the uncertainty avoidance dimension which indicates that there is a fair degree of acceptance for innovative products, new ideas, and a willingness to try something new or different – whether it relates to technology, business practices or food (Hofstede Insights 2019). This implies that Americans are fairly willing to try novel products such as functional foods and beverages. Furthermore, according to Hofstede (2011), lower scores on uncertainty avoidance results in higher scores on subjective health and wellbeing in societies. Continuing that line of thought, Su, Liu, and Phu (2013), concluded in their study that members of lower uncertainty avoidance societies perceive factors such as health, weight control, sensory appeal, ethical and political concern, and brand value more important factors affecting their food purchasing decisions. These results indicate that as a low scoring society on the uncertainty avoidance dimension, Americans could be more inclined to purchase functional foods especially if they portray health, have weight controlling attributes, the package appeals to senses, the product is organic/fair trade/GM-free, and if it is a strong brand.

In contrast to the U.S., with a score of 59 Finland is considered a culture with a high preference for avoiding uncertainty (Hofstede Insights 2019). In other words, Finns do not feel entirely comfortable in unstructured situations and try to minimize the possibility of unknown, surprising, and novel situations through behavioural codes, laws, and rules. Higher uncertainty avoidance is connected to higher stress, emotionality, anxiety, and

neuroticism among members of such societies and individuals report lower scores on subjective health and well-being. (Hofstede 2011.) This may have implications with regards to healthy food consumption as higher levels of stress, anxiety, and emotionality can lead to emotional eating (i.e. consumption of sugary and calorie-dense food products). Furthermore, Su et al. (2013) concluded that individuals from cultures demonstrating higher levels of uncertainty avoidance perceive price, familiarity, convenience, and promotion as important factors impacting purchasing choice. This might indicate that Finns are less inclined to try novel products such as functional foods due to the uncertainty factor. However, credible and scientifically proven health and nutrition claims may help in alleviating uncertainty related to the purchasing intention of functional products.

Long-term orientation

The U.S. is considered a relatively short-term time-oriented culture due to their low score of 26 on this dimension (Hofstede Insights 2019). The low score is reflected on the American culture, especially within the work environment, as businesses measure performance on a short-term basis that further drives individuals to strive for quick results. This type of work culture also affects individuals' food choices. Due to the pressure of achieving quick results at work, American workers spend little time eating lunch which makes them more prone to eating fast food (Shuval, Stoklosa, Pachucki, Yaroch, Drope & Harding 2016). This might indicate that individuals that lack the personal motivation to eat healthy and/or do not have access to healthy food products near their workplace opt for fast yet unhealthy food options and are less likely to maintain a balanced, healthy diet. However, should an individual have a personal motivation to eat healthy, short-term time orientation could also prompt purchases of functional beverages that support the idea of "healthiness-on-the-go" which has caused a rising demand for convenience beverages with functional attributes (Mordor Intelligence 2018).

Finland also scores low on this dimension (38) and is, therefore, considered a normative culture. Finns respect traditions, focus on achieving quick results, and have a relatively small tendency to save for the future. (Hofstede Insights 2019.) However, a similar link between short-term orientation and fast food consumption cannot necessarily be identified in Finland as in the U.S. One of the contributions to this phenomenon is the

existence of school and workplace canteens. Catering services are frequently used in Finland and as the quality of food follows dietary recommendations, canteens also contribute to healthy eating habits within the population (cf. in the U.S. employees tend to eat outside and opt for something quick) (Raulio, Roos & Prättälä 2010). Additionally, what hasn't yet been stated is the fact that short-term societies expect immediate need gratification (Hofstede 2011). This can make opting for tempting treats easier but can possibly also lead to consumption of functional foods and beverages. As consumers look for an instant fix to almost everything, an individual with heightened health-consciousness can easily opt for a beverage for a myriad of benefits and take the product with them on the go (i.e. "healthiness-on-the-go").

Indulgence

The United States is an indulgent society based on their score of 68 on this dimension. This indicates that the American society allows relatively free gratification of human desires related to enjoying life and having fun. Indulgent cultures typically focus more on individual happiness and well-being than restrained ones. However, high indulgence scores in societies do not necessarily predict healthy eating habits that would lead to or maintain well-being – in fact, it is quite the opposite. (Hofstede 2011.) According to Hofstede (2011), in countries with enough food, a high score on this dimension leads to higher percentages of obese people. This can be viewed as a natural outcome since indulgent societies are built on the belief that what an individual wants and/or needs is important. Greater freedom and personal control are therefore in the case of food choices utilized to satisfy cravings, for instance. For members of indulgent societies to choose healthier food such as functional food products, individuals will most likely have to value staying healthy more than they would value enjoyment (utilitarianism vs. hedonism) (Wansink & Chandon 2006).

With a score of 57, Finland is similarly to the U.S. an indulgent society (Hofstede Insights 2019). Therefore, the same characteristics as described above apply to the Finnish culture - at least to a certain extent. Although the indulgence score can lead to consumption of calorie-dense and sugary products also in Finland, many sources have also expressed Finns' focus on consuming food that promotes overall health and personal wellbeing.

According to Roininen et al. (2001), Finnish consumers are regarded as more health- than pleasure-oriented which might indicate that the health-pleasure trade-off of food is easier. Furthermore, one of the largest supermarket chains in Finland found out in their analysis on Finnish food trends in 2017 that consumers are likely to choose specifically foods that promote brain and gut health which indicates that the overall consumption of health-enhancing food products may be on the rise (K Group 2017).

4.2. Developing the theoretical framework

This thesis has strived for examining the complex nature of functional beverage consumption prompted by health and nutrition claims. Building on the knowledge and theories presented earlier in this study, the framework is based on the idea that health and nutrition claims as marketing stimuli affect consumers' attitudes (cognition and affect) towards functional beverages which in turn affect the purchasing intent and eventual purchasing decision of consumers. The conative component of attitude is not assessed as marketing managers find it difficult to influence consumers' intended purchasing behaviour and, thus, strive to influence behaviour indirectly through beliefs and feelings (Schiffman & Kanuk 2004: 253).

Due to the complexity of consumer behaviour in general, a number of personal and cultural factors were also assessed that in interplay with health and nutrition claims affect formed attitudes (mostly through cognitive and affective components of it) and, thus, the end result (i.e. purchasing decision) (Figure 4). Throughout previous chapters these consumer characteristics and cultural concepts have been discussed in depth to create a solid understanding of which variables have the strongest influence over formed attitudes and, therefore, purchasing intent and decision. Contributing to the comprehensive theoretical foundation are the various theories including the tri-component model of attitude, the input-process-output model of consumer behaviour, and Hofstede's cultural dimensions. These theories have not been combined in earlier studies which speaks for the novelty and uniqueness of the chosen approach that allows for a detailed exploration of functional beverage purchase prompted by health and nutrition claims.

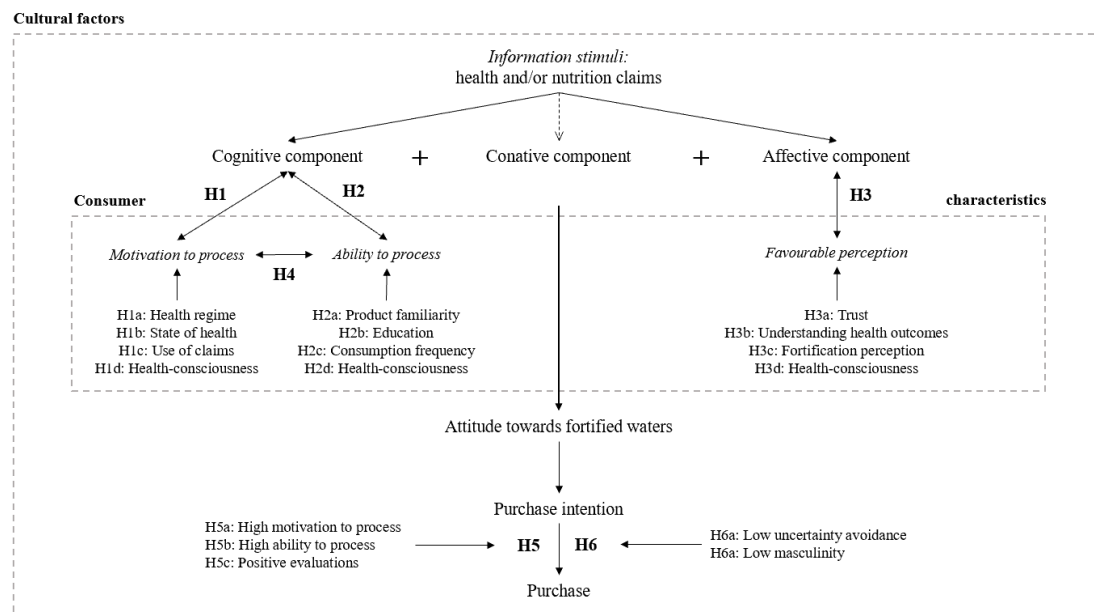


Figure 4. Theoretical framework of the study

4.3. Hypotheses creation

Six hypotheses have been formed in the pursuit of answering the research question: *How do health and nutrition claims affect the purchasing intent of functional beverages among Finnish and American consumers?* The hypotheses are based on the extensive literature review and the theoretical framework created on the basis of that knowledge.

Firstly, this study examines the role of health and nutrition claims in influencing consumers' beliefs (cognition) of functional beverages, more precisely of fortified waters. Consumers acquire knowledge and perceptions through direct experience with a product and that information transform into beliefs; that is, the consumer believes an object holds certain attributes and that specific behaviour leads to specific outcomes (Schiffman & Kanuk 2004: 256). As the nutritional and health-related attributes in functional beverages are invisible and intangible for consumers, nutrition and health claims are the tools utilized to communicate the healthfulness of the product and the outcomes that can be expected from consuming the product (Sabbe et al. 2009).

Based on previous studies, higher motivation to process health-related information have been found among consumers exhibiting certain characteristics. According to Dean et al.

(2012), following a specific diet, exercise plan or other regime and being confronted with diet-related health problems results in individuals being more motivated to process health and/or nutrition claims as they are more likely to find this type of information personally relevant. Furthermore, according to Urala et al. (2003), prior use of claims has increased the likelihood of consumers viewing health-related information in the future and according to Lee et al. (2014), health-conscious consumers react more strongly to health initiatives such as health and nutrition claims. Hence, the first hypothesis is as follows:

(H1): Higher motivation to process health and/or nutrition claims is expected among:

H1a: Consumers who follow a health regime

H1b: Consumers with a personal need to pay attention to state of health

H1c: Consumers with a more frequent use of health and/or nutrition claims

H1d: Consumers who are more health-conscious

In addition to consumers being motivated to process health and nutrition claims, they ought to be able to process them to deem the claims effective. According to Vella et al. (2014) and Verbeke et al. (2009), consumers' ability to process health and/or nutrition claims is greater among consumers who are familiar with the product concept, consumers who are highly educated, consumers who frequently use the products, and consumers who are health-conscious. Hence, the second hypothesis is as follows:

(H2): Better ability to process health and/or nutrition claims is expected among:

H2a: Consumers who are more familiar with the product concept

H2b: Consumers with a higher educational level

H2c: Consumers with higher consumption frequency

H2d: Consumers who are more health-conscious

Secondly (in addition to studying the role of health and nutrition claims in influencing consumers' beliefs; cognition), this study examines the role of health and nutrition claims in influencing consumers' emotions or feelings (affect) about fortified waters. Consumers' assessments of products are typically either "favourable" or "unfavourable" (Schiffman & Kanuk 2004: 257). Furthermore, food choices are characterized by two conflicting values of enjoyment and staying healthy which leads to a complex health-pleasure trade-off (Keller et al. 2002; Wansink & Chandon 2006). Health and nutrition

claims are often employed to alter the health-pleasure trade-off and foster favourable consumer evaluations (Andrews et al. 2012), yet conflicting findings exist on the successfulness of this strategy (Coleman et al. 2014; Grunert et al. 2010). Based on previous studies, trust towards health-related information, familiarity with a functional ingredient and/or its claimed health effect, and health-consciousness have been found to foster positive evaluations and perceptions of functional products (Bech-Larsen & Grunert 2003; Rezai, Teng, Mohamed & Shamsudin 2012; Wills et al. 2012). Consumers' perceptions of health-enhancement and how they might shape evaluations towards functional products has not been studied earlier but prior research indicates that some countries have more favourable perceptions of health-enhancements than others (Menrad 2003). Hence, the third hypothesis is as follows:

(H3): More positive emotions and evaluations prompted by health and/or nutrition claims are expected among:

H3a: Consumers who trust health and/or nutrition claims

H3b: Consumers who understand the outcomes of health-enhancing compounds

H3c: Consumers who perceive fortification as beneficial

H3d: Consumers who are more health-conscious

As the effectiveness of health and/or nutrition claims relies on consumers both being motivated to adopt health-related information and being able to understand it, it is important to explore the relationship between the two constructs. According to Moorman (1990), consumers motivation to process health claims is positively associated with consumers' perceived ability to process these claims and vice versa. Hence, the fourth hypothesis is as follows:

(H4): There is a positive relation between consumers' motivation and ability to process health and/or nutrition claims

As has been mentioned before, since marketing managers find it difficult to influence consumers' intended purchasing behaviour (conation), they strive for influencing behaviour indirectly through beliefs (cognition) or feelings (affect) (Schiffman & Kanuk 2004: 253). Based on prior knowledge, the healthiness perception gained through health and/or nutrition claims by being motivated and able to process the information can help

a consumer establish a positive perception of the product at hand. This overall positive attitude towards an item will affect the purchasing intent in the end. (Ellison et al. 2013; Küster & Vila 2017.) Therefore, it is of interest to study how the main constructs of being motivated and able to process claims as well as exhibiting positive emotions and evaluations prompted by health-related information influence the actual frequency of purchase of fortified waters. Hence the fifth hypothesis is as follows:

(H5): High fortified water consumption is expected among:

H5a: Consumers who exhibit high levels of motivation to process health and/or nutrition claims

H5b: Consumers who exhibit high levels of ability to process health and/or nutrition claims

H5c: Consumers who exhibit positive emotions and evaluations prompted by health and/or nutrition claims

Finally, culture has an essential role in shaping consumer behaviour as individuals' basic values, perceptions, wants, and behaviours develop based on their cultural setting (Van den Bulte & Stremersch 2004). Based on Hofstede's dimensions and the country scores indicated earlier, Finland and the U.S. differ the most in uncertainty avoidance (UAI; Finland high, the U.S. low) and masculinity (MAS; Finland low, the U.S. high). According to previous studies, significant differences within these dimensions exist when it comes to health behaviours, values within consumption, and acceptance of novel products. Therefore, it is of interest to assess how the cultural differences related to Finland and the U.S. based on Hofstede impact the purchasing frequency of fortified waters.

Hofstede and Hofstede (2005) found out that cultures with low UAI score (i.e. the U.S.) value convenience rather than purity when it comes to food which implies that individuals from these cultures may be more inclined to purchase enhanced drinks as opposed to mineral water, for instance. Furthermore, consumers from low UAI countries are more inclined to try new products and are considered to have a more active attitude to health in comparison to consumers from high UAI countries (De Mooij & Hofstede 2010; Hofstede & Hofstede 2005). This may speak for higher willingness to purchase functional beverages as a mean to try novel products with health-enhancing effects. Furthermore,

according to Wang, Worsley, and Cunningham (2008), cultures with low MAS scores, or in other words feminine cultures (i.e. Finland), have heightened perceptions of the importance of health behaviours. This has a direct and positive influence on the consumption of healthy foods which may indicate that consumers from low MAS score countries are more inclined to purchase health-enhancing products such as functional beverages (i.e. fortified waters). Hence, the sixth hypothesis is as follows:

(H6): Cultural differences impact acceptance rates of fortified waters. There is a positive relation between:

H6a: Fortified water consumption and low uncertainty avoidance

H6b: Fortified water consumption and low masculinity (femininity)

5. METHODOLOGY

The aim of this section is to define the methodology of the research or in other words to clarify the mode of thinking and acting present in this thesis. Research methodology consists of multiple concepts which seek to describe the needed steps and connections in the process of scientific inquiry. Whether specifying the research philosophy, approach to theory development, methodological choice, strategy, time horizon, techniques or procedures – methodology means being aware of and able to handle various relations that exist between these moments and processes when conducting research intended to generate new knowledge. (Arbnor & Bjerke 2009: 3, 21; Saunders, Lewis & Thornhill 2016: 124.) The methodological choices of this thesis are presented in Figure 5 and elaborated further in the following subsections.

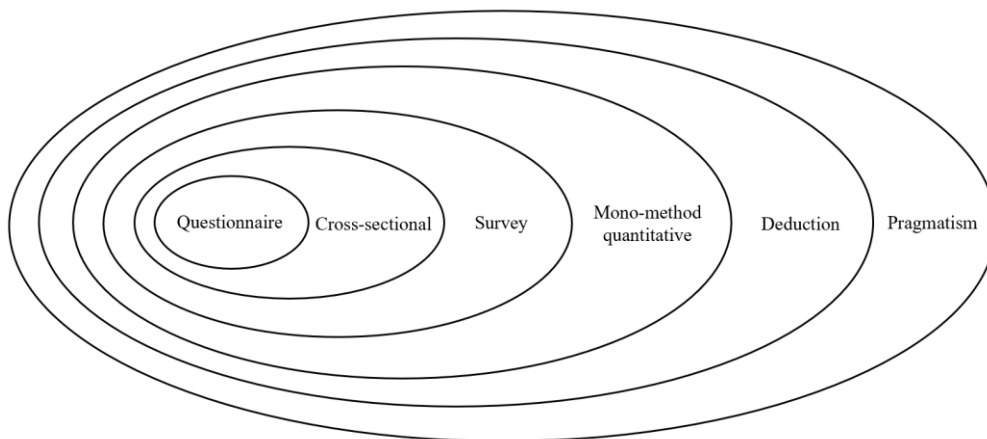


Figure 5. Thesis research onion adapted from Saunders et al. 2016: 124.

5.1. Research philosophy

Research philosophy as a term refers to the development and nature of knowledge. It contains the assumptions a researcher holds of the world which underpin the choosing of the research strategy and methods (Saunders et al. 2016: 127–129). Research philosophies or ‘the basic set of beliefs guiding action’ (Guba 1990), go by a variety of terms. Some scholars refer to them as paradigms (Guba 1990), others prefer the distinction between epistemologies, ontologies, and axiologies (Saunders et al. 2016: 130–139), yet others opt for a simpler term of worldview (Creswell 2014: 6). According to Saunders et al. (2016),

there exist five main research philosophies within business studies: positivism, critical realism, interpretivism, postmodernism, and pragmatism.

The most suitable research philosophy for this particular study is pragmatism. Since the purpose of this research is to study how nutrition and health claims shape individuals' healthiness perception of a product and direct decision making, positivism and critical realism can be ruled out for their 'single reality' perspective. After all, it seems rather unrealistic to predict and explain the purchasing behaviour of individuals based on universal laws and rules or exclude human interpretation by studying the world independent of our mind and knowledge. (Bryman & Bell 2015: 29; Saunders et al. 2016: 135–138). Additionally, interpretivism as a research philosophy appears unsuitable. Although interpretivists aim for understanding human behaviour, they neglect the forces that act upon human behaviour which in the context of this thesis are significant (Bryman & Bell 2015: 28). Moreover, the purpose of this thesis is not to actively collaborate with study participants to address real-life problems. Further, postmodernism with the intention of questioning accepted ways of thinking does not suit the motive of this thesis which is to consider theories, concepts, and research findings as instruments of thought and action (Saunders et al. 2016: 140–142).

In conclusion, pragmatism suits the aim of this thesis best. Understanding how health conscious purchasing decisions are influenced by health and nutrition claims provides knowledge which can be utilized as a base for facilitating purchasing behaviour that supports a healthy diet. This is in line with the underlying intention of pragmatism – to perform changes in desired ways, action should be guided by purpose and knowledge. (Saunders et al. 2016: 143.)

5.2. Research approach

A research project such as this thesis involves the use of theory which often controls the design of the research. The design, on the other hand, is usually portrayed as three approaches based upon the form of reasoning a researcher adopts. These forms of reasoning include: (1) deduction, (2) induction, and (3) abduction. (Saunders et al. 2016: 143.) They vary in terms of the role of theory: deduction moving from theory to observations and findings, induction proceeding from observations and findings to theory,

and abduction involving back-and-forth movement between empirical findings and academic literature (Bryman & Bell 2015: 25–27).

Deduction as a form of reasoning suits the purpose of this thesis best. The extensive literature review and the theoretical framework based on it enables hypotheses creation and ultimately the search for relationships between certain concepts and variables. All in all, the research design of this thesis is in line with the deduction approach, starting with theory developed from reading academic literature and continuing to designing a research strategy to test the developed theory (Saunders et al. 2016: 145).

5.3. Research method and strategy

A research can follow an exploratory, explanatory, descriptive or evaluative purpose, or some combination of these. Exploratory studies aim to gain insights about the topic at hand whether it be an issue, problem or a phenomenon, whereas explanatory studies focus on causal relationships between variables. Descriptive studies, on the other hand, wish to form a precise profile of events, situations, and persons, whereas evaluative studies seek to find out how well something works. (Saunders et al. 2016: 174–176.) This research applies a descripto-explanatory purpose as it is necessary to have a clear picture of functional food consumption as a phenomenon prior to data collection in which the relationships between consumer characteristics and health and nutrition claims are examined in the process of acquiring functional beverages.

Academia has also made the distinction between quantitative and qualitative research method clusters. The most significant difference between quantitative and qualitative research designs is that the former utilizes numerical data, whereas the latter focuses on non-numerical data. For this thesis, choosing a mono-method quantitative design is fitting as the purpose is to study the interplay between health and nutrition claims and attributes of consumers in the process of acquiring health enhancing food products by utilizing statistical techniques. However, a quantitatively conducted research may include qualitative features when it comes to data collection. Data can be based on the above-mentioned attributes but also on opinions referred to as ‘qualitative numbers’. This feature is visible in the research strategy, thus, implying a pragmatic approach to scientific

inquiry where both quantitative and qualitative research are valued. (Saunders et al. 2016: 162–164.)

5.3.1. Cross-sectional survey

A study needs a clear research strategy and based on the time horizon, research approach, and method of this thesis; a cross-sectional survey strategy was deemed as the most suitable one. Most research projects undertaken for academic courses are bound to be time constrained which made opting for a cross-sectional study instead of a longitudinal one logical. Furthermore, a survey strategy is typically associated with a deductive research approach, a quantitative research design, and is usually employed in studies descriptive in nature. Furthermore, the survey strategy is recommended in studies where relationships between certain variables are examined and models of these relationships produced. Survey as a form of research is also often associated with business and management research as it offers an economical way to collect standardized data and allows easy comparisons to be made from a large sample. (Saunders et al. 2016: 144, 155.)

In addition to being cross-sectional, the survey was also multi-national having been used in two countries, namely Finland and the U.S. Multi-country surveys are designed specifically for the purpose of contrasting economic, social, and/or cultural aspects of different countries or regions. These types of surveys are typically by design more complex and more complicated to undertake than within-country (cross-cultural) surveys. However, some common best practices exist that increase the quality and comparability of data. A general rule of thumb is to standardize some design elements (e.g. definitions, methods, and measurements) and remain flexible regarding sample size and design. Therefore, studies may vary greatly in the level of standardization and coordination throughout the survey lifecycle, for instance, in their transparency and documentation as well as in their data collection approaches and requirements. (Harkness, Braun, Edwards, Johnson, Lyberg, Mohler, Pennell & Smith 2010: 1–6; 227.) This type of approach was employed in this research as well where most of the core elements including definitions and measurements remained the same yet obtaining study participants and data collection

requirements were assessed on a country-by-country basis. The design elements and their possible country differences are assessed in the following respective sections.

5.4. Data collection technique

The data for this research study was obtained by using questionnaires which is the most common data collection method within the survey strategy. Questionnaires work especially well in this research which is descripto-explanatory in nature as they allow for identifying and describing the variability of a phenomenon and enable examining and explaining relationships between variables, particularly cause and effect relationships. Furthermore, questionnaires provide an efficient way of collecting responses from a large sample in an inexpensive and time saving manner as each respondent is given the same set of questions. This also increases the reliability and validity of the research as questions do not change during the data collection process and are standardized allowing the results of all respondents to be interpreted the same way. Finally, questionnaires ensure that correct data for a specific research question will be collected – given that the questionnaire is well designed. (Saunders et al. 2016: 144, 360–362.)

As mentioned, a well-thought design of the questionnaire is paramount to the validity and reliability of the data collected. To assure this, the research question and objectives were first and foremost carefully considered to determine the right questionnaire type. As the aim is to examine and explain relationships between variables an explanatory questionnaire proved to be most suitable. Prior to designing the questionnaire, the theories intended to be tested as relationships between variables were defined in detail. This process included reviewing literature carefully after which dependent and independent variables were identified and questions were formulated in a manner that suitable data for the testing of cause-effect relationships could be generated. Furthermore, the sample size, number of questions, and respondent characteristics were considered to assure the questionnaire would be well received in target countries. (Saunders et al. 2016: 360–371.) Finally, to gain the greatest advantage of the questionnaires, ensure high response rate, and maximize the quality of data, the carefully planned questionnaires were pilot tested in both target countries. The pilot study will be described in more detail below.

5.4.1. Pilot study

Prior to the administration of the questionnaire, a pilot study was conducted to assure respondents would interpret the questions as intended and that the questionnaire would be easy to understand and complete. The pilot test group consisted of family and friends both in Finland and in the U.S. and questions regarding the layout, question format, ease of execution, length, and comprehensibility were asked.

Overall, the questionnaires were well received and clearly understood by the pilot test group and only minor corrections had to be made. These included; clarifying and/or simplifying certain questions, adjusting wordings to ensure target country suitability (mainly the U.S.), and modifying the introduction to better state questionnaire expectations. Moreover, some further modifications were required to the U.S. questionnaire after the pilot test due to the data collection regulations and protocols at Emporia State University, KS where U.S. data was collected. This included adding an informed consent form (Appendix 4) to the questionnaire which was required for all studies using human subjects.

5.5. Questionnaire design

The questionnaire consisted of 35 questions that were arranged according to different thematic topics that emerged during the literature review. These included: (1) consumer demographics, (2) general views on health and nutrition, (3) opinions on functional foods and beverages, (4) perceptions of health and nutrition claims, and finally (5) a summary where additional information on all the above topics and related fields could be provided. The complete questionnaire can be found in Appendix 3.

The design of the questionnaire followed the guidelines of de Vaus (2002: 109–111) by considering instructions, use of space, and order of questions. An introduction to the survey stating the aim of the study and assurance of confidentiality was provided, a brief introduction to each sub-section of the questionnaire was given, and instructions on how to answer questions were stated where needed making the questionnaire flow. Only a few questions at a time were placed on a screen and alternative responses were listed down rather than across the page encouraging respondents to complete the questionnaire and

avoiding cluttering it. Finally, a logical flow to the questions was established by going from easy to more difficult and from concrete to more abstract questions, keeping open-ended questions to a minimum and placing them towards the end, grouping questions into sections, and using a series of positive and negative items to form a scale.

5.5.1. Question types

The questionnaire utilized different types of questions to ultimately enable accurate data collection in regard to the research aim and question of the study. The question set comprised of both open and closed questions although open-ended questions were kept at a minimum for the questionnaire to remain “light” and maximize response rate. Open-ended questions were, therefore, used to allow respondents to provide further information about the topics in their own words. This not only reduces the biases created by closed questions but also produces additional qualitative data that can be used to support statistical analyses. This is in line with the research strategy of this thesis as a pragmatic approach to scientific inquiry is taken and both quantitative and qualitative research is valued. (Saunders et al. 162–164; 374.)

The closed questions used can be divided into two types, namely rating questions and category questions. Rating questions are widely used to collect opinion data and in this questionnaire respondents’ opinions towards health, nutrition, functional products, and health and nutrition claims were mapped by using a Likert-style rating scale. The six-point scale asked respondents how strongly they agree or disagree with a series of statements. An even number of points was used instead of an odd number to prevent the respondents from choosing the middle “not sure” category. In other words, respondents were more inclined to carefully consider and think about which box (i.e. statement) to tick. The category questions, on the other hand, make sure that each respondents’ answer fits only to one category. This is a useful strategy when collecting data about behaviour and attributes wherefore respondent demographics were mapped out by using these types of questions. (Saunders et al. 376–379.)

5.6. Data sampling

Data sampling provides the researcher with methods that enable the reduction of the amount of data to be collected by considering a smaller sub-group rather than an entire population. Sampling is often necessary as considering entire populations is impractical and time- and money-consuming. Furthermore, focusing data collection efforts on a smaller sample, may give more accurate results than collecting data from a whole population. Sampling techniques can be divided into two types: (1) probability sampling where the chance of each case being selected from the population is known and equal and (2) non-probability sampling where the opposite applies. The sampling technique ought to be chosen based on the aim of the study, resources available, and limitations present. (Saunders et al. 2016: 210–213.)

This research utilized a non-probability sampling technique, more precisely that of self-selection. Although as a result of using this technique the sample may or may not be representative, it is not considered to be a problem in a research where hypotheses are tested. This is due to the fact that the primary goal of the study is not to describe a population but to test the prediction of a theory. (Evans & Rooney 2013: 131.) Characteristic to the self-selection sampling technique is allowing each case (i.e. individual) to identify their personal desire to take part in the research. To do so, the need for cases was publicised by advertising through appropriate media (i.e. emails of invitation through university mailing lists, course platforms etc.) and by asking individuals to take part in the study (i.e. announcing the need for cases during class time etc.). Data is then collected from those individuals who have responded. (Saunders et al. 2016: 241.)

5.7. Collection of data

The primary data for this research was collected during a six-month period from 1.1.2019 to 30.6.2019 by self-administered internet-mediated questionnaires. Google Forms, an online survey tool, was utilized and the collection of data took place in two countries (Finland and the U.S.). Due to studying consumers in both Finland and the U.S., two separate questionnaires with the same questions and format were used to ease the handling of data. The respondents were mostly gathered through the University of Vaasa and Emporia State University – the researcher’s home and host university – although some

personal connections were also utilized. The questionnaire's answer time varied from 5 to 20 minutes.

The total number of responses in Finland was 104 and in the U.S. 100. These results met the target sample size goal of 100 respondents in each target country even when four respondents' answers from the Finnish questionnaire weren't considered as they implied in the first question that they neither are Finnish nor from another country yet living currently in Finland. This data was considered unusable as it did not fit the scope of the study. As data was primarily gathered within a university setting, most of the respondents fall into the category of university-level students or university graduates aged 18–24 or 25–34. This is important to take into account when considering the generalizability of the research results. Generally speaking, university students are fairly representative of young people at large although in some respects this is not true due to differentiating factors such as higher level of intelligence, higher socioeconomic status etc. Therefore, one must be cautious in generalizing the results to populations that differ from the sampled population of high-educated, young consumers from culturally diverse settings. (Evans & Rooney 2013: 132.)

All data used in this study has been processed anonymously and, in the U.S., to comply with the data collection regulations of Emporia State University, respondents were asked to provide an electronic informed consent before taking part in the study (Appendix 4). To gain permission to conduct studies on human subjects in the U.S., an extensive CITI (Collaborative Institutional Training Initiative) training course had to be completed together with exams for the Protection of Human Subjects. After successful completion of the course, a comprehensive application for approval to use human subjects was issued to the IRB (Institutional Review Board). The application approval (Appendix 5) was granted March 7, 2019 after which research could be initiated as outlined in the application materials.

5.8. Strategy for data analysis

To answer the research question of this study along with testing hypotheses, a quantitative research strategy in the form of a cross-sectional survey was applied. Collected data from both countries of interest was analysed using different statistical analysis techniques with

the intention of exploring causal relationships between dependent and independent variables as suggested by theory. Furthermore, results between the two nations were compared continuously and references to Hofstede's cultural dimensions were made to establish a sound cross-cultural base for the study. The strategy for data analysis is in line with the deductive reasoning approach of this research where a theory is developed through extensive literature review and either confirmed or disproved by testing hypotheses based on the theoretical framework (Saunders et al. 2016: 145).

5.8.1. Variables and measures

The object of this study is to explore the interplay between consumer characteristics and health and nutrition claims in the process of acquiring functional beverages, more precisely fortified waters. Three hypotheses were established that strive to understand the motivation and ability to process health and/or nutrition claims and in what kind of contexts these claims might evoke positive emotions towards fortified waters. Therefore, three dependent variables can be identified: (1) motivation to process, (2) ability to process, and (3) favourable perception. A multitude of consumer characteristics influence the processing of health and/or nutrition claims and emotional reactions towards fortified waters which generate the independent variables for the statistical analyses. These include, for instance, diet-health awareness, trust towards claims, current use of claims, familiarity with the product concept, health regimes, diet-related medical history, perception of fortification, socio-demographic background, and health-consciousness.

5.8.2. Dependent variables

According to the literature review and the theoretical framework, the motivation and the ability to process health and/or nutrition claims as well as a favourable perception claims might evoke towards functional beverages/fortified waters influence the cognitive and affective components of attitude and, therefore, the purchase intent of fortified waters (Howard & Sheth 1969: 467; Schiffman & Kanuk 2004: 256). Next, a presentation of how these variables were measured in this study will be provided.

Motivation to process

Motivation to process health and/or nutrition claims was assessed specifically for the product concept of fortified waters (Q23). The measure used a six-point Likert scale (i.e. “I am interested in looking for health and/or nutrition claims in fortified waters”) based on Moorman (1990).

Ability to process

Respondents’ ability to process health and/or nutrition claims was assessed based on their subjective knowledge of health and/or nutrition claims (Q24) and of the most common health-enhancing compounds’ (i.e. vitamins and minerals in fortified waters) effect on state of health (Q25). The subjective knowledge was measured on a six-point Likert scale (e.g. “Compared to most people I am quite knowledgeable about health and/or nutrition claims”) adapted from Moorman et al. (2004). According to Rao and Sieben (1992) as well as Moorman (1990), self-perceived knowledge is an essential determinant impacting information processing and the accuracy of interpreting health-related information (e.g. health and/or nutrition claims).

Favourable perception

Respondents’ favourable perception was assessed towards the product concept of fortified waters (Q17). The measure used a six-point Likert scale (i.e. “Consuming fortified water has a positive effect on my health”) adapted from Spears and Singh (2004).

5.8.3. Independent variables

Based on theory, there is a wide array of consumer characteristics and cultural values that influence how consumers’ process health and/or nutrition claims and how these claims affect beliefs, perceptions and reactions towards functional foods and beverages. These have been assessed in great detail throughout the study and a clear link to both cognitive and affective components of attitude have been established. Although there are many different characteristics that eventually influence the purchasing intent of functional beverages, this study will focus on consumers’ use of claims, health-consciousness, nutrition-health awareness, familiarity with product concept, trust towards claims,

perception of fortification, and socio-demographic background. These independent variables used in this study and how they are measured will be presented next.

Use of claims

To evaluate respondents' current usage of health and/or nutrition claims, respondents were asked to state their opinion to three statements on a six-point Likert scale, ranging from "Strongly disagree (=1)" to "Strongly agree (=6)". Questions mapped whether respondents are interested in looking for health and/or nutrition claims in general (Q22), feel health and nutrition claims assist their product choices (Q29) and if they use health and nutrition claims in deciding which product to buy (Q30).

Health-consciousness

Respondents' health-consciousness or health-orientation was measured on a six-point Likert scale by means of four (e.g. "The healthiness of food affects my food choices", "I am more health-oriented than pleasure-oriented") (Q9, Q10, Q11, Q12). Health-consciousness is a construct that reflects an individual's readiness to undertake healthy actions. Health-conscious consumers are motivated to improve and/or maintain their state of health by being self-conscious about health and engaging in healthy behaviours (Kraft & Goodell 1993). Furthermore, the measurements were related to the respondents' perceived control over their health with nutrition and diets (Verbeke et al. 2009), thus, giving justification for the means of measurement.

The health-consciousness scale was also used to measure masculinity (MAS). According to Wang, Worsley, and Cunningham (2008), cultures with low MAS scores, or in other words feminine cultures, have heightened perceptions of the importance of health behaviours. This has a direct and positive influence on the consumption of healthy foods which may indicate that consumers from low MAS score countries are more inclined to purchase health-enhancing products such as functional beverages (i.e. fortified waters).

Product concept familiarity

Respondents' familiarity with product concepts were assessed on a general level towards functional foods and beverages (Q13) and specifically for the product concept of fortified waters (Q14). Respondents' were first prompted to read the definitions for both terms

before stating their opinion to the statements on a six-point Likert scale. This approach was utilized to increase the validity of results by preventing respondents to make choices based on an incorrect understanding of functional food/fortified water. According to Moorman (1990), product familiarity is a key factor influencing information-processing activities making it a vital variable to measure.

Trust towards claims

Trust towards health and nutrition claims and perceptions of scientific validity were measured on a six-point Likert scale by means of three items (i.e. “Health and nutrition claims are credible”, “health and nutrition claims are scientifically tested”, “health and nutrition claims are marketing gimmicks used to attract consumers”) (Q31, Q32, Q33). At the same time, the above-mentioned statements assessed respondents’ knowledge about the regulatory frameworks of functional foods in Finland (or EU) and in the U.S.

Fortification perception

Respondents’ opinions regarding the fortification of beverages (i.e. adding health-enhancing compounds to products) was measured on a six-point Likert scale by means of three (e.g. “Health-enhancing compounds are beneficial characteristics in food”, “Fortified waters are healthier than non-functional water-based drinks”) (Q15, Q16, Q18). This measurement was included based on the information that consumers’ preference for products with health-enhancing effects versus natural and fresh foods varies between cultures (Menrad 2003; van Trijp 2007). Additionally, this has not been investigated in previous studies within this context.

The fortification perception scale was also used to measure uncertainty avoidance (UAI). According to Hofstede and Hofstede (2005), cultures with low UAI scores value convenience rather than purity when it comes to food which implies that individuals from these cultures may be more inclined to purchase enhanced drinks as opposed to mineral water, for instance. Furthermore, consumers from low UAI countries are more inclined to try new products and are considered to have a more active attitude to health in comparison to consumers from high UAI countries (De Mooij & Hofstede 2010; Hofstede & Hofstede 2005). This may speak for higher willingness to purchase functional beverages as a mean to try novel products with health-enhancing effects.

Socio-demographic background

Finally, respondents' socio-demographic information was collected including nationality (Q1), age (Q2), gender (Q3), level of education (Q4), employment status (Q5), and gross income (Q6). Additionally, as health and nutrition claims are perceived more positively when they are personally relevant (Dean et al. 2012), respondents were also asked whether they follow any health regime (Q7) and if they have any diet-related medical history or conditions (Q8). Furthermore, respondents' functional food and fortified water consumption habits were mapped by two means on a six-point frequency scale, ranging from "Not at all" (=1) to "Almost daily" (=6) (Q19, Q20). This is an important measurement as past purchase behaviour has been found to be the best predictor of future actions (Solomon et al. 2013: 308).

5.9. Statistical analysis techniques

The statistical analyses were carried out with IBM® SPSS® Statistics. After the online survey, the data was available in an electronic format and was subjected to defining the variables (i.e. naming, labelling, and coding) and measures (i.e. ordinal, nominal, scale). Parts of the data were computed into different variables (e.g. sum score for health-consciousness) and parts were recoded differently (e.g. education recoded into two levels). The variables with more than one item measuring the same concepts were regrouped for statistical analyses. To measure the internal consistency and reliability of the new construct variables, Cronbach's alpha coefficients were computed (Table 6) and items with a value lower than 0.60 were removed or developed again.

Summated scales	N of items	Cronbach's alpha	
		Finland	U.S.
Use of claims	3	0.869	0.828
Health-consciousness	4	0.726	0.797
Trust towards claims	3	0.576	0.629
Fortification perception	3	0.694	0.723

Table 6. Summated scales

Most of the summated scales show high Cronbach's alpha values (> 0.60) indicating a reliable internal consistency. However, since the value for *Trust towards claims* is relatively low in both Finland and the U.S., Q33 was removed to have an acceptable scale for the study. The new Cronbach's alpha values for Finland and the U.S. were 0.681 and 0.772 respectively.

5.9.1. Assumptions and mean comparisons

In order to compare the means of variables between categories, non-parametric Mann-Whitney U tests were carried out. The test was chosen based on the fact that data was not normally distributed ($p\text{-value} < 0.05$) (Valli 2015: 111). The sample normality was tested with the Shapiro-Wilk test. Mann-Whitney U tests were used when the independent variables only contained two categories. As most respondents did not choose the extreme responses (e.g. strongly disagree or strongly agree) some variables were regrouped from six categories into two (e.g. for H2c, group 1 = high consumption and group 2 = low consumption). In this study, Mann-Whitney U tests were used to test hypotheses *1a* and *1b*.

5.9.2. Correlations

Spearman's Rank-Order Correlation tests were performed to explore the strength and direction of the linear relationship between certain variables. The non-parametric test was chosen as data was not normally distributed ($p\text{-value} < 0.05$) which was confirmed in the Shapiro-Wilk tests (Valli 2015: 97, 111). In this study, Spearman's correlation tests were used to test hypotheses *4*, *6a*, and *6b*. The strength of the correlation was deemed weak when the correlation coefficient (r) was between 0.10 and 0.29, moderate between 0.30 and 0.49, and strong between 0.50 and 1.0 (Pallant 2010).

5.9.3. Regression analyses

Standard multiple regression analyses were performed to investigate the impact of different independent variables on the dependent variables, namely motivation and ability to process claims and favourable perception. This analysis method can be used when addressing how well a variable can predict an outcome and in this study was applied to

test hypotheses *1c, 1d, 2a, 2b, 2c, 2d, 3a, 3b, 3c, 3d, 5a, 5b, and 5c*. Before conducting the regression analyses, the data was tested to ensure that no violations regarding the assumptions of normality, linearity, homoscedasticity, and multicollinearity were made.

5.10. Reliability and validity

To assure the credibility of findings, attention must be paid to two emphases on research design, namely reliability and validity. Reliability refers to the extent to which data collection or analysis procedures will produce consistent findings whereas validity is concerned with how sound one's research is and whether a concept, conclusion or measurement is well-founded and likely to correspond to the real world

The reliability of a questionnaire, which was the chosen data collection technique, can be assessed in three different forms: test-retest reliability, alternate-form reliability, and internal consistency reliability. Due to time constraints, the internal consistency test for reliability was employed which evaluates the extent to which items on an instrument are measuring the same thing. Internal consistency and, therefore, the reliability of scales was measured using the coefficient alpha index mentioned earlier. Cronbach's alpha coefficients were computed as it is the most common strategy during scale development with items that have multiple response options (e.g. Likert-scale). (Bolarinwa 2015.)

The validity of a questionnaire is often assessed on three fronts: content, criterion-related, and construct validity. Content validity concerns with the degree to which an instrument fully measures the construct of interest. To maximize the content validity of the questions, an extensive literature review was conducted. Furthermore, the questionnaire mostly used scale level ratings (i.e. Likert-scale) which have been proposed for content validity. Construct validity, on the other hand, pertains to the degree to which an instrument measures the theoretical construct it is intended to measure. An extensive literature review was again a crucial component as construct validity can be achieved through hypothesis-testing validity. In other words, evidence about the relationship between the measured concepts derived from theory and whether the relationship was supported was tested using statistical analyses. Finally, criterion-related validity which refers to the degree to which the questions are able to make accurate predictions was assessed with statistical analyses by means of correlation coefficients. (Bolarinwa 2015.)

6. ANALYSIS AND RESULTS

The analyses and results from the empirical study are presented in this chapter. The main characteristics of the data will be introduced first after which the results from the statistical tests used in this study will be assessed.

6.1. Descriptive statistics

Descriptive statistics provide essential information concerning the sample's characteristics and are used to summarize and present data in a comprehensible manner so that the underlying information is easily understood. Numerical methods including measures of central tendency (e.g. mean), measures of variability (e.g. standard deviation), and measures of shape (i.e. skewness and kurtosis) will be utilized to provide information about the representative value of the data set, the amount of spread among the variables, and whether the given distribution is symmetric or not and peaked or flat (Gaur & Gaur 2006: 37–40).

As mentioned earlier, a total of 100 respondents from both Finland and the U.S. were included in this study. Respondents were asked to fill in their background information when completing the questionnaire which included age, gender, level of education, employment status, annual gross income, whether they follow any health regime⁶, and if they have any diet-related medical history or conditions⁷. Furthermore, other socio-demographic information was also gathered such as purchasing habits of functional foods and beverages and fortified waters.

In both samples, genders were relatively equally represented. The Finnish sample consisted of 59 (59 %) females and 41 (41 %) males whereas in the American one 54 (54 %) females, 45 (45 %) males, and 1 (1 %) non-conforming was represented. Equal gender distribution in the samples is a positive thing as it allows the findings from the empirical study to be generalized on both genders. As for age, both in Finland and the U.S. a majority of respondents (64 % in Finland and 85 % in the U.S.) belonged to the age group

⁶ Included specific diet, exercise plan, or other health practice

⁷ Included anemia, diabetes, hypertension, and vitamin/mineral deficiencies which reflected the medical conditions related to the product concept of fortified waters

18–24. The second largest age group was 25–34 years old (33 % in Finland and 9 % in the U.S.) and the significant minority groups were respondents aged between 35–44 (2 % in Finland and 1 % in the U.S.) and over 45 years (1 % in Finland and 5 % in the U.S.). No under 18-year-olds took part in the study in either of the target nations. The “peakedness” of the age divisions was expected as data was mostly collected through two universities, one in Finland and one in the U.S. It can be summarized that the samples consisted mostly of young respondents (< 35 years).

In contrast to the gender and age distribution, more significant differences between the two countries were identified in the education levels of respondents. Respondents’ educational degree was measured on a five-point scale (1=less than a high school diploma, 2=high school degree or equivalent, 3=Bachelor’s degree, 4=Master’s degree, 5=PhD or other advanced professional degree). In Finland, the education level distribution was approximately symmetric (skewness: 0,029) and the central peak low and broad (kurtosis: -1,63). In other words, 25 % of respondents reported having a high school degree, 64 % a Bachelor’s degree, and 11 % a Master’s degree. None of the respondents had less than a high school diploma or had obtained a PhD or other advanced degree. In the U.S., the distribution was highly skewed (1,628) and the central peak low and broad (kurtosis: 2,140). This meant that 69 % of respondents reported having a high school degree, 23 % a Bachelor’s degree, 7 % a Master’s degree, and 1 % a PhD. As data was gathered through universities the level of education does not imply that respondents would be low educated as individuals can still simply be in the process of obtaining a certain university degree. However, the differences between the countries indicate that respondents’ in Finland were generally speaking more older than their American counterparts due to more advanced degrees, thus, placing in the higher end of the age categories.

The employment status and annual gross income in both countries reflected a relatively large amount of variation which can be noticed from the standard deviation scores. In Finland most respondents were either students (44 %), students who work part-time (31 %), or full-time employees (21 %). A minority of unemployed who are looking for work (2 %) and only part-time employees (2 %) were recorded. Due to most respondents having a student status (75 %), annual gross incomes stayed in the lower end of the spectrum

with most individuals reporting either 1–4,999€ (21 %), 5,000–9,999€ (25 %), or 10,000–14,999€ (22 %) of annual income. In the U.S., more variation in the employment status was observed as 37 % of respondents were students who work part-time, 20 % were employed full-time, 20 % were employed part-time, 19 % were students, 3 % were unemployed looking for work, and 1 % was self-employed. This also brought variety to the income distribution although most respondents reported either \$1–4,999 (37 %) or \$5,000–9,999 (30 %) of annual income which was again expected based on where data collection took place.

Respondents' health regimes and diet-related medical conditions were also mapped in the questionnaire. Most Finnish participants did not follow a health regime (61 %) nor did they have any diet-related medical history (88 %). In the U.S., an equal distribution of people following (49 %) and not following (51 %) a health regime was identified but majority (89 %) of respondents did not have diet-related medical history or conditions. Furthermore, respondents were also asked how often they purchase functional foods and fortified waters on a six-point scale (1 = Not at all, 2 = Couple times a year, 3 = 2-3 times/month, 4 = Once a week, 5 = 2-5 times/week, 6 = Almost daily). Based on the mean, both Finnish and American respondents purchase functional foods 2-3 times a month and fortified waters somewhere between couple times a year and 2-3 times a month.

	Min.	Max.	Mean	SD	Skewness	Kurtosis
Age	2	5	2.40	0.586	1.475	2.796
Gender	1	2	1.59	0.494	-0.372	-1.900
Education level	2	4	2.86	0.586	0.029	-0.163
Employment status	1	6	4.37	1.889	-1.055	-0.561
Annual gross income	1	9	3.09	1.826	0.829	0.062
Health regime	1	2	1.61	0.490	-0.458	-1.827
Diet-related medical conditions / history	1	2	1.88	0.327	-2.375	3.712
Functional food purchases	1	6	3.29	1.282	0.231	-0.811
Fortified water purchases	1	6	2.52	1.020	0.615	0.518

(N=100)

Table 7. Descriptive statistics Finland

	Min.	Max.	Mean	SD	Skewness	Kurtosis
Age	2	5	2.26	0.719	3.053	8.688
Gender	1	3	1.57	0.517	-0.063	-1.491
Education level	2	5	2.40	0.667	1.628	2.140
Employment status	1	7	3.92	2.116	-0.297	-1.704
Annual gross income	1	13	3.25	3.295	1.823	2.419
Health regime	1	2	1.51	0.502	-0.041	-2.040
Diet-related medical conditions / history	1	2	1.89	0.314	-2.531	4.496
Functional food purchases	1	6	3.18	1.480	0.275	-0.820
Fortified water purchases	1	6	2.60	1.633	0.756	-0.656

(N=100)

Table 8. Descriptive statistics U.S.

Frequency	Functional food %		Fortified waters %	
	Finland	The U.S.	Finland	The U.S.
Not at all	5%	14%	14%	35%
Couple times a year	28%	22%	40%	21%
2-3 times/month	24%	25%	30%	20%
Once a week	23%	17%	13%	4%
2-5 times/week	16%	13%	2%	13%
Almost daily	4%	9%	1%	7%

(N=100)

Table 9. Use frequency of functional foods and fortified waters in Finland and the U.S.

6.2. Motivation to process health and/or nutrition claims

The first hypothesis revolved around consumers' motivation to process health and/or nutrition claims and it was hypothesized that following a health regime, having a personal need to pay attention to state of health, using health and/or nutrition claims more frequently, and being health-conscious would lead to higher motivation.

The motivation to process health and/or nutrition claims in fortified waters did not differ drastically between Finland and the U.S. Based on the mean scores, slightly more positive attitudes towards processing claims were recorded among American respondents. The

scale used to measure respondents' opinions followed a six-point Likert scale (1 = Strongly disagree, 2 = Disagree, 3 = Slightly disagree, 4 = Slightly agree, 5 = Agree, 6 = Strongly agree).

	FIN (Mean ± SD)	U.S. (Mean ± SD)
Motivation to process	3.65±1.32	3.73±1.29

Table 10. Mean comparison - Motivation to process

6.2.1. Variables' influence on motivation to process

The relationship between health regime, state of health and motivation to process was analysed by utilizing the Mann-Whitney U test. The role of claim usage and health-consciousness, on the other hand, were explored in the multiple regression analysis.

Health regime

In Finland, respondents who stated that they follow a health regime tended to be more motivated to process health and/or nutrition claims in fortified waters (p -values < 0.05). However, the opposite was recorded in the U.S. where an association between following a health regime and having greater motivation to process claims could not be established (p -value > 0.05).

	Following a health regime (FIN)			Following a health regime (U.S.)		
	(Mean ± SD)		p -value	(Mean ± SD)		p -value
	Yes (n=39)	No (n=61)		Yes (n=49)	No (n=51)	
Motivation to process	4.03±1.29	3.41±1.30	0.016	3.92±1.34	3.55±1.22	0.121

Table 11. Association between health regime status and motivation to process

State of health

Similar results as with the health regime were recorded when exploring the relationship between respondents' state of health and motivation to process health and/or nutrition claims. In Finland, the presence of diet-related medical history/conditions led to higher motivation to process claims in fortified waters (p -value < 0.05). However, a statistically

insignificant result was recorded between diet-related medical history among American consumers and the motivation to process claims in fortified waters (p -value > 0.05).

	Having a health condition (FIN)			Having a health condition (U.S.)		
	(Mean \pm SD)		p -value	(Mean \pm SD)		p -value
	Yes (n=12)	No (n=88)		Yes (n=11)	No (n=89)	
Motivation to process	4.50 \pm 1.31	3.53 \pm 1.29	0.010	3.82 \pm 1.33	3.72 \pm 1.29	0.901

Table 12. Association between state of health and motivation to process

Use of claims

Respondents use of claims was assessed on three fronts: (1) whether they are interested in looking for claims in general, (2) whether they consider that claims assist their product choices and (3) whether they use claims when deciding which product to buy. Use of claims was found to predict higher motivation to process claims on a statistically significant level (p -value < 0.05) both in Finland and the U.S. (see table below).

Health-consciousness

Health-consciousness of individuals was examined on four fronts: (1) whether food plays an important role in keeping them in good health, (2) whether the healthiness of food affects their food choices, (3) whether they avoid unhealthy food, and (4) whether they consider themselves as more health-oriented than pleasure-oriented. Health-consciousness was found to predict higher motivation to process claims on a statistically significant level (p -value < 0.05) only in the U.S. (see table below).

	Variable	B	Std. error	β	t	p
FIN	Use of claims	0.256	0.104	0.246	2.474	0.015
	Health-consciousness	0.464	0.247	0.187	1.882	0.063
U.S.	Use of claims	0.276	0.102	0.249	2.711	0.008
	Health-consciousness	0.577	0.137	0.386	4.206	0.000

Table 13. Regression analysis summary for motivation to process health and/or nutrition claims.

6.3. Ability to process health and/or nutrition claims

The second hypothesis revolved around consumers' ability to process health and/or nutrition claims and it was hypothesized that being more familiar with the product concept, higher education, higher consumption frequency, and being health-conscious would lead to better ability.

The subjective ability to process health and/or nutrition claims in food products did not differ drastically between Finland and the U.S. Based on the mean scores, Finnish respondents indicated being more able to process health and/or nutrition claims. In general, respondents were recorded being confident in their abilities to understand the health outcomes of common vitamins and minerals and being knowledgeable about claims. The scale used to measure respondents' opinions followed a six-point Likert scale (1 = Strongly disagree, 2 = Disagree, 3 = Slightly disagree, 4 = Slightly agree, 5 = Agree, 6 = Strongly agree).

	FIN (Mean ± SD)	U.S. (Mean ± SD)
Subjective ability to process	4.22±0.84	4.11±1.09

Table 14. Mean comparison - Ability to process

6.3.1. Variables' influence on ability to process

All the variables, including product concept familiarity, level of education, consumption frequency, and health-consciousness and their influence on the ability to process were analysed by using the multiple regression analysis.

Product concept familiarity

The product concept familiarity variable predicted better ability to process health and/or nutrition claims on a statistically significant level (p -value < 0.05) only in Finland (see table below).

Level of education

Level of education predicted better ability to process health and/or nutrition claims on a statistically significant level (p -value < 0.05) in both countries (see table below).

Consumption frequency

Consumption frequency did not predict better ability to process health and/or nutrition claims on a statistically significant level in either of the countries (p -values > 0.05) (see table below).

Health-consciousness

Health-consciousness predicted better ability to process health and/or nutrition claims on a statistically significant level (p -value < 0.05) in both countries (see table below).

	Variable	B	Std. error	β	t	p
FIN	Product concept familiarity	-0.163	0.065	-0.213	-2.513	0.014
	Level of education	0.439	0.066	0.533	6.642	0.000
	Consumption frequency	0.054	0.083	0.055	0.646	0.520
	Health-consciousness	0.529	0.147	0.290	3.591	0.001
U.S.	Product concept familiarity	-0.140	0.084	-0.166	-1.660	0.100
	Level of education	0.243	0.079	0.267	3.088	0.003
	Consumption frequency	0.189	0.099	0.191	1.910	0.059
	Health-consciousness	0.628	0.124	0.485	5.054	0.000

Table 15. Regression analysis summary for ability to process health and/or nutrition claims

6.4. Favourable perception towards product concept

The third hypothesis revolved around consumers' favourable perception towards fortified waters which health and/or nutrition claims might evoke. It was hypothesized that trust towards claims, understanding health outcomes, perceiving fortification as beneficial, and being health-consciousness would lead to a more favourable fortified water perception.

The favourable perception towards fortified waters differed notably between Finnish and American respondents. In general, respondents from the U.S. recorded more positive attitudes towards fortified waters than their Finnish counterparts. The scale used to

measure respondents' opinions followed a six-point Likert scale (1 = Strongly disagree, 2 = Disagree, 3 = Slightly disagree, 4 = Slightly agree, 5 = Agree, 6 = Strongly agree).

	FIN (Mean ± SD)	U.S. (Mean ± SD)
Positive perception	3.44±1.04	4.10±1.07

Table 16. Mean comparison - Favourable perception

6.4.1. Variables' influence on favourable perception

All the variables, trust, understanding health outcomes, fortification perception, and health-consciousness and their influence on favourable perception were analysed by using the multiple regression analysis.

Trust

Respondents' trust towards claims was measured on two fronts: (1) whether they consider health and nutrition claims as credible and (2) whether they believe such claims are scientifically tested. However, trust did not predict more positive perceptions prompted by health and/or nutrition claims on a statistically significant level in either of the countries (p -values > 0.05) (see table below).

Understanding health outcomes

Understanding health outcomes predicted more favourable perceptions prompted by health and/or nutrition claims on a statistically significant level (p -value < 0.05) only in Finland (see table below).

Fortification perception

Respondents' views on fortification (i.e. health-enhancement) was measured on three fronts: (1) whether they consider health-enhancing compounds as beneficial characteristics in food, (2) whether they think positively about health-enhanced foods and beverages, and (3) whether they consider fortified waters healthier than other water-based drinks. The variable predicted more favourable perceptions prompted by health and/or

nutrition claims on a statistically significant level (p -value < 0.05) in both countries (see table below).

Health-consciousness

Health-consciousness was found to predict more favourable perceptions prompted by health and/or nutrition claims on a statistically significant level (p -value < 0.05) only in the U.S. (see table below).

	Variable	B	Std. error	β	t	p
FIN	Trust	0.156	0.136	0.132	1.145	0.255
	Health outcomes	-0.426	0.101	-0.394	-4.206	0.000
	Fortification perception	0.636	0.178	0.391	3.581	0.001
	Health-consciousness	0.192	0.155	0.127	1.237	0.219
U.S.	Trust	0.069	0.117	0.066	0.592	0.555
	Health outcomes	-0.038	0.090	-0.043	-0.425	0.672
	Fortification perception	0.699	0.170	0.481	4.108	0.000
	Health-consciousness	0.523	0.131	0.386	3.981	0.000

Table 17. Regression analysis summary for favourable perception prompted by health and/or nutrition claims

6.5. Relation between motivation and ability to process health and/or nutrition claims

The fourth hypothesis revolved around the relationship between consumers' motivation and ability to process health and/or nutrition claims. It was hypothesized that the relationship between the two variables is positive which was true in both target countries. In Finland and in the U.S., there was a moderate, positive correlation ($r > 0.3$) which was statistically significant (p -value < 0.05).

	Ability to process (FIN)		Ability to process (U.S.)	
	r_s	p -value	r_s	p -value
Motivation to process (FIN)	0.562	0.000		
Motivation to process (U.S.)			0.571	0.000

Table 18. Correlation between motivation and ability to process health and/or nutrition claims

6.6. Fortified water consumption

The fifth hypothesis revolved around fortified water consumption and the main constructs of motivation to process claims, ability to process claims, and favourable perception prompted by claims. It was hypothesized that consumers who exhibit high levels of these variables consume more fortified water products. In Finland, motivation and ability to process claims predicted high consumption (p -value < 0.05) on a statistically significant level but having a favourable perception didn't. In the U.S., none of the constructs predicted high consumption (all p -values > 0.05).

	Variable	B	Std. error	β	t	p
FIN	Motivation to process	-0.176	0.068	-0.228	-2.606	0.011
	Ability to process	0.877	0.108	0.719	8.156	0.000
	Favourable perception	-0.053	0.077	-0.054	-0.688	0.493
U.S.	Motivation to process	0.110	0.175	0.086	0.628	0.532
	Ability to process	-0.319	0.180	-0.213	-1.776	0.079
	Favourable perception	0.095	0.204	0.062	0.464	0.643

Table 19. Regression analysis summary for fortified water consumption

6.7. Cultural differences and fortified water consumption

The sixth hypothesis revolved around cultural differences' impact on the acceptance rates of fortified waters. It was hypothesized that a positive relation exists between fortified water consumption and low uncertainty avoidance exhibited in the U.S. No statistically significant (p -value > 0.05) positive correlation could, however, be established. In Finland, on the other hand, a moderate, positive correlation ($r > 0.3$) that was statistically significant (p -value < 0.05) was established.

	Uncertainty avoidance (FIN)		Uncertainty avoidance (U.S.)	
	r_s	p -value	r_s	p -value
Fortified water consumption (FIN)	0.359	0.000		
Fortified water consumption (U.S.)			0.175	0.081

Table 20. Correlation between fortified water consumption and uncertainty avoidance

It was also hypothesized that a positive relation exists between fortified water consumption and low masculinity (femininity) exhibited in Finland. However, the correlation value was almost 0 indicating that a relationship does not exist. Furthermore, the result was not statistically significant (p -value > 0.05). In the U.S., where masculinity is considered high, the results were as expected, and no statistically significant relationship could be established either.

	Masculinity (FIN)		Masculinity (U.S.)	
	r_s	p -value	r_s	p -value
Fortified water consumption (FIN)	-0.011	0.910		
Fortified water consumption (U.S.)			0.123	0.222

Table 21. Correlation between fortified water consumption and masculinity

6.8. Summary of findings

To sum up the findings, the samples of this study consisted of a relatively equal numbers of females and males that were mostly of young age (< 35 years). Most of the participants were well-educated and healthy, yet a minority of them reported to follow a health regime. Additionally, based on the descriptive results most respondents purchase health-enhancing foods 2–3 times a month and fortified waters somewhere between a couple of times a year and 2–3 times a month. In general, respondents in both countries agreed on the fact that healthiness of food affects their food choices and plays a role in their state of health, yet many reported that they do not avoid unhealthy food per se – a finding that was especially heightened among American participants. Furthermore, participants from both countries viewed health-enhancing compounds as beneficial characteristics in food and thought positively of functional foods and beverages.

As for the motivation and ability to process health and/or nutrition in fortified waters as well as the positive emotions and evaluations prompted by such claims, results contradicted slightly from expectations and, thus, not all hypotheses were supported. The consumer characteristics that had a significant association to the motivation and ability to

process health and/or nutrition claims and which prompted favourable opinions towards the product concept in either Finland or the U.S. are listed in Table 22. Most of the consumer characteristics were positively related to the main constructs in at least one country as previous studies have suggested (e.g. Bech-Larsen & Grunert 2003; Dean et al. 2012; Lee et al. 2014; Rezai et al. 2012; Urala et al. 2003; Vella et al. 2014; Verbeke et al. 2009; Wills et al. 2012) except for high consumption frequency and trust. The reasons as to why will be covered more in depth in the discussion section.

The results also indicated a clear positive relationship between two of the main constructs, namely motivation and ability to process claims, as suggested by Moorman (1990). These two constructs were also found to predict high fortified water consumption in Finland. The same was not found to be true with favourable perception and fortified water consumption which contradicted from prior research (e.g. Ellison et al. 2013; Küster & Vila 2017). Furthermore, none of the three constructs could be linked to high fortified water consumption in the U.S. which will be explained together with the results from Finland in the discussion section. As for the cultural differences' role in fortified water consumption, neither of the hypotheses could be supported, although the predictions were based on previous research conducted by De Mooij and Hofstede (2010), Hofstede and Hofstede (2005), and Wang et al. (2008). In depth reasoning will be offered in the next chapter.

Hypothesis	FIN	US
<i>H1: Higher motivation to process health and/or nutrition claims is expected among:</i>		
1a: Consumers who follow a health regime	Supported	Not supported
1b: Consumers with a personal need to pay attention to state of health	Supported	Not supported
1c: Consumers with a more frequent use of health and/or nutrition claims	Supported	Supported
1d: Consumers who are more health-conscious	Not supported	Supported
<i>H2: Better ability to process health and/or nutrition claims is expected among:</i>		
2a: Consumers who are more familiar with the product concept	Supported	Not supported
2b: Consumers with a higher educational level	Supported	Supported
2c: Consumers with higher consumption frequency	Not supported	Not supported
2d: Consumers who are more health-conscious	Supported	Supported
<i>H3: More positive emotions and evaluations prompted by health and/or nutrition claims are expected among:</i>		
3a: Consumers who trust health and/or nutrition claims	Not supported	Not supported
3b: Consumers who understand the outcomes of health-enhancing compounds	Supported	Not supported
3c: Consumers who perceive fortification as beneficial	Supported	Supported
3d: Consumers who are more health-conscious	Not supported	Supported
<i>H4: There is a positive relation between consumers' motivation and ability to process health and/or nutrition claims</i>	Supported	Supported
<i>H5: High fortified water consumption is expected among:</i>		
5a: Consumers who exhibit high levels of motivation to process health and/or nutrition claims	Supported	Not supported
5b: Consumers who exhibit high levels of ability to process health and/or nutrition claims	Supported	Not supported
5c: Consumers who exhibit positive emotions and evaluations prompted by health and/or nutrition claims	Not supported	Not supported
<i>H6: Cultural differences impact acceptance rates of fortified waters. There is a positive relation between:</i>		
6a: Fortified water consumption and low uncertainty avoidance	-	Not supported
6b: Fortified water consumption and low masculinity (femininity)	Not supported	-

Table 22. Summary of findings

7. DISCUSSION

This study aimed to get a realistic view on the interplay between consumer characteristics and health and nutrition claims in the process of acquiring functional beverages, more precisely fortified waters. In this chapter, the main findings of the study will be assessed in greater detail, followed by the theoretical and managerial implications and contribution of the study. Furthermore, the limitations and suggestions for further research will also be discussed after which conclusions will be presented.

7.1. Consumers' motivation to process health and/or nutrition claims

Respondents' motivation to process claims in fortified waters was expected to be greater in the presence of a health regime, a personal need to pay attention to state of health, when using claims more frequently, and when being more health conscious. These are factors that have been assessed in previous studies on functional food consumption patterns (e.g. Urala et al. 2003) but not yet on fortified waters specifically. This study presented interesting findings that not only contradicted from prior studies' conclusions but also presented differences between the two countries utilized in this thesis.

According to the results, following a health regime and having a personal need to pay attention to the state of health increased the motivation to process claims only in Finland. Typically following a specific diet, exercise plan or other regime and being confronted with diet-related health problems results in individuals being more motivated as they are more likely to find health-related information personally relevant (Dean et al. 2012). Not being able to prove this hypothesis among American respondents might be due to cultural differences regarding how health and food consumption is viewed in the first place and how it results in lack of motivation towards health-enhanced food and beverage products. Especially with regards to following a health regime, statements given by the American respondents indicated that physical activity was regarded as a more important factor contributing to health than a healthy diet or health-enhancing food and beverage products for that matter. This gives reason why following a health regime did not result in greater motivation.

"I definitely TRY to eat better, but my diet isn't everything to me."

“Although I work out a lot, I do not eat very healthy.”

“I do not believe food matters as much as physical activity when it comes to staying healthy.”

“I do not really care about the things I am putting in my body.”

“I do not watch what I eat very well, and I really should.”

Personal need to pay attention to state of health also did not result in an increased motivation to process claims although some statements clearly indicated the opposite. However, many statements also indicated a lack of motivation to bother to consider the nutritional attributes of food or considering price and taste as more important characteristics in products which might also explain why a health condition did not increase the motivation among American respondents.

“I have a ton of food allergies and sensitives so I am extremely cautious of what I put into my body because anything that isn’t clean can be very harmful to my body”

“I buy iron rich foods because I have anemia, but I also buy foods that I like.”

“I do not usually pay too much attention to details on the nutrition.”

“When shopping I just look at the picture and price and throw it into the cart. Looking on the back at the nutrition label is something I don’t do.”

“I know that healthier foods obviously are better for my body than unhealthy foods, but it is often times hard to find cheap healthy food. Often, I am more concerned with the taste of my food rather than the healthiness.”

“We should all eat healthy but while in college I think money and time play a major factor in what we eat. I work almost every day and go to school full-time. This makes grabbing a quick fast food meal so much easier.”

The above-mentioned statements also reflect the nation’s scores on Hofstede’s individualism, time-orientation, and indulgence dimensions and help in understanding why a health regime or health condition did not increase the motivation to process claims. The respondents were more concerned making choices based on personal preferences

(e.g. taste) rather than staying healthy which is typical for highly individualistic countries (Levine et al. 2016). The respondents opted for fast yet unhealthy food options that is common for cultures with short time-orientation (Shuval et al. 2016). Also, the respondents struggled to transform healthy intentions into concrete actions characteristic in cultures with high indulgence scores where individuals are prone to snack and value enjoyment more (Wansink & Chandon 2006). Furthermore, viewing fitness activities as more important than a healthy diet with regards to general state of health is a typical response in the U.S. as fast food consumption and developing guilt feelings after enjoying unhealthy food leads to compensatory actions such as exercise (de Mooij 2004: 186). This might also result in a distorted view on overall health where one can eat unhealthily but remain healthy with the help of compensatory products and actions.

Prior use of claims, on the other hand, indicated increased motivation to process claims in both countries. However, it is important to note that in many statements given by both Finnish and American respondents a similar sceptical and critical approach to health and/or nutrition claims was identified. Therefore, although consumers in general were interested in looking for claims and felt that they assisted in product choices, the accuracy of and trust towards the claims and their purported health benefits remained. This highlights the fact that although consumers use claims which increases the motivation to process claims in the future, the health benefit is not necessarily the root reason of purchase but rather an added benefit.

“As an athlete, I do typically pay attention to nutritional claims, but I do not obsess over them because I know they aren’t always accurate.”

“I like to read the claims in the packages and in Finland I believe (hope so) that they are not just for marketing.”

“I sometimes drink mineral waters that have added vitamins in them, but I don’t really purchase them for health reasons, I just like the taste.”

“I do sometimes use the health claims as a quick source in my decision making but I also check the product really contains and the nutrition label. I do not trust the health claims 100% as I believe these are also used as a marketing trick to attract consumers.”

Finally, the health consciousness of respondents was analysed and its relationship to increased motivation to process claims examined. According to Lee et al. (2014), high health-conscious consumers react more strongly to health initiatives such as health and nutrition claims which is why it was hypothesized that health consciousness would lead to increased motivation. However, this came true only among American respondents. In Finland, although respondents reported high levels of health-consciousness, the motivation to process claims did not increase which might be due to the product group itself. Many respondents stated that they prefer plain water instead of fortified waters which might also explain why Finnish participants weren't interested in looking for health claims in the beverages. Whereas the quality of tap water is good in Finland, in the U.S. people usually buy bottled water. This results in a situation where fortified waters compete in the same product segment with bottled water leaving room for health-consciousness to intervene and claims to shift purchase intentions from plain water to health-enhanced water.

"I drink a lot of water, but I rarely buy any water-based beverages enhanced with vitamins. I prefer Finnish tap water."

"I very rarely buy beverages enhanced with vitamins. The main reason for that is that you get tap water everywhere and I consider vitamin waters rather pricy."

"I only buy fortified waters on special occasions since the quality of tap water is so good in Finland."

7.2. Consumers' ability to process health and/or nutrition claims

Respondents' ability to process claims in fortified waters was expected to be greater among consumers who are more familiar with the product concept, consumers with a higher educational level, consumers with higher consumption frequency, and consumers who are more health conscious. Previous studies (e.g. Vella et al. 2014; Verbeke et al. 2009) have acknowledged these factors role in shaping functional food purchasing intentions and this study aimed to explore their role in the process of acquiring fortified waters. The results differed from prior studies' conclusions and presented cultural differences between the two nations.

As per results, familiarity with the product concept of fortified waters resulted in better ability to process claims in Finland but not in the U.S. According to Moorman (1990), product familiarity makes consumers perceive themselves as more able to process information, thus, raising the level of subjective knowledge and perceived understanding which can be seen being the case among Finnish respondents. Not being able to support the hypothesis in the U.S. might be related to the findings of Garbarino and Edell (1997), where a product requiring more cognitive effort in processing caused the consumer to choose a different product that requires less effort to evaluate. A similar process-induced negative effect may be present in this case as well where the rapid progress made in the field of nutrition science results in difficulties in evaluating whether a claim is scientifically valid (i.e. lack of trust in one's knowledge of claims and health outcomes). This phenomenon was well described by some American respondents:

“These things are very difficult to understand because every week comes new articles about new findings about nutrition and so on, you can't be sure which one is true.”

“Different health benefits are being found from various products continuously, and it would be impossible or at least extremely laborious to keep track of everything and stay up to date.”

Moving on to the matter of education, it was concluded that higher educational level increased the ability to process claims in both countries. This is in line with previous studies where higher education level has been linked to being significantly more aware of health and nutrition claims (Vella et al. 2014). However, the comments given by both Finnish and American respondents also describe a different approach altogether that elaborate on the particular phenomenon of education and awareness and its role in functional food consumption. These comments are also supported by theory as Moorman (1990) concluded in his study that while education increases knowledge it might also increase awareness of what consumers do not know, thus, resulting in respondents rating themselves lower in terms of knowledge and understanding of claims in general and the health outcomes they purport. Although this finding was not supported in this study, it is a valid point to take into consideration when considering future developments.

“I don't really know about functional foods and beverages as much as just the vitamins and what they do for you.”

“I don’t know the specifics of what most nutrition claims mean for my health such as what specific vitamins and minerals do.”

“I don’t understand the health enhancing effects of functional food and beverages to evaluate the credibility of their health and nutrition claims.”

Past purchase behaviour has been found to be the best predictor of future actions (Solomon et al. 2013: 308) which is why it was relevant to consider high consumption frequency of fortified waters as a factor increasing the ability to process health and/or nutrition claims. The association has not been studied previously and in this study the relationship was not supported in either of the countries. According to Barrena and Sánchez (2010), higher frequency consumers typically make the most use of information cues which could lead to the assumption that using health and/or nutrition claims more frequently would lead to better ability to understand them and the health outcomes the claims purport. However, among Finnish respondents the use of ingredients lists over health and/or nutrition claims was a reoccurring theme in the open-ended answers. This leads to the assumption that higher consumption frequency does not seem to increase ability to understand claims as they are not necessarily considered as a credible information source in the first place. Furthermore, a similar angle was present among U.S. respondents who had a hard time considering the food industry and their marketing communications credible in the first place.

“I aim to make more conscious consumption choices but in the age of oversaturated information, I often find myself frustrated with claims and facts being used as marketing tools. Usually, I tend to ignore them and go straight for the product’s ingredient list.”

“I do look for the nutrition labels and always try to choose healthy foods or beverages. I do sometimes use the health claims as a quick source in my decision making but I also check what the food or beverage really contains from the ingredient list.”

“I should read the ingredient lists more thoroughly and research what certain e-numbers mean so that I would be more aware how certain products impact my health.”

“I think a lot of the food industry lies about the health benefits of their products.”

“I think the food industry is driven by competition and the desire to make a higher net income. Because of this, they will use a variety of techniques (not all being ethical) to get consumers to purchase their product. The use of health and nutrition claims is one of the techniques that they use. I do not feel that I can entirely trust what products say about their nutritional and health benefits.”

Finally, respondents’ health-consciousness and its connection to better ability to process health and/or nutrition claims was assessed. In previous studies (e.g. Gould 1988), health-conscious consumers have been found to evaluate health and/or nutrition claims more carefully both in the meaning of possessing greater motivation to do so and having an increased base of health-related knowledge from which to evaluate them. This seemed to be true in this study as well since respondents’ health consciousness led to increased ability to understand claims both in Finland and in the U.S. Additionally, in both countries, respondents were hoping for more accountability for food manufacturers as the concern remains for individuals who might not be as health-conscious and able to interpret claims and their purported health benefits.

“Food manufacturers know that many people don’t have the knowledge or patience to know or care if their claims are actually true, so they slap it on there and hope for the best. Many people are duped and many probably experience a placebo effect because of what the label claimed, which is obviously hard to prove.”

“Food industry often uses it as an advantage that people are seeking for healthy food and they are easily affected by these health claims. People often buy products based on the image they get from it rather than based on the actual product ingredients.”

7.3. Positive evaluations prompted by health and/or nutrition claims

It was hypothesized that more positive evaluations and emotions towards fortified waters would occur when consumers trust the claims, understand the outcomes of the health-enhancing compounds used in the products, view fortification as beneficial, consider themselves as health-conscious. Previous studies have mainly focused on the trust – distrust theme and how health-consciousness affects product evaluations (e.g. Bech-Larsen & Grunert 2003; Urala et al. 2003), but little focus has been given to how consumers perceive the health-enhancement of foods (e.g. fortification) and whether

understanding the health outcomes results in more favourable perceptions of the product at hand.

Trust towards health and/or nutrition claims has been found to foster positive evaluations of functional products (Bech-Larsen & Grunert 2003) which, however, could not be proven in this study in either of the countries. This may give indication that consumers are becoming more aware of food and have increasing amounts of nutrition knowledge which has been found to strengthen distrust in health claims (Lalor, Kennedy & Wall 2009). Similar notions came through from both countries' respondents' answers to the open-ended question where many expressed their distrust towards claims and challenged their credibility. Furthermore, Finnish participants also expressed their scepticism towards the carrier product which is in line with previous studies where the choice of carrier has been found to determine to what extent people trust a health claims and are willing to try the respective product (Wills et al. 2012). At the same time, Finns also voiced their trust towards the food industry and regulatory actions to a certain degree which was not the case in the U.S. American participants directed their concern towards the food industry and FDA instead of actual claims and called for more transparency and accountability. All in all, despite previous studies proving that higher levels of trust lead to more favourable perceptions of functional foods, it seems that consumers in general are either less trusting of claims in fortified waters specifically or distrust the food industry as a whole.

“I think big companies that sell bad food know that it is addictive, and they purposely undercut healthy foods to make sure we get the unhealthy product.”

“Much of the food industry today is all about quick and easy instead of right and healthy.”

“The FDA does a poor job of regulating what goes into food and what can go on labels.”

“I do feel that nutritional claims are quite trustworthy in Finland where the entire food industry is quite controlled by state (Evira).”

“I think the claims made by the producers of these kind of waters and products in general are probably mostly marketing gimmicks, but I believe there is some truth to them because otherwise they wouldn't be allowed to make such claims.”

“Most products with nutritional claims could be rendered obsolete with a little more common understanding over healthy eating habits and nutritional values of basic food elements.”

Familiarity with a functional ingredient and/or its claimed health effect have been found to result in more favourable evaluations of functional products (Wills et al. 2012) and such was the case among Finnish respondents in this study as well. However, whereas some health-enhancing compounds can be easily connected to a specific health issue (e.g. omega-3 and heart disease), vitamins and minerals used in fortified waters do not necessarily contribute to a specific state of health but are generally considered good for health. This might decrease vitamins' and minerals' ability to enhance actual product perceptions as consumers view them as “merely” an added benefit not a solution to a problem – a matter that might give reason as to why understanding health outcomes did not lead to more favourable perceptions among U.S. respondents. As one respondent stated: *“I do not easily diagnose myself with a vitamin deficiency so that I would feel the need to purchase a product fortified with it.”*

However, in the presence of a vitamin/mineral -related health issue (e.g. vitamin deficiency), more favourable attitudes towards products enriched with the compounds might result as the comments below suggest. One particularly interesting comment was related to vitamin D deficiencies that commonly occur in Finland during polar nights due to lack of natural light. To prove whether more positive evaluations of vitamin D enriched fortified waters would occur during this time of the year more studies would need to be conducted.

“I believe in a balanced diet without a separate need for fortification. However, in Finland one is recommended to supplement for example Vitamin D.”

“Electrolytes is one of the few that I look for because I drink a lot of water and have been told by a doctor that this can lead to deficiencies in electrolytes.”

Consumers' perceptions of health-enhancement (e.g. fortification) and how they might shape evaluations and emotions towards functional products have not been studied earlier. Including this particular analysis to the study was prompted by the notion of some countries having more favourable perceptions of health-enhancement versus other

countries viewing natural and fresh foods as more beneficial for health (Menrad 2003; van Trijp 2007). In this study, results between Finland and the U.S. did not, however, differ but in both nations viewing fortification as beneficial led to more favourable evaluations of the products in question. However, views from both sides (i.e. pro-fortification, against fortification) were present which demonstrates that this is important knowledge for food manufacturers that can help in designing products and defining the target market and customer properly.

“I think it is a good trend that food industry is giving more and more healthy choices for consumers and functional foods are a good add to it in my opinion.”

“I think it is good that food companies add health-enhancing supplements to their products, but they might make the foods more processed which is not healthy not natural.”

“I believe that fortified waters are a way to trick people into spending money when they can have water at home and add fruit, lemons, or limes to their water which is healthy.”

“I believe in a balanced diet without a separate need for fortification.”

Finally, respondents' health-consciousness and whether it leads to more positive evaluations and emotions towards fortified waters was examined. According to Rezai, et al. (2012), being health-conscious is the most important determinant for developing a positive perception of functional food. However, in this study the relationship between health-consciousness and favourable perception towards fortified waters could only be established in the U.S. The reason behind why similar results did not emerge among Finnish respondents might lie in the changes the functional food consumption environment and healthy eating phenomenon are currently undergoing. Consumers most interested in health are increasingly preferring natural products instead of enhanced ones and the emphasis is on a balanced diet (Rozin, Spranca, Krieger, Neuhaus, Surillo, Swerdlin & Wood 2004). This together with the fact that higher levels of nutrition knowledge strengthen distrust in health claims (Lalor et al. 2009) justify why health and/or nutrition claims may not be able to shift health-conscious consumers' perceptions of fortified waters towards more positive ones anymore.

“With a normal diet you get adequate amounts of most vitamins, you don’t need to drink waters fortified with them.”

“I have never used functional foods or beverages regularly. I have always believed in versatile homemade food because that’s how my parents taught me to think.”

“I think functional foods and beverages can be healthy, but I also believe the best way to get the nutrients your body needs is to just eat plain and simple whole fruits, veggies, grains, and healthy lean proteins.”

7.4. Relation between motivation and ability

It was hypothesized that there is a positive relation between consumers’ motivation and ability to process health and/or nutrition claims. This hypothesis was based on the notion that for a health or nutrition claim to be effective, consumers ought to be both motivated to adopt health-related information as well as be able to understand it. Previous research has indicated that these two constructs are indeed positively associated with each other (Moorman 1990). The case was not different in this research either since consumers’ motivation was reported higher when higher levels of ability were exhibited and vice versa in both Finland and in the U.S. The relationship between motivation and ability was especially well described by one respondent:

“I don’t understand the health enhancing effects of functional food and beverages to evaluate the credibility of their health and nutrition claims. I should read the product packages more carefully but that would require that I am interested in the matter”.

However, some of the responses also indicated a disconnection between motivation, ability, and actual purchase intent. For instance, some participants were interested in reading health and nutrition claims on packages, but they weren’t enough to motivate them to purchase the product. Other factors such as price or locality might have had a deeper impact, thus, emphasizing the complexity of consumer and purchasing behaviour. Health and nutrition claims can only go so far in influencing purchasing intent.

“I read health and nutrition claims presented on product packages, but they don’t motivate me to actually use the products. I typically buy food based on factors such as healthiness, locality, ethicality, and price”.

“I think that health and nutrition claims do not shift my initial purchasing intent because when I go to the store I typically have a set in my mind what I want to buy and I go out and get it no matter what other nutritional labels may claim”.

7.5. Fortified water consumption

Since consumers’ intended purchasing behaviour is difficult to influence, marketing managers strive to influence behaviour through beliefs and/or feelings (Schiffman & Kanuk 2004: 253). Therefore, it was hypothesized that the main constructs of being motivated and able to process claims, and having a favourable perception prompted by claims would predict higher fortified water consumption. Prior knowledge indicates that the healthiness perception gained through health and/or nutrition claims can help consumers establish positive perceptions of the product at hand. This overall positive attitude towards an item will affect the purchasing intent in the end. (Ellison et al. 2013; Küster & Vila 2017.) The results were, however, somewhat contrary to these expectations.

In Finland, motivation and ability to process claims predicted high consumption of fortified waters which indicates that consumers interested in them and being able to assess them will act accordingly. However, having a favourable perception was not connected to high consumption of fortified waters. This is surprising as generally a positive attitude towards a product leads to greater chance of purchase (Ellison et al. 2013). Based on the open answers it seems that there might be a disconnection between positive perception and purchasing due to factors such as premium price and substitution. Although consumers viewed fortified waters as products having a positive effect on their health, it did not lead to high consumption due to their relatively high price. Furthermore, it seems that many consumers substitute vice products – that aren’t necessarily consumed that often – with healthier options (i.e. fortified waters). In other words, choosing a fortified water seems to many as a step in the right direction (i.e. substituting an unhealthy option such as soda/juice) while still offering enjoyment (i.e. better taste than just plain/mineral

water). One could say that fortified waters act as a compromise between the utilitarian value of staying healthy and the hedonic value of enjoyment and despite the positive perception, consumption does not increase as they aren't considered healthy enough to be consumed as part of a daily diet.

"I do prefer functional foods and beverages over products that are generally considered as unhealthy (i.e. choosing a protein bar over a chocolate bar and a vitamin water over a Coke), but I also perceive them often quite artificial and highly processed which is why I don't want to have them as a part of my daily diet. They are also often significantly more expensive."

"I don't buy fortified water as a substitute for water. If I want water, then I just buy normal water but sometimes I buy fortified water as a substitute for juice or soda"

"Rather than replacing buying e.g. a bottle of mineral water with fortified water, I think health claims have made me choose them instead of sodas"

In the U.S., none of the constructs (i.e. motivation, ability, and favourable perception) lead to increased consumption of fortified waters. It seems that while some respondents are motivated and able to process health and/or nutrition claims, they do not trust the health information enough to make a consumption decision based on it. Therefore, motivation and ability to process are not adequate predictors of actual fortified water consumption. Furthermore, similar notions arise as in Finland since even when a consumer has a positive perception of fortified water, it does not necessarily predict consumption due to other influencing factors such as price which is often seen as a barrier.

"I'm suspicious of additives in foods and beverages. So many claims in the past have turned out to be a hoax. And so many additives in foods are a burden to the body"

"I think the food industry has been able to transform itself and not only in the manufacturing of food, but how healthy it actually is. When it comes to buying food, taste and price are the most important factors for me. I might consider drinking a fortified beverage if I knew it was actually a legitimate claim"

"When I see a label that claims added minerals, electrolytes, or vitamins, I figure that that probably can't hurt me and probably has some positive health effect. Even if I don't know the specifics of why, why not go for it if it's the same price"

“Having overall healthy foods and beverages is always a goal of mine; however, their prices are very difficult to spend on; I rely more on pricing rather than nutrition when I buy my food”.

7.6. Culture and fortified water consumption

Culture plays a key role in shaping consumer behaviour as individuals' basic values, perceptions, wants and behaviours develop within a specific cultural setting (Van den Bulte & Stremersch 2004). Therefore, it was important to also assess culture's role in influencing the consumption of fortified waters. Based on Hofstede's cultural dimensions and the country scores, it became evident that Finland and the U.S. differ the most in uncertainty avoidance (UAI; Finland high, the U.S. low) and masculinity (MAS; Finland, low, the U.S. high). These were targeted to derive a clear indication of cultural differences' impact on the acceptance of fortified waters.

Based on prior knowledge, cultures with low UAI scores such as the U.S., value convenience rather than purity when it comes to food, are more inclined to try new products, and are considered to have a more active attitude to health in comparison to consumers from high UAI countries (De Mooij & Hofstede 2010; Hofstede & Hofstede 2005). Therefore, it was hypothesized that low uncertainty avoidance predicts higher fortified water consumption (i.e. purchasing novel products enhanced with health benefitting attributes). However, against expectations a correlation between the two could not be established in the U.S. but a moderate relationship was reported in Finland, a country exhibiting high UAI scores. This was surprising as high uncertainty avoidance cultures tend to have a passive attitude to health focusing on purity in food and drink and are less inclined to try novel products (De Mooij & Hofstede 2010).

This unexpected connection may stem from the long history of functional foods and beverages in Finland. Such products have been developed since the 1990s and wide public discussions have contributed to the level of knowledge among consumers. Moreover, Finland is also a country with relatively favourable opinions regarding technological developments' use in food production and, thus, health-enhancement is trusted. Furthermore, Finnish consumers are very confident with health information coming from the authorities and quite confident with information coming from newspapers, retailers,

and even food manufacturers. (Bauer & Gaskell 2002; Niva 2007; Urala & Lähteenmäki 2004.) All of these characteristics may function as alleviating factors towards the uncertainty dimension. In the U.S., on the other hand, consumers lack trust towards health-related information presented by food manufacturers, food retailers, as well as media and health benefits play a finite role in making food choices (Urala et al. 2011). These characteristics may factor in and increase uncertainty among consumers, thus, resulting in decreased inclination to purchase fortified waters.

The other dimension of interest was masculinity where the U.S. scored high and Finland low (i.e. indicating femininity). According to Wang et al. (2008), cultures with low masculinity scores have heightened perceptions of the importance of health behaviours. This has been found to have a direct and positive influence on the consumption of healthy foods. Therefore, it was hypothesized that low masculinity predicts high fortified water consumption (i.e. purchasing health-enhancing products). Interestingly, a positive relation could not be established in either of the countries.

In the case of Finland, this may be the result of consumer perceptions towards the product group. Fortified waters are not necessarily considered as healthy products per se, but rather healthier products in comparison to some vice products (e.g. sodas). Therefore, the credibility of claims takes a hit since the carrier isn't considered compatible (Bech-Larsen & Grunert 2003). In other words, health claims are perceived as marketing gimmicks since the product does not seem to offer much added value. In the U.S., on the other hand, high masculinity has a negative impact on health attitudes. Generally, individuals from masculine cultures may focus more on personal satisfaction while disregarding healthy eating recommendations. (Wang et al. 2008.) This results in a situation where individuals place more emphasis on personal wants rather than consider what is healthy and good for them, thus, impacting the consumption of health-enhancing beverages such as fortified waters.

7.7. Country comparison

The decision to compare two countries, namely Finland and the U.S., was based on their different functional food diffusion rates, regulatory frameworks, and consumers' general perceptions about health, nutritional awareness, and perceived importance that stem from

different, country-dependent cultural values (Bech-Larsen et al. 2001). Furthermore, previous research has indicated that while consumers want to buy healthy foods, they are simultaneously reluctant to change their (unhealthy) eating habits. Functional foods and beverages have, however, been seen as the solution to this health vs. habits dilemma in some countries including many European ones (i.e. Finland). However, American consumers specifically have been less inclined to accept functional foods as products enabling individuals to lead healthier lifestyles without changing their diets. These differences opened an interesting opportunity to explore the use of health and nutrition claims – methods utilized in conveying health information and influencing the healthiness perceptions – in the marketing of functional beverages from a cross-cultural point of view.

Based on the findings, a similar conclusion can be made as mentioned above. Finnish consumers indicated that fortified waters are used more in substituting vice products such as juices and sodas rather than plain or mineral water. Therefore, the product group is not necessarily considered healthy per se but a step in the right direction while changing consumption habits towards more healthier options. It seems that fortified waters are perceived as a balancing act between the utilitarian value of staying healthy and the hedonic value of enjoyment offering both good taste and health benefits. In the U.S., on the other hand, fortified waters weren't consumed to substitute other products, thus, indicating a strong emphasis on individualism – making choices based on personal preferences. Factors such as taste and price were considered more rather than healthiness of product implying a more polarized relationship between utilitarianism and hedonism which even fortified waters were not able to change.

Some similarities between the countries, however, existed too. Respondents from both nations indicated distrust towards health and/or nutrition claims. While Finnish consumers did not perceive claims as a credible source of information and preferred to examine the ingredient list instead to support their decision making, American consumers expressed their scepticism towards the food industry and related legal entities such as the Federal Food and Drug Administration (FDA). In addition to lacking trust towards health and nutrition claims used in marketing and the companies behind them, consumers also seemed to lack ways of coping with it. Notions of feeling helpless as a consumer surrounded by unhealthy products produced by profit hungry companies arose and

individuals seemed to lose confidence in their abilities to make healthy purchasing decisions. Furthermore, other factors such as price and taste as well as perceiving exercise as a more incremental part in health contributed to the indifferent attitude towards food consumption in general.

In conclusion, motivations for purchasing fortified waters differed between the countries. Whereas Finnish consumers used them to substitute unhealthy options and health and nutrition claims made them feel better about their decision, Americans perceived the products as healthy options that, however, often times were unattainable due to price premium, negative perception of taste, and not being educated enough to assess their healthiness presented in the form of claims. However, it is good to keep in mind that these are generalizations and the conclusions only present the reoccurring themes. Anomalies also existed; some Finnish consumers perceived fortified waters as healthy options and indicated trust towards claims presented in them while some Americans preferred natural, unenhanced beverages and exhibited confidence in abilities to assess the healthiness of a product rather than being tricked by marketing claims.

7.8. Contribution of the study

This study set out to explore the role of health and nutrition claims in the marketing of functional beverages and the impact they have on decision making among Finnish and American consumers. It strived to not only advance the study field of functional food consumption but also on a broader scale the international marketing communication discipline within the context of food. Prior knowledge from studies which have explored the use of various marketing communications methods (e.g. claims, symbols, and labels) purporting health-information and their impact on consumer behaviour was used as the basis of the literature review. While these types of studies have been conducted on several different product categories ranging from breakfast cereal to packaged meals (Schaefer et al. 2016), this study took a novel approach by exploring fortified waters – the fastest growing functional food product segment (Marete et al. 2011) – that has not yet received attention among scholars, thus, advancing the existing study field significantly.

Another significant effort in this research was the extensive exploration of the interplay between consumer characteristics and health and nutrition claims in the process of

acquiring functional beverages. While most of the characteristics (e.g. health consciousness, Lee et al. 2014; trust, Bech-Larsen & Grunert 2003; level of education, Vella et al. 2014, etc.) were derived from earlier studies indicating their connection to the ability and motivation to process claims and formulating a positive perception of the product, this research also incorporated new variables such as fortification perception the impact of which has not been studied earlier. Thus, not only did this study advance the study fields mentioned above by confirming the connections between the constructs in a new product context it also expanded the study fields by introducing new influencing variables.

In addition to studying the interplay between various consumer characteristics and health and nutrition claims and how it affects consumers' cognitive and affective components of attitude, the research also connected these constructs to the actual consumption habits of consumers. Prior studies have typically ignored this part and focused merely on the attitude formed through health and nutrition claims. Therefore, this study provides further insights as it connects the attitude constructs to actual frequency of purchase, thus, advancing the understanding on the relationship between attitude and purchase. It does so by combining well-known theories by renowned scholars such as the tri-component attitude model adapted from Schiffman and Kanuk (2004: 256) and the input-process-output model of consumer behaviour simplified and modified from Kotler and Armstrong (2012: 135). These created the comprehensive theoretical framework used in the study.

Finally, the cross-cultural nature of this study contributed significantly to understanding the differences between the consumption habits and characteristics in the target countries of Finland and the U.S. Previous studies have not focused on comparing these two countries that differ quite drastically in functional food diffusion rates, regulatory frameworks, and consumers' general perceptions about health, nutritional awareness, and perceived importance (Bech-Larsen et al. 2001). This research not only assessed the attitudes towards functional beverages and the way health and nutrition claims shape them in great detail, but it also incorporated Hofstede's cultural dimensions which provided further insights into the culturally dependent phenomenon of fortified water consumption. The cultural dimensions have not been previously incorporated into studies exploring attitudes and consumption within the functional food and beverages sphere, thus, proving

to be a novel approach and a significant contribution to the study field of international marketing communications, consumer behaviour, and food consumption.

7.9. Limitations

Like any other piece of research, this study suffers from some limitations, which will be discussed in this section. Firstly, the purpose of this study was to examine the interplay between consumer characteristics and health and nutrition claims in the process of acquiring functional beverages, more precisely fortified waters. Some carefully considered personal and environmental factors were employed in the study, but it is important to note that purchasing intent is determined by a number of other factors that may be equally important in terms of the outcome. Therefore, it is crucial to be aware of the fact that the study only considered a narrow array of internal and external factors influencing purchasing as well as used only health and nutrition claims as information cues. Multiple other aspects exist to functional food consumption that may have influenced the participants responses.

Secondly, as the study focused only on one specific functional food product segment (i.e. fortified waters), the results of this study cannot be generalized to other food categories nor to products containing other kinds of health and nutrition claims. This is due to the fact that consumers' attitudes and product concept familiarity differ based on the active ingredients which in turn may influence the overall perception of claims (Urala et al. 2003; van Trijp & van der Lans 2007). Furthermore, Urala and Lähteenmäki (2004) also instruct that functional food should not be studied as one homogeneous group as consumers' evaluations and choices vary depending on the food category.

Thirdly, the data for this study was primarily collected from high educated respondents from fairly similar life stages and, therefore, the heterogeneity of the sample should be acknowledged while interpreting the results. Furthermore, due to the sample size in both the target countries being relatively small, the results should be interpreted with caution. In conclusion, owing to the regional scope and specific characteristics of the study samples, generalizations to a wider population should not be made as they are highly speculative.

Finally, the research design itself poses some limitations. This study employed a web-based survey with no real products or shopping settings. Such a hypothetical situation leaves more room for consumers to draw ideas and evaluations from different contexts, thus, affecting the generalizability of results. Furthermore, this study much like most consumer research studies do, relied on self-reported data. Although this provides valuable insights, it is also often subject to biases (e.g. social desirability leading to under/over-reporting of actual behaviour) (Fisher 1993). Therefore, conclusions drawn from this study are merely assumptions of real-life behaviour.

7.10. Practical and managerial implications

The availability of scientifically sound health-related information only goes so far in improving consumers' food choices which relies heavily on consumers' perceptions and behaviour (Grunert et al. 2010; Moorman 1990). To truly have an impact, consumers must find health-related information relevant to their personal health, be motivated to process the information, and understand the actual health benefits (Hoefkens & Verbeke 2013).

The findings of this study indicated a lack of trust towards health-related information such as health and nutrition claims which influences consumers' perceptions and behaviour towards the product concept greatly. Although current regulations in both the EU and the U.S. claim to ensure a high level of consumer protection by guarding against untruthful, unsubstantiated, or exaggerated claims about food products (European Parliament and the Council 2006; FDA 2018b), many respondents in this study viewed claims as marketing gimmicks. This puts consumers' awareness of current regulatory actions and their behaviour towards scientifically substantiated information in question. More communicational efforts may be needed to educate consumers on the existence and extent of health and nutrition claim regulations in food labelling which in turn might lead to better consumer acceptance of claims and functional food. Furthermore, better informative measures education-wise are needed especially in the U.S. to establish better consumer understanding of the links between nutrients and health-benefits. This would equip American consumers with the skills to choose products most favourable for health from the abundance of highly marketed yet unhealthy food products.

In general, the functional food market would benefit from more transparency coming from food manufacturers and regulatory bodies such as the FDA in the U.S. If companies wish to influence consumers' attitudes and preference for certain functional products, assuring customers that the product stands for what it signals would be the first step. By committing efforts to creating truthful health/nutrition claims and brand messaging, companies may be able to sway consumers' perception and preference for functional products. However, whether it is enough to shift highly health-conscious consumers' perception of fortified waters from an obsolete product to an object of interest remains questionable.

7.11. Suggestions for future research

Some of the suggestions for future research are directly tied to the limitations of this study. Firstly, this thesis focused solely on health and nutrition claims in fortified waters. It may be interesting for future studies to investigate other products from the functional beverage family that have previously received less attention such as sports, performance, and energy drinks. Furthermore, examining different formulation of claims (e.g. wordings, presentation format) and studying the role of symbols in influencing purchasing intent might result in interesting findings. (Hoefkens & Verbeke 2013.)

Secondly, this study employed only a handful of internal and external variables. Future studies could complement the current understanding of functional beverage and fortified water consumption by considering other influential factors such as price, environmental friendliness, locality, ethical considerations, taste, and freshness. These are some of the driving forces behind purchasing decisions which the respondents from Finland and the U.S. indicated in this study and haven't yet been studied to a great extent in the process of acquiring fortified waters. Also, conducting studies with participants from different cultures and backgrounds should be considered when examining consumer food choices and attitudes.

Thirdly, this thesis utilized a web-based survey with no real products or shopping settings. Therefore, observational and experimental studies are recommended for the future. Incorporating real products and shopping environments may enable the investigation of possible interactions between brands, corporate images, and different packaging,

labelling, or wordings of health-related information. (Hoefkens & Verbeke 2013; van Trijp & van der Lans 2007.)

Finally, this study prompted two interesting and specific observations that could be interesting to study in the future. One of them was the use of fortified waters as a replacement product for vice products such as sodas. Studying how health-enhanced products might help consumers combat unhealthy eating habits might prove to be beneficial for individuals and societies as nutrition-related diseases are increasing and imposing more and more burdens on the healthcare systems. Another interesting research area would be the consumption of vitamin D enriched food and beverage products during the polar night period in Finland. Consumers are more likely to diagnose themselves with a vitamin D deficiency during this time which might prompt more positive evaluations of products enhanced with this particular compound.

7.12. Conclusions

This thesis broadened the concept of acquiring fortified waters prompted by health and nutrition claims by examining the influencing role of multiple personal and cultural factors. It offered valuable insights into the functional food consumption environments of Finland and the U.S. while exploring the successfulness of claims advertising in the era of health-oriented eating (Niva 2007). Consumers motivation and ability to process health and/or nutrition claims as well as the product perception received based on the claims were analysed to understand how attitudes towards products are formed and what drives purchasing intents. Based on the findings that were partly in line with previous studies and partly contradictory to them, it seems that product group of fortified waters that hasn't received much attention in past academic efforts differs significantly from the rest of the functional food family. It does not seem to share the same exceptional position in the minds of consumers (Urala et al. 2011) and is more prone to criticism and distrust.

Consumers' motivation and ability to process claims as well as favourable perception towards fortified waters were found to be associated with various consumer characteristics. Based on the findings some general themes can be established that highlight the differences between the two countries of interest. By and large, Finnish consumers attitude towards claims and the product concept was positive when there was

a true need for a health-enhancing beverage. In other cases, the quality of tap water and high health-consciousness lead to the perception of a purposeless, highly marketed product. Although there was trust towards the EU claims regulations, health and nutrition claims weren't considered a credible source of information and companies behind the products weren't trusted to have the consumers' interest in mind. Finally, purchasing fortified waters seemed to be a balancing act and a compromise between the utilitarian value of staying healthy and the hedonic value of enjoyment.

In the U.S., on the other hand, consumers seemed to be more interested in trying new products with less concern on whether functional beverages actually have health-enhancing effects. This is strongly linked to the respondents' overall perception of the food industry and regulatory bodies as untrustworthy entities that do not care for the consumers' health and merely push unhealthy, calorie-dense products to the market. Furthermore, food in general is given less emphasis as the foundation for health which might be a result of the distorted food industry, the difficulties it creates as to finding healthy food, and the strong individualism that inclines consumers to act more on their desires than on what is good for them. Furthermore, the level of nutrition knowledge seems to be lower which hinders the ability to critically assess the healthiness of a product. This might be due to distrust towards health-related information given by various outlets.

In summary, this study explored the interplay between consumer characteristics and health and nutrition claims in the process of acquiring fortified waters. Based on previous literature and the findings from this study, it is plausible to conclude that health and nutrition claims may help quick decision making but do not facilitate trust in the products' health-enhancing effects. Therefore, vitamins and minerals added to fortified waters seem to function as an added benefit, not a solution to a problem much like many other functional products. This naturally affects the reasons why fortified waters are purchased and as a minority are diagnosed/diagnose themselves with a vitamin/mineral deficiency, the role of brand might be a more important purchase indicator. The way consumers assess fortified waters are highly dependent on the various personal and cultural factors and understanding their role in the purchasing process is crucial for companies selling these products to properly design them to a clearly defined target market and customer.

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APPENDIX 1. Examples of authorised claims in the European Union

Type	Claim	Conditions of use
Nutrition	“Low sugar”	Product contains no more than 5g of sugar per 100 g for solids or 2,5 g of sugar per 100 ml for liquids.
Nutrition	“With no added sugar”	Product does not contain any added mono- or disaccharides or any other food used for its sweetening properties. If sugars are naturally present in the food, the following indication should also appear on the label: ‘contains naturally occurring sugars’.
Nutrition	“Source of [name of vitamin/s] and/or [name of mineral/s]”	May only be made where the product contains at least a significant amount as defined in the Annex to Directive 90/496/EEC ⁸
Nutrition	“High [name of vitamin/s] and/or [name of mineral/s]”	May only be made where the product contains at least twice the value of ‘source of [name of vitamin/s] and/or [name of mineral/s]’.
Health	“Magnesium contributes to normal muscle function”	The claim may be used only for food which is at least a source of magnesium as referred to in the claim source of [name of vitamin/s] and/or [name of mineral/s]
Health	“Iron contributes to normal cognitive function”	The claim may be used only for food which is at least a source of magnesium as referred to in the claim source of [name of vitamin/s] and/or [name of mineral/s]
Health	“Zinc contributes to normal macronutrient metabolism”	The claim may be used only for food which is at least a source of magnesium as referred to in the claim source of [name of vitamin/s] and/or [name of mineral/s]
Health	“Vitamin B ₁₂ contributes to the reduction of tiredness and fatigue”	The claim may be used only for food which is at least a source of magnesium as referred to in the claim source of [name of vitamin/s] and/or [name of mineral/s]
Health	“Vitamin B ₆ contributes to the normal function of the immune system”	The claim may be used only for food which is at least a source of magnesium as referred to in the claim source of [name of vitamin/s] and/or [name of mineral/s]
Health	“Vitamin D contributes to the maintenance of normal bones”	The claim may be used only for food which is at least a source of magnesium as referred to in the claim source of [name of vitamin/s] and/or [name of mineral/s]

⁸ As a rule, 15 % of the recommended allowance supplied by 100 g or 100 ml or per package if the package contains only a single portion should be taken into consideration in deciding what constitutes a significant amount. Examples of vitamins and minerals which may be declared and their recommended daily allowances (RDAs): Vitamin D µg 5, Vitamin B₆ mg 2, Vitamin B₁₂ µg 1, Magnesium mg 300, Iron mg 14, Zinc mg 15. (European Parliament and the Council 2006.)

APPENDIX 2. Examples of authorised claims in the U.S.

Type	Claim	Conditions of use
Nutrition	“Low calorie”	40 cal or less per RACC ⁹ (and per 50g if RACC is small ¹⁰)
Nutrition	“High”, “Rich in”, “Excellent source of”	Contains 20% or more of the DV ¹¹ per RACC
Nutrition	“Good source”, “Contains”, “Provides”	10%-19% of the DV per RACC
Nutrition	“More”, “Fortified”, “Enriched”, “Added”, “Extra”, “Plus”	10% or more of the DV per RACC than an appropriate reference food. May only be used for vitamins, minerals, protein, dietary fibre, and potassium
Health	“Adequate calcium and vitamin D, as part of a well-balanced diet, along with physical activity, may reduce the risk of osteoporosis.”	The claim makes clear the importance of adequate calcium and vitamin D intake, throughout life, in a healthful diet, are essential to reduce osteoporosis risk. The claim does not imply that adequate calcium and vitamin D intake, is the only recognized risk factor for the development of osteoporosis.
Health	“Healthful diets with adequate folate may reduce a woman's risk of having a child with a brain or spinal cord defect.”	Must include information on the nutrient (e.g. folic acid, a B vitamin, folacin), on the condition (e.g. brain or spinal cord birth defects), on the multifactorial nature of neural tube defects, and the safe upper limit of daily intake.
Health	“Drinking fluoridated water may reduce the risk of dental caries or tooth decay.”	Bottled water meeting the standards of identity and quality set forth in 21 CFR 165.110 (Code of Federal Regulations) Total Fluoride: >0.6 to 1.0 mg/L

⁹ RACC refers to Reference Amounts Customarily Consumed (FDA 2013).

¹⁰ Small RACC refers to Reference Amounts Customarily Consumed of 30 g or less or 2 tablespoons or less (FDA 2013).

¹¹ DV refers to Daily Values. Examples of vitamins and minerals which may be declared and their recommended daily values: Vitamin D IU 400, Vitamin B6 mg 2, Vitamin B12 µg 6, Magnesium mg 400, Iron mg 18, Zinc mg 15. (FDA 2013.)

APPENDIX 3. Questionnaire

Thank you for your interest in taking this survey! My name is Anni Paunisaari and I'm in the process of writing my master's thesis (University of Vaasa, Finland / International Business) for which the results of this survey will be used for. The goal of the survey is to explore the use of health and nutrition claims in the marketing of functional (health-enhancing) beverages and study the impact they have on Finnish and American consumers and their decision making. The results of this survey will only be used for the research purposes of this master's thesis and all responses will therefore remain anonymous and data will not be shared. The survey will take roughly 15-20 minutes of your time and all relevant instructions will be explained as you go through the questions. Thank you in advance for completing the survey and helping with my thesis!

BACKGROUND INFORMATION

Please tell me a little bit about yourself. Tick the box that describes you best.

1. Where are you from?

- | | |
|--|---|
| <input type="checkbox"/> Finland | <input type="checkbox"/> the U.S. |
| <input type="checkbox"/> other but currently living in Finland | <input type="checkbox"/> other but currently living in the U.S. |
| <input type="checkbox"/> none of the above | <input type="checkbox"/> none of the above |

2. How old are you?

- under 18
 18-24 years
 25-34 years
 35-44 years
 over 45 years

3. With which gender identity do you most identify?

_____ (open-ended question)

4. What is the highest degree or level of school you have **completed?**

- | | |
|---|---|
| <input type="checkbox"/> Less than a high school diploma | <input type="checkbox"/> Master's degree |
| <input type="checkbox"/> High school degree or equivalent | <input type="checkbox"/> PhD or other advanced degree |
| <input type="checkbox"/> Bachelor's degree | |

5. What is your current employment status?

- | | |
|--|---|
| <input type="checkbox"/> Employed full time | <input type="checkbox"/> Student and employed part time |
| <input type="checkbox"/> Employed part time | <input type="checkbox"/> Retired |
| <input type="checkbox"/> Unemployed and currently looking for work | <input type="checkbox"/> Homemaker |
| <input type="checkbox"/> Unemployed and not currently looking for work | <input type="checkbox"/> Self-employed |
| <input type="checkbox"/> Student | <input type="checkbox"/> Unable to work |
| <input type="checkbox"/> Student and employed part time | |

6. What is your approximate annual gross income?

- | | | | |
|---|---|--|--|
| <input type="checkbox"/> None | <input type="checkbox"/> 40 000–49 999 | <input type="checkbox"/> None | <input type="checkbox"/> \$40,000–\$49,999 |
| <input type="checkbox"/> 1–4999€ | <input type="checkbox"/> 50 000–59 999€ | <input type="checkbox"/> \$1–\$4,999 | <input type="checkbox"/> \$50,000–\$59,999 |
| <input type="checkbox"/> 5000–9999€ | <input type="checkbox"/> 60 000–69 999€ | <input type="checkbox"/> \$5,000–\$9,999 | <input type="checkbox"/> \$60,000–\$69,999 |
| <input type="checkbox"/> 10 000–14 999€ | <input type="checkbox"/> 70 000–79 999€ | <input type="checkbox"/> \$10,000–\$14,999 | <input type="checkbox"/> \$70,000–\$79,999 |
| <input type="checkbox"/> 15 000–19 999€ | <input type="checkbox"/> 80 000–89 999€ | <input type="checkbox"/> \$15,000–\$19,999 | <input type="checkbox"/> \$80,000–\$89,999 |
| <input type="checkbox"/> 20 000–29 999€ | <input type="checkbox"/> 90 000–99 999€ | <input type="checkbox"/> \$20,000–\$29,999 | <input type="checkbox"/> \$90,000–\$99,999 |
| <input type="checkbox"/> 30 000–39 999€ | <input type="checkbox"/> more than 100 000€ | <input type="checkbox"/> \$30,000–\$39,999 | <input type="checkbox"/> more than \$100,000 |

7. Are you following any health regime (e.g. specific diet, exercise plan, or other health practice)?

- Yes
 No

8. Do you have any diet-related medical history/conditions (e.g. anemia, diabetes, hypertension, deficiencies of vitamins or minerals)?

- Yes
 No

HEALTH & NUTRITION

Next, I invite you to evaluate how well the following statements meet your own opinions.

		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
9.	Food plays an important role in keeping me in good health	1	2	3	4	5
10.	The healthiness of food affects my food choices	1	2	3	4	5
11.	I avoid unhealthy food	1	2	3	4	5
12.	I am more health-oriented than pleasure-oriented	1	2	3	4	5

FUNCTIONAL FOOD & BEVERAGES

The following questions relate to functional foods and beverages, as well as fortified waters. Please read the following definitions and evaluate how well the following statements meet your own opinions. If you have any additional comments or feedback, please feel free to provide them in the given section - you can write these in either Finnish or English.

- ➔ *A functional food or beverage is defined as a product that contains health-enhancing attributes that may contribute to a better state of health through health promotion and/or disease prevention.*
- ➔ *Fortified waters refer to vitamin and/or mineral enriched water-based drinks.*

		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
13.	I was familiar with the concept of functional foods/beverages before reading the definition	1	2	3	4	5
14.	I was familiar with the concept of fortified waters before reading the definition	1	2	3	4	5
15.	Health-enhancing compounds are beneficial characteristics in food	1	2	3	4	5
16.	I think positively of health-enhanced food and beverage products	1	2	3	4	5

17.	Consuming fortified water has a positive effect on my health	1	2	3	4	5
18.	Fortified waters are healthier than non-functional water-based drinks	1	2	3	4	5

19. How often do you use health enhancing foods or beverages?

- Not at all
 A couple of times a year
 2–3 times / month
- Once a week
 2 – 5 times / week
 Almost daily

20. How often do you use fortified waters?

- Not at all
 A couple of times a year
 2–3 times / month
- Once a week
 2 – 5 times a week
 Almost daily

Additional comments/feedback related to functional food and beverages:

HEALTH AND NUTRITION CLAIMS

The following questions relate to health and nutrition claims used in the packaging of functional foods and beverages. Please read the following definitions and evaluate how well the following statements meet your own opinions. If you have any additional comments or feedback, please feel free to provide them in the given section - you can write these in either Finnish or English.

- ➔ *Nutrition claims refer to statements or suggestions that a food/beverage contains beneficial nutritional properties (e.g. “no added sugar” and “good source of vitamin D”).*
- ➔ *Health claims refer to any statements that certain health benefits can result from consuming a given food (e.g. “selenium contributes to the normal function of the immune system”).*

		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
21.	I am interested in looking for health and/or nutrition claims on food products in general	1	2	3	4	5
22.	I am interested in looking for health and/or nutrition claims on fortified waters	1	2	3	4	5
23.	Compared to most people I am quite knowledgeable about health and nutrition claims	1	2	3	4	5
24.	I understand how some of the most common vitamins and minerals such as vitamin B, vitamin D, magnesium, and zinc contribute to my state of health (i.e. health outcomes)	1	2	3	4	5

Feel free to elaborate (e.g. which compound and health outcome combinations are familiar):

HEALTH & NUTRITION CLAIMS (CONTINUED)

25. Magnesium contributes to:

- normal cognitive function
- reduction of tiredness and fatigue
- normal function of the immune system

26. Vitamin C contributes to:

- normal energy-yielding metabolism
- regulation of hormonal activity
- maintenance of normal bones

		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
27.	Health and nutrition claims assist my product choices	1	2	3	4	5
28.	I use health and nutrition claims when deciding which product to buy	1	2	3	4	5
29.	Health and nutrition claims are credible	1	2	3	4	5
30.	Health and nutrition claims are scientifically tested	1	2	3	4	5
31.	Health and nutrition claims are marketing gimmicks used to attract consumers	1	2	3	4	5

Additional comments/feedback related to health and nutrition claims:

SUMMARY

This is the final part of the survey. I would appreciate you taking the time to reflect upon the topic of this survey and answer the final "question" as extensively as you can. You can write your answer in either Finnish or English.

Here are some example questions that could help you in the process of answering:

- What do you think about the food industry (general)?
 - What do you think about the functional food industry (functional foods and beverages)?
 - Have you paid attention to health and/or nutrition claims in the past?
 - Do you think you should read the descriptions on the product packages more carefully?
 - What are the driving forces when it comes to your food purchase behavior (e.g. taste, price of the product, healthiness, freshness, ethical matters, organic, locally produced, health-enhancing compounds etc.)?
 - Do health and/or nutrition claims have the ability to shift your initial purchasing intent (e.g. intent to buy a water bottle --> acknowledging a health/nutrition claim --> purchasing a fortified water)?
-

THANK YOU!

Thank you for taking this survey and helping with my master's thesis, please submit your answers now.

APPENDIX 4. Informed consent form for U.S. survey

The School of Business at Emporia State University supports the practice of protection for human subjects participating in research and related activities. The following information is provided so that you can decide whether you wish to participate in the present study. You should be aware that even if you agree to participate, you are free to withdraw at any time, and that if you do withdraw from the study, you will not be subjected to reprimand or any other form of reproach. Likewise, if you choose not to participate, you will not be subjected to reprimand or any other form of reproach.

The aim of this research is to deepen the overall understanding and knowledge on the topic of health and nutrition claims' impact on the purchasing of functional beverages – more specifically of fortified waters. The survey which you are about to take seeks to map out individuals' motivations for purchasing functional beverages, examine the effects health and nutrition claims have on purchasing decisions and study consumers' reactions triggered by claims advertising. By taking this approximately 15-20-minute survey, you are helping to shed light on how claims advertising affects consumers' purchasing intent and how it can be utilized to facilitate healthier purchasing decisions in terms of food. You get the chance to reflect upon your own purchasing behavior and how marketing efforts might affect your decision-making within the field of food. In the future, this might prompt you to consider your own food-related purchasing decisions more in depth.

Please note that as the research explores food-related purchasing behavior some questions revolve around food consumption habits and healthy lifestyles. The topic of food and state of health might be sensitive to some people and therefore related questions might cause mild discomfort. However, the intention is not to map out food-related behavior to a great extent but rather to explore participants' responses to certain products and marketing actions.

The results of this survey will only be used for the research purposes of this master's thesis and all responses will therefore remain **anonymous** and data will not be shared. Throughout the process only the researcher (Anni Paunisaari) will have access to the data and once the study is complete, all data will be immediately destroyed. The final due date for this is 9/1/2019.

Should you have any questions prior to, during, or after answering the survey, you are warmly welcome to contact Anni Paunisaari via email at apaunisa@g.emporia.edu. To request findings please refer to the same email address or visit <https://www.tritonia.fi/fi/e-opinnaytteet> to view the thesis after its completion.

"I have read the above statement and have been fully advised of the procedures to be used in this project. I have been given sufficient opportunity to ask any questions I had concerning the procedures and possible risks involved. I understand the potential risks involved and I assume them voluntarily. I likewise understand that I can withdraw from the study at any time without being subjected to reproach."

By continuing to the survey and clicking the “next” button you are giving your consent.

APPENDIX 5. IRB approval letter for conducting a survey

**EMPORIA STATE
UNIVERSITY**
 ■ GRADUATE SCHOOL AND
 DISTANCE EDUCATION

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 620-341-5351
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www.emporia.edu/research

March 7, 2019

Anni Paunisaari
 School of Business
 1622 Center Street, Apartment 1
 Emporia, KS 66801

Dear Ms. Paunisaari:

Your application for approval to use human subjects has been reviewed. I am pleased to inform you that your application was approved and you may begin your research as outlined in your application materials. Please reference the protocol number below when corresponding about this research study.

Title:	The Role of Nutrition and Health Claims in the Purchasing of Functional Beverages: Effects on Decision Making among Finnish and American Consumers
Protocol ID Number:	19076
Type of Review:	Expedited
Time Period:	March 1, 2019 to September 1, 2019

If it is necessary to conduct research with subjects past this expiration date, it will be necessary to submit a request for a time extension. If the time period is longer than one year, you must submit an annual update. If there are any modifications to the original approved protocol, such as changes in survey instruments, changes in procedures, or changes to possible risks to subjects, you must submit a request for approval for modifications. The above requests should be submitted on the form Request for Time Extension, Annual Update, or Modification to Research Protocol. This form is available at www.emporia.edu/research/irb.html.

Requests for extensions should be submitted at least 30 days before the expiration date. Annual updates should be submitted within 30 days after each 12-month period. Modifications should be submitted as soon as it becomes evident that changes have occurred or will need to be made.

On behalf of the Institutional Review Board, I wish you success with your research project. If I can help you in any way, do not hesitate to contact me.

Sincerely,



Dr. John Barnett
 Chair, Institutional Review Board

bj

cc: Carol Lucy