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The influence of Nutrition labeling on food packaging

A qualitative marketing research on healthier purchasing decisions by Millennials influenced by front-of-pack nutrition labeling

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Master Thesis Degree in Business Administration

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Key terms: Front-of-Package Nutrition Labeling (FOPNL), Millennials, Healthy Food, Purchasing Decisions, Food Labeling.

Abstract

Background: Diseases caused by nutrition-related factors are globally increasing. Consumers can use help making healthier food choices. Nutrition labeling, front-of-pack, in particular, is reviewed as an important policy tool to assist consumers in this matter. Research found that front-of-pack nutrition labeling is influencing consumer's product choice but no study researched the influence on Millennials while they are the most interesting consumer group of these times due to their large size and increasing power.

Purpose: Explore how Front-Of-Package Nutrition Labeling (FOPNL) is influencing Millennials to make healthier food purchasing decisions.

Method: To attain the purpose, a qualitative study was conducted. A theoretical framework was created to evaluate excising factors related to FOPNL that are influencing consumer purchasing behaviour. To create in-depth insights on the influence of front-of-package nutrition labeling on Millennials, 18 semi-structured interviews have been conducted.

Conclusion: The results show that the influence of FOPNL on Millennials is dependant of the type of label. Currently, the main problem concerning all FOPNL types is the lack of believability of these claims, which makes them less influential on Millennial purchasing behavior. Even though, interpretive nutrient-specific claims are perceived as the most influential FOPNL type. Additionally, the influence varies depending on trial or repeat purchase.

Table of Contents

List of Figures

List of Tables

1. Introduction

The goal of this chapter is to provide background information on why the given field of research deserves to be studied. In addition, the purpose of the study will be presented together with the research question as well as a short overview of key terms within this thesis.

1.1 Background

1.1.1 Nutrition Labeling in Relationship to Healthier Products

Diseases caused by nutrition-related factors such as high blood pressure, obesity, and high cholesterol are globally increasing (Ezzati, Lopez, Rodgers, Vander Hoorn, & Murray, 2002). Consumers can use help in making healthier food choices because many consumers do not have the skills, knowledge, or motivation needed to read and understand nutrition tables on packaging (Kees, Burton & Andrews, 2015). The need for quick and easy access to relevant information on calories and nutrient content on food packaging is desirable (Kees et al., 2015). Nutrition labeling, front-of-pack labeling, in particular, is reviewed as an important policy tool to assist consumers in making healthier food product choices (EC, 2008). Nutrition labels and claims on packaging can help consumers by providing nutrition information directly at point of purchase (Ni Mhurchu & Gorton, 2007). "Nutrition labels provide quantitative information about the nutritional properties of a food, while nutrition claims provide information about the nutritional properties of particular foods and nutrients." (Hawkes, 2004, p.8).

A general definition of healthy food is; a balanced diet full of proteins, carbohydrates, and fats, moderation, and regularity in food consumption and control on the nutrients of the meal (Catalina, 2010). Adding a front-of-pack label beside the traditional numerical nutrition fact box on the back of the pack is intended to help consumers make informed choices (Gonzalez-Zapata, et al. 2009). The implementation of Front-of-Pack Nutrition Labeling (FOPNL) has been recommended by the World Health Organization as a 'best-buy' measure to help prevent non-communicable diseases (World Health Organization, 2020). Research shows that FOPNL has the potential to change consumer food choices, providing these labels on packaging has been indicated as an effective nudging strategy (Scrinis & Parker, 2016). Additionally, according to Volkova and Ni Mhurchu (2015) nutrition labels have a greater impact on food choices than textual claims.

The underlying purpose of nutrition labeling can be explained by the involvement of three parties: consumers, food manufacturers, and governments.

The first objective is to help consumers understand the nutritional quality of a food product and as a result improve their diet, purchase decisions and health (Health Council of the Netherlands, 2008; Dagevos & van Kleef, 2009; Lytton, 2010; Williams et al., 2010). The goal of nutrition labelling is that consumers with various backgrounds understand them. In this context backgrounds mean literacy, age, and education (Kleef & Dagevos, 2014b).

The second objective is that nutrition labelling should motivate food manufacturers. The labels should motivate them to develop healthier products in a way that they reformulate current products composition or develop new products with a healthier composition, allowing them to carry a favorable nutrition label (Vyth et al. 2010).

The third objective is to involve governments and enable them to influence public health on a non-binding basis. They provide consumers an informed choice (Cowburn & Stockley, 2005) and at the same time give manufacturers the freedom in producing the products they want.

Research shows that customers want to improve their eating habits. A research from Catalina (2010) shows that 66% of the grocery store visitors are looking for healthier food options. Nutrition has become an important driving factor in making purchasing decisions. However, not all consumers have the knowledge to make healthier choices, therefore 40% of the shoppers stated to be interested in nutritional counseling by their local supermarket (Catalina, 2010). According to Financial Times (2016) the changing tastes of Millennial consumers is mainly driving the observed changes in the food industry. This development is a result of the ageing population, obesity and other health-related issues. As a consequence, younger consumers focus more and more on healthy food alternatives and health in general (Larsen, 2019). In the United States, Millennials represent about 25% - 27% of the population and have a tremendous spending power (Noble, Haytko & Phillips, 2009). This generation has a substantial impact on older generations and since 25% of them are parents, strongly influences family purchasing decisions (Millennial Marketing, 2020; Hamilton, 2018). Also Giovanni, Xu, and Thomas (2015) see Millennials as strategically interesting consumer group due to their large size and increasing power. Even though, researchers argue that the Millennial generation is poorly understood (Noble, Haytko & Phillips, 2009). The above-mentioned characteristics make the Millennial generation a highly interesting research group.

1.1.2 Types of Nutrition Labels

The communication of simple nutrition information in the form of FOPNL is more and more considered as an essential tool in decreasing unhealthy food choices and improve public health (Kleef & Dagevos H 2014). Research by the Institute of Medicine (2010) found that almost 50%

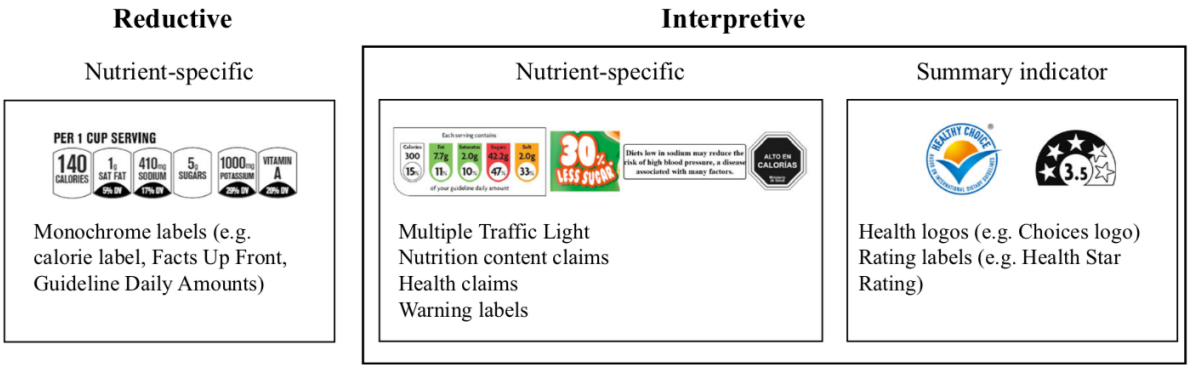
of all food products in Europe have FOPNL. FOPNL provides consumers with summarized nutrition information that is easier to understand than the more complex Nutrition Facts Panel (NFP), which can generally be found on the back of the packaging (Becker et al. 2015; Newman et al. 2018).

Within this thesis FOPNL referrers to both nutrition labels and claims since the researcher includes both in this thesis, this is corresponding with the definition used by Ikonen, Sotgiu, Aydinli, and Verlegh (2019) in their research. In regards to FOPNL there are two categories identified by Ikonnen et al. (2019); reductive labels and interpretive labels. Interpretive labels can be further categorized into interpretive nutrient-specific labels and interpretative summary indicator labels (Ikonen et al., 2019). Reductive labels show a summary of nutrition information that is displayed on the NFP, without stating any interpretation of this information. The reductive nutrition facts table as shown in Figure 1 can be identified as Guideline Daily Amount (GDA). The other type, interpretive labels, show more evaluation of the information concerning the NFP (Newman et al. 2018; Talati et al. 2017). The two types of interpretive labels can be categorized depending on the degree of information aggregation.

The first type, interpretive nutrient-specific labels are formulated as claims or labels. Interpretive nutrient-specific labels show an interpretation of the healthfulness of one or more individual nutrients. For example, the Multiple Traffic Light system that uses colors to show whether the level of five particular nutrients; calories, fat, saturates, sugars and salt (i.e. green when the level is low, orange when the level is medium or red when the level is high). Evaluations concluded that this system improves consumer's understanding of the nutritional quality of their product options, compared to other proposed labels (Campos, Doxey & Hammond 2011).

The second type, interpretative summary indicator labels, summarize and interpret the overall healthfulness of a product into one indicator (Talati et al. 2017). An example of this is the Choices Program health logo. This is is a front-of-pack stamp on food and beverage products that pass an evaluation against scientific criteria and helps consumers to identify healthy product choices (Dötsch-Klerk, Jansen 2007). A visualized explanation can be found in Figure 1 below.

Figure 1. Types of FOPNL



Source: Ikonen et al. (2019).

1.2 Problem Formulation

While consumers generally like FOPNL, say that they understand the displayed information and use this information to make a purchasing decision (Feunekes et al., 2008). However, there is only limited research that proves that FOPNL enhances healthy food choices in actual in-store purchase situations (van Herpen & Trijp 2011). Also Grunert and Wills (2007) concluded that there are only limited insights found into label use. They refer to 'use' as the use of nutrition labeling in the decision to purchase the product that carries the label or not. Additionally, Volkova and Ni Mhurchu (2015) indicate that the evidence of the impact of point-of-purchase information on consumers' food choices requires further study. Their analyses of related studies published between 2011 and 2014 show that nutrition declaration information on the back of the packaging is less liked and harder to understand, compared to FOP nutrition labeling. According to Hersey, Wohlgenant, Arsenault, Kosa, and Muth (2013) the actual use and impact of FOPNL on consumer choice remains unclear.

Additionally, there is reason to believe that some findings may be biased by the self-report survey methodology adopted (Van Trijp, 2009) and the influence of these labels on actual food choices is much less pervasive (Muller, 1985). Going further into detail, Ikonen et al. (2019) state that purchase intentions are mainly influenced by interpretive label types. Taken together with the limited evidence that FOPNL stimulates healthy food choices (as mentioned above), the question arises if the purpose of FOPNL is actually met, namely helping consumers to make healthier food choices (Gonzalez-Zapata, et al. 2009).

This research is conducted on Millennial consumers because they are a relevant consumer group, due to their size and influence on older generations and their children. The relationship between

FOPNL and Millennial consumers has not been extensively examined and therefore makes this research valuable.

1.3 Research Question and Purpose

As a result of the problem mentioned above, the following research question is formulated:

> *'How do front-of-package nutrition labels on food packaging influence healthier purchasing decisions by Millennials?'*

With this research question in mind, the researcher aims to contribute to the current knowledge on the impact of nutrition labels on food packaging, with a specific focus on the Millennial generation. The focus of this study will be on the inductive research approach due to the desire to create an understanding on the influence of FOPNL specifically on one consumer group, in this case Millennials, which has not been researched before.

The results of this research will provide valuable insights for food manufacturers, governments, academic researchers, and consumers. Marketing departments of food manufacturers can use the results in order to design food packaging targeting Millennials. Governments can use the results to indicate the importance of nutrition labeling regulations and laws. Showing if nutrition labels on food packaging influence consumer purchasing decisions, gives the government reasons to research the subject deeper. Moreover, the results and insights can be used for further research on the interpretation and effectiveness of nutrition labeling, in order to understand more about purchasing decisions of consumers. And lastly, by reading this thesis Millennial consumers themselves can gain information and understanding of the influence of FOPNL on their purchasing decisions.

1.4 Outline of the Thesis

The first chapter of the thesis sets out the purpose of the research, provides background information on the research topic and presents the problem statement. It further provides reasoning for the relevance and importance of the thesis, from both a theoretical and practical point of view. The second chapter introduces the theoretical framework and discusses the literature on the phenomenon of nutrition and health claims, nutrition labeling, decision making, and the Millennial. The third chapter shows the methodological reasoning of the author. Within chapter four the results of the study are described in detail. The fourth chapter presents the findings derived from empirical research. The interpretation and analyses of the empirical findings are discussed in chapter five. Additionally, this chapter includes a discussion of the empirical findings and their

relationship to the theory. The sixth chapter discusses the answer to the research question and other conclusions. Furthermore, within chapter six the managerial implications and topics of interest for future research are identified.

1.5 Key Terms

Front-of-Package Nutrition Labeling (FOPNL), Millennials, Healthy Food, Purchasing Decisions, Food Labeling.

Abbreviations:
FOP Front-Of-Pack
FOPNL Front-Of-Pack Nutrition Labeling
FSIN Food Service Institute the Netherlands
GDA Guideline Daily Amount
NFP Nutrition Facts Panel
NHCs Nutrition and Health Claims

2. Theoretical Framework

The purpose of this chapter is to provide theoretical background on the subject for the general understanding and making important links during the empirical research and analysis of this thesis.

Millennial nowadays are focussed on searching for healthier products (Food Service Institute the Netherlands, 2019). FOPNL is designed to help consumers make healthier food product choices (EC, 2008). However, the question remains whether nutrition labels can influence Millennials in making healthier purchasing decisions. The purpose of this chapter is to explain the difference between nutrition and health claims, provide insight on factors that are impacting the influence of FOPNL, followed by the influence of consumer motivation on FOPNL usage. Furthermore, the differences between reductive and interpretive nutrition labels will be discussed. Afterwards the consumption behavior of Millennials will be described according to research on this generation conducted by Food Service Institute the Netherlands (2019). Ending with a theoretical model based on the theoretical framework which is discussed in the chapter.

2.1 Nutrition and Health Claims

Since 2011, European regulations have made the nutrition facts panel mandatory on food packaging (EU Regulations N. 1169/2011). However, nutrition and health claims are currently still voluntary indications (Although regulated by the EU Regulations N. 1924/2006 and N. 432/2012). As a consequence, the use of nutrition and health claims vary across countries. These differences are caused by cultural differences in regulations and understanding. Previous research assessed the prevalence of Nutrition and Health Claims (NHC) on packaged foods sold in five EU countries (Germany, the Netherlands, Slovenia, Spain, and the UK) (Hieke, et al. 2016). Their research revealed that the prevalence differs per country for three reasons. Firstly, the use of nutrition and health-related claims on foods and non-alcoholic beverages was only regulated by the European Union (EU) in 2006. Before the EU regulation of healthy claims and symbols, all EU Member States had a different history in usage of the claims. (Hieke, et al. 2016). Secondly, food operators employ different marketing strategies for their products. Thirdly, EU Member States have different approaches to implementing the EU regulation on national level.

This research by Hieke et al. (2016), showed that approximately one quarter (26%) of foods sampled in the study has a Nutrition and Health Claim. According to Ikonen et al. (2019), the difference between nutrient and health claims is that health claims focus on the link between nutrient and a specific health or risk reduction benefit while nutrient content claims show the

positive level of a specific nutrient. Twice as many foods carried nutrition claims (21%), compared to health claims (11%). The number of products carrying nutrition claims varies per country, the highest frequency of foods carrying at least one nutrition claim was found in the UK (30%). Besides, Hieke et al. (2016) found that the number of nutrition claims on food products differs per country, with the highest number of 13 nutrition claims on a confectionery product in Germany.

Different researches show the up- and downsides of NHCs related to the effect on consumers. The labels are designed to help consumers make informed choices about what they drink and eat, which leads to an improved quality of their diet (Williams, 2005). On the other hand, research suggests several unfavorable effects of NHCs. First of all, NHCs can lead to an increase in consumption and/or purchasing behavior of food and drinks (Kaur, Scarborough, Rayner, 2017). This increase may be due to a "health halo" effect (Wansink & Chandon, 2006), were individuals consider a product as healthier than it actually is, based on nutrition claims. Additionally, NHCs can impact consumers' perceptions of food products, several studies show impacts on perceived healthiness, tastiness, fillingness, naturalness, and attractiveness (Benson et al., 2018; Wang, Oostindjer, Amdam, Egelandsdal, 2016; Lähteenmäki et al., 2010; Gravel et al., 2012).

2.2 Factors impacting the Influence of Nutrition and Health Claims

Benson, et al. (2019) researched the underlying reasons why Nutrition and Health claims (NHCs) impacts consumers. Their model, shown in Appendix A, shows the suggested relationships between knowledge, believability of NHCs, perceptions of products displaying NHCs, consumption, and the influence of NHCs on purchasing behavior. This model shows that knowledge influences the believability of NHCs and the perceptions of products. Benson et al. (2019) suggest that the perceptions of products on displaying NHCs causes an influence of NHCs on consumer purchasing behavior and consumption of products. This thesis will focus on the role of nutrition labeling in making purchase decisions, therefore the focal point within this model is the influence of nutrition claims on purchasing behavior and not on the consumption of products displaying nutrition and health claims. The three variables knowledge, believability, and perceptions of products from the model will be discussed below.

2.2.1 Knowledge

In the model of Benson et al. (2019) the knowledge of participants is referred to as superior yet superficial. Participants indicated that their knowledge was better than other consumers and therefore would not be tricked by NHCs (Benson et al., 2019). Benson et al. (2019) found that

participants were unable to distinguish different types of claims, e.g. nutrition and health claims and unregulated and regulated claims, due to confusion and overload caused by the different types of claims. This shows according to Benson et al. (2019) that knowledge of participants is related to their believability of nutrition and health claims.

Even though the majority of consumers understand nutrition labeling (Grunert, Wills, Fernández-Celemín, 2010), consumers, researchers, and policymakers state that health and nutrition information is often conflicting and confusing (Schor, Maniscalco, Tuttle, Alligood, Reinhardt Kapsak, 2010). Research by Kleef & Dagevos (2014) indicates different types of FOPNL misinterpretations that might occur by consumers (e.g., unclear underlying criteria of labels, unclear whether labels compare products across or within food categories).

According to Grunert and Wills (2007) demographic factors can also influence the consumers understanding of nutrition labeling. Older and less educated consumers performed poorly on the indicators of objective understanding (Grunerty and Wills, 2007). Roe, Levy, and Derby (1999) found that respondents with a lower level of education were more likely to rely only on FOP labels. Consumers with a higher level of education are more likely to know more about food and nutrition and thus are better capable of using the information stated on packaging (Calaviere et al., 2016). On the other hand, a study performed by Feunekes, Gortemaker, Willems, Lion, and van den Kommer (2008), could not indicate an effect of educational level in perceived understanding.

2.2.2 Believability

Believability is defined by Benson et al. (2019) as the belief of consumers in claims. The respondents in their research generally believe that claims must be true. Even though the claims on healthy products were considered more believable then claims on less healthy products (Benson et al., 2019). While other interviewees mentioned to be skeptical and consider NHCs as marketing with as tool to encourage buying behavior. Benson et al. (2019) state that within their research believability was mentioned in relationship to skepticism with barely a connection mentioned to perception or consumption. Therefore, they suggest a connection between perception of product to believability of NHCs in their model. This is contradictory to research by Benson, Lavelle, Bucher, McCloat, Mooney, Egan, and Dean (2018b) who found that believability in NHCs was predictors of consumers' perception of tastiness, healthiness, and fillingness. Also research by Wansink, Ittersum, and Painter (2006) suggests that believability influences the perceptions of products.

Benson et al. (2019) link believability to a wider concept of trust, which has previously been found to influence the perceived benefits of claims (Dean et al., 2012). In particular, consumers with more trust in information sources perceive claims as more beneficial than consumers with less trust, and food and health authorities are considered as the most trusted information sources (Benson et al., 2019). Feunekes et al. (2008) confirm that a nutrition labeling format is perceived more credible in the eyes of consumers when endorsed with an international or national organization in the area of nutrition and health.

Besides, the more trust consumers have, the more influence on perceived benefits of claims (Volkova & Ni Mhurchu, 2015). Previous research by Volkova and Ni Mhurchu (2015) confirms the skeptical response of respondents in research by Benson et al. (2019), by saying that even though some claims are trusted by consumers, other are regarded with skepticism. Research by Coleman, Miah, and Morris (2014) states that consumers mainly question the validity of health claim information when it is related to risks of serious conditions such as cancer. At the same time this research found that participants show higher purchasing intentions of products with health, disease risk reduction, or nutrient claims (Coleman, et al. 2014).

2.2.3 Perceptions of Products

Within the model of Benson et al. (2019) characteristics of consumers are mentioned in combination with perceptions of products displaying NHCs. Consumer characteristics are in their research defined as knowledge and sociodemographics such as age, sex, education, and occupation. Benson et al. (2019) tried to gather participants with mixed sociodemographic characteristics but a majority of their respondents have a higher-skilled occupation which should be taken into account when interpreting the results.

Perceptions of products in the model is defined as the perception of product tastiness, healthiness and, satiety by consumers (Benson et al., 2019). Participants in their research perceive products with NHCs as more expensive, possibly poor in taste, and healthier than products without claims. Besides, the participants in their research indicated that portion sizes indicated on products with NHCs is smaller than products without, in order to enable their claims.

A few participants in the study of Feunekes et al. (2008) stated that NHCs were only influential in purchasing behavior for certain types of products. In particular, breakfast and dairy products such as cereal, milk, and bread were mentioned as products where claims may be more likely to influence

purchasing (Feunekes et al., 2008). This is in line with past research which showed that the type of product is one of the most important factors which affects consumer perceptions of products that display NHCs (Bech-Larsen & Grunert, 2003).

According to research by Feunekes et al. (2008) 58% of the participants in their study indicated that they thought a nutrition labeling format compares products between food products rather than between products within one category. Consumers thus expect one nutrition labeling format across food products. The results of their study show that healthy choices can be made faster with simple front-of-pack formats such as the Healthier Choice Tick or Health Star Rating than with the more detailed Guideline Daily Amount scores (these examples can be found in Figure 1) (Feunekes et al., 2008).

In order for FOP labels to reach their purpose of assisting consumers to distinguish products differing in healthfulness, the labels should have different effects for virtue and vice products, which ideally lead to positive healthfulness evaluations and purchase intentions for virtue products and the opposite effect for less healthy alternatives (Talati et al., 2016). The difference in product healthiness formulated as virtue and vice; virtue is defined as "something that is not very tempting now but may be more beneficial in the long run ... something that you feel less guilty choosing" (Huyghe et al., 2017, p. 66), while a vice is "something tempting that has few long-term benefits" (Huyghe et al., 2017, p. 66). Something that you want but at the same time feel guilty choosing." Other research shows that consumers tend to categorize food products as healthy or unhealthy. Due to this dichotomized perception of food by consumers, these terms are commonly used in literature (Steinhauser, Janssen, Hamm, 2019).
Ikonen et al. (2019) found that FOPNL can influence purchase intention of virtues in a way that it can lead to consumers perceiving vice products as healthier. Even though the effectiveness of the FOPNL does not significantly differ in terms of consumption depending on the product category. According to research by Ikonen et al. (2019), none of the individual (interpretive nor reductive) labels seems capable of influencing the healthfulness perceptions of virtues positively and vices negatively.

2.3 Consumer Motivation

Research shows that FOPNL on food products helps consumers in comparing products according to their healthiness but points out that despite the fact that consumers possess the knowledge to make healthier choices, not all choose the healthier products (Grunert, Wills, Fernández-Celemín,

2010). Miller & Cassady (2012) found that motivation impacts the decision accuracy of consumers through prior knowledge of nutrition. Previous research by Nebeling, Yaroch, Seymour, and Kimmons (2007) shows that knowledge alone is not likely to motivate healthier food choices. Research by Bandura (2005) and Leventhal & Mora (2005) suggest that motivation related to health behaviors is needed to comply with actions what consumers already know are relevant to their health.

The effectiveness of food labeling is, according to Cavaliere, De Marchi, and Benterle (2016), strongly depending on consumers' willingness to use it. Aschemann-Witzel et al. (2013) confirms that the positive effects of FOPNL are only applicable to consumers that are interested to shop healthier. According to Cavaliere et al. (2016) different levels of orientation to health, influence the use of nutrition labeling. According to Cavaliere et al. (2016), health-orientation represents the individual motivation for pursuing the goal of being healthy. Previous research shows that health-orientation influences the level in which consumers engage in health-enhancing behavior and make decisions related to food consumption (De Marchi, Caputo, Nayga, & Banterle, 2016), including the usage of labeled information (Visschers et al., 2010).

When consumers are more health motivated they are more likely to take actions that can contribute to the improvement of their health status (Cavaliere, De Marchi, & Banterle, 2014).

Cavaliere et al. (2016) made a differentiation between food labels in addressing three categories: the nutrition fact panel, nutrition claims and health claims. The NFP is also known as the nutrition information panel and shows what nutrient content is in the food. Cavaliere et al. (2016) show that highly health-oriented consumers are more likely to refer to the extensive information reported on nutrition fact panels, whereas nutrition and health claims are mainly of interest for consumers with low orientation to health (Cavaliere et al., 2016). Low health-orientated consumers are less interested in having detailed nutrition information and therefore mainly interested in the synthetic contents of both nutrition and health claims on the front of packaging (Cavaliere et al., 2016; Grunert & Wills, 2007). According to those results it can be concluded that the level of health-orientation has an impact on the search for information by consumers and their use of nutrition labels.

Research by Roe, Alan, Levy Derby (1999) on the impact of FOPNL on consumer search and evaluation shows that nutrient-content claims truncate consumers' information search to the front of the food package. The respondents that only use the FOP, show significantly higher purchasing intentions than those who consult the NFP. Truncation and claims independently contribute to a positivity bias and prioritization of the health information volunteered by the respondent (Roe et

al., 1999). Roe et al. (1999) also confirm that consumers limit information search to the FOP when under time pressure. Besides, time pressure causes the consumers to prioritize the information mentioned in the claim and do not search for other nutritional values (Roe et al., 1999).

Besides the level of health-orientation there are other groups indicated in previous research that show specific interest in nutritional information on food packaging. Gender seems to be a relevant factor when examining consumers, generally looking at consumer types, women are more interested in nutrition information than men (Grunert & Wills, 2007). This interest is also more often mentioned by parents of children living at home, particularly pre-teenage children (Grunert & Wills, 2007). Also young women show more interest in nutrition concerning weight control goals and other aesthetic concerns (Grunert & Wills, 2007). Another group that indicates special reasons for interest are older consumers with a focus on health concerns.
Also, origin seems to affect the level of interest in nutrition claims. A study conducted within the European Unions shows that in general participants from Nordic countries, the Netherlands, and the UK are most interested in nutrition information compared to other European countries (Grunert & Wills, 2007). Cavaliere et al. (2016) confirm that female and older people indeed are more interested in nutrition claims compared to men and younger consumer groups, however, these gender and age indications affect only consumers' interest in claims but there are no significant effects found looking at the use of e.g. the nutrition fact panel. Research by Williams and Mummery (2012) shows that the general use of nutrition claims is higher amongst women, consumers with higher education, and people with health or weight concerns.

According to Kleef and Dagevos (2014), consumers have limited motivation and opportunity to look for detailed information when shopping for groceries due to time pressure and distractions. For many consumers is deciding how much and what to eat, a low-involvement behavior driven by habits. Food labeling works in this context, and lack of attention is an important problem related to the use of nutrition labels (Van Trijp, 2009). People are more likely to look for a label when they purchase a food product for the first time (product trial), or with a specific goal such as diet preferences (Kleef & Dagevos, 2014).
Previous study on the understanding of nutrition information on food labels in six European countries, shows that 16,8% of the shoppers look for nutrition information (Grunert, Wills, Fernández-Celemín, 2010). Research by ACNielsen (as cited in Grunert and Wills, 2007), shows that these numbers increase when products that are bought for the first time, the number of consumers reading nutrition labels increases to 41%. This statement is in line with previous

research of Becker et al. (2015), which suggests that labeling has less influence on consumers that already have an opinion on products and therefore pay less attention to the FOPNL. This is also confirmed by research conducted by Aschemann-Witzel et al. (2013), which shows that consumers' buying decision is influenced by claims that are less familiar with a product while for regular consumers the presence of this claim did not result in different choices.

2.4 Effectiveness Reductive and Interpretive Nutrition Labeling

Previous research addressed the effectiveness of different Nutrition labeling formats. Feunekens et al. (2008) looked for the effect of six different nutrition labeling formats on consumers assessing different factors such as the impact of nutrition labeling formats on perceived consumer friendliness, the credibility per tested format, and liking of formats. The results show that on average, participants found all the tested nutrition labeling formats easy to understand and helpful in making healthier choices.

Ikonen et al. (2019), identified two categories in FOPNL; reductive labels and interpretive labels (see section 1.1.2). Interpretive labels can be further categorized into interpretive nutrient-specific labels and interpretative summary indicator labels.

Previous research by Ikonen et al. (2019) tested the effect of the two types of labels on eight facets; attention to Nutrition Facts Panel, healthfulness, tastiness, attitude, healthy identification, purchase intention, healthy choice and consumption. Results show the advantages of both types of labels.

First, the interpretive labels have a positive impact on purchase intentions. Although all FOPNL helps consumers identify the healthiest option, interpretive summary labels are the most effective in helping consumers identify healthier food options (Ikonen et al., 2019). Another effect identified by Ikonen et al. (2019) is that interpretive labels drive away consumers' attention from the Nutrition Facts Panel. Another result is the negative impact of these labels on the tastiness perception by consumers.

Second, the reductive labels are commonly considered to be difficult to understand and time-consuming (Talati et al., 2017). Besides, these types of labels can lead to positivity bias, were the presence of these labels on the front of the package increase the chance of being chosen by the consumer in comparison to a similar product without a label, regardless of the healthiness of the product (Talati et al., 2017).

Additionally, both interpretive and reductive labels increase the perceived healthfulness in the eyes of consumers and positively affect consumers in making healthier choices (Ikonen et al., 2019).

Grunert and Wills (2007) reviewed research conducted over three years in 15 European countries, they categorized nutrition labels in Guideline Daily Amount (GDA) based systems (reductive), traffic light systems (interpretive, nutrient specific) and health logo/ratings (interpretive, summary indicators). They indicate that consumers rated the overall healthiness of products higher when the packaging contains a health logo or health rating system (interpretive summary indicator), in comparison to packaging providing indicators such as multiple traffic lights (interpretive nutrient-specific label) and GDA systems (reductive nutrient-specific label). Another study shows that overall, multiple traffic light systems are the most preferred type of label by consumers except for consumers with lower income and education level, thy preferred simple formats such as logos (Méjan, Macouillard, Péneau, Hercberg and Castetbon, 2013). Hersey, et al. (2013), found that multiple traffic light formats are equally effective as Daily Intake Guide labels. Overall Volkova and Ni Mhurchu (2015), conclude after reviewing multiple researches, that nutrient-specific labels are more effective in identifying healthier products than summary labels and that color-coded formats are better in comparison to textual claims.

As mentioned above, colors used in nutrition labeling are also impacting the effectiveness of the labels. Hersey et al. (2013) reviewed 38 empirical studies comparing different FOPNL formats. They found that it is easier for consumers to understand and choose healthier products with FOPNL that contain text and symbolic colors to indicate nutrient levels compared to labels that only focus on numeric information such as percentages or grams. Volkova et al. (2015) also found that color-coded formats are better understood by consumers than labels without colors. Research shows that traffic light FOP labels on food packaging decreased the choice of high-fat and high-sugar products in comparison to non color-coded information (Hieke and Wilczynski, 2012). According to Hieke and Wilczynski (2012), 'red' (high levels) element of traffic light scheme had a higher impact on decision making than 'green' (low levels). Participants had a very strong preference toward the products with 'amber' sugar content, compared to 'red' sugar content, whereas the difference in preference for 'green' compared to 'amber' sugar content was not as high.

Hersey et al. (2013) found two general types of FOPNL: nutrient-specific and summary systems. Hersey et al. (2013) identified the following, most frequently used summary systems within their research: Healthy Choice Programme (used internationally), The National Heart Foundation Tick (Australia and New Zealand), Guiding star (U.S) and Keyhole symbol (Sweden, Denmark and Norway) (these summary labels can be found in Appendix B).

Even though there is research that shows the differences in effectiveness of Nutrition labeling types, there are no studies on effectiveness tested on different generations.

2.5 Millennials

Millennials are more and more looking for healthy food alternatives and are concerned about their health in general (Larsen, 2019). The diversity amongst this generation is high, the youngest Millennials still live at home with their parents while the oldest started their own family (Larsen, 2019). Millennials are an important consumer group because of their size and purchasing power (Noble, Haytko & Phillips, 2009). About 25% of the Millennials are parents who make decisions for their family consuming behavior (Millennial Marketing, 2020; Hamilton, 2018). Besides, this generation is focussed on fast and healthy food options (Food Service Institute the Netherlands, 2019). Food Service Institute the Netherlands (FSIN) did extensive quantitative research on Millennial consumer behavior. The research findings are based on an online survey conducted amongst Dutch Millennials. The Millennial profile and consuming behavior discussed below are all retrieved from this source. The findings of this research by FSIN can be found in the 'Food Shopper Monitor 2019' which is enclosed to this thesis.

2.5.1 Profile of the Millennial

Millennials or Generation Y, are people born between 1980 and 1999. They consider themselves as a limitless generation. The eagerness to travel stimulates involvement in societal issues such as sustainability, climate change, and the bio-industry. Millennials have a strong opinion and share these on social media. Millennials want to contribute something to this world and become successful.

As consumers, Millennials are critical and not loyal to brands. Honesty is the most important in communication from manufacturers. They are sensitive for price and convenience, and thus for offers. Generally, when they can afford it, they tend to buy healthy products. Labels that show fresh and natural foods are popular, just like innovative taste combinations and seasonal products. This generation gave a boast to the out of home food market. They consider food as a lifestyle. Millennials are focussed on healthy food and ostentation. Despite their desire to eat healthy Millennials have unpredictable food consumption habits. One day Millennials consume fruit shakes and the next day they eat at a trendy hamburger restaurant (Food Service Institute the Netherlands, 2019).

2.5.2 Millennial Consuming Behavior

Millennials consume food more than six times a day. These moments can be divided into breakfast, lunch, diner, and snacks.

The breakfast choice of Millennials is healthy and quick. More Millennials are consuming breakfast out of home due to convenience and saving time (28%). Half of the breakfast purchases out of home are bought in the supermarket. The most common food products purchased for breakfast are bread (70%), followed by muesli and oatmeal (39%), yogurt (38%), and fruits (35%) (Food Service Institute the Netherlands, 2019).

Besides consuming breakfast outside the house, Millennials are also the largest out of home lunch consumers. About 75% of the Millennials state that the healthiness of their lunch is important but when going out for lunch only 59% of stays with this statement. Even though the Millennials spend less money on lunch than older generations, they go out for food more frequently. FSIN expects the biggest revenue growth in food concepts that offer convenience and rapid service, due to the Millennials desire for efficiency. And in supermarkets, because of the low price advantages Millennials search for. Plus, supermarkets have convenient opening hours for busy Millennials. In regards to packaging, Millennials expect it to be sustainable, convenient to eat on the move, and easy to recognize (Food Service Institute the Netherlands, 2019).

In regard to diner consumption behavior of Millennials, only 19% consumers buy ready to eat meals at the supermarket at least once a week and 4% do home delivery. Looking at pricing, Millennials go out for dinner more frequently than other generations although they pay significantly less. Lastly, the snack. On average, 50% of the Millennials eat 3,5 snacks a day. The three largest snack categories are fruit, vegetables, and cookies.

The desire for convenience is confirmed by the large numbers of Millennials that consume foods out of home. Table 1 shows the number of Millennials looking for convenience and consuming breakfast, lunch, and diner outside their homes.

Table 1. Consumption Behavior Millennials

	Breakfast	Lunch	Diner
Consumers every day	64%	66%	89%
Out doors at least once a week	20%	60%	21%
Out door consumption bought in supermarket	10%	52%	19%
General spend	€ 5,91	€ 9,63	€ 22,97

Source: (Food Service Institute the Netherlands, 2019).

Millennials are more than other generations focused on convenience, price, and rapidity. This is more favorable for supermarkets compared to e.g. restaurants. There is a significant difference between the breakfast purchasing behavior of Millennial males and females in the supermarket. Research shows that women search for fresh, good quality, taste and price, while men mainly focus on convenience. Generally, healthy food is a more important factor for female than male Millennials.
Food Service Institute the Netherlands (2019) found that Millennials tend to be sensitive for product claims such as authentic and natural. But when manufacturers underline the healthiness of their product, they risk to be considered as untrustworthy (Food Service Institute the Netherlands, 2019).

Lastly, Millennials are known for a sporty lifestyle. They focus on specific nutrition such as low carbohydrates for fat burning, proteins for muscles, and added fibers. Healthy food options are becoming more and more important for them (Food Service Institute the Netherlands, 2019).

2.6 Theoretical Framework Model

Figure 2 shows the connection between theoretical themes and forms the theoretical framework of this study. The model is built on the idea of Benson et al. (2019) who suggest a relationship between knowledge, believability of NHCs and perceptions of products that are in relation to both the influence of NHCs on purchasing behavior and the consumption of products displaying NHCs. Within this thesis a number of specifications have been applied to the model of Benson et al. (2019), these will be discussed below.

Within this thesis the author chose to focus on nutrition labeling and claims since research by Ikonen et al. (2019) showed that twice as many foods carry nutrition claims compared to health claims. The difference between the two is that health claims focus on the link between nutrient and a specific health or risk reduction benefit while nutrient claims show the positive level of a specific nutrient (Ikonen et al, 2019).
The focus on specifically front-of-pack labels is chosen because the intention of the introduction of these labels is to help consumers make informed choices (Gonzalez-Zapata et al., 2009). According to Kleef & Dagevos (2014b), front-of-pack nutrition labels are considered as an important tool to help consumers make food choices. This research will be focussed on the three

types of front-of-pack nutrition labeling types identified by Ikonen et al (2019), explained in chapter one.

Benson et al. (2019) suggest a relationship between perceptions of products displaying NHCs and the consumption of products. Benson et al. (2019) based this suggested relationship on previous research by Kaur et al. (2017) who found that nutrition and health claims have a substantial effect on consumption but also indicate that most of the research they used was conducted in artificial settings. They highlight that results from natural experiments have shown smaller effects on consumption and that in further research the effects should be assessed in real-world settings. The focus of current research will therefore only be on the influence of FOPNL on consumer purchasing behavior and not on the relationship with the actual consumption of participants.

Finally, the researcher will focus on Millennial consumers specifically. While Millennials are representing a large part of the population, there is limited previous research on nutrition labeling focussed on the behavior of one consumer group or generation. Due to limited previous research the consumer profile on Millennials created by Food Service Institute the Netherlands is particularly relevant to this study. FOPNL could be especially influential on Millennials due to their need for convenience as indicated by Food Service Institute the Netherlands (2019).

Additional theory, found by the researcher of this thesis, adds three elements to the original model of Benson et al. (2019).

Firstly, in research by Benson et al. (2019) believability was mentioned in relationship to scepticism with barely a connection mentioned to perception or consumption. Therefore, they suggest a connection between perception of product to believability of NHCs in their model. This is contradictory to research by Benson, Lavelle, Bucher, McCloat, Mooney, Egan and Dean (2018b) who found that believability in NHCs were predictors of consumers' perception of tastiness, healthiness, and fillingness. Also research by Wansink, Ittersum and Painter (2006) suggests that believability influences the perceptions of products. This shows that the relation between believability and perceptions of products needs further research.

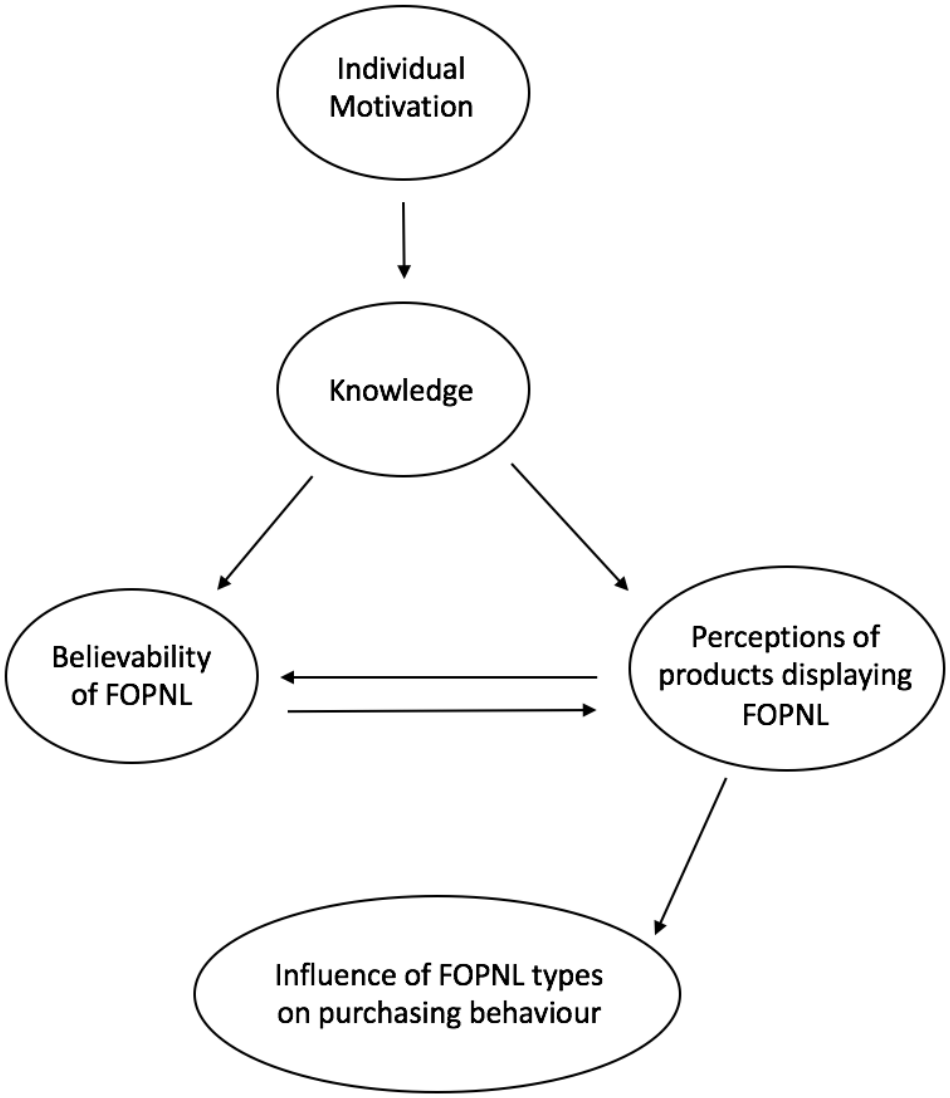
Secondly, additional to the model of Benson et al. (2019) motivation seems to drive the knowledge of consumers related to healthy food choices. Grunert, Wills, and Fernández-Celemín (2010) show that FOPNL on food products help consumers in comparing products according to their healthiness but point out that despite the fact that consumers possess knowledge to make healthier choices, not all choose the healthier products. Research by Bandura (2005) and Leventhal & Mora (2005) suggest that motivation related to health behaviors is needed to comply actions

with what consumers already know are relevant to their health. Thus, additionally to the model of Benson et al. (2019) consumer motivation seems to influence consumer' knowledge.

Thirdly, within the research by Benson et al. (2019) different nutrition labeling types were not taken into consideration. While, as indicated by Feunekens et al. (2008), different nutrition labeling formats have different effects on consumer' product choices.

The above mentioned changes have been incorporated in the model suggested by Benson et al (2010) in Figure 2 which represents the theoretical framework of this thesis.

Figure 2. Theoretical Framework Model: the influence of FOPNL on consumer purchasing behavior



FOPNL = Front-Of-Pack Nutrition Labelling

Source: designed by the author of this thesis.

3. Methodology

The purpose of this chapter is to provide information about the methodological reasoning behind this research. The author will discuss and demonstrate how the research approach can answer the research question. Next to that, the process of data collection and analysis will be discussed. At the end of this chapter the methodological limitations will be indicated together with ethical considerations.

3.1 Role of the Theory

There are two streams of approaches used to explain the relationship between theory and research; the inductive and deductive approach (Bryman, 2012). As suggested by Bryman (2012), this thesis started by reviewing literature to gain insights on the background of the research area. The reviewed literature resulted in the theoretical framework model (Figure 2), which can be considered as the deductive component of this study. Figure 2 creates a basic understanding of factors impacting the influence of FOP nutrition labelling on consumer purchasing behavior. The goal of the researcher of this thesis is to deepen the understanding of the view of a specific consumer group, namely Millennials. Focussing on the actor's point of view, in this case the Millennials, is part of inductive research (Tracy, 2020). Furthermore, the researcher tries to understand the meaning and rules for the behavior of participants (Tracy, 2020) which is the reason for focussing on the inductive approach. Due to the deductive component in this study the research is not fully inductive but semi-inductive. Applying a semi-inductive approach has thus been found to be most suitable for the purpose of the researcher to broaden the insights on the phenomenon and add new findings to the already existing research.

3.2 Research Strategy and Research Design

The research strategy describes how the researcher in the current study carried out his or her work (Saunders et al., 2009).

In the current research a mono method is used, which means that there is only one research method used, in this case qualitative research (Noko Emmanuel, 2019). The researcher made the choice for qualitative research based on the following facts. The goal of the research was not to test existing theory but to understand a phenomenon "through the eyes of people being studied" (Bryman, 2012). Thus, qualitative research gives the researcher the opportunity to dig deeper into what is really going on in the consumers' minds. Plus, to better understand what influences the respondents' purchasing decisions and get more in-depth answers. Besides, conducting qualitative

research enabled the interviewer to observe also non-verbal communications and interactions of the interviewee with for example the shown product (Bryman, 2012).

To indicate the time required to complete the research, two types of time horizons are identified; cross-sectional or longitudinal (Bryman, 2012). Cross-sectional is used the study investigates a particular phenomenon at a specific time in comparison to longitudinal which refers to repeated data collection of an extended period of time to examine change(s) over time. The researcher adopts a cross-sectional research design. This choice is in line with the goal of the research; not testing a theory but investigating elements that influence healthier purchasing decisions by Millennials.

3.3 Data Collection and Process

Bryman and Bell (2011) point out that the most typical research types of cross-sectional design in qualitative research are interviews and focus groups. The researcher chose interviews over focus groups in order to prevent participants' influencing each other's answers. Also participant observation was considered but evaluation showed that this method would be too time-consuming and difficult to gather rich and deep data.

In current research a qualitative strategy is applied. To collect empirical data, semi-structured interviews in a way of "guided open interviews" with the use of an interview guide are conducted. This type of data collection will allow the researcher to gain a deeper understanding of the phenomenon in the study. In this research, the researcher wants to provide the interviewees with a tangible product. An advantage of the qualitative research method is that a real product can be presented to the participants during the empirical research. The data collection techniques and process will be explained below.

3.3.1 Semi-structured Interviews

During a semi-structured interview, the interviewer enters the conversation with flexible questions or maybe even just a list of bullet points (Tracy, 2020). According to Tracy (2020), the goal of a less structured interview guide like this is to stimulate discussion rather than dictate it. Furthermore, the researcher chose semi-structured interviews because it allows the interviewees to address what is most interesting and important in their point of view. It also gives the interviewer the opportunity to follow the interviewee in new areas they address. The interview guide and questions consist of a combination of deductive and inductive questions but with a strong focus on induction to gain new empirical data. The list of interview questions (see Appendix B) was prepared on forehand

and consists of questions covering a range of issues, including motivation, knowledge, attitude, usage, and personal opinion related to food labeling.

3.3.2 Selection of Participants

Regarding to Saunders et al. (2012), sample definition requires researchers to choose between probability and non-probability sampling. The researcher decided to apply one of the most popular methods in qualitative studies to select participants for the face-to-face interviews, which is convenience sampling. According to Bryman (2012), "a convenience sample is one that is simply available to the researcher by virtue of its accessibility" and it is a type of non-probability sampling. Benson et al. (2019) tried to gather participants with mixed sociodemographic characteristics but a majority of their respondents have a higher skilled occupation which could bias their results. Therefore, the researcher of this thesis chooses to specifically sample Millennials with the same occupation. The author selected a sample of Millennials studying at a university. Taking the availability of Millennial students into consideration and the location of the researcher, students from Jönköping University are sampled for this study. All participants have to be born between 1980 and 1999 and therefore part of the Millennial generation (Food Service Institute the Netherlands, 2019). Previous research suggests that consumers with a higher lever of education are more likely to know more about food and nutrition and thus are better capable of using the information stated on packaging (Calaviere et al., 2016). Research by Williams and Mummery (2012) confirms that the use of nutrition claims is higher among consumers with a higher education. Besides being a Millennial and studying at Jönköping University, all participants have to be interested in healthy foods. According to Cavaliere et al. (2016), health-orientation represents the individual motivation for pursuing the goal of being healthy. Interesting to note with regards to the sample is that all participants of this study were asked about their interest in healthy food before taking part in the interviews. Additionally, the researcher sampled Millennials with a variety of nationalities since research shows that country of origin influences the level of interest in nutrition claims (Grunert & Wills, 2007). The researcher focussed on sampling both male and female Millennials.

Summarized the selection criteria are:

- Born between 1980 and 1999
- Students at Jönköping University, Sweden
- Have an interest in healthy foods
- Various nationalities
- Both male and female participants

Eighteen participants meeting these description criteria and were willing to participate in interviews. If a reference from one of the respondents is quoted in the report, they will be referred to by their respondent number, for example 'R.1' (see Table 2).

Table 2. Interview participants

Respondent	**Name**	**Age**	**Nationality**	**Gender**
R.1	Julia	23	Argentinian + Spanish	Female
R.2	Quincy	25	Dutch	Male
R.3	Gijs	25	Dutch	Male
R.4	Ta Bea	24	German	Female
R.5	Lucas	26	German	Male
R.6	Laurien	25	Dutch	Female
R.7	Linea	22	Swedish	Female
R.8	Juan Pablo	32	Mexican	Male
R.9	Marie	24	French	Female
R.10	Marc	28	German	Male
R.11	Harry	23	Australian	Male
R.12	Tom	21	Swedish + French	Male
R.13	Sophie	23	Dutch	Female
R.14	Natalija	25	Croatian	Female
R.15	Sophie	25	German	Female
R.16	Lennart	22	Dutch	Male
R.17	Anna	22	Austrian	Female
R.18	Lieke	22	Dutch	Female

Source: designed by the author of this thesis.

3.3.3 Product Choice

In this research only one type of food product packaging is used to test amongst participants. This is because the study is qualitative and aims to gain in-depth insights into the way of thinking of Millennials. Therefore, this study is not interested in different product types but in nutrition labeling. The food product group that has been found to carry nutrition claims most generally (almost a third of all packages) are according to Hieke et al. (2016), cereals and cereal products. Besides, the most common breakfast food products purchased are bread (70%), followed by muesli and oatmeal (39%) (Food Service Institute the Netherlands, 2019). Also the use of nutrition claims

was found to be the highest within the product category breakfast cereal with 87% (Williams et al., 2003).

A real product from the supermarket is used. The product is believed to be familiar to most consumers, to test with the participants. Using a familiar product is done in order to minimize potential confounding effects associated with the interviewees learning about a new product. The packaging that is used is a Swedish muesli product with all three FOPNL examples on the FOP; reductive and interpretive nutrient-specific labels and a interpretative summary label. To make sure the interviewees would be able to read and understand the package, the FOP information displayed was translated from Swedish to English, hence both shown on the FOP (see Figure 3).

All three FOPNL types can be found on the FOP of Paulins Supermüsli (see Figure 3). Pictures of all sides of this product can be found in Appendix C. The first one, the reductive label, is the calorie label in the right lower corner, highlighted by a green circle. The interpretive nutrient-specific labels on this package are the nutrition content claims, which are in this case stated as: no added sugar, rich in fibre and 83% wholegrain, highlighted by a red circle. Lastly, the interpretative summary indicator is on this product the Swedish green keyhole, highlighted by a yellow circle. This label indicates that this product is a healthier option within the product group (Livsmedelsverket, 2019).

Figure 3. Front-Of-Pack Nutrition Labeling (FOPNL) Paulins Muesli

The risk in using a real supermarket product is the association the interviewees have with the brand. This consumers' opinion on the brand can influence their buying decisions (Aschemann-Witzel et al., 2013). However, the chances of brand association by the interviewees are indicated to be small because it is a Swedish brand and the majority of the respondents are not Swedish. But to address this risk, questions concerning the brand will be included in the interviews.

3.3.4 Interview Conduction

Before conducting the actual interviews, the researcher carried out two pilot interviews with Millennial students of Jönköping University, in order to make sure that the questions were well interpreted and understood. The comments for improvement were processed afterward in order to improve and finalize the interview questions/subjects.

The interviews are conducted in a time period of three weeks. The interviews are done one-on-one with the interviewer either face-to-face or over Zoom. In total eighteen interviews where conducted. Twelve interviews were done in person and due to the COVID-19 pandemic six over Zoom with video communication. The real-life interviews were held in quiet rooms either in student housings or in Jönköping university in order to make the interviewees feel comfortable. As mentioned above, a total of 18 semi-structured interviews have been conducted. The average duration of the interviews was 35 minutes.

According to Alvesson (2003), it is also important not to idealize the interview results, as the interviewees can be biased by the social situation of the interview and therefore can provide socially desirable answers. For this reason, the interviewer listened carefully listened to the participants and kept the theoretical fundamentals of the issues in mind, therefore applying the reflexive approach.

3.4 Data Analysis

All interviews have been audio-recorded, as recommended by Saunders, Lewis & Thornhill (2009). Followed by transcribing the interviews and coding the transcriptions to structure the findings retrieved.

Grounded theory coding is used to analyze data that has been gathered in order to develop a grounded theory (Flick, 2009). The word "code" is defined as a word that or phrase that "symbolically assigns a summertime, salient, essence-capturing, and/or evocative attributes for a portion of language-based or visual data" (Saldaña, 2009, p. 3). Following the coding strategy of Strauss and Corbin (1990, as cited by Flick, 2009) interpretation of the text can be done by following open coding, axial coding, and selective coding. "Coding is understood as representing the operations by which data are broken down, conceptualized, and put back together in new ways" (Flick, 2009, p. 307). It is the central process by which theories are built from data" (Flick, 2009, p. 307). Table 3 shows an example of the coding process during the data analysis.

Table 3. Data analysis - coding

Respondent	Text fragment	Open code	Axial code	Selective code
R.13	I don't trust this label anymore really after I heard a bad story about it	Doubt believability in label because of negative word of mouth	Doubts concerning label believability	Believability

Source: designed by the author of this thesis.

Open coding is about breaking down and understanding a text and attach categories to them (Flick, 2009). The goal is "to develop substantial codes that describe, name or classify the phenomenon under study or a certain aspect of it" (Flick, 2009, p. 309). In order to create these open codes, the researcher transcribed all interviews. After transcribing the interviews the researcher read the transcripts multiple times and important parts in the answers were highlighted. These highlighted parts were summarized into open codes.

The next step, Axial coding, is to refine and differentiate the categories that resulted from open coding with as a goal to indicate the relations between the phenomenon, the context, consequences, and strategies (Flick, 2009). During the process of axial coding the codes are grouped into further categories in order to summarize.

During the last step, selective coding, a few main categories are indicated. These main categories will lead to the story of the case according to Flick (2009). The author strives to understand the relationship between these main categories to write the storyline based on the findings.

3.5 Methodological Limitations

Suggested by Lincoln and Guba (1985, cited by Bryman & Bell, 2012) assessing the quality of qualitative research is done by looking at two main criteria; authenticity and trustworthiness. Trustworthiness consists of four criteria, namely credibility, transferability, dependability, and confirmability (Bryman & Bell, 2012).

First of all, authenticity "raise a wider set of issues concerning the wider political impact of research" (Bryman & Bell, 2012, p. 398). In current research only consumers are interviewed which means only their perspective is enlightened. This study did not include the perception of other parties involved such as retailers, governments, or marketeers.

The first criterion within trustworthiness is credibility. Assessing credibility "is going to determine its acceptability to others" (Bryman & Bell, 2012, p. 390). In current research interviewees shared several accounts of social reality as semi-structured interviews were conducted. The results of these interviews might no be applicable in other contexts. To decrease the chance of potential discredit of these findings the researcher conducted a respondent validation to reach the highest possible credibility (Bryman & Bell, 2012).

Transferability indicated "whether findings hold in another context, or even in the same context at some other time" (Bryman & Bell, 2012, p. 392). Due to a limited number of participants in the current research, it is hard to tell whether the findings are transferable to another context.

Dependability entails that the researcher keeps all records within all phases of the research such as the selection of participants, interview transcripts, and so on (Bryman & Bell, 2012). The decisions about participant selection, data analysis but also the interview guide, fieldwork notes, and interview transcripts of this research are documented. This shows a high level of dependability of current research. This creates the possibility of replication by other researchers with e.g. a different sample.

Confirmability concerns the level of objectivity of the researcher (Bryman & Bell, 2012). Even though complete objectivity is not possible, the author focusses on the findings derived from the empirical data and consciously eliminated personal values and theoretical inclinations as much as possible to achieve the highest level of confirmability.

3.6 Ethical Considerations

Ethical standards play an important role during the research process. According to Saunders (2009) in the context of business research, ethical consideration refers to the appropriateness of research regarding the rights of participates. According to Tracy (2020) ethical procedures are highly important because: "Weak consent usually leads to poorer data". The researcher took the four ethical principles mentioned by Tracy (2020) into consideration; do no harm, avoid deception, informed consent, privacy, and confidentiality. The researcher took these considerations into account by; not harming the participants, asking the participants consent prior to the interviews, offered the participants anonymity, respecting the participants" privacy, and ensuring confidentiality.

In order to inform participants adequately the interviewer informed the participants before the interviews on the research purpose, data confidentiality, and emphasized their voluntary participation.

4. Results

The purpose of this chapter is to display the results of the empirical research. The author presents the empirical findings of the 18 semi-structured interviews. All participants are students at Jönköping University, participating in ten different programs (the distribution over different programs can be found in Appendix D). 18 consumers with 8 different nationalities participated in the semi-structured interviews. Participants from both genders are interviewed in order to indicate differences between male and female Millennials in case significant differences occur. Ten of the participants are female, eight males. Based on the coding categories, the results are divided into four dimensions; package, motivation, knowledge, and believability.

4.1 The Package

The package which is used during the interviews can be found in Appendix C. 'The package' is divided into four subcategories due to the labels which arose during the coding process. The categories are the FOP, nutrition labels, ingredient list, and certification labels. Certification labels are labels that can only be used if the product meets certain standards, set and regulated by a certain agency e.g. the United States Department of Agriculture (USDA) (Choi,2014).

4.1.1 Front-Of-Package

Analyzing the front of the package, half of the respondents mention the nutrition content claims, the picture of the product, and colors used on the package which drew their attention. Seven out of eight respondents associate the green color used on the package with healthy.

R.10 "Nice looking package I would say. Green is a healthy color. I see 83% wholegrain and no added sugar, rich in fibers those are interesting. The picture is an eye-catcher."

Table 4. Factors indicated by participants while analysing FOP

Factors	**Number of times mentioned by participants**
Nutrition content claims	9
Picture of the product	9
Colors	8
Flavours	3
Brand	3

In this chapter tables that indicate results such as Table 4 will show the top 5 most frequently mentioned answers by participants in order to provide a comprehensive overview such as Table 4. The complete tables can be found in Appendix E.

Font size and color draw attention from some of the participants as well. According to the interviewees, the title 'Supermüsli' attracts attention due to the use of large, dark font on a green background. "Super" within the title "Supermüsli" of the product, is associated by the respondents with a number of different attributes. Some say that super is used to show a relationship to superfoods such as cranberries, nuts, and seeds. Others say that super means "better" than other products in ways such as quality, taste, and/or healthiness. In general, the participants do not pay much attention to this as it is not mentioned as a factor that grabs attention when analyzing the FOP nor as an influencer of purchase decision. Besides some participants describe this term as "just a marketing claim".

R.3 "Supermüsli is even better than regular muesli but this is just marketing. Besides, I feel like they try to prove something."

Talking about factors related to food packaging that influence product choice, the participants mentioned a wide range of factors that influenced their choice from the number of portions, calorie label, certificates, overall design to the nutrition fact panel (full table can be found in Appendix E). As shown in Table 5, the most frequently mentioned influencers are the nutrition content claims, the picture of the product, and the brand. Interviewees mentioned that the picture and colors used on the FOP attract their first attention and that nutrition content claim information contributes to forming the consumers' first judgment of the product. One-third of the participants have a positive perception of the picture used on the product packaging. Besides, seven Millennials indicated that they associate the color green with healthy, which is according to five of them also influencing their product choice.

Table 5. Factors that influence participants' product choice

Factors	**Number of times mentioned by participants**
Nutrition content claims	10
Picture of the product	9
Brand	7
Color(s)	5
Nutrition fact panel	5

4.1.2 Nutrition Labels

Three nutrition labels are shown on the FOP (see Figure 3 in 3.3 Product choice) and the nutrition fact panel is found on the back of the package (see Appendix C). In regards to the FOPNL,

respondents stated to be primarily attracted to the interpretive nutrient specific labels; in this case nutrition content claims (the red circled claims in Figure 3). This can be explained by the interest of the majority of respondents in the sugar content in food products, because most of them look specifically for sugar content on packaging. According to Food Service Institute the Netherlands (2019), Millennials focus on specific nutritional values such as: low carbohydrates for fat burning, proteins for muscles and added fibres. This is confirmed by this thesis showing that carbohydrates, calories, fibers and fat are in the top 5 most mentioned nutrients Millennials search for on food packaging.

Table 6. Nutrients participants search for on food packaging

Nutrients	**Number of times mentioned by participants**
Sugar	13
Carbohydrates	6
Calories	5
Fibres	4
Fat	4

The majority of interviewees stated that they have to verify nutrition labeling themselves by reading the nutrition fact panel because the FOPNL is, according to some of them, often used as marketing and have as the goal to "influence consumers". Most interviewees indicated to be sceptical about the "no added sugar" claim and as a response turned around the package to look for the actual sugar content on the NFP. As mentioned before, 11 out of 18 interviewees state to always consult the nutrition fact panel. They value the NFP because they believe that these nutritional values have to be 100% true. Some respondents mention to have the same level of trust in the ingredient list on the package. This subject will be addressed in '4.4 Believability'.

The preferred type of FOPNL of the interviewed Millennials is the interpretive nutrient-specific labels (red circled labels in Figure 3).

R.17 "My favorite label is the nutrition fact label on the back because it shows the most information, but from the front of the package I prefer the text claims because they give a quick overview."

Table 7. Preferred type of FOPNL

Nutrition labeling type	**Number of participants**
Interpretive nutrient-specific	9
Reductive nutrient-specific	4
Only use nutrition fact panel	3
Interpretive Summary label	2

Some of the participants prefer the reductive nutrient-specific label (green circled label in Figure 3) because they perceive the numbers displayed on this label as facts. At the same time, some participants indicate that they do not understand the percentage of daily intake and find the portion that is indicated on the label too small and therefore unrealistic.

The summary label on the package used during the interviews (yellow circled label in Figure 3) is only recognized by two Swedish participants within current research, this can be explained by the fact that the green keyhole label is an initiative from the Swedish government and used on products in Swedish, Danish and Norwegian supermarkets (Livsmedelsverket, 2019). Out of the four other summary labels shown during the interviews (see Appendix B), five respondents are not familiar with any of these summary labels. The other thirteen participants recognized at least one of the label types, but none of the participants could explain the meaning or the responsible institution behind it correctly. Interviewed Millennials in current research say that due to the unknown meaning and institutions responsible for these summary labels, they are not sure of its' credibility and therefore do not use them in order to make a purchasing decision.

Some participants indicated that there are currently too many summary label types. This is perceived as confusing and they feel the need to educate themselves in order to understand all these different labels. Another participant mentioned that different countries use different summary labels which makes it even more complicated to obtain sufficient knowledge on these interpretive summary labels.

Half of the participating Millennials indicate to see potential in FOP interpretive summary labels. They would like in a summary label that is easy to use, meaning that the content is understandable for everyone and provides quick information. They say that a summary label that is easy to understand could take away frustration caused by the great amount of time that is required to compare food packaging. Millennials suggest a format that uses colors that have a clear meaning to consumers and resolves the language barrier. Besides a summary label could give a quick judgment on the healthiness of a product according to the participants.

R.11 "In the supermarket shelves, front-of-pack nutrition labeling is helpful because currently there is way too much choice. But the right information should be on the front. And the info should be easy so it does not take too long to process and compare."

4.1.3 Ingredient List & Certification Labels

Mostly respondents with specific diet preferences like vegan or allergies mentioned to read the ingredient list. These consumers always read the ingredient list because they "have to". Another uses it to look at E-numbers. Interviewees that use the ingredient list consider this information, together with the nutrition fact panel, as the most reliable information that can be found on packaging and therefore most useful when it comes to information. In this research the main problem with the ingredient list is the language barrier. An Australian respondent stated to use the internet in order to be able to understand the Swedish ingredient list. When it comes to understanding the ingredient list, besides the language barrier, also a certain level of knowledge is required to judge the healthiness of the ingredients.

R.15 "I need to go to the ingredient list to find the sugar types that are in the product. I know that honey is a good sugar for me. So yeah I don't find this information on nutrition labels."

Other interviewees mentioned examples such as; which e-numbers should be avoided, types of artificially added ingredients, and palm oil. The role of consumer knowledge will be discussed further in '4.3 Knowledge'.

Lastly the certification labels or so-called packaging symbols. According to Herring (2015) there are two certification streams that are identified: certification standards run by private actors (Fair Trade Label) and certification standards run by the state (Organic Label). These programs are designed to regulate the food production process and have an influence on the governance of labor markets, environment, and human health (Herring, 2015).

There are a lot of different certification labels and packaging symbols. Examples are Gluten Free, Vegetarian, Fairtrade an FSC Certified Paper. Only two respondents mentioned the packaging material as a factor that influenced their choice. They find it important that the product is not made of plastic but of cardboard. Four of the interviewees mentioned the desire for more certification labels, they mention Vegan and Lactose-free, on a larger number of packaging.

4.2 Motivation

Addressing personal motivation, the researcher asked interviewees why they look at nutritional labels. Numerous different research such as maintaining weight, allergies, and diet preferences are mentioned as a cause. The most frequently mentioned reason why respondents mention looking at nutrition labeling is because they want to find specific nutritional value(s). Either to avoid certain nutrients such as sugar or fat or look at specific nutritional value(s) that they learned are beneficial such as proteins and fibres.

R.11 "I look for high in fiber, low carb, low sugar, high protein. We are tricked into sugars so much."

Especially respondents with allergies or diet preferences (e.g. Vegan) mentioned to be eager to use nutrition labeling besides the ingredient list to avoid (allergenic) ingredients. Four interviewees clearly mentioned to avoid specific nutrients due to the following reasons: 2 have gluten allergies, 1 follows a low carb diet and 1 is Vegan.

The second most frequently mentioned reason, why participants look at nutritional labeling is because they want to be healthy and/or eat healthily. Four female participants also mentioned maintaining weight as a reason to look at nutrition labeling.

Table 8. Why participants use nutrition labeling

Reasons	**Number of times mentioned by participants**
Find specific nutritional value(s)	6 + 4 (2 allergies + 2 diet preferences) = 10
Eat healthy	6
Healthy body	4
Not gain weight	4
Sports	3

Even though product type influences the consumers' purchasing behavior in previous research (Bech-Larsen & Grunert, 2003; Feunekes et al., 2008), the results of current study do not show a clear distinction what concerns FOPNL usage between different product groups. Some respondents do not take nutrition into consideration when they buy 'cheat meals' for example, while others still try to find the healthy option of ice cream or chocolate mousse products. 'Cheat meals' can be defined as when one's restrictive and detailed dietary schedule is abandoned for a consumption of banned foods (Murray, Griffiths & Mond, 2016). There are no outstanding results on product categories for which participants specifically use nutrition labeling (see Table 9).

Table 9. Within which product categories participants' use nutrition labeling

Product category	**Number of participants**
Cheat meals	4
Processed foods	4
Grain products	3
Breakfast products	3
Only not for cheat meals	3

The 'Grain products' mentioned in Table 9 can be defined as all food products made from wheat, rice, oats, cornmeal, barley, or another cereal grain, for example rice and pasta (USDA, 2019).
"A processed food is one that has undergone changes to its natural state—that is, any raw agricultural commodity subjected to washing, cleaning, milling, cutting, chopping, heating, pasteurizing, blanching, cooking, canning, freezing, drying, dehydrating, mixing, packaging, or other procedures that alter the food from its natural state. The food may include the addition of other ingredients such as preservatives, flavors, nutrients, and other food additives approved for use in food products, such as salt, sugars, and fats" (USDA, 2013). Within processed foods such as sauces for example, the respondents state to be alert for high-calorie content, added sugars, or added salt in these products.

How respondents gained their knowledge is not discussed in all interviews. Five participants mentioned that they educated themselves on healthy food and nutritional values (e.g. via the internet), to be able to make suitable food choices in line with their diet or personal goals. Four participants say that they gained their knowledge during education programs at universities.

4.3 Knowledge

Interviewees mentioned that knowledge helps them to understand the information displayed on FOPNL and highlight the importance of education on nutrition and health. Besides, participants indicate that their knowledge is influencing their chances to buy a product again (repeat purchasing behavior), and also the believability of a product.

4.3.1 Education

The knowledge of the consumer on health and nutrition is important to understand and interpret food packaging labels.

R.13 "I heard healthy choice label is untrue or paid for."

R.3 "I know fibers are good for my stomach and digestive system."

R.12 "I know different types of yogurts contain different levels of proteins."

Almost all respondents say that they understand nutrition labels. The only obscurities were caused by nonfamiliar summary labels, the percentage of the daily intake, Reference Intake (RI, in the nutrition fact panel), and nutritional values such as thiamine and zinc are unknown. They also doubt the way the text claims are formulated and feel like manufacturers "bend the truth". While honesty is in the eyes of Millennials considered as the most important communication variable from manufacturers to consumers (Food Service Institute the Netherlands, 2019). The participants are afraid that consumers base their decisions only on FOPNL.

R.5 "What they are not mentioning is sometimes more important than what they do mention."

Some Millennials also use their knowledge on FOPNL to create an overall judgement of the product. This judgment can be positively influenced by the information displayed on the FOPNL and/or cause skeptical responses.

R.4 "Seems like a fairly good choice looking at the claims. I mean the nutrient claims influence my choice because I look for no added sugar and nutritious foods. But I would still check the sugar the ingredients contain from itself on the back panel."

R.2 "I am confused about the no added sugar claim because that does not mean there is no sugar inside the ingredient they used."

Respondents with allergies, specific diet preferences, or sporters say that they have educated themselves on nutrition and health using mainly the internet. The interviewees came up with several initiatives to increase the general knowledge of consumers on nutrition and health. According to them, governments have a crucial role in this by sharpening legal regulations and also by improving the educational system. Education is most important according to the interviewees. They say consumers can be informed either in stores or by implementing nutrition and health as a school subject in the education system. Besides knowledge, four participants also mentioned raising awareness. They say that consumers should be made aware of the importance of nutrients for their bodies and the relationship between food and health.

In the eyes of the respondents the increase of knowledge and awareness of nutrition can be increased most efficiently starting with the education of children. Also, they suggest that consultancy programs can be offered to parents in order to educate them and indirectly their children. Consequently, parents will feed their children healthier.

Besides education systems, respondents suggest that consumers can also be informed by watching television via infomercials or programs, listening to the radio, or by other media such as video on social media. At point of purchase participants suggested that signs, information boards and insert a page in the catalogs can be used as communication tools. Participants also suggest a scanning system which makes it possible for shoppers to scan products with their smartphones and read nutritional information.

4.3.2 Repeat Purchasing Behavior

Repeat purchasing behavior is according to the interviewees driven by their previous experiences and sometimes by the brand. The majority of respondents say that especially when short of time at point of purchase, they tend to choose products they purchased before, this can be called repeat purchase. Four participants specifically mentioned brands they would purchase again.

R.10 "If I have more time, I can compare more. Otherwise I take what I took before, I know what is inside."

Table 10. Based on which information participants choose products when short on time

Information	**Number of times mentioned by participants**
Repeat purchase	9
Nutrition fact panel	6
Front-of-package	5
Brand	4
Ingredient list	2

Interviewees indicate that when they already bought a product before and formed a positive or negative value opinion on the products, it saves time choosing during their next supermarket visit. Some participants also indicate that they pay less attention to FOPNL when they choose for repeat purchase, since they already formed an opinion. Thus, their choice to repeat a purchase is based on their previous experience and value opinion of the product.

R. 15 "I mostly know what products I want, which are products I know. So then I don't need to check the labels again. If I want something new I need to check the ingredients for my allergies."

As shown in Table 10, some participants choose to buy products from a certain brand again. Some interviewees state that positive experience with a brand increases the trust they have in a brand; this will be discussed in more detail in '4.4.3 Brand Influence'. 16 out of 18 participants say that the brand is also influencing consumers' perceived level of healthiness of products.

R.18 "I think your trust in a brand or the brand image is influencing your choice also depending if you believe their claims and their producing process. But a lot of people do not think about the producing processes. We also tend to believe what we want to believe, healthy cookies for example..."

4.3.3 Influence on Believability

Some interviewees want to warn other consumers to stay alert on the influence of FOPNL and educate themselves. According to the respondents, education is required for consumers to research and understand what is healthy and unhealthy products themselves, not because packaging tells them.

R.4 "Packaging says it is healthier, but some people do not have the knowledge or skills to read the nutrition fact panel themselves and see that it is actually still not healthy…"

R.10 "Consumers are easily influenced by text and marketing but they don't really have the knowledge to judge what is good and what is not."

Respondents suggest a connection between their knowledge and believability of the information provided on FOPNL.

> *R.1 "That it is high in fiber is obvious because they use whole grain, no added sugar I would check on the back it's true."*
>
> *R.15 "I can find the calorie intake per portion on the front. They say no added sugar but I see there are blueberries on the photo which I know contain sugar. So I need to check the back nutrition panel."*
>
> *R.17 "No added sugar most of the time means that there is natural sugar or other sweeteners added and those can be very high in sugar content as well."*

These respondents mention that based on her knowledge they want to verify information mentioned on FOPNL with the nutrition fact panel. Their knowledge is making them question the information displayed on FOPNL, so it impacts the level of believability. This will be further discussed in '4.4 Believability'

4.4 Believability

Believability in the context of food labeling is defined as consumers' level of belief in claims (Benson et al., 2019). The participants of this study are ambivalent about the believability of the information shown on FOPNL. Twelve participants believe that nutrition labels are stating facts. Three participants do not believe the information on FOPNL because they learned that this information is mainly marketing and therefore they say that they do not use them.

R.14 " I don't believe claims. I turn around the package and I read the ingredients list. Sometimes I even check on the internet. I just see FOPNL as marketing"

Another three Millennials say that they think the claims are misleading. Even though, generally the respondents say that they have a positive attitude towards nutrition labeling. Additionally, the majority of respondents say that FOPNL is influencing their product choices choice because it is the first thing they see when in front of a shelf, and "it nudges them toward a certain decision". One participant even mentioned that stating no claims at all on packaging could also be regarded as suspicious.

Even though the majority of participants believe the claims and are influences by them, they seem to behave contradictive because they do not dare to base their decisions solely on the FOPNL. They indicate that previous experiences learned that the information revealed on FOPNL does not always reveal the whole truth nor the disadvantages of the product. They doubt the believability of labels. These doubts have two consequences: participants are concerned about the influence of marketing on less-educated consumers and participants want to verify the information shown on the FOP with the nutrition fact panel in order to check if it is true. Besides, participants highlight the influence of brands and also the responsibility of governments that should be taken in regard to nutrition labeling credibility.

4.4.1 Concerns amongst Participants

A third of the participants say that they perceive the claims as only marketing content. Three respondents say that they do not use FOPNL at all because they have no trust in these marketing claims and are well aware of the "game" that is being played by manufacturers. The way these FOP claims are formulated cause concerns amongst participants. They are afraid that the less knowledge consumers possess, the more influenceable they are to these marketing claims displayed through FOPNL by manufacturers.

R.7 "It is more manipulation instead of marketing these days. People are not aware how manipulative marketing has become. It's just marketing, this müsli is not super in any way. They don't use superfoods. It is only influencing people that don't have the right knowledge."

R.3 "I think it is marketing and it can be dangerously influencing for people that have little knowledge. Also it is overwhelming and hard to compare all the different brands when you have little knowledge. For me its nice but not my whole decision is based on only the claims."

It concerns some of the interviewed Millennials that FOPNL could influence other consumers in a negative way. The interviewees say that only advantageous facts are shown, not the whole truth is revealed, not all claims are self-evidentially true, they do not possess over the knowledge which institutions are responsible for summary labels and that the indicated portions displayed on the reductive nutrient-specific labels are too small and therefore unrealistic.

R.1 "Well if I check a statement and it's not true that would be very bad for the credibility and I would never buy the product again."

The aim of these claims is to help consumers make healthier decisions but the interviewed Millennials describe them as possibly confusing and misleading due to their marketing purposes. In a sense of marketing, according to the respondents, manufacturers use for example keywords that most people are interested in; like sugar, fat, calories. This sceptical response of consumers is in line with the research of Food Service Institute the Netherlands (2019), who found that manufacturers risk being considered as untrustworthy by consumers when they underline the healthiness of their products. The interviewees are afraid that not all consumers are aware off of these "marketing tricks".

R.5 "The claims catch your eye; I focus on the brands with the claims. And then I would pick up the package and look at the back. They don't help with a healthier decision, they make you believe you make a healthier choice but you have to think for yourself as a consumer and research what is good for your body yourself. And it gets suspicious when they have to emphasize their health claims so much. Most of the time its just a marketing trick. I want and need to decide for myself what is healthy and what not."

4.4.2 Verification

Participants who question the completeness of FOPNL show sceptical behavior in a way that they want to verify whether or not the information shown on FOPNL is correct. Thus, they do not perceive the claims to be self-evidentially true.

R.10 "Generally I would say I believe them but I do double-check them on the back panel. But generally yes they are true. And to be honest I don't use the internet to look stuff up or so."

Fourteen participants say they check the nutrition fact panel on the back to control if FOPNL is true and/or to check a specific nutrient value of their interest. Participants consider the NFP and ingredient list to be truthful. Eleven participants indicated that they specifically look at the nutrition fact panel in order to compare FOPNL information. The majority of the respondents say that they always use the nutrition fact panel to check the nutrient values when buying 'new', so-called trial

products. Interviewees consider the ingredient list and nutrition fact panel as credible information. The only problem regarding the ingredient list found in this thesis is the language barrier. It is remarkable that out of the seven respondents that do not always use the NFP, six are male. Five out of these seven state that their choice is mainly based on the nutrition content claims on this particular package used during the interview, such as 'no added sugar' and 'whole grain'.
A striking comment concerning the believability of the information mentioned on the package, is that some interviewees say that they perceive numbers and percentages automatically as facts. As mentioned by *R.1 "numbers seem to be about facts"*.

Especially respondents with allergies or diet preferences highlight that they always review the information displayed on the FOP by reading the nutrient fact panel and/or the ingredient list in regards to product trials.
R.6 "Yes time influences how I read the package but I want and have to check labels for my allergies so I do always this. When I want to try something new, I need time. If I have little time, I take the brand I know."

A group of participants share the opinion that there is no need to check nutrition labels on fresh foods such as vegetables and fruits at all. Participants say that they believe these are fresh and nothing is added.
R.17 "If it is fresh fruits I don't need to look at the brand nor ingredients"

4.4.3 Brand Influence

Trust in a brand is another influencer on believability in the eyes of the participants. In this research three respondents specifically mention big brands, such as Unilever and Nestle, as less trustworthy. The participants gave different explanations:
R.14 "the Eldorado brand here in Sweden for example, I don't like it. So I avoid buying their products because I don't believe one producer that produces so many different products can properly do its job. I mean its a brand that produced paper tissues, bacon and chocolate and I don't know..."
R.18 "I don't trust big brands like Coca-Cola and Unilever. I prefer local producers or small brand because they producing methods are different than big rich brands and more trustworthy to me"

Additionally, interviewees indicate that brands influence Millennials' purchasing behavior. Some participants indicate that trust in a brand is especially influential by lack of time during food shopping (as indicated in Table 10). The interviewees state that positive experience with a brand,

can increase the trust they have in the brand and can increase the chances of repeating purchasing behavior.

R.2 "When I think the product(s) from this brand I know is good, I probably buy them again and consider other products of the same brand. I trust the brand. But honestly I only have this brand knowledge in my own country."

The believability of a brand is especially important for consumers with dietary preferences or allergies as mentioned by the interviewees. Five respondents indicate that they are loyal to brands that they can trust. The word trust is in this context defined by participants as an assurance that all products from a certain brand are e.g. Vegan or gluten-free.

R.6 "My allergies bring me to certain brands. Because I know they are safe."

4.4.4 Governmental Responsibility

Overall, interviewees mention that governments should come with better legal regulations on FOPNL. They ask for a sharpening of the regulations on what is allowed to state on these claims together with a decrease in the number of claim types. As mentioned in '4.1.2 Nutrition Labels' respondents say there are too many different types of interpretive summary labels. Besides, the respondents say that due to the unknown meaning and institutions responsible for these summary labels, they are not sure if they can believe the labels and therefore do not use them in order to make purchasing decisions. Besides, interviewees say that the formulation of nutrition labeling should be adjusted: clearer and more user friendly. Besides they say that claims and certification should be 100% credible.

R.11 "I think there should be more regulations on claims. What can you say with claims and what not. They need to exist to help consumers with the big number of choice but there are too many different types, it's like learning a completely different language!"

Talking about believability, two participants mentioned that they do not believe that cheap products can be the healthiest choice. The connection between price and quality could be addressed in further research. Overall, product price is rarely mentioned by the interviewees.

4.5 Chapter Summary

What concerns product packaging, the nutrition content claims, the picture, and color primarily draw Millennials attention. Thereafter, nutrient content claims, the picture, and brands are most influential to their product choices. The Millennials are mostly interested in sugar content information regarded to nutrition labeling.

Participants indicate pros and cons of all three types of FOPNL. The interpretive nutrient-specific label, in this research the nutrition content claims (the red circled in Figure 3), are regarded as the participants preferred FOPNL type. The interpretive nutrient-specific labels are also indicated as most influential to Millennial purchase behavior but even though most participants do not believe that the information shown on FOPNL is self-evidentially true. Furthermore, Millennials highlight the potential of summary labels because they believe that these labels take away the language barrier and give a quick judgment on the healthiness of products. Despite the interest of Millennials in summary label potential, they currently do not know the meaning and/or institution responsible for these labels.

The type of nutrition information the interviewees searched for was related to the reason why they look for nutrition labeling. The most frequently mentioned reasons by participants to look at nutrition labeling is because they try to find specific nutritional values, either to avoid certain nutrients or look at specific nutritional value(s) that they learned are beneficial. The second most frequently mentioned reason why Millennials read nutrition labeling is because they want to eat healthy. This thesis shows that the reason why participants are looking at nutritional values is connected to personal motivation. This motivation is the driver for participants to educate themselves and gain sufficient knowledge to make suitable food choices. The reason why participants are looking at nutritional values can be seen as their personal motivation. Reasons such as allergies, diets, or sports are mentioned as motivation. Current research showed that consumers' motivation, thus the reason why they look for nutritional values, influences the level of knowledge they possess. In this thesis participating Millennials indicated that they increased their knowledge by self-education, in order to make suitable food choices in line with their diet or personal motivation. The interviewed Millennials gained their knowledge on nutritional values either at universities or they educated themselves. They highlight the importance to increase consumer knowledge to enable healthier purchasing behavior.

Findings within this research also show that knowledge influences the believability of FOPNL. Participants who do not know the meaning and/or responsible institutions behind the labels, doubt if they can believe the information displayed on the labels and therefore do not use them. This confirms the relationship between knowledge and believability. Additionally, respondents indicated that based on their knowledge gained from previous experiences, they question the believability of FOPNL. Participants indicate that previous experiences learned that the information revealed on FOPNL does not always reveal the whole truth nor the disadvantages of the product. They

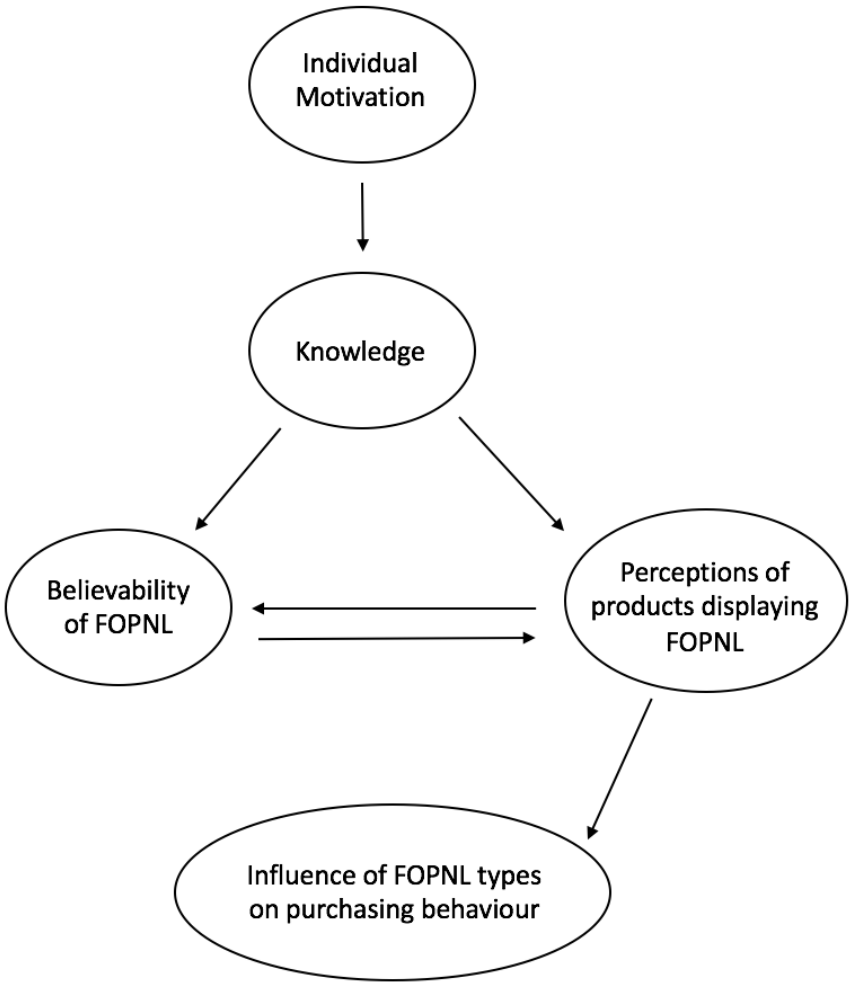
consider the information shared on the FOP as incomplete and this decreases their believability of FOPNL. The lack of believability in FOPNL has two consequences. Firstly, the participants are concerned about the influence of FOPNL on less educated consumers. Secondly, consumers want to verify if the information shown on the FOP is true by turning the package to the nutrition fact panel.

The majority of the respondents say that they always use the nutrition fact panel to verify FOPNL when buying 'new', so-called trial products. Especially when short of time at point of purchase, Millennials tend to choose products they purchased before (repeat purchase). Repeat purchase behavior is according to the respondents driven by their previous experiences, their opinion on the product and sometimes by the brand. Besides, some participants indicate that they pay less attention to FOPNL when they repeat a purchase decision since they already formed an opinion on the product. Thus, repeat or trial purchase has an impact on the influence of FOPNL on Millennials' purchasing behavior.

5. Analysis

The purpose of this chapter is to analyse the empirical findings and formulate a discussion based on the empirical findings in relationship to the Theoretical Framework Model (Figure 2).

Figure 2. Theoretical Framework Model: the influence of FOPNL on consumer purchasing behavior



FOPNL = Front-Of-Pack Nutrition Labelling

Source: designed by the author of this thesis.

The results of this thesis confirm certain findings within previous research which will be discussed in this chapter, but also shows new results due to the semi-inductive research approach. The findings will be elaborated below per element within the model. At the end of this chapter the adjusted version of Figure 2 will be displayed, including the findings of this thesis.

5.1 Confirmation Suggested Relationships and Additional Direct Relation Between Believability and Influence of FOPNL

The results confirm the following suggested relationships:

- *Motivation to knowledge*
- *Knowledge to believability*
- *Knowledge to perception of products*
- *Perception of products to influence of FOPNL on purchasing behavior*

And additionally, the results of this research show a direct relationship between believability and influence of FOPNL on Millennials purchasing behavior.

5.1.1 Relation Motivation to Knowledge

Current research showed that consumers' motivation, the reason why they look for nutrition, influences the level of knowledge they posses. In this thesis participating Millennials indicated that they increased their knowledge by self education, in order to make suitable food choices inline with their diet or personal goals. This is in line with the findings of De Marchi et al. (2016) who found that the level of health-orientation influences the level in which consumers engage in health-enhancing behaviors and make decisions related to food consumption. According to Cavaliere et al. (2016), health-orientation represents the individual motivation for pursuing the goal of being healthy. The motivation or reason why consumers want to make healthy food choices is dependent per consumer. In this research the second most frequently mentioned reason why participants look at nutrition labeling is because they want to eat healthy. Millennials with diet preferences or allergies highlight their interest in specific nutritional value(s). These respondents say that they educated themselves in order to increase their knowledge of nutritional value and make informed food choices in line with their diet preferences or allergies. This behavior is confirmed by Cavaliere et al. (2014) who found that consumers that are more health motivated, are more likely to take actions that contribute to the improvement of their health status and are more likely to refer to the extensive information reported on nutrition fact panels. Additionally, a consumer that is more motivated to eat and live healthy generally has more knowledge of nutrition (Grunert et al., 2010; Miller & Cassady, 2015). Current research thus shows that Millennials' motivation, the reason why they look for nutrition's, influences the level of knowledge of nutritional values they posses.

Benson et al. (2019) suggested that a connection between knowledge and perceptions of products and also between knowledge and believability. Millennials in this study use their knowledge to interpret FOPNL. Some Millennials also use their knowledge of FOPNL to create an overall the

perception of the product. This perception can be positively influenced by the information displayed on the FOPNL (5.2.3) but it can also cause sceptical responses under Millennials, which touches the believability of the FOPNL (5.2.4).

5.1.2 Relation Knowledge to Perception and Influence of FOPNL

The perception of the product can be positively influenced by the information displayed on the FOPNL which impacts the perception of the product. Millennials indicate interpretive nutrient-specific FOP claims, the picture of the product and brand (Table 5), as the three main influencers related to FOP which influence their product choice.

Firstly, nutrition content claims grab the most attention from Millennials at first sight related to their perception of the product and also have the most influence on their purchasing behavior. This confirms the suggested relationship between perception of the products and influence of FOPNL on purchasing behavior. Research by Benson et al. (2019) and also Bech-Larsen & Grunert (2003) indicate that nutrition and health claims are more influential on purchasing behavior for specific product types such as breakfast and dairy products. However, Millennials within this thesis do not appoint significant differences between product categories in which they look at nutrition labeling. As presented in Table 9 there is a widespread of interest in product categories by Millennials.

Secondly, the brand is one of the most frequently mentioned influencer of Millennials' product choice within this study. When a Millennial has a positive experience with the brand, the chance of choosing this product again (repeat purchase) increases. Research by Chaudhuri and Holbrook (2001) confirms that consumers who trust a brand are more likely to stay loyal and buy from the same brand again, also they are willing to pay more and buy new products in the same or in new categories. Five Millennials within this thesis specifically indicated to be loyal to certain brands that they trust. 16 out of 18 of the Millennials agree that brand image influences the perceived level of healthiness of products. Previous research indicates that brand trust in and positive experiences with a brand and satisfaction have a positive influence on brand loyalty (Sahin, Zehir & Kitapçı, 2011). The brand also plays a role when the consumer is short of time at point of purchase. Four participants (as shown in Table 10) base their product choice on brand when shopping under time pressure.

What concerns the suggested relationship between believability and perception of product; previous research by Benson, Lavelle, Bucher, McCloat, Mooney, Egan & Dean (2018b) found that believability of NHCs was a predictor of the consumer perception of tastiness, healthiness and

fillingness, thus related to the perception of the product. In this thesis only the brand was identified by the Millennials as influencer on the perceived healthiness of the product. Within this thesis the lack of believability in FOPNL was, just like the results from by Benson et al. (2019), not linked by participants to their perception of the product. This might be explained by a lack of connection between believability and perception of products or interviewees did not bring this connection to mind during the interviews. The perception of the product does impact the influence of FOPNL on purchasing decisions by Millennials. In this matter interpretive nutrient-specific labels were the main influencers related to FOP, influencing product choice.

5.1.3 Relation Knowledge to Believability and Additional Relation Believability to Influence of FOPNL

FOPNL information can cause sceptical cause responses under Millennials, respondents indicate as an example that they question the nutrition content claim "no added sugar", and want to check the actual sugar content on the nutrition fact panel. The doubts concerning the sugar content is driven by the consumers' prior knowledge. So did R.17 indicate that she knows "no added sugar" displayed on FOPNL, often means that there is natural sugar inside or other sweeteners are added to the product which can be very high in sugar content as well.

This problem what concerns the believability of Millennials in FOPNL shows that a low level of believability leads to less influence of the FOPNL because the Millennials feel the need to first, verify the information provided by the FOPNL with the nutrition fact panel (verification with the NFP will be discussed further in 5.2). Another example, participants indicated that due to lack of knowledge who is responsible for interpretive summary labels, they are not sure whether or not these labels are believable or not and therefore do not use them in order to make a decision. This shows a direct connection between believability of FOPNL and its influence on purchasing behavior. The interviewed Millennials indicate that when their level of believability in a claim is low, they do not dare to base their product choice solely on this information and thus decrease the influence of the claim on Millennials purchasing behavior. This shows a new, direct relationship between believability in FOPNL and their influence on purchasing behavior.

5.2 Uncertainties Concerning FOPNL Believability Cause Concerns by Millennials and Need for Verification

Millennials doubt FOPNL believability which causes concerns about possible negative influences of FOPNL on less educated and less health motivated consumers and also causes the need for verification of information shown on FOPNL with the Nutrition Fact Panel.

Interviewees in this thesis indicate different reasons why they doubt FOPNL believability such as only advantageous facts are shown, not the whole truth is revealed and not all claims are self-evidentially true. This skeptic response of the interviewed Millennials concerning the believability of the information displayed on FOPNL is in line with the findings of Benson et al. (2019) and research by Chan et al. (2004). These doubts have two consequences: Millennials are concerned about the negative influence of FOPNL on other consumers and Millennials feel the need for verification of FOPNL information with the nutrition fact panel.

Firstly, Millennials are concerned about a possible negative influence of FOPNL on the purchasing behavior of other consumers with less knowledge on nutrition. Benson et al. (2019) also found that participants felt that they had more knowledge than the general public and therefore would be less easily 'fooled' by FOP claims. Participants of current research are afraid FOPNL will have a negative influence on other consumers when they base their product choice on this FOP information. Millennials describe FOPNL within this research as possibly confusing and misleading due to their marketing purposes. These concerns are in line with research by Chan et al. (2004) who found that many claims are often considered as advertisement which is misleading, deceptive, or confusing to consumers. The information on nutrition claims is not the only problem, Millennials say there are currently too different types of labels. This is perceived as confusing and they feel the need to educate themselves in order to understand all different type of labels. Hieke et al. (2016) found that the number of nutrition claims on food products differs per country and go up to 13 nutrition claims per package. The interviewed Millennials of this study are concerned about less educated consumers which is justified by the study of Howlett, Burton and Kozup (2008), who found that a low level of prior knowledge under consumers is connected to misinterpretation of nutrient information. Additionally, Roe et al. (1999) concluded that lower educated consumers are indeed more likely to rely on FOPNL and that consumers who only use FOP information have significantly higher purchasing intentions than those who read the nutrition fact panel. Which could lead to the "health halo" effect (Wansink & Chandon, 2006), were individuals consider a product as healthier than it actually is, based on nutrition or health claims.

The risk is not only for less educated consumers but also less health motivated consumers. According to Cavaliere et al. (2016) show less health motivated consumers mainly interest in FOP nutrition claims and are less information seeking. Lower educated and lower health motivated consumers can thus be influenced by FOPNL information negatively and possibly lead to less healthy food choices. Therefore, the interviewed Millennials want to highlight the importance of increasing consumer knowledge to prevent a negative influence of FOPNL by causing e.g. misinterpretations.

Secondly, the majority of the respondents indicated that they feel the need to verify the information displayed on FOPNL with the nutrient fact panel on the back. Chan, Patch, and Williams (2004) retrieved mutual findings in their research concerning interviewees feeling the need to check the accuracy of FOPNL with the nutrition fact panel. Due to the lack of believability of FOPNL by Millennials, some of them even do not look at FOPNL at all because they learned that it is mainly used for marketing purposes. The interviewed Millennials say that they value the nutrition fact panel because they perceive these nutritional values as credible. Especially Millennials with diet preferences or allergies highlight the importance of the believability in NFP and/or ingredient list for them.

5.3 The Influence of FOPNL Varies Depending on Repeat vs. Trial Purchase and Interpretive vs. Reductive FOPNL type

The influence of FOPNL varies depending on whether a certain product is purchased again (repeat) or for the first time (trial) and also varies depending on FOPNL type.

Even though Millennials have their doubts concerning believability of nutrition labeling, generally they have a positive attitude towards nutrition labeling and the majority says that they are influenced by FOPNL in making their product choices choice because it is "the first thing they see when in front of a shelf and nudges them toward a certain decision". This is in line with the findings by Benson et al. (2019) who found that NHCs are influencing the purchasing behavior of most participants and attract the attention of participants that were not directly influenced and led them to investigate the package. However, the level of influence of FOPNL is within this thesis impacted by whether the purchase is a trial or repeat purchase and dependant on the type of front-of-pack nutrition label (reductive nutrient-specific, interpretive nutrient-specific or interpretive summary indicator).

5.3.1 Influence Trial or Repeat Purchase

Most of the interviewed Millennials would choose a product they already know when they are short or time at point of purchase (Table 10). Interviewees indicate that when they purchase a certain product again (repeat purchase), they already formed a positive or negative value opinion on the products, which decreases the use of FOPNL. This behavior by Millennials is in line with findings from Becker et al. (2015), which suggest that labeling has less influence on consumers that already have an opinion on products and therefor pay less attention to the FOPNL. The second group would base their choice on the nutrition fact panel and the third on the front of the package. This is contradictory with research by Chan et al. (2004) who found that consumers base their choice on FOP information when short of time in the supermarket. Due to the doubts of Millennials concerning the information displayed on FOPNL, these claims are less influential to them.

What concerns product trials, the majority of the Millennials do not dare to solely base their decision on the FOPNL information. They turn around the package to the nutrition fact panel to verify the information that is displayed on the FOP and/or check a specific nutrition value of their interest. Striking is the fact is that five Millennials who do not always apply the nutrition fact panel during trial purchases, are males. These five male Millennials say that their choice is mainly based on the FOP interpretive nutrient-specific labels. That male Millennials are more focussed on convenience than females is in line with research by Food Service Institute the Netherlands (2019).

5.3.2 Influence Reductive vs. Interpretive FOPNL type

The interviewed Millennials within this research agree that all FOPNL types influence their purchasing behavior but at the same time have their doubt concerning the information that is revealed on the different front-of-pack nutrition labeling types.

5.3.2.1 Reductive Labels

Previous research by Talati et al. (2017) indicate that reductive labels are commonly considered as difficult to understand and time consuming. Problems with the reductive nutrient-specific label in this thesis are that overall this label is barely noticed by participants and others say they do not fully understand the labels and/or find the portions indicated by the manufacturer unrealistic. A positive comment about the calorie label is that the numbers displayed on this label are generally seen as facts and therefore trustworthy. This finding is confirmed by Lee, Lee, and Cameron (2010) who found that factual numbers are impacting credibility.

5.3.2.2 Interpretive Labels

Millennials indicated that while analysing the FOP, interpretive nutrient-specific labels grabbed their fist attention and also consider those labels as the most influential factor related to FOP on their product choice. The large interest for this label can be explained by the fact that the package used during the interviews, has the "no added sugar" nutrient-specific label displayed on the FOP. This label attracts most attention because sugar is the number one nutrient which the interviewed Millennials look for on food packaging. Even though, the Millennials are skeptical about this claim and want to turn around the package to see the actual sugar content on the nutrition fact panel. Participants say that these FOP claims are often used as marketing trick and they are afraid that consumers with less knowledge will base their product choice on these marketing claims. The five respondents that say that they do not always use the nutrition fact panel, base their choice mainly on the interpretive nutrient-specific labels. This is in line with previous research that states that nutrition claims attract attention away from the nutrition fact panel (Ikonen et al., 2019). Also Roe et al. (1999) found that nutrient-content claims truncate consumers' information search to the FOP.

Interpretive summary labels are according to previous research most effective (Ikonen et al., 2019) and especially most effective in identifying healthier food options (Feunekens et al., 2019). However, in this research none of the respondents knew the meaning of the responsible institution behind summary labeling, which made them uncertain about the label believability, and therefore did not base their decision on these claims. The respondents do see a great potential in summary labels that are understandable for everyone (regardless of e.g. spoken language and level of education) and give a quick indication of the healthiness of products. Feunekes et al. (2008) confirm that healthy choices can be made faster with the simple front-of-pack formats such as summary labels than with the more detailed labels. A quick and easy summary label would foresee in Millennials' need for convenience (Food Service Institute the Netherlands, 2019). However, currently the interpretive summary indicators are not used by most of the Millennials because they are uncertain of their meaning and credibility.

5.4 Chapter Summary

Looking at Figure 2 we can state that the relationship between motivation and knowledge of Millennials can be confirmed with the findings in this thesis. The consumer' motivation, the reason why they look for nutrition information, influences the level of knowledge they posses.

The relationship between knowledge and believability is also confirmed since participants who did not know the meaning and/or responsible institution behind interpretive summary labels, they doubt the believability of the claims and therefore do not use them. Thus, additionally to the findings of Benson et al (2019), in this research consumers connected the relationship between believability directly to the influence of FOPNL on purchasing behavior.

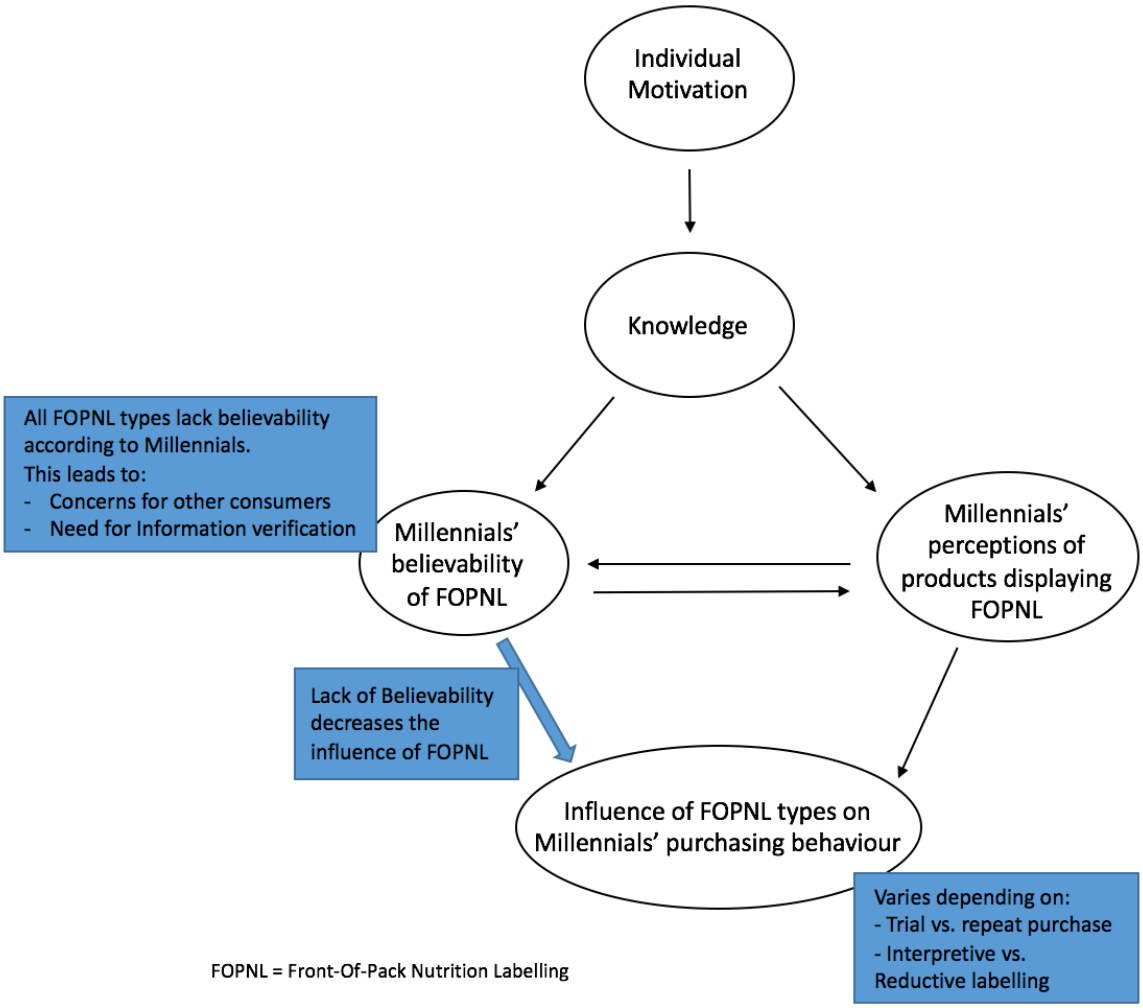
There is currently a lack of believability by Millennials in all researched front-of-pack nutrition labeling types which has two consequences: Millennials feel the need to verify FOPNL information with the NFP and they are concerned about a possible negative influence of front-of-pack nutrition labeling on the product choice of lower educated and less motivated consumers.

Perception of the product is impacting the influence of FOPNL on purchasing behavior but there is no relation found between believability and the perceptions of products. However, the perception of the product is influenced by the brand because the brand can influence Millennials' perceived level of healthiness of a product.

Additionally, the influence of front-of-pack nutrition labeling on purchasing decisions varies depending on trial vs. repeat purchase and on the type of FOPNL. When Millennials choose a certain product again (repeat purchase), they already formed a positive or negative value opinion on the products, which decreases their use of FOPNL. But when they try a new product, the majority of Millennials want to verify the information displayed on front-of-pack nutrition labeling with the nutrition fact panel, which shows a low level of influence of the nutrition claim. What concerns the different FOPNL types, Millennials consider the interpretive nutrient-specific labels as most influential on their product choice. The interpretive summary label is not used by most Millennials because of the unknown meaning and responsible organization behind the labels. The reductive nutrient-specific labels are noticed mentioned by Millennials, they do not fully understand the label and find the indicated food portions too small, therefore unrealistic. The positive aspect according to Millennials is that the numbers shown on reductive nutrient-specific labels are considered as trustworthy.

These results can be found in Figure 4 below, displaying the variables related to the influence of FOPNL on purchasing behavior of Millennials.

Figure 4. The influence of FOPNL on Millennials purchasing behavior



Source: designed by the author of this thesis

5.5 Theoretical Contributions

The findings within this thesis made theoretical contributions mainly within three areas.

First, the results of this thesis add a new element "motivation", to the model of Benson et al. (2019) (Appendix A). Motivation is the driver of consumer knowledge related to healthy food choices. Research by Bandura (2005) and Leventhal & Mora (2005) suggested that motivation related to health behaviors is needed to comply actions with what consumers already know are relevant to their health. The results of this thesis show that additionally to the model of Benson et al. (2019), consumer motivation impacts their knowledge.

Second, the results add to the existing research on the effectiveness of different front-of-package nutrition labeling types on consumers (section 2.4). In previous research, interpretive summary labels were considered as the most effective FOPNL type, especially in making healthier choices (Ikonen et al., 2019). However, the results of this thesis show that Millennials do not know the meaning of these labels and were therefore not influenced by summary labels what concerns their product choice. Nevertheless, the interviewed Millennials see potential in summary indicators. They highlight their interest in a summary label format that is easy to use, understandable for all consumers, and provides a quick judgement on the healthiness of products. Furthermore, the results of this thesis indicate that interpretive nutrient-specific labels are the most influential FOPNL type and reductive nutrient-specific labels receive the least interest.

Third, limited previous research on nutrition labeling focussed on the behavior of one consumer group or generation. The findings create an understanding of the influence of FOPNL in making healthier food choices by Millennial consumers. Hence, this research on can be the first step in understanding purchasing behavior of this specific generation.

6. Conclusions

The purpose of this chapter is to write a conclusion and formulate the answer to the research question. Furthermore, managerial implications, limitations of the study, and suggestions for further research will be discussed by the researcher.

6.1 Conclusions

The purpose of this study was to explore how FOPNL is influencing healthier food purchasing behavior by Millennials. The results show that the influence of FOPNL on Millennial purchasing behavior is impacted by several factors. The impact of motivation, knowledge, believability, and perception of product on the influence of FOPNL on Millennial purchasing behavior, as suggested in the theoretical framework model (Figure 2), is confirmed within this study.

Additionally, this thesis found a direct relation between believability and the influence of FOPNL types on Millennial purchasing behavior. Currently, the main problem concerning FOPNL by Millennials is the lack of believability in these claims. Millennials are overall uncertain whether the information displayed with use of FOPNL is providing sufficient details to make a healthy food choice. They doubt the claims due to the formulation of information by food manufacturers. Interviewees say that only advantageous facts are shown, not the whole truth is revealed, not all claims are self-evidentially true, indicated portions displayed on the reductive nutrient-specific labels are too small and therefore unrealistic. The lack in believability of FOPNL decreases their influences on Millennial purchasing behavior. Millennials are afraid that FOPNL can mislead lower health motivated and less educated consumers and if those consumers base their product choice on FOPNL information, perhaps leads to uninformed purchasing behavior. This means FOPNL is currently not fulfilling its initial purpose; help consumers make informed and healthy food choices (Gonzalez-Zapata, et al. 2009; EC, 2008).

Even though Millennials lack believability in FOPNL, the interpretive nutrient-specific claim is influencing their purchasing behavior. Millennials indicated that interpretive nutrient-specific labels grab their fist attention and also consider those labels as most influential factor related to FOP on their product choice. Nutrient-specific claims show information on one or more individual nutrients in the product. Millennials are most eager to search for sugar, carbohydrate, and calorie values on food packaging. The interpretive nutrient-specific claims are the most influential FOPNL type. Furthermore, the meaning and responsible institution behind the interpretive summary label

are unclear for Millennials. Therefore, they do not use the claims to make purchasing decisions. However, Millennials indicate the need for one summary label that indicates the healthy product choice within product categories. They see potential in a summary label that is understandable for everyone (regardless of e.g. spoken language and level of education) and give a quick indication of the healthiness of products. Lastly, the reductive nutrient-specific label was barely noticed by the Millennials and therefore of low influence on purchasing decisions by Millennials.

6.2 Managerial Implications

The findings of this thesis provide interesting insights into the influence of FOPNL on Millennials healthier food choices. As indicated in chapter one, in regards to nutrition labeling three parties are involved. The results can attribute to knowledge of all three parties: consumers, food manufacturers, and governments.

6.2.1 Food Manufacturers

This thesis shows that interpretive nutrient-specific claims, picture, and color of the package primarily draw Millennials' attention. Subsequently, interpretive nutrient-specific claims, the picture displayed on the packaging and brand are most influential to Millennials' product choice. Meaning that food manufacturers have the most influence on Millennial' food choices when applying interpretive nutrient-specific claims and the picture of the product effectively on the FOP. Additionally, the majority of Millennials look specifically for sugar content on packaging. Food manufacturers can anticipate to this need of information by including a sugar content information on the FOP.

However, to increase the influence of FOPNL on Millennials purchasing behavior, the level of believability under consumers needs to improve. Manufacturers can think about ways to increase believability. Millennials desire transparency which can be explained by the fact that honesty is considered as the most important communication variable from manufacturers to consumers in the eyes of Millennials (Food Service Institute the Netherlands, 2019), this desire could be fulfilled by manufacturers by displaying more transparent information with use of FOPNL.

6.2.2 Consumers

Millennials describe FOPNL within this research as possibly confusing and misleading due to their marketing purposes. These concerns are in line with research by Chan et al. (2004) who found that man claims are often considered as advertisement which is misleading, deceptive or confusing to consumers.

This means FOPNL is currently not fulfilling its initial purpose; help consumers make informed and healthy food choices (Gonzalez-Zapata, et al. 2009; EC, 2008). Consumers should become more aware of the influence of FOPNL and can choose to increase their knowledge to make more informed and healthier food choices based on their own interpretations.

6.2.3 Governments

FOPNL is currently not fulfilling its initial purpose which is to help consumers make informed and healthy food choices (Gonzalez-Zapata, et al. 2009; EC, 2008). Food manufacturers can reformulate FOPNL on their own initiative but governments can also play a role in changing regulations and introducing the education system.

Firstly, governments can formulate better regulations concerning nutrition labeling to make FOPNL more informative and useful in identifying healthier food choices, which could increase believability. This statement of the respondents is in line with research by Chan et al. (2005), who found that regulations governing nutrition claims on food labeling should be changed to improve their credibility and become more useful for consumers to choose healthier food products. Additionally, governments could sharpen the rules on FOPNL because the large amount of nutrition labelling types is currently confusing. Hieke et al. (2016) found that the number of nutrition claims on food products differs per country, with the highest number of 13 nutrition claims on a confectionery product in Germany. This emphasizes the need for a change of legislation.

Secondly, in this thesis Millennials highlight the importance of knowledge in order to make healthier food choices independent of FOPNL. They believe that it is the task of governments to introduce nutrition and health as a school subject in the education system.

6.3 Limitations and Future Research

Additional to the methodological limitations discussed in chapter three, the limitations to this study and suggestions for further research projects will be discussed.

As indicated in chapter three, Millennials with all the same occupations have participated in this research. The occupation of the Millennials can influence their purchasing behavior and therefor impact the results. Further research could determine whether occupations of Millennials affects the influence of FOPNL types on their purchasing behavior.

For further research it could also be interesting to make a comparison study between the Millennial generation, as researched in this thesis, and other generations to find similarities and/or differences concerning the influence of FOPNL on purchasing decisions.

Furthermore, the results of this research show a direct relationship between believability and the influence of FOPNL types on Millennial purchasing behavior. This is an additional relationship to the model by Benson et al. (2019), which has not been found during their research. It could be researched whether this direct connection applies to other generations as well, and thus could be added to the model of Benson et al. (2019). Also, further research would need to determine whether other generations lack believability of FOPNL as well. This could emphasize the desire of consumers for an increase of believability even more.

This thesis focussed on the influence of FOPNL types on Millennials' purchasing behaviors but it could be interesting for food manufacturers to further research the influence of the picture of the product and the brand since they are indicated by Millennials as second and third most influential to their purchase decision (Table 5).

As indicated in 6.1 Millennials see potential in a summary label that is understandable for everyone (regardless of e.g. spoken language and level of education) and gives a quick indication of the healthiness of products. Also Ni Mhurchu and Gorton (2007), who analyzed 16 kinds of researches on how well consumers use and understand nutrition labels and claims, concluded that the introduction of a new nutrition label and claim format which is easier to understand for all consumers, needs more attention. This label could function as a mandatory format, inserted within all food product categories. The system should be introduced together with a consumer education program. Ni Mhurchu & Gorton (2007) also indicate that the introduction of this label should be overseen by governments. Further research under Millennials should determine what this label looks like and how the believability of this label can be reassured.

Additionally, brand has been mentioned by Millennials several times, concerning different subjects, within this study. Three participants draw attention to the brand when analysing the FOP, seven Millennials mention brand as an influencer on their product choice, and four see the brand as the main influencer on their product choice when short on time. Further research could investigate how influential brand familiarity is on Millennials purchasing behavior.

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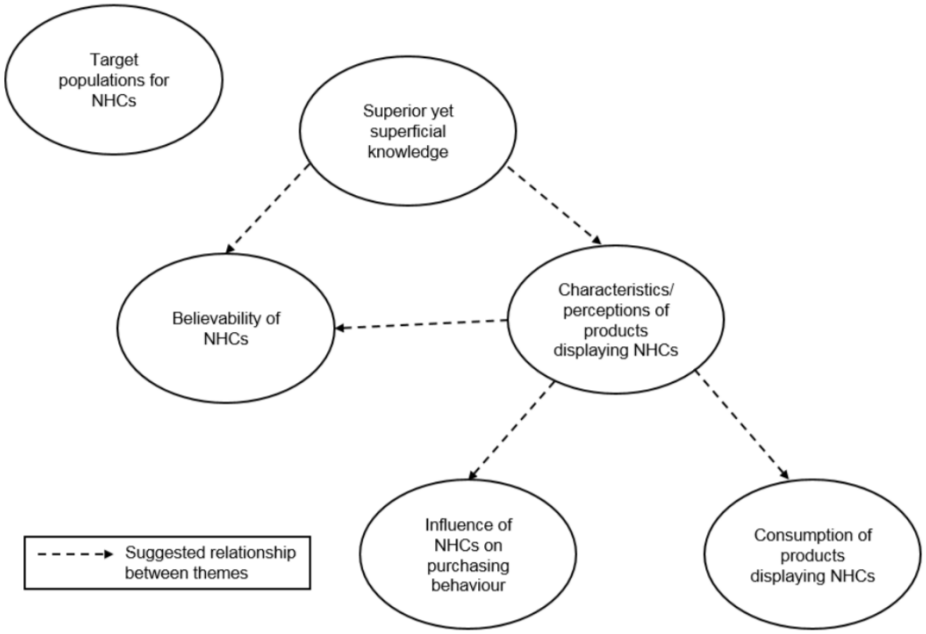
Appendices

Appendix A. Influencing factors



(Benson, et al. 2019).

Appendix B. Interview guide

Demographics:

1. What is your gender?
2. How old are you?
3. What is your nationality?
4. How are you educated

Show the package to the interviewee

1. How do you perceive this package?
2. What factors related to food packaging do you believe influence your purchase decision? (color, brand, size, location on the shelf)
3. What do you think about the claims you see on this package?
4. Have you used nutrition labeling before?
5. How do you analyse the front op pack nutrition labeling on this package? → What elements of the label attract attention?
6. Do you feel like these labels help you in making a decision? (a healthier decision?)
7. Can you find all the (nutrient) information you're looking for on the front of this package?
8. Do you feel these front of pack nutrition labeling influences your purchase decision?
9. Have you noticed the use of colors → How do you perceive these colors in relationship to the label?
10. How do you perceive the title "supermusli"

General questions:

1. What do you think about nutrition labeling in general?
2. What knowledge do you have about nutrition labellng?
3. What is your attitude towards nutrition labeling on food packaging?
4. What are your previous experiences with nutrition labeling?
5. Do you use/look for nutrition information while you do your groceries?
6. Why? For what reasons do you look at these labels?
7. Is there a specific product category you use them for?

8. What kind of nutrient information are looking for? → Are you always able to find this information? / Is there (any additional) nutrient information you would like to find on the front side of a package?
9. Do you have a preference for a certain FOP nutrition label?
10. Does time influence your use FOPNL? In what way?
11. Do you generally feel like you understand nutrition labeling?

12. Are you familiar with one of these labels?
13. Do you know which institution is behind these labels?
14. Who do you believe is generally behind nutrition labeling?
15. Is that important for you?

16. What is your knowledge about nutrition label credibility?
17. Do you find nutrition labeling in general believable?
18. Is credibility something that effects you in your purchase decision? Does this influence how you perceive the labels?

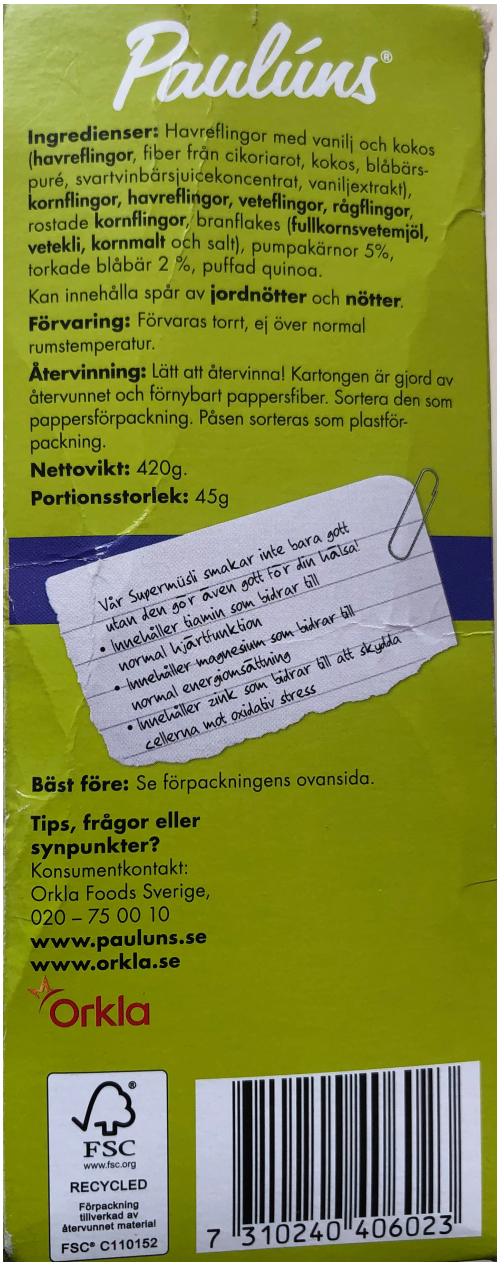
19. Does the brand (producing the food product) influence your perceived level of healthiness of certain products?
20. How do you think the knowledge on nutrition claims can generally be increased?

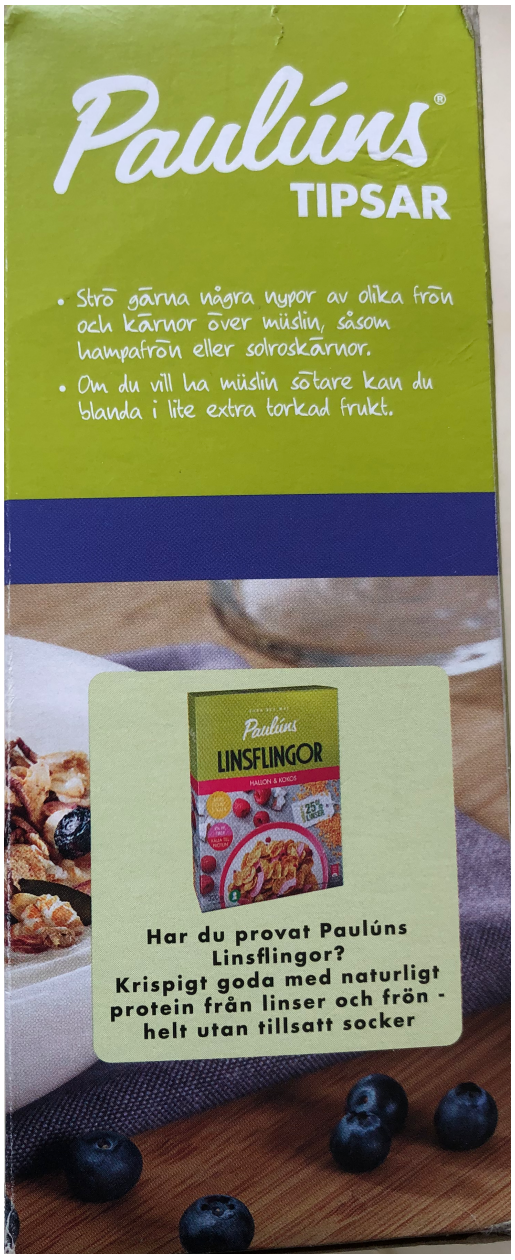
Appendix C. Product

Front side of the package

NÄRINGSVÄRDE	Per 100 g	Per portion 45 g	RI* per portion
Energi (kJ/kcal)	1580/376	711/169	8 %
Fett, varav mättat	7,5 g 2,4 g	3,4 g 1,1 g	5 % 6 %
Kolhydrat, varav sockerarter**	58 g 3,6 g	26 g 1,6 g	10 % 2 %
Fiber	14 g	6,3 g	
Protein	12 g	5,4 g	11 %
Salt	0,18 g	0,08 g	1 %
Tiamin	0,22 mg¹	0,10 mg	9 %
Magnesium	120 mg²	54 mg	14 %
Zink	2,9 mg³	1,3 mg	13 %

Back side of the package





Left and right side of the package

Appendix D. Study programs of participants

Program	**Number of participants**
Business administration bachelor	2
International marketing master	4
Marketing management bachelor	1
Sustainable communication master	2
Digital business master	4
Sustainable enterprise development bachelor	1
Business management master	1
Production development & management master	1
Finance master	1
International management bachelor	1

Appendix E. Tables with results

Factors	Number of times mentioned by participants
Nutrition content claims	9
Picture of the product	9
Colors	8
Flavours	3
Brand	3
Calorie label	2
Nutrition fact panel	2
Grams of content	1
Number of portions	1

Table 4. Factors indicated by participants while analysing FOP

Factors	Number of times mentioned by participants
Nutrition content claims	10
Picture of the product	9
Brand	7
Color(s)	5
Ingredients	5
Nutrition fact panel	5
Overall design	5
Price	2
Size of the package	2
Product title	2
Packaging material	2
Certificates	1
Font	1

Table 5. Factors that influence participants' purchase decision

Nutrients	Number of times mentioned by participants
Sugar	13
Carbohydrates	6
Calories	5
Fibres	4
Fat	4
Proteins	3
Gluten/grains	2
Lactose	2
Salt	1

Table 6. Nutrients participants search for on food packaging

Nutrition labeling type	Number of participants
Interpretive nutrient-specific	9
Reductive nutrient-specific	4
Only use nutrition fact panel	3
Interpretive Summary indicator	2

Table 7. Preferred type of FOPNL

Reasons	Number of times mentioned by participants
Find specific nutritional value(s)	6 + 4 (2 allergies + 2 diet preferences)
Eat healthy	6
Healthy body	4
Not gain weight	4
Sports	3
No artificially added ingredients	2
Allergies (gluten, lactose)	2
Diet preference (keto diet and vegan)	2

Table 8. Why participants use nutrition labeling

Product category	Number of participants
Cheat meals	4
Processed foods	4
Staple foods	3
Breakfast products	3
Only not for cheat meals	3
Bread	2
Dairy	1
Meet	1
Juices	1

Table 9. Within which product categories participants' use nutrition labeling

Information	Number of times mentioned by participants
Repeat purchase	9
Nutrition fact panel	6
Front-of-package	5
Brand	4
Ingredient list	2

Table 10. Based on which information participants choose products when short on time