Master thesis

Public Health Nutrition

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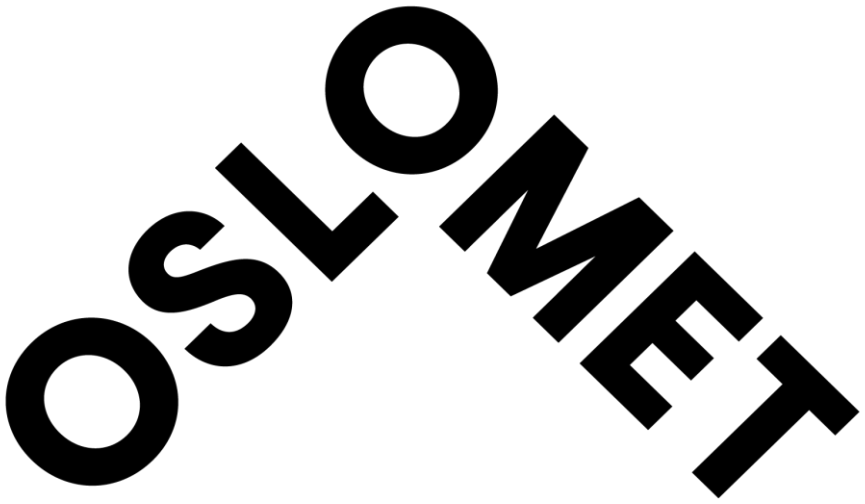
Attitudes towards increasing the intake of plant-based foods and reducing the intake of meat in segments of Norwegian consumers



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Preface

The topic of writing about attitudes towards a sustainable diet was introduced to me by my fellow student, Mathilde Prestbakmo. Mathilde and I share the interest of environmental sustainability, and we both wanted to write a thesis that included this aspect. Together, we contacted different institutions and potential collaborators and supervisors for the master thesis. We got many different options for potential collaborators. Mathilde ended up with a different project, while my interest in writing about attitudes towards a sustainable diet among different consumers in Nofimas' project was the greatest. I want to thank Mathilde Prestbakmo, especially for her initial idea of the topic for the master thesis and the cooperation with her while contacting potential collaborators. Without her idea and exquisite planning properties, I do not know if I would have ended up in contact with Nofima to write this thesis.

I especially want to thank my supervisors at Nofima, senior researcher Dr. Philos Øydis Ueland and senior researcher Dr. Antje Gonera, for welcoming me to write the master thesis in their project and extraordinary guidance and support during this year. Without them, the process of writing the master thesis would not have been as interesting and educational. Also, a very big thank you to my internal supervisor Professor Liv Elin Torheim, who provided me important support and help. Furthermore, I want to thank Professor Are Hugo Pripp for great guidance in the statistical part of the thesis.

Thank you to my fellow students, friends, and boyfriend for patience and support during this year. A special thank you to my dear friend, senior economist Fernanda Winger Eggen for lots of great advice during the process and for her answering almost daily calls during non-office hours towards the deadline of the thesis. I also want to thank my American friend Anett Funderud for helping me improve the language.

Last but not least, I want to thank my employer, Godtlevertgruppen AS, for being flexible with the percentage of employment and student-leave, which have allowed me to take this master's degree without quitting my job.

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Abstract

Introduction

From a health- and environmental perspective, it is beneficial that the population increases the intake of plant-based foods and reduces the intake of meat. In order to achieve such a change, it is necessary to understand the attitudes of different segments of the Norwegian population towards this change.

Objectives

The objectives of this thesis are: 1) Identify the characteristics of different segments of Norwegian consumers regarding their food habits and attitudes towards a sustainable diet. 2) Identify the nutritional quality and environmental footprint of the segment's dietary patterns. 3) Identify barriers and motivations for different segments to increase their intake of plant-based foods and reduce the intake of meat.

Method

A cluster analysis of a country-representative sample was conducted, to map out the characteristics of consumer segments in the population. The segments were then compared with qualitative descriptions "personas" to supplement the data with further insights. The dietary intakes of the different segments were assessed in terms of nutritional quality and environmental footprint.

Results and conclusion

The results showed different attitudes among the segments towards increasing the intake of plant-based foods and reducing the intake of meat. For some segments, a large proportion reported wanting to change their diet in such a direction, while other segments showed low willingness. Furthermore, the results indicated large differences between the nutritional quality and the environmental footprint of the segments' dinner intakes. Disadvantages associated with preparation of plant-based meals and low willingness to buy ready-made vegetarian products were among the barriers found in most segments. Health was a greater motivation than environment/climate to change diet among most segments. The interconnection of the segments and the personas in this thesis provides additional insights that can be valuable when developing interventions and food-products to facilitate a transition towards a more sustainable and healthy diet.

Sammendrag

Introduksjon

Fra et helsemessig- og miljømessig perspektiv er det gunstig at befolkningen øker inntaket av plantebasert mat, og reduserer inntaket av kjøtt. For å få til en slik endring, er det nødvendig å forstå holdninger hos ulike segmenter i den norske befolkningen til å øke andel plantebasert mat i kostholdet.

Målsettinger

Målsettingene for oppgaven var: 1) Kartlegge karakteristika hos ulike segmenter av den norske befolkningen i forhold til deres matvaner, og holdninger til et bærekraftig kosthold. 2) Kartlegge ernæringsmessig kvalitet og miljømessig fotavtrykk av segmentenes matvaner. 3) Kartlegge barrierer og motivasjoner hos de ulike segmentene for å øke inntak av plantebasert mat og redusere inntaket av kjøtt

Metode

Det ble gjort klyngeanalyse av et landsrepresentativt utvalg for å kartlegge karakteristika ved segmenter i befolkningen. Segmentene ble deretter sammenliknet med kvalitative beskrivelser "personas" for å supplere dataene med ytterligere innsikter. Matinntakene for de ulike segmentene ble vurdert med tanke på ernæringsmessig kvalitet og miljømessig fotavtrykk.

Resultat og konklusjon

Resultatene viste at segmentene hadde ulike holdninger til å øke inntaket av plantebasert mat og redusere inntaket av kjøtt. For enkelte segmenter var det en stor andel som rapportere ønske om å endre kostholdet i en slik retning, samtidig viste andre segmenter liten vilje til å gjøre endringer. Videre indikerte resultatene stor forskjell mellom den ernæringsmessige kvaliteten, og det miljømessige fotavtrykket på segmentenes middagsvaner. Ulemper knyttet til tilberedning av plantebaserte måltider, samt liten vilje til å kjøpe ferdiglage vegetarprodukter var blant barrierene som ble funnet hos de fleste segmentene. Helse var en større motivasjon enn miljø/klima for å endre kosthold hos de fleste segmentene. Sammenkoblingen av segmentene med personas gir ytterligere innsikter som kan være verdifull ved utarbeidelse av intervensjoner og matvareprodukter for å lette overgangen til et mer plantebasert kosthold hos segmentene.

1. Introduction and theoretical grounding

Malnutrition, non-communicable diseases, and climate change are present-day challenges linked to the food system (Willett et al., 2019). The impact of global warming is already detectable in many parts of the world and is expected to accelerate in the coming decades (FAO, 2018). By the year 2050, the global population is expected to increase to nearly 10 billion people, thereby increasing the global need for food by an estimated 60% (Alexandratos & Bruinsma, 2012). Climate change will also affect world regions differently and will pose a major threat to food security in vulnerable countries. Providing the growing global population with healthy diets from sustainable food systems is, therefore, an immediate challenge. Strong evidence indicates that food production, and particularly animal production, is among the largest drivers of global environmental change (Willett et al., 2019). Insights into the consumers' attitudes towards increasing the intake of plant-based foods reducing the intake of meat and are therefore necessary and valuable.

1.1 Diet and environmental sustainability

Norway has committed to reduce the emission of greenhouse gases by 40% within 2030 under the Paris Agreement (Ministry of Climate and Environment, 2017). In February 2020, Norway reinforced the climate target under the Paris agreement to at least 50% reduction, and up against 55% compared with the 1990-levels. Norwegian Environment Agency (2020) has investigated various measures that can reduce emissions in Norway. According to their emission projections, 20% of the climate gas emissions from the non-quota sector in the period 2021-2030 will come from agriculture, and about half of this comes from animal digestion (intestinal gas). Overall, studies on environmental effects of food produced, show that plant-based foods cause fewer adverse environmental effects per unit weight, per serving, per unit of energy, and gram of protein than animal source foods do (Willett et al., 2019). A systematic review by Aleksandrowicz, Green, Joy, Smith, and Haines (2016) on greenhouse gas emissions, land use, water use, and fossil fuels, found that reductions in these environmental footprints were generally proportional with the reductions of animal source food in the diet. Among the suggested measures presented by Norwegian Environment Agency (2020) in the KLIMAKUR 2030 report for the agricultural sector, is a dietary transition with reduced intake of red meat and an increased intake of plant-based foods and fish, in the population. The suggested dietary transition means that the parts of the population eating more than the recommended maximum of 500 g red or processed meat per week (Helsedirektoratet, 2019a), replace a certain amount of meat with plant-based foods (grains,

potato, fruit, vegetables, peas and nuts) and fish. In practice, this means that the average intake of red meat should be 333g per week in 2030. This suggested measure has the potential to reduce 2.9 million tons CO_2-equivalents in the time period 2021-2030, which is more than the rest of the suggested measures in the agricultural sector combined. The measure also has the second-lowest cost among the suggested measures in the agricultural sector, see figure 1.1.

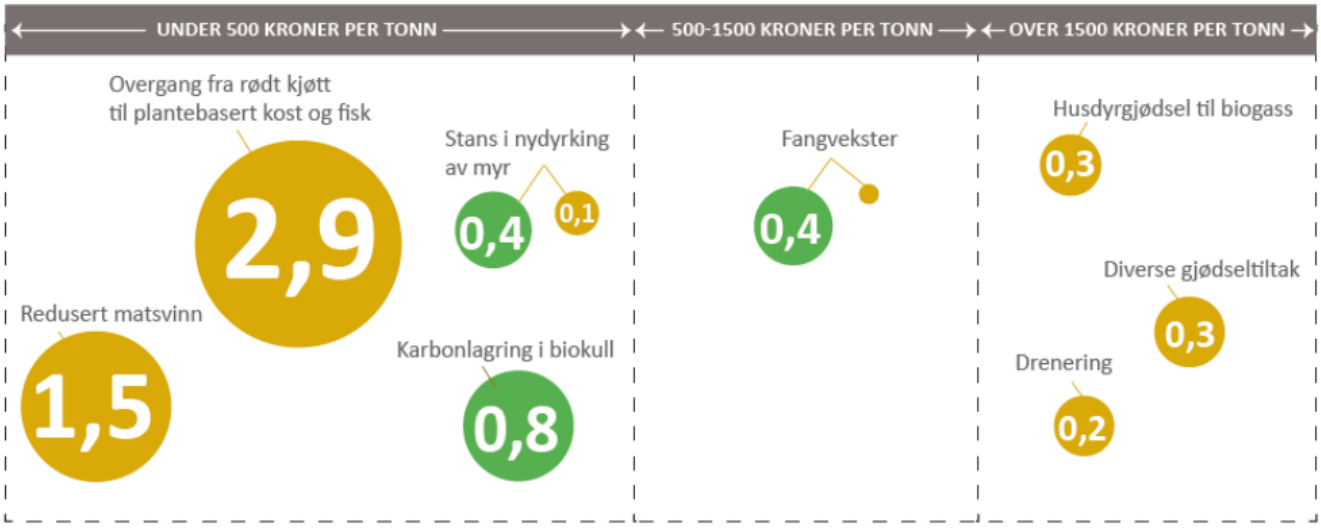

Figure 1.1: Reduction potential in million tons CO_2-equivalents. Source: Norwegian Environment Agency (2020).

1.2 Diet and health

Through the Sustainable Development Goals (United Nations, 2015), Norway has also committed to reduce the mortality from non-communicable diseases, such as cardiovascular diseases, cancer, and diabetes (Regjeringen.no, 2016). An unhealthy diet is among the most important preventable causes of the burden of disease and premature death in Norway (Øverland et al., 2016). Among these dietary factors are too low intake of different plant-based foods (fruits, vegetables, legumes, nuts, seeds and whole-grain products), and too high intake of processed meat and salt. Sælensminde, Johansson, and Helleve (2016) estimates that the potential public gain of the Norwegian population following the public nutrition recommendations is 154 billion NOK per year. This estimate includes: 1) the accumulated health benefits (added years of life and better life quality for the individuals with an estimated value of 136 billion NOK/year), 2) reduced health cost estimated to 12 billion NOK/year, and 3) reduced production loss (increased tax-income because of reduced sick-leave, disability, and death) with an estimated value of 6 billion NOK/year.

1.2.1 Health aspects of decreasing the intake of meat

The Norwegian directorate of health recommends limiting the intake of red or processed meat to a maximum of 500g per week (Helsedirektoratet, 2019a). Large proportions of the Norwegian population eat more than this, 55% of men and 33% of women, respectively (Totland et al., 2012). The consumption of meat has increased from 53 to 76 kg per citizen per year from 1989 to 2017, although the increase has been less than 1% in the last ten years (Helsedirektoratet, 2019b). The recommendation to limit the intake of red and processed meat is based on the strong evidence that red- and processed meat increases the risk of colon cancer, and a possible link with several other types of cancers (World Cancer Research Fund, 2018a). Red and processed meat also contribute with 20% of the intake of saturated fatty acids in the average Norwegian diet. Saturated fatty acids are a risk factor of coronary heart disease, and as the intake of saturated fatty acids is higher than the recommendations, a reduction of meat could, therefore, be beneficial to decrease the risk of coronary heart disease in the population (FAO, 2009; Totland et al., 2012).

1.2.2 Health aspects of increasing intake of plant-based foods

The Norwegian health authorities emphasize that there are large health benefits associated with a diet rich in plant-based foods, such as vegetables, fruits, beans, legumes, and whole-grain products (Helsenorge.no, 2020). Legumes, such as beans, peas and lentils, and whole-grain products are good sources of dietary fiber, plant-based protein, B-vitamins and iron (World Cancer Research Fund, 2018b). Furthermore, are fruits, vegetables and berries good sources of a wide variety of vitamins, minerals, and other bioactive compounds such as phytochemicals. Many phytochemicals are antioxidants and can reduce oxidative stress (Liu, 2013). Phytochemicals can also affect important cellular processes such as repair systems and inflammatory reactions, among other things. Through these mechanisms, plant-based foods can reduce the risk of coronary heart disease and cancer. Intake of fruits and vegetables are found to have protective effects against many different diseases, including cancer and coronary heart disease (Brandtsæter, Haugen, Øverland, & Meltzer, 2017; Nasjonalt råd for ernæring, 2011; World Cancer Research Fund, 2018b). Based on these findings, the Norwegian Directorate of Health recommends eating at least 500g of fruits, vegetables, and berries per day and that half of this should be vegetables (Helsedirektoratet, 2019a). However, 85% of men and 87% of the women have a too low intake of vegetables (Totland et al., 2012). It is, therefore, a high potential for better public health by increasing the intake of vegetables in the Norwegian population.

1.2.3 Health aspects of replacing meat with plant-based foods

A lacto-ovo vegetarian and vegan diet is associated with lower BMI, lower risk of cancer, hypertension, type 2 diabetes, and ischemic heart disease compared with regular meat-eaters (Dinu, Abbate, Gensini, Casini, & Sofi, 2017; Segovia-Siapco & Sabaté, 2019). However, meat also contributes with some important nutrients in the Norwegian diet, such as high-quality protein, iron, and b-vitamins (Totland et al., 2012). If eating a plant-based diet, it should be taken extra emphasis on getting these nutrients from other sources. Nuts, grains, and legumes (such as beans, peas, lentils, and peanuts) are all plant-based foods that have a relatively high content of plant-based protein, iron, and various B-vitamins (Mattilsynet, Helsedirektoratet, & Universitetet i Oslo, 2019). Legumes, grains, and nuts, or products of these, are therefore important sources of nutrients to replace meat. Legumes are also rich in fiber and have a low energy density (Mattilsynet et al., 2019), and replacing energy-dense foods with legumes has been shown to have beneficial effects on the prevention on obesity, cardiovascular diseases, diabetes and metabolic syndrome (McCrory, Hamaker, Lovejoy, Eichelsdoerfer, & McCrory, 2010). This way, replacing a certain amount of meat in the diet with plant-based foods such as legumes, would be beneficial for the public health.

1.3 Correlation between a healthy- and a sustainable diet

Increasing the intake of plant-based foods and reducing meat is beneficial both from a health- and sustainability perspective. Nasjonalt råd for ernæring (2017) found that there is large correspondence between the Norwegian dietary recommendations and a sustainable diet. A diet with a high proportion of fruits, vegetables, whole grain products, and a low proportion of red meat is characteristic of a healthy and sustainable diet. The report emphasizes that decreasing the intake of meat (both red and white) a great deal compared to today will be good from a sustainability perspective. Increasing the proportion of legumes, fruit, berries, and vegetables will give the diet a lower carbon footprint, besides contributing to better public health. The EAT-Lancet Commission report on healthy diets from sustainable food systems has thoroughly investigated a globally sustainable and healthy diet to combat climate change and malnutrition (Willett et al., 2019). The dietary shift that they recommend suggests an intake of total meat (incl. poultry) limited to approximately 300g per week, and overall, more than a 100% increase in consumption of legumes, nuts, fruits, and vegetables. As the average intake of beans and peas in Norway is only 2-3 grams per day (dry weight), there is no doubt that there is a large potential for an increase in plant-based protein sources in the Norwegian population’s diets (Totland et al., 2012).

1.4 Barriers and motivations for change towards a diet with a higher proportion of plant-based foods

For a dietary shift in the population towards reduced intake of meat and increased intake of plant-based foods, it is necessary to understand needs, barriers, and motivations for change among consumers in the population.

There has been an increased interest to reduce meat and eat more vegetarian food in the Norwegian population, among women since 2013, and since 2015 also among men (IPSOS, 2018). In 2017, 24% of women and 12% of men responded being very or quite interested in vegetarian foods. Furthermore, 31% fully or partially agree that they consciously choose meat-free days eg. Meat-free Monday. A Danish study found that 53% of Danish consumers stated intentions toward eating a more plant-based diet (Reipurth, Hørby, Gregersen, Bonke, & Perez Cueto, 2019). Identified facilitators for a transition to a diet with less meat and more plant-based foods are positive health effects, awareness of the environmental impact of meat-consumption, concern for animal welfare, concern for provenance and traceability of meat, knowledge about alternatives to meat, perceived ease of cooking and availability of plant-based foods (Reipurth et al., 2019; Stubbs, Scott, & Duarte, 2018).

However, Austgulen, Skuland, Schjøll, and Alfnes (2018) found that many Norwegian consumers are hesitant to change their diet for environmental reasons. Many have limited knowledge about the climate impact of meat consumption, and many are also resistant to the idea that this is their responsibility as consumers. Previous international studies have also highlighted that large segments of consumers are not willing to change their diet towards a higher proportion of plant-based foods, because of attachment to meat and unwillingness to change habits (de Boer, de Witt, & Aiking, 2016; Graça, Oliveira, & Calheiros, 2015).

Some of the barriers of reducing the meat consumption or increase consumption of alternative plant-based protein include: 1) Meat enjoyment (satiety effect and taste), 2) habits, taste, convenience, and price are prioritized over sustainability, 3) perceptions that meat is better for health than alternative protein options, or fear of protein deficiency, 4) lack of knowledge of the relationship between food, environment and health, 5) lack of vegetarian options or difficulty preparing plant-based foods and 6) the automaticity of shopping and eating behavior (Austgulen et al., 2018; Reipurth et al., 2019; Stubbs et al., 2018). Meat-consumption among consumers is also subject to the intention-behavior gap. The intention-behavior gap means that although many consumers hold the opinion that we must do something about the

environment and animal welfare issues of the modern livestock industry, many consumers do not act or act consistently so (Bakker & Dagevos, 2012).

There are substantial variations among consumers in their attitudes towards increasing the intake of plant-based foods and reducing the intake of meat (Austgulen et al., 2018; Reipurth et al., 2019). This indicates differences in barriers and motivations among Norwegian consumers to change the diet in a sustainable direction.

1.5 Segmentation and diffusion of innovation

In a segmentation perspective, not all products or solutions are suitable for all consumers (Weinstein, 2004). Segmentation is the process of partitioning markets into groups of people with similar characteristics and needs. Segmentation can, therefore, help to reach a specific target segment or type of consumer when working in research projects or product innovation in companies. The market can be segmented using any base or variable that it is identifiable, substantial, responsive, actionable, and stable**.** Typical bases for segmentation can be demographics, geographic, psychographic, behavioral, contextual, and situational. In this thesis, Norwegian consumers will be segmented based on food intakes, values, and attitudes, to be able to understand the different segment's needs, barriers and motivations to change their diet toward a higher intake of plant-based foods and reduced intake of meat.

Consumers adapt differently to new technologies or new trends based on their values and attitudes, such as the adaptation to a more sustainable and plant-based diet. The diffusion of innovation is a theory that seeks to explain the process by which innovations, new ideas, or practices (such as new eating patterns) spread (Rogers, 2003). Innovation can refer to new ideas or practices, such as a new dietary pattern in this case. According to Rogers, four main elements influence the spread of innovation: the innovation, communication channels, time, and the social system. The innovation must be widely adopted in a community in order to self-sustain. Rogers defines an adopter category as a classification of individuals within a social system based on innovativeness. The five suggested categories are innovators, early adopters, early majority, late majority, and laggards. The innovators are willing to take risks, have the highest social status, closest contact with scientific sources, and contact with other innovators which makes them first movers in adopting innovations and “trendsetters.” The early adopters, early majority, late majority, and laggards are likely to adopt an innovation, after the innovators, in the respective order. As the different segments of consumers adopt a

new idea, the idea spread through the community, and the market share eventually reaches a saturation level, see figure 1.2.

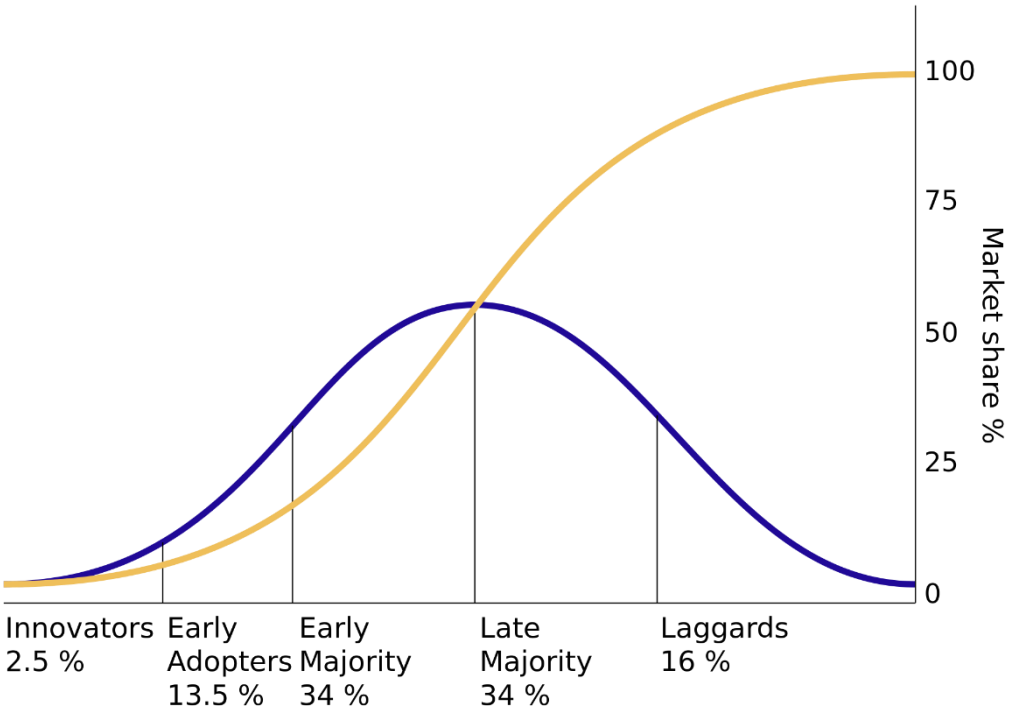

Figure 1.2: The diffusion of innovations, according to Rogers (Rogers, 2003).

1.6 The FoodProFuture- project, and the personas

This thesis uses data collected in the project FoodProFuture (NFR #26785). FoodProFuture is a project with the vision that increased production and utilization of plant protein biosources in food products leads to a desirable shift to more plant-based diets with a positive environmental impact, improved sustainable food choice for consumers, and value creation in the circular bio-economy. From a national perspective, the project aims to develop a knowledge platform that will enable the Norwegian agriculture and food industry in adjacent innovation projects to produce tasty, nutritious, and appealing plant-based alternatives to animal-based food products. One of the project's sub-objectives is “understand consumer needs, barriers and motivations for change to a healthier and more sustainable diet by choosing plant-based foods.” As part of this sub-objective, there is a need to map out consumer needs, barriers, and motivations in different segments of the Norwegian population.

1.6.1 Personas

In the FoodProFuture project, innovation researchers have developed ten personas in the context of plant-based diets in Norway. A persona is a fictitious and specific representation of a group of target consumers. It is a character made to represent a group of people with similar habits, needs, goals, perspectives, and values to help create a good understanding of them and the target group. The FoodProFuture personas have been developed using data from questionnaires, focus groups, workshops, observations, expert interviews, literature review, and desk research on (e.g. market studies, reports). In the context of plant-based foods, the personas were developed to help both researchers and the food industry to envision future needs, re-think their existing products, and develop new concepts that make the transition to a more sustainable diet easier. The personas are a way to summarize research results of the consumer and market studies (focus groups, surveys, etc.), put the focus on consumer needs, wishes, and desires, ease the transfer of knowledge and facilitate innovation.

Through this thesis, a segmentation based on quantitative survey data representative of the Norwegian population will be used to identify segments in the context of attitudes towards increasing the proportion of plant-based foods in the diet. The quantitative segmentation will be compared with the personas so that the insights from the personas can be used in combination with the insights from the quantitative segmentation into the attitudes towards reducing meat and increasing the intake of plant-based foods. Each persona is presented in the next chapter. The presentation of the personas is a replication from how the personas are presented in FoodProFuture (Food Navigator, 2019).

1.6.2 Presentation of the Personas

Andreas, the revolutionary modern young urban hipster

Andreas prefers food that leads to a healthier, modern & more sustainable and a more eco-friendly lifestyle. Food for him is functional but also represents lifestyle, identity, and

represents what he believes in. He is down-to-earth, an adaptive entrepreneur, open-minded, and into new developments. Sustainability, responsibility, and independence are central aspects for Andreas. Environmental wellbeing and respect for nature are essential aspects he takes into consideration in a decision-making process and his actions. Even without a high budget, he tries to spend money on high-quality goods and supports local producers. Food is for his enjoyment and wellbeing (delicious food as a kind of medicine). He likes to combine the old (traditional) with the new: Ancient traditions and new ways of preparing, cooking/baking, and serving it. Andreas enjoys life how it is and takes it as it comes (Chilled-relaxed). Still, he thinks it is hard to live genuinely sustainable. Since society is still not ready to make it easy to live genuinely sustainable, he might prefer to live in a co-working and living accommodation (community). He is grounded, down-to-earth, and part of a call-out-culture. He is an adaptive entrepreneur; he founded an urban farming company. He is open-minded and loves (and not afraid of) new developments!

Hallvard, the classical omniverse multiperformer

For Hallvard, food is a status symbol and networking possibility. Hallvard already possesses a baseline level of knowledge, especially for food, wine, coffee, and tea. As a "specialized gourmand," he likes to stage his knowledge. He is an enjoyer and connoisseur of best ingredients and recipes, the best restaurants and wine spots and the best places to enjoy healthy food. Food for him is status to cook at home: Expensive, healthy, impressive. For Hallvard, it is important what others think. He likes to impress others, but when he is alone, he often eats premade food. Hallvard is well situated and willing to invest a lot. He has a high income and can be mixed generations.

Work-life balance is his life concept, a connection of job, and wellness. His work and achievements are in the center of interest. Private life is organized around business life and the job is wellbeing and status symbol. He defines himself by business success and societal standing. Having a high income, being well situated, and willing to invest a lot is essential for him. Family is not as much important as business opportunities. He is single.

Thea, the young radical vegan activist

Thea is passionate about food and dishes based on truly sustainable, organic, green products that are healthy for humans and animals. The animals and the earth need to be saved. She believes that foods are not only functional, and the real value of food needs to be respected. She first and foremost prefers Norwegian products that are usually "cleaner," more natural, and she, therefore, prefer to eat seasonally. Thea is a self-confident green expert and radical minded. She is young and still going to school (generation z). She loves yoga and meditation and delicious local, natural food. To be self-aware is more important to her than doing extraordinary sports activities.

Henrikke, the healthy and sporty urban detoxifier

Henrikke is passionate about food and dishes that lead to a happier, healthier, and more sustainable life. Food is not only functional but also enjoyable for her. She enjoys natural food and products that are locally based (from Norway). She is a health hedonist: healthy, delicious ecological-friendly enjoyment, relaxed, and knows exactly what she wants to do in life. Henrikke is a clean-lifer, trying continuously to reduce red-meat consumption. She is Authentic and grounded and tries to combine contradictions such as city and nature, enjoyment and exercise, family and freedom/liberty, a good job and leisure time. She likes to be the "good girl," doing the right things. She lives a very healthy life and is exercising for her life-balance. However, she would never stop eating tasty food for pure enjoyment and "inner" beauty. No sacrifice! She loves

sports, yoga, and meditation for a good balance and she likes Instagramming, where she has lots of followers. Henrikke thinks out-of-the-box and is very open-minded. She loves to experience (new) food products and diets and to integrate it into her daily life.

Bjørn, the Norwegian athlete

Bjørn, the Norwegian athlete, loves delicious food and meals based on healthy, tasteful, and natural energy sources that help to increase and conserve his performance. He enjoys eating plant-based proteins implemented as a basis of his diet to develop strength continuously. He is open to new developments in food, nutrition, sports articles and equipment, as well as new ways of training. Sports is a daily need in his life, otherwise, something is missing for him. However, he also knows how hard heavy training can be (maybe in cooperation with olympiatoppen). He is a nutrition expert and is very interested in educating himself to enhance knowledge, performance, wellbeing and training. He knows how important good food and eating behaviors are to enhance training and performance, providing him an energy boost for a strong body and mind. He has a sport- and equipment addiction and owns a super professional bike for 100.000 NOK. He does not want to spend a lot of money on other things. He is open-minded and actively interested, he is convinced that plant-based food nutrition helps to avoid injuries and supports in competition events. He is a flexitarian.

Family Sørum, the young agile hedonistic family

The Norwegian Representatives, “Family Sørum,” is passionate about meals and food as enjoyment and wellbeing together with the family. They both have traditional values and are open to the new (latest developments/ trendy/ “doing something different”). They are very responsible and reliable. They are a young family with 1-4 children (Mix of different generations: Multiple-Generation household; mainly generation X dominated). They are gender-equated with 50/50 responsibility for children and jobs, and both are cooking. They are healthy family hedonists.

They have a diverse household income, but they try to engage to find the "best" food products for the family. They know where to search for good and special food products. They are open-minded: modern and traditional. Open for new food/products/services when it is good for children and environmental-friendly. Essential aspects in their life are Health, quality time (sport, cinema, theater, concerts, traveling, reading, etc.), environmental sustainability, high responsibility for partner, children, family, and job. As "Clean-Lifers," they are enjoying high-quality products and care about the environment: Transparency and Quality-Labels play an important role. They are willing to pay more for really good products and services. They are convenient and healthy food hedonists: Preparing food and dishes with the children together with a combination of own grown and bought vegetables is what they prefer and do. Their children should experience and learn to eat more types of food and gain important knowledge and understanding.

Ramya, multicultural flavor and diversifier

For Ramya, food is a basic need and personal wellbeing. For her, food symbolizes her origin, when trying to combine home-country flavors and ingredients with the Norwegian food traditions, local food, and culinary experiences. For her, it is essential to combine the best of both worlds. Food for her is enjoyment and the "feeling at home." Ramya loves sharing food and food culture with (new) friends and (new) family. It helps her to understand both worlds and different cultures. Ramya is open-minded with different kinds of ethnic backgrounds, and she is very tolerant. Persons like Ramya are survivors and rebuilders and -constructors. In her everyday diet legumes, herbs and spices are very important. Food has an important role (food/products that have a story and history) and as such, designing menus. Ramya is someone who still knows how to cook and bake and is well-educated in that. She has high food-knowledge and potential. This persona represents people with different ethnical backgrounds and different kinds of habits relating to culture and religion (e.g. Islam, Hindu).

Family Soltvedt, the traditional classics

For Family Soltvedt, food is necessity, functional and needs to be healthy and acceptable for the children. They like old Norwegian recipes, food, and ingredients. They prepare and serve traditional, national Norwegian dishes for special occasions/seasons. They follow the wishes and needs of the children. They are a young, traditional and conservative family (1-5 children) living in the countryside. Different generations are living together. They want to serve the best to their children and their consumption follows what the family needs and desires. Family Soltvedt harvest and store their own vegetables. They try to focus on self-made food and dishes as it seems to be cheaper. Their weekly dishes are made of a variety of potatoes, broccoli, salad, and what they can have in their own garden/farm related to the season. Potatoes are central in their dietary pattern. Brown cheese and crispbread are very important too. Their family member gremium is an important decision-making instrument.

Manfred, the truckdriver rocking the Norwegian roads

Manfred loves food and dishes that he feels make him strong and full. Readymade food and fast-food is what he desires. Food is purely functional for him, and he likes buying food "on the road." Food is a need and not enjoyment. Meat is the real men's food and makes him strong. He enjoys practical "men's" food on the road and at home and believes this type of food is non-green and very cheap. He eats a ready-made diet and usually buys his meals in cans and at petrol stations. He is competitive, absolutely practically oriented and things must be useful and easy for him. This persona has a wide variety of characteristics and backgrounds (generation, education, culture, origin, etc.). Digitalization and mobile phones are part of his basic needs. For him, meals without red meat are not good meals. However, some vegetables are ok from time to time. He thinks it is important to have enough food and not to be hungry. Manfred is non-green. For him,

vegetarians and vegans are the crazy alternatives, the crazy “green” ones who are far away from being realistic. He believes the “bio”- and “green” environmental-revolution is only to make money and is only meant to be an advertising campaign for the big companies. Environmental and ecological aspects do not matter to him, only for the people having too much time and money, imported products are cheaper. What others say is not important for Manfred and does not matter to him.

Berit&Knut – the Norwegian couple living the traditional life

Food is for Berit&Knut necessity and needs to be done easily. They prefer Norwegian food and ingredients, however, Peppes Pizza is also fine sometimes. Only for special occasions/seasons are the traditional national Norwegian meals prepared and served in an extraordinary manner. What counts for them are: Traditions and the good old times, traditional farming stability and security are central aspects of their lives. They are conservative traditionalists and no first-movers. They have a sustainable lifestyle but maybe not ecologically friendly. They believe Bio-Labels are only advertising and industrial “en vogue”-thing for making money. They try to find only cheap food and ingredients; quality has no priority. For them, food is a need and not pleasure but sometimes a good old tradition. They love fish and traditional Norwegian dishes. They believe healthy food might be important, but not for them anymore. They stock up on frozen food which is cheaper and more available, they have two freezers. They don’t like traveling or experiencing too many new things. They just want to be at home in Norway in their own garden. Maybe they are leaving for the cabin. Berit&Knut are less open-minded and definitely not open to big changes; they are skeptical of trying new things. They might try processed vegetarian-products if cheap and affordable enough. They need to know the prices of the products and very much like to find cheap food. They like to cook good meals for family and friends using a lot of time preparing and cooking “official” meals /dinners for special holidays and celebrations.

2. Purpose and objectives

2.1 Purpose

To better understand the needs, barriers, and motivations for the consumption of plant-based foods, it is necessary to identify consumers belonging to different segments. In this thesis, consumer segmentation will be used to identify attitudes towards reducing meat and increasing the intake of plant-based foods in segments of Norwegian consumers.

Additionally, the segments will be combined with the qualitative descriptions of "Personas". Using this approach, the qualitative findings can be verified through the quantitative data, and the quantitative results can be complemented with descriptions of the personas that can provide additional insight into the segments.

2.2 Objectives

1. Identify the characteristics of different segments of Norwegian consumers regarding their food habits and attitudes towards a sustainable diet.
2. Identify the nutritional quality and environmental footprint of the segment's dietary patterns.
3. Identify barriers and motivations for different segments to increase their intake of plant-based foods and reduce the intake of meat.

3. Method

3.1 Choice of research design and method

To answer the objectives of the thesis, the research design is based on three different approaches: 1) Analysis of a quantitative data set to determine characteristics of different consumer segments, 2) comparison of the quantitative consumer segments with qualitative descriptions and 3) estimation of diet characteristics of the consumer segments in a nutritional and sustainability perspective. Figure 3.1 shows the main steps of the methods used.

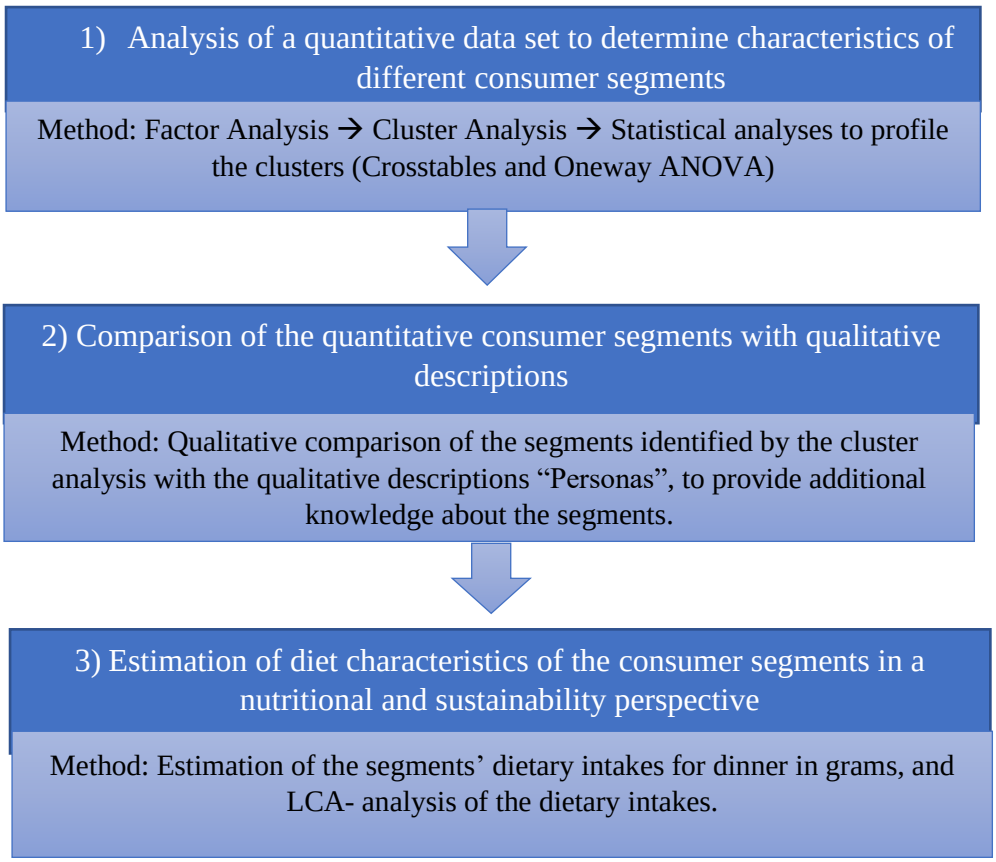

Figure 3.1: Flow chart of the methods.

3.2 Analysis of the quantitative dataset

To be able to identify the characteristics of different consumer segments, it was decided to use cluster analysis as a method. Cluster analysis is a multivariate method to group cases with similar profiles in a defined set of characteristics (Hair, Black, Babin, & Anderson, 2014). Since the dataset contained many variables of interest, and many of the variables would possibly be multicollinear, it was decided first to conduct a factor analysis to merge similar variables and use as clustering variables. This way, the valuable information in the dataset could be reduced to a more manageable size for the cluster analysis while retaining as much information as possible. After conducting the cluster analysis, further statistical analyses were used in the profiling and description of the clusters. One-way ANOVA and crosstables were used in this process. In this section, the dataset is described, followed by the statistical analyses that are used to form and describe the consumer segments; factor analysis, cluster analysis, oneway-ANOVA, and crosstables.

3.2.1 Data

Secondary data

Data can be categorized as primary- or secondary data, and there are advantages and disadvantages of using either. (Jacobsen, 2015). Primary data is collected by the researcher for the actual research and can, therefore, approach the research question directly. Secondary data, on the other hand, are initially collected for other purposes and do not necessarily approach the research question directly. One challenge of using secondary data is, therefore, that the data might not meet all the needs of the research in the best possible way. However, collecting data can be a challenging, expensive and time-consuming task. Using secondary data when available, can, therefore, save time and resources. For this thesis, it was decided to use the already existing quantitative survey data, since a dataset suitable for the research question, was available. Additional benefits of using these secondary data for this thesis is the possibility of doing analyses on a relatively large, country representative dataset. Collecting similar data would have been too time-consuming for this thesis.

Data collection

Norstat, a Norwegian market agency, collected the data used in this thesis. Norstat's panel in Norway has approximately 81000 active users Most of the users are recruited by telephone, through country-representative random telephone surveys. To minimize the likelihood of distortions, Norstat does not practice self-recruitment. At the time of sign up in the panel, different demographic, consumption-related, and psychosocial variables are registered so that

Norstat can select representative selections in different target groups. The survey was developed by SIFO, and undertaken, controlled, and adjusted by Norstat (Bugge & Alfnes, 2018). The data was collected in May 2018, and 1785 observations were collected, and the response rate was 24%. The selection was approximate representative, and it was used weights on gender, age (18-34, 35-49, 50-64, 65-79), and region (north, middle, west, east, south, and Oslo) to correct for sample deviation.

3.2.2 Factor Analysis

Factor analysis is a technique used to identify clusters of variables (Field, 2013). Factor analysis can be used for three primary purposes; 1) describing the structure of the variables, 2) to construct a questionnaire to measure an underlying variable, and 3) to reduce a dataset to a more manageable size while retaining as much of the information as possible. In this thesis, factor analysis is used to reduce the dataset while retaining as much information as possible. In other words, results from the factor analysis will be used to merge variables to factors to use as input variables in the cluster analysis.

Method for extraction

There are several methods to choose between when conducting factor analysis (Field, 2013). For choosing a method, it needs to be considered whether the purpose is to apply the findings to the sample collected (descriptive method) or to generalize the findings to a population (inferential method). When assuming that the participants are randomly selected and that the variables measured constitute the population of variables in which we are interested, it is possible to generalize from the sample to a larger population. Maximum-likelihood is a method that assumes this, and maximum-likelihood was therefore chosen as the method for the factor analysis in this thesis.

Method of factor rotation

The choice of rotation in factor analysis depends primarily on whether or not the underlying factors are expected to be related (Field, 2013). In this factor analysis, there are included many similar questions and therefore expected that the factors would correlate. Oblique rotation is recommended when the variables are expected to correlate, and the oblique rotation method, direct oblimin, was chosen for this factor analysis. Appendix 1 shows the factor loadings after rotation.

Extracting factors

According to Field (2013), Kaiser's criterion is to retain all factors with eigenvalues greater than 1. An initial analysis was run to obtain eigenvalues for each factor in the data. Fourteen factors had eigenvalues greater than 1, and these factors combined explained 64% of the total variance, see appendix 2. Kaiser's criterion is appropriate to use when the sample size exceeds 250, and the average communality on the variables extracted is higher than 0.6. Alternatively, if there are fewer than 30 variables and communalities after extraction exceeds 0.7. For these data, the average communalities after extraction were 0.538, and Kaiser's criterion of retaining all factors with eigenvalues greater than one might not be appropriate for these data, see appendix 3. According to Field (2013), another method of determining how many factors to retain is the point of inflection on the scree plot. Inspection of the scree plot could justify keeping six or nine factors, see appendix 4. After inspection of the factors, it was decided to keep nine factors, as these nine factors also seemed the most meaningful and relevant for the cluster analysis. Coefficients higher than 0,4 were included in the different factors, as shown in appendix 1.

Quality of the factor analysis - Kaiser-Meyer-Olkin measure

Kaiser-Meyer-Olkin measure of Sampling Adequacy (KMO) represents the ratio of the squared correlation between variables to the squared partial correlation between variables (Field, 2013). The KMO statistics vary between 0 and 1, and a value close to 1 indicates that the pattern of correlations is relatively compact, and factor analysis should yield distinct and reliable factors. Kaiser (1970) recommends accepting values higher than 0.5. Values greater than 0.9 are considered "marvelous" by Hutcheson and Sofroniou (1999). A KMO of 0.912 in these data shows that a factor analysis yield distinct and reliable factors, see appendix 5.

3.2.3 Cluster Analysis

Cluster analysis is a multivariate method with the objective of grouping cases with similar profiles in a defined set of characteristics (Hair et al., 2014). The goal is to find the optimal grouping for each cluster, where the objects within each cluster are similar, but the clusters are dissimilar to each other (Rencher & Christensen, 2012). Cluster analysis can be used mainly for three objectives; simplification of data, relationship identification, and segmentation analysis with taxonomy development. In this thesis, cluster analysis will be used to identify segments of the Norwegian population regarding their attitudes towards reducing meat and increasing intake of plant-based foods.

Essential stages in the cluster analysis process include: 1) Selection of the clustering variables, 2) selection of the clustering method, 3) selection of the number of clusters to form and 4) validation and profiling of the clusters. Potential deletion of outliers and standardization of variables are also aspects that need to be considered.

Selection of clustering variables

According to Hair et al. (2014), the objectives of the cluster analysis cannot be separated from the selection of variables used to characterize the objects that are being clustered. The clusters identified in the analysis will be clustered by the variables selected, and it is, therefore, essential that the variables are thoughtfully selected. Hair et al. (2014) recommend that the variables should 1) characterize the objects being clustered, and 2) relate specifically to the objectives of the cluster analysis. It is also essential to consider potential multicollinearity among the variables. In cluster analysis, the variables are assumed to be independent, and the clustering variables are given equal weights. If several variables are highly correlated, the aspects that these variables measure will be given more substantial weight in the clustering process.

Variables were chosen carefully to make sure that the segments were formed in a manner to create segments according to the objectives of the thesis. It was decided to include variables measuring food habits, attitudes towards reducing meat, concern for nutritional content, and attitudes towards eating plant-based foods. Factor 2, 4, 7 and 8 from the factor analysis, were decided to be used as clustering variables, and the variables in these factors were therefore merged before they were used as clustering variables. One variable, “I often make dinner from scratch”, was reversed before merged together with “I often buy processed foods/premade dinners”, so that the variables in the factor are measured in the same direction. Multicollinear variables were not an issue since all the highly correlating variables were discovered by the results of the factor analysis, and no highly correlating variables were used as separate clustering variables. Table 3.1 shows the variables used in the cluster analysis, and which variables were merged to form the factors.

Table 3.1: Variables used in the cluster analysis.

Variables used in the cluster analysis	Variables merged to form the factor
How often do you eat dinner with the following ingredients - Beef	
Pork	
Poultry (chicken, turkey)	
Fish/seafood (shellfish, shells)	
Vegetables / Fruits	
How much do you agree or disagree with the following statement? - I am interested in vegetarian food	
Factor 2: A dinner needs meat or fish to be: tasty, healthy, nutritious, complete and filling	A dinner needs meat or fish to be:
	- tasty
	- healthy
	- nutritious
	- complete
	- filling
Factor 4: Concerned with nutritional content	To what degree are you concerned with the following nutritional content in the food you eat:
	Vegetable fat
	Animal fat
	Carbohydrates
	Sugar
	Protein
	Salt
	Vitamins and minerals
Factor 5: Liking, and frequency eating beans (canned), chickpeas, lentils	How well do you like the taste:
	- canned beans
	- lentils
	- chickpeas
	How often do you eat:
	- canned beans
	- lentils
	- chickpeas
Factor 7: I think it is important to reduce meat/dairy because of environment/climate and animal welfare	I think it is important to reduce the intake of meat/dairy because of the environment/climate
	I think it is important to reduce the intake of meat/dairy because of animal welfare
Factor 8: Like buying processed foods and seldom cooking dinners from scratch	I often make dinners from scratch (reversed)
	I like to buy ready-made products such as meatballs and fish balls for dinner
	I like to buy ready-made dishes such as frozen pizza, lasagna, pie, and casserole for dinner

Selection of the clustering technique

There are two conventional approaches of cluster analysis, hierarchical clustering, and non-hierarchical clustering (Rencher & Christensen, 2012). Hierarchical clustering starts with one cluster for each observation and ends with a single cluster containing all observations. At each step, an observation or cluster of observations is absorbed into another cluster. The hierarchical cluster analysis procedure can cluster different types of data but is not recommended when clustering more than a thousand cases (Hair et al., 2014). The non-hierarchical method, k-means, was therefore chosen as the method of cluster analysis in this thesis.

K- means cluster analysis

K-means is a partitioning method of cluster analysis (Rencher & Christensen, 2012). The algorithm requires the number of clusters to be selected in advance. The method starts by selecting initial cluster seeds and assigns each observation to the nearest cluster seed based on Euclidean distance, and temporary clusters are formed. Seeds are then replaced by the centroid (mean observation) of each temporary cluster. Then, each observation is reassigned to the nearest centroid, and the location of the centroids are updated. The process repeats until centroids no longer significantly change location.

K-means cluster analysis is recommended to use only on quantitative data at the interval or ratio level (IBM Knowledge Center). The data used for this cluster analysis is measured at a 5- point Likert scale, and ordinal data measuring food intake. There are different opinions among researchers on whether the Likert scale should be treated as interval or ordinal data. However, Wigley (2013) argues that a multi-item Likert scale produces interval data even though a single-item Likert response is ordinal data. In this thesis, the 5-point Likert scale data is treated as interval data. The ordinal data measuring dietary intake was considered to be similar to the Likert-scale responses and was therefore handled the same way.

Selecting the number of clusters to form

The algorithm of the k-means method requires the researcher to choose the number of clusters, k, in advance. According to Hair et al. (2014), there is no exact blueprint on how to decide the optimal number of clusters. Since no single objective procedure to determine the correct number of clusters is available, it is recommended that the researcher must evaluate alternative cluster solutions, and select the optimal solution. In selecting the number of clusters, the researcher also faces a decision on how small or large segments to analyze. A decision must be made between fewer clusters and less homogeneity within clusters versus a

larger number of clusters and more within-group homogeneity. It is further recommended that theoretical foundations, practical judgment, and common sense are used when deciding on the number of clusters.

The silhouette score is one method to help indicate the optimal number of clusters (Rousseeuw, 1987). By calculating the silhouette scores, each cluster solution is represented by a silhouette score, which is based on the comparison of its tightness and separation. Average silhouette width for the cluster analysis can be calculated and used to assist in selecting the "appropriate" number of clusters. A higher silhouette width indicates a cluster solution with a high degree of tightness within each cluster and clusters that are well separated from each other. In other words, a higher silhouette score indicates a cluster solution of better quality than a lower score. By calculating the silhouette scores of cluster analyses with different values of k, one can use the average silhouette width to help determine the optimal value number of clusters.

Silhouette scores were calculated for k=2 to k=10, see figure 3.2. The lower numbers of clusters (2-4) yielded the highest silhouette scores, which could indicate that a lower number of clusters would be the right choice. The silhouette score also yielded a small peak on seven clusters. Since this thesis aims to compare the cluster analysis with ten typologies based on prior research, there would be practical benefits in favor of choosing a number of clusters closer to ten, to have smaller segments for comparison. The earlier identification of these ten consumer segments (personas) in the same population, also provides a theoretical grounding for the existence of more clusters in this population. After a thorough inspection of the clusters, the formation of seven clusters seemed to give the most meaningful and distinct clusters of k=6-10. The formation of seven clusters was therefore chosen.

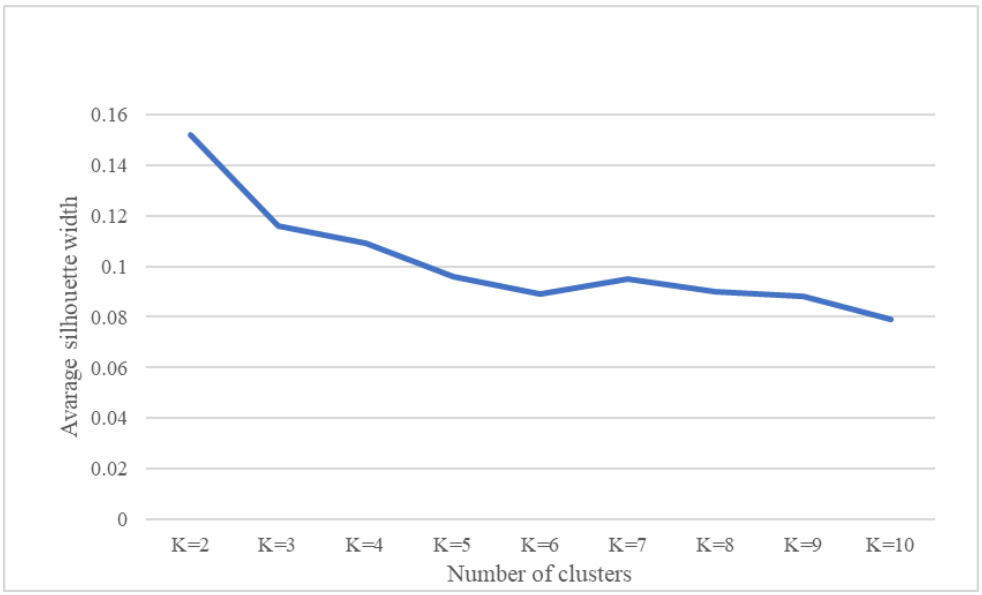

Figure 3.2: Average silhouette width for clusters K=2 to K=10.

Handling of missing values

One challenge with the use of secondary data was that some of the measurement scales were not suitable for the analyses in the thesis. Most of the variables in the dataset were measured on a Likert scale 1-5, with alternative 6 equal to "I don't know." This was an issue, as the k-means cluster analysis needs continuous variables as input variables (Hair et al., 2014). For these variables, the alternative 6 "I don't know" was decoded into missing to enable us to treat the Likert scale as a scale in the analyses.

Missing data can be classified into three groups (Hair et al., 2014). Missing completely at random (MCAR), Missing at random (MAR), and missing not at random (MNAR). The classification MCAR is applicable when missing values are not dependent on the present variables. Data are MCAR when the probability of missing data on a variable is not related to any other measured variable and is not related to the variable with missing values itself. When the missing data are MAR, the probability of a data point to be missing is unrelated to the missing data, but it is related to some of the observed data. Missing data is MNAR when the relationship between the propensity of a value to be missing and its values. An example of MNAR is, for instance, when the cases with the lowest income are missing on the income variable. When missing data are MAR or MNAR, the results can potentially be biased due to differences between the cases with complete information and cases with missing information.

A Little's MCAR test was conducted to test the null hypothesis that the data are missing completely at random (IBM Knowledge Center). In this dataset, the significance value was less than 0.05. This indicates that the missing data are not missing completely at random, and the cases with missing values might be systematically different from the cases with complete information. See Appendix 6.

When cases with missing data are systematically different from the cases with complete data, a problem arises when the researchers exclude cases with some missing data from the analyses. By excluding the cases with missing data, the results of the analyses might be biased since systematically different cases are excluded. For factor analysis and cluster analysis, among others, it is possible to choose between pairwise and listwise deletion (IBM Knowledge Center). In listwise deletion, cases with some missing data are totally excluded from the analysis. With pairwise deletion, the procedure does not include the case in the variable(s) the case has missing data on, but the case will still be used in analyzing the other variables. The pairwise deletion was chosen in the factor analysis and cluster analysis because of the presence of missing data.

To minimize the chance of misleading results, the variables with a high proportion of missing values was not used in the cluster analysis or factor analysis. The variables included in the cluster analysis had missing values ranging from 0% to 5.1%, and the variables merged to factors had missing values ranging from 0.2% to 13.7%, see appendix 6. Since the missing data on the variables in the cluster analysis did not exceed 5.1%, and the cases with missing data were included in the analyses through the remaining variables (pairwise deletion), the missing data were considered not to give substantially biased results.

Handling of outliers

Cluster analysis is quite sensitive to outliers (Hair et al., 2014). Outliers can represent 1) Deviant observations that are not representative of the general population; 2) Representative observations of small or insignificant segments within the population or 3) A subsample of existing group(s) in the population that causes a poor representation of the group(s) in the sample. According to Hair et al. (2014), outliers should be removed in the first and second case, as they distort the actual structure in the first case scenario. In the second case scenario, they should be removed so that the resulting clusters can more precisely represent the relevant segments of the population. In the third case, however, the outliers should be included in the analysis because they represent valid groups.

Potential outliers were identified by looking at the average distance to cluster centers among the cases, see appendix 7. Cases were inspected for high average distance relative to the other observations, and the other cases belonging to the same cluster. The ten cases with the highest average distance to their cluster center were carefully inspected for the observations' responses, and seven of them were excluded from the cluster analysis because they were considered to be deviant observations that are not representatives of the general population (no food intake, likely mistyping, etc.).

Standardization of variables

When using distance measures in cluster analysis, the analysis can be sensitive to differences in scales or magnitudes among the variables (Hair et al., 2014). For instance, variables with large dispersion will have more impact on the final similarity value, and thus have a more substantial impact on the clustering results. For this reason, Hair et al. (2014) recommend standardizing variables before conducting the cluster analysis, especially if variables measure on entirely different scales. The most common way of standardizing variables is by using z-scores. Z-scores are calculated by subtracting the mean and dividing by the standard deviation for each variable. The raw data are then converted into values with the mean of zero and standard deviations of one. By using z-scores, all variables are on the same scale. This way, using z-scores eliminates the bias introduced by differences in the scales or variables used in the cluster analysis. Standardization can also make the cluster centroids easier to compare since they all are on the same scale.

The variables used in this cluster analysis were all measured on a 5-point scale. However, it was decided to standardize the variables before clustering because of differences in standard deviations among the variables.

Validation of the cluster analysis

Validation of the cluster analysis is essential, given the subjective nature of selecting the optimal cluster solution and clustering variables (Hair et al., 2014). Validation of the cluster analysis attempts to ensure that the cluster solution is representative of the population and generalizable to other objects. No single method exists to ensure validity, although several approaches exist to provide some basis for the researcher's assessment. Hair et al. (2014) especially recommend cross-validation and establishing criterion validity through established theory. The cluster solution stability can also be used to assess how stable the analysis is.

Cross-validation

Hair et al. (2014) highlight that the most direct approach for cross-validation would be to analyze separate samples and compare the results of the two separate cluster analyses to see if the results are corresponding. However, this approach is quite resource-intensive. Using secondary data in this thesis, analyzing separate samples was not possible. Another popular way of cross-validating the cluster analysis is to split the sample in two, conducting two separate analyses on the two subsamples, and comparing the results. This latter method of cross-validation was therefore chosen.

The results from the cluster analyses of the two sub-samples were carefully inspected for corresponding clusters in the two separate analyses. It was used colors to mark similar results on variables for the corresponding clusters. For the variables where the results of the clusters didn't correspond, the cells were left blank. All seven clusters were found to be similar among the two cluster solutions on many variables. Even though some of the clusters differed on a few variables, the main features were still similar. The sizes of the clusters were also found to be similar among the two cluster analyses conducted on the subsamples. See Appendix 8 for the results of the cluster analyses on the subsamples.

Criterion validity

Criterion validity is achieved when the results correspond with an external criterion (Flick, 2011). In other words, how closely the results correspond to the results of a different test. Hair et al. (2014) explicitly suggest that the researcher attempt to establish criterion or predictive validity when doing cluster analysis as a part of the validation of the clusters. To establish criterion validity in cluster analysis, variable(s) not used to form the clusters, but known to vary across the clusters, are selected. Hair et al. (2014) highlight that the variables used to assess criterion validity should have strong theoretical or practical support. In Norway, the intake of fish has been shown to vary with age, meat with gender, and vegetables with education statistically significant (Totland et al., 2012). These variables will be inspected after conducting the cluster analysis and if the results correspond criterion validity will be achieved.

Cluster solution stability

The seed points in k-means cluster analysis are affected by the ordering of the observations in the data file (Hair et al., 2014). Therefore, the cluster analysis can be rerun after reorganizing the order of the observations in the data file to see how stable the cluster solution is, in other words, the proportion of the cases that stay within the same cluster in both analyses. If the

cluster solutions change substantially, this indicates a highly unstable solution. Hair et al. (2014) highlight that a stable solution would result in between 10-20 percent assigned to a different cluster and a highly stable solution would result in less than 10 percent assigned to a different cluster.

The cluster analysis was conducted twice, sorting the observations in two different orders (record number ascending and descending order). The two analyses were compared through cross-tabulation to see if the same cases were assigned to the same cluster after rerunning the analysis with a different order. On average, only 7% changed cluster assignment, which indicated a highly stable solution, see appendix 9.

3.2.4 Statistical analysis for profiling of the clusters

The profiling stage of the cluster analysis involves describing the characteristics of each cluster. Crosstables were used to present the clusters score on variables at categorical or rank scale, and One-Way ANOVA are used on variables measuring on continuous scales.

Crosstables

A crosstable shows the relationship between two variables and can be used on variables at a nominal measurement level. It is also possible to use crosstable on variables at a higher measurement level, as long as the number of categories remains low enough to enable interpretation of the table. A chi-square test is used to check if the observed covariance is statistically significant. Chi-square is a statistical distribution that is used to estimate the statistical level of deviation from an expected value. The method compares the observed value in each cell to the expected value. The value of chi-square increases when the distance from the observed values and the expected values increases. If the value of chi-square is over a certain level, the relationship between the two variables is statistically significant.

One-way ANOVA

To be able to describe the identified segments, there is a need to describe whether a mean of one cluster is statistically different from another cluster (Field, 2013). One-way ANOVA is used on continuous variables and tests whether several means are different from each. One-way ANOVA tests the null hypothesis that all means are equal. When the analysis is run, it is checked if the difference between two or more of the means are significantly different from each other. When a significant difference is found on a One-way ANOVA test, it is still uncertain whether this applies to a significant difference between all the means or just some of them. A Post Hoc test is therefore used to investigate each group means against each of the

other group means, and see which of the group means that are significantly different from each other.

The assumptions under which the one-way ANOVA is reliable is based on that the data are approximately normally distributed and that there are equal variances of the populations. A Lavene's test of Homogeneity of variances tests the null hypothesis that the variances of the groups are the same. In this case, Lavene's test yielded significant results (Appendix 10) which indicates heterogeneity of the variances, and thus the results of the ANOVA might be biased. When this is the case, Welch's F or Brown- Forsythe F can be reported. Field (2013) recommends Welch's F, as this test is robust to the heterogeneity of variances and unequal group sizes. Field (2013) further recommends using Games-Howell as the Post Hoc test in the case of heterogeneity of variances. Welch's F was therefore reported instead of ANOVA, and Games-Howell was used as a Post Hoc test.

3.3 Qualitative comparison of the segments with personas and innovation-curve

3.3.1 Method of comparing the segments with the personas

The segments identified by the cluster analysis was be compared with the qualitative descriptions “Personas”. When combining the segments and personas, the personas and segments were inspected in two different rounds. First, both the segments and the personas were carefully inspected to get an impression of which personas and segments would correspond. The segment and personas that were thought to correspond to some extent, were then inspected one by one and the aspects in which they corresponded were marked. It was thereby decided if they corresponded on enough aspects to combine the two. The suggested pairings between the segments and personas were then validated by a second researcher.

3.3.2 Placement of the segments on the innovation adaptation curve

To be able to better describe the segments and discuss suitable measures, it was decided to place them on the innovation-adaptation curve. To decide the placement of the segments on the innovation-adaptation curve, the segments were ranged in order based on their score of the following aspects 1) Percentage of the segment emphasizing “new and exciting flavors”, 2) interest in vegetarian food 3) think it is important to reduce intake of meat and dairy because of environment or animal welfare, 4) percentage of the segment wanting to decrease intake of beef, and 5) percentage of the segment wanting to increase the intake of beans, lentils and peas and 6) percentage emphasizing “a familiar product (reversed)”. The segments were then placed on the innovation-adaptation curve according to their rank based on the variable scores and thorough inspection based on the overall descriptions. The same placement on the innovation-adaptation curve was also proposed and validated by another researcher based on the descriptions of the segments, which gives strength to the placements on the curve.

3.4 Estimation of diet characteristics

To be able to compare the diets of the consumer segments from a sustainability perspective, it was necessary to be able to discuss the environmental footprints of the diets. Through cooperation with Østfoldforskning, the environmental footprints of the food intakes of the consumer segments were therefore calculated. To calculate the exact footprint of the diet however, a high level of the precision of the dietary intakes is necessary. In this case, dietary intakes in the survey were available on frequency level only. The frequency level data was therefore used to estimate amount level data for the consumer segments.

3.4.1 Method of calculating the dietary intakes

To be able to convert the frequency of intakes into amount level, the given frequencies of intakes were multiplied with estimated portion sizes for the different food types. The quantitative intake of the food type per week was then calculated for each response by multiplying a factor corresponding to the given frequency of intake with the estimated portion size of the food product. The factor used was the middle point between the given frequency of intake (for instance 1-2 days was estimated to be 1.5). See Table 3.2 for the factors used for the frequencies of intakes, and Table 3.3 for the portion sizes used for the different food types. For instance, a response of the intake of pork 1-2 day/week would be calculated as 1.5 (factor) x 150g (portion size) = 225 grams of pork per week. The total intakes of the food types in the dataset were compared to the estimated real consumption in Norway by Animalia (2019), p 199. Because of a deviation of the intakes of lamb, and the consideration of eating lamb/mutton less frequently, the frequency of the intakes of lamb was estimated with lower factors for the corresponding responses. When estimating these lower factors for the frequencies of intakes for lamb/mutton, the estimated real consumption data from Animalia (2019) were compared with the total intake in the dataset to find frequencies of intakes that gave a similar quantity of lamb/mutton.

Table 3.2: Factors for frequencies of food intake used to calculate food intake in grams.

Response alternative for food intakes	The factor used to calculate intakes of lamb/mutton	Factors used to calculate the remaining food types
Never	0	0
Less often	0.25	0.5
1-2 days/week	1	1.5
3-4 days/week	3	3.5
5-7 days/week	5	6

Estimation of the portion sizes

Portion sizes of the different types of meat, as well as fish, seafood, and vegetables, were selected to be 150g (cooked weight), based on given average serving sizes for these food types in Norway (Dalane, Bergvatn, Kielland, & Carlsen, 2015). Portion size for vegetables was based on the recommended portion size for health care institutions by Helsedirektoratet (2012). The portion size of eggs was selected to be 110 grams, raw weight without shell, equivalent to the weight of two eggs (Dalane et al., 2015). The portion size of legumes by Dalane et al. (2015) was considered to be larger than expected, and since the primary source of this portion size was a cookbook, it was decided to estimate an average portion size for this food group with a different method. It was assumed that the average intake of beans and peas in the population should correspond to the average intake in the dataset. The average intake of beans and peas (dry weight) in Norkost 3 on 17.5 g per week, was multiplied by a factor of 1.4 for increased intakes of legumes in the population from 2011 to 2017 (Helsedirektoratet, 2019b; Totland et al., 2012). It was also used a weight change factor of 2,4, proposed by Dalane et al. (2015), to change the weight from dry to cooked weight, and the estimated average weekly intake of beans and peas in the population would equal 58.8 grams (cooked weight). The portion size was therefore calculated to be the amount of peas, beans and chickpeas that gives an average intake close to 58.8 g per week of these foods combined. At a serving size of 80 grams, the average intake of peas, chickpeas, and canned beans would equal approximately 59 grams per week, and 80 grams was therefore chosen as portion size for peas, beans, and chickpeas (see Appendix 11 for the calculation method).

Table 3.3: Portion size used for each food type

Food Item	Serving size used for estimated intake	Source for portion size
Beef, lamb/mutton, pork, poultry (chicken/turkey), and fish/seafood	150g	(Dalane et al., 2015)
Vegetables	150g	(Helsedirektoratet, 2012)
Egg, raw	110g	(Dalane et al., 2015)
Beans, green peas and chickpeas (cooked)	80g	(Totland et al., 2012)

3.4.2 Calculation of environmental footprint

The environmental footprint of the segments' estimated dietary intake for dinner was calculated by Erik Svanes using LCA (Life Cycle Assessment) results for each of the main food categories. LCA results of all food categories except vegetables are from Erik Svanes Dr. Philos work (Svanes, 2019). The group vegetables consist of many different product categories. The average LCA results on vegetables were calculated from official statistics on sales in Norway (Opplysningskontoret for frukt og grønt, 2019) and LCA results for most of the high volume vegetables were sourced from projects carried out by researchers at Ostfold Research and from database processes (AgriFootprint) modified to fit Norwegian conditions.

3.5 Ethical aspects

The data for this thesis was secondary data, initially collected by Norstat for the report "Kjøttfrie spisevaner – hva tenker forbrukerne?" by Bugge and Alfnes (2018). Norstat Norge AS, is responsible for ensuring that all personal data they collect is processed and stored securely (Norstat Norge AS, 2020). Norstat has strict requirements for privacy and data security, and follow the Data Protection Authority's guidelines and the provisions of the Personal Data Act. Norstat also follow internationally recognized ethical regulations for market and opinion research, defined by ESOMAR (www.esomar.org), and the Norwegian Marked Research Association. The survey data for this thesis was received anonymized from Norstat, and there were not collected any sensitive personal information. The respondents were giving informed consent before answering the survey.

4. Results

In this chapter, the results of the study will be described. According to the first objective, "Identify the characteristics of different segments of Norwegian consumers regarding their food habits and attitudes towards a sustainable diet," the consumer segments will first be defined based on their characteristics from the centroids of the cluster analysis, given names, be arranged according to their placements on the innovation- adaptation curve and described on socio-demographic variables. The segments' food habits and attitudes will be presented in 4.3.

According to the second objective, "Identify the nutritional quality and environmental footprint of the segment's dietary patterns," the segment's dietary intakes and the environmental footprint of the diet will be described.

According to the third objective, "Identify barriers and motivations for different segments to increase their intake of plant-based foods and reduce the intake of meat," the segments will be further described on food-related attitudes and behaviors. Their willingness to make changes to their diet and reasoning for this will be described.

The results section is finished with an in-depth description of each segment, and this will be compared with descriptions of the personas.

4.1 Short descriptions of the segments, ordering by innovation-adaptation curve and demographics

4.1.1 Short descriptions of the segments and name-giving

Table 4.1 shows the final cluster centers (centroids) of the cluster analysis. The final cluster centers show the scores on the input variables used to form the clusters. Since z-scores were used when conducting the cluster analysis, these results are presented in z-scores. See Table 4.4 and 4.6 for the raw scores (mean, SD) of the different clustering variables. The clusters are differentiated and differ in food intakes and attitudes. The segments are given names based on characteristics from the centroids to ease further reading and interpretation. They are also sorted by their order on the innovation-adaptation curve.

Table 4.1 Final cluster centers. Results from the cluster analysis on the variables used to form the clusters in z-scores

Variables	Cluster						
	1: The Flexitarians	2: The Omnivores	3: Open	4: The Conservatives	5: The Piscivores	6: The Carnivores	7: Processed foods
n	86	311	270	340	211	248	311
Percentage	5 %	18 %	15 %	19 %	12 %	12 %	18 %
How often do you eat dinner with the following ingredients -							
Beef	-1.5	0.8	0.0	-0.2	-0.6	0.6	-0.3
Pork	-1.5	0.8	-0.3	-0.1	-0.5	0.6	-0.2
Poultry (chicken, turkey)	-1.4	0.6	0.5	-0.4	-0.4	0.1	0.0
Fish/seafood (shellfish, shells)	-0.4	0.2	0.0	0.0	1.2	-0.6	-0.4
Vegetables / Fruits	0.6	0.4	0.6	0.2	0.5	-1.2	-0.6
How much do you agree or disagree with the following statement?							
I am interested in vegetarian food	1.7	-0.1	1.1	-0.9	0.2	-0.8	0.2
A dinner needs meat or fish to be: tasty, healthy, nutritious, complete and filling (factor 2)	-1.6	0.5	-1.0	0.5	0.1	0.4	-0.2
Concerned with nutritional content (factor 4)	0.2	0.3	0.4	-0.2	0.6	-1.0	-0.1
Liking, and frequency eating beans (canned), chickpeas, lentils (factor 5)	1.2	0.3	0.6	-0.6	0.4	-0.9	0.0
I think it is important to reduce meat/dairy because of environment/climate and animal welfare (factor 7)	1.3	0.1	0.8	-0.9	0.1	-0.8	0.4
Often buying processed foods, seldom cooking dinners from scratch (factor 8)	-0.5	0.1	-0.4	-0.5	-0.8	0.9	0.8

All variables measure on a 5 point ordinal or Likert scales and it is used z-scores for each variable.

Cluster 1 "The Flexitarians"

This segment was characterized by that the respondents seldom ate meat and fish, and often ate vegetables. They were very interested in vegetarian food and did not think a dinner needs meat or fish to be healthy, nutritious, complete and filling. They liked the taste of, and they often ate beans, chickpeas, and lentils. They thought it is important to reduce the intake of meat/dairy because of environment/climate and animal welfare. This segment will be called *The Flexitarians*.

Cluster 2 "The Omnivores"

This segment was characterized by having the highest intake of meat (beef, pork, and poultry). They also ate vegetables more often than average, and fish about average. They reported thinking a dinner needs meat or fish to a larger extent than average. They did not stand out to a large degree in any other aspect. This segment will be called *The Omnivores*, meaning someone that eat both animal- and plant foods.

Cluster 3 "Open to vegetarian foods"

This segment is the second most interested in vegetarian food, after *The Flexitarians*. The respondents also reported thinking it is important to reduce meat/dairy because of environment/climate and animal welfare, and liking- and eating beans, chickpeas, and lentils often. They did not think a dinner need meat or fish to be tasty, healthy, nutritious, complete and filling. They differed from *The Flexitarians* in that they had a diet pattern close to the average regarding the intake of meat and fish. This segment will be called *Open to vegetarian foods*, and the abbreviation *Open* will be used.

Cluster 4 "The Conservatives"

This segment was characterized by having conservative attitudes towards decreasing intakes of meat and eating meals without meat or fish. This segment reported the least interest in reducing meat/dairy because of environment/climate and animal welfare, and they were the least interested in vegetarian food. Their dietary pattern was, however close to average. This segment will be called *The Conservatives*.

Cluster 5 "The Piscivores"

This segment was characterized by that the respondents very often ate fish/seafood. They were also the segment that the least often bought processed foods, and most often made food from scratch. They were more concerned with nutritional content than the other segments. After *The Flexitarians*, they were the cluster who ate meat the least often. They had slightly

higher scores on interest in vegetarian food and thinking it is important to reduce meat/dairy because of environment/climate and animal welfare. This segment will be called *The Piscivore*s, meaning someone that eats primarily fish.

Cluster 6 "The Carnivores"

This segment was characterized by eating vegetables, and fish/seafood the least often among the segments. They were also the least concerned with nutritional content, and they were the segment that most often bought processed foods and the least often cooked dinners from scratch. They reported eating beef and pork often and had low interest in vegetarian foods or reducing the intake of meat because of climate/environment or animal welfare. This segment will be called *The Carnivores*, meaning someone who eats primarily animal-based foods.

Cluster 7 "The Processed food-eaters"

This segment was characterized by having a relatively low intake of vegetables, and often buying processed foods/seldom cooking dinners from scratch. They did not stand out much from the average on other aspects, but they had a higher score than average in thinking it is important to reduce meat/dairy because of environment/climate and animal welfare. This segment will be called *The Processed food-eaters*.

4.1.2 Placement of the segments on the innovation-adaptation curve

Table 4.2 shows the proposed order of the segments on the innovation-adaptation curve. The segments were given points according to their order on their average response on the variables in the table as described in method section 3.3.1. *The Flexitarians* were proposed to consist of innovators and some early-adopters. *Open* were proposed to consist of early-adopters and some early-majority. *The Piscivores* and *The Processed food-eaters* were proposed to consist of early- majority. *The Omnivores* and *The Conservatives* were proposed to consist of late-majority, while *The Carnivores* were proposed to consist of laggards. Figure 4.1 shows an illustration of the segments on the innovation-adaptation curve, together with the Personas.

Table 4.2: The placements of the segments on the innovation-adaptation curve

Variable	Segments						
	Flexitarian	The Omnivores	Open to vegetarian foods	The Conservative	The Piscivores	The Carnivores	The Processed food-eaters
Interest in vegetarian food	1	5	2	7	4	6	3
Reduce meat/dairy because of environment/climate	1	5	2	7	4	6	3
Not emphasize familiar product	1	4	2	3	6	7	5
Emphasizing new and exciting flavors	1	2	3	7	4	6	4
Wish to decrease intake of beef	2	5	1	7	3	6	4
Wish to increase intake of beans, lentils and peas	1	4	2	6	3	7	5
Sum of points	7	25	12	37	24	38	24
Proposed order in the innovation-adaptation curve	1	5	2	6	3 or 4	7	3 or 4

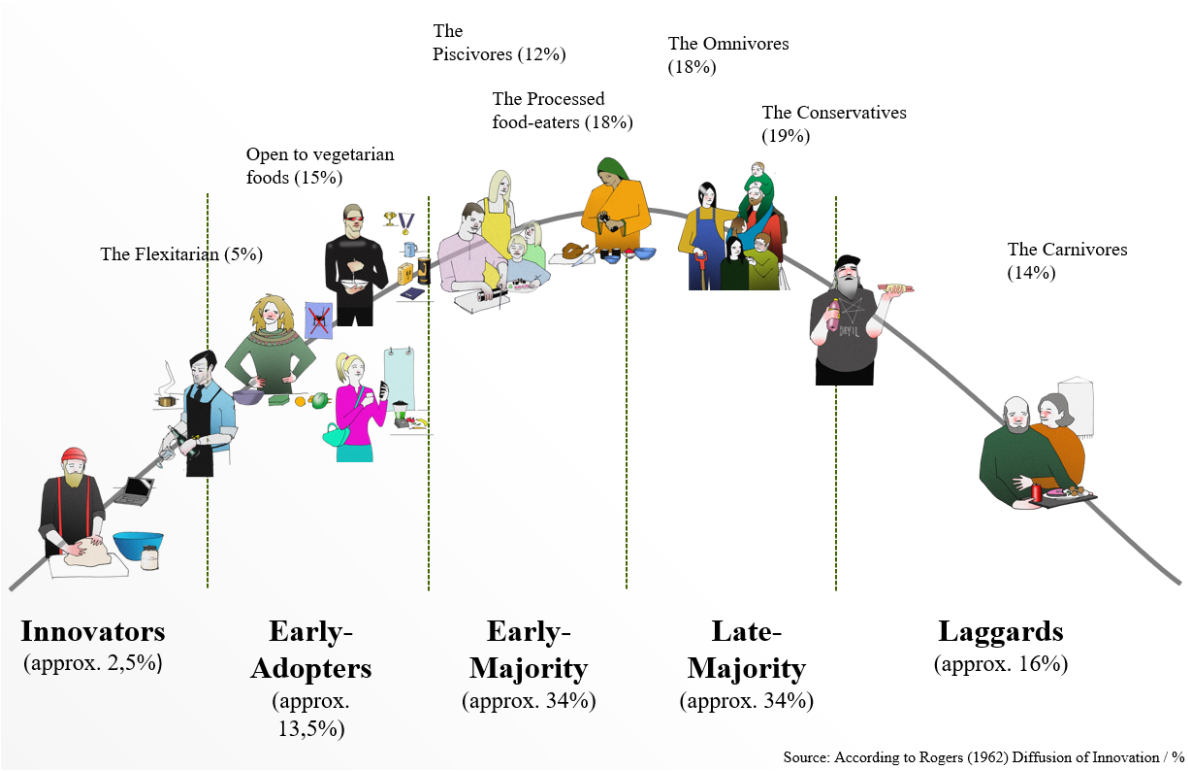

Figure 4.1: Placement of the segments (and personas) on the innovation-adaptation curve

4.1.3 Demography and geography

There were statistically significant differences between at least two of the segments on all of the demographic and geographical variables (Table 4.3).

Gender

The two segments most open to vegetarian foods, *The Flexitarians,* and *Open*, had high proportions of females, 79% and 62%, respectively (Table 4.3). *The Carnivores*, a segment with low interest in vegetarian foods had a high proportion of males (69%). The rest of the segments, including *The Conservatives,* consisted of approximately equal distributions of the genders.

Age

The Flexitarians, *Open*, *The Processed food-eaters*, *The Omnivores*, and *The Carnivores* consisted of a higher proportion of people in the two youngest age-categories (Table 4.3). *The Piscivores* and *The Conservatives* consisted of a high proportion of people in the oldest age-category (78% and 68% respectively). This means that the two segments most open to reduce meat and increase the intake of plant-based foods consisted of a relatively high proportion of young people. However, *The Carnivores*, who had quite negative attitudes about reducing the intake of meat and increasing the intake of plant-based foods, consisted of an even higher proportion of young individuals then *The Flexitarian*s and *Open*.

Education

The Flexitarians, *Open*, and *The Piscivores* consisted of high proportions of people with higher education (Table 4.3). *The Processed food-eaters*, *The Conservatives* and *The Carnivores*, consisted of higher proportions of people with lower education. This means that there were a tendency where the segments most open to increasing the intake of plant-based foods, had higher educations.

City size and region

The Flexitarians and *Open*, the two segments most open to vegetarian foods, consisted of the highest proportion of people from Oslo (Table 4.3). *The Conservatives*, *The Omnivores*, and *The Carnivores* consisted of the lowest proportion of people from Oslo. *The Conservatives* and *The Carnivores* consisted of higher proportions than average living in the countryside. *The Piscivores* consisted of a relatively higher proportion of people from Northern Norway than the average of the segments.

Table 4.3: Demography and geography

Variable		The Flexitarians (%) n= 86	Open (%) n=270	The Piscivores (%) n=211	The Processed food-eaters (%)	The Omnivores (%) n= 311	The conservatives (%) n=340	The Carnivores (%) n=248	Total n=1778	Chi-square	Assymptotic Significance (2-sided)
Sex	Male	20.9	38.1	45.5	54.3	54.0	50.9	68.7	50.5	84.972	<0.001
	Female	79.1	61.9	54.5	45.7	46.0	49.1	31.3	49.5		
Age	Under 30	24.4	30.4	9.0	24.1	25.1	7.7	32.7	21.5	291.456	<0.001
	30-39	27.9	18.9	6.2	22.2	20.6	7.4	23.0	17.1		
	40-49	15.1	17.8	7.1	19.3	23.5	16.8	18.1	17.5		
	50-99	32.6	33.0	77.7	34.3	30.9	68.1	26.2	43.9		
Civil Status	Single	38.4	29.6	19.5	32.8	21.2	18.8	34.5	26.5	116.326	<0.001
	Married/ partnership (with children in household)	16.3	25.9	18.1	28.0	34.3	20.9	25.7	25.4		
	Married/ partnership (without children in household)	35.0	33.3	55.7	24.8	34.0	50.0	26.9	37.0		
	Other/ No answer	9.3	11.1	6.7	14.5	10.6	10.3	12.9	11.1		
Highest achived education	Primary- or high school	18.6	27.4	23.2	42.1	33.4	40.6	52.0	36.1	103.928	<0.001
	Uni./College up to 3 yrs	39.5	25.6	28.4	24.4	33.8	29.7	26.6	28.8		
	Uni./College more than 3 years	37.2	42.2	42.7	30.9	30.2	24.7	16.5	31.0		
	Other	4.7	4.8	5.7	2.6	2.6	5.0	4.8	4.2		
Total household income (NOK/year)	Up to 400,000	20.7	17.7	12.7	18.8	11.5	14.4	15.7	15.5	62.232	<0.001
	400,001-700,000	29.9	30.6	32.1	29.4	29.2	27.9	31.0	29.8		
	700,001 - 1,200,000	18.4	20.3	25.5	23.0	30.4	27.4	22.2	24.7		
	1,200,001 and more	8.0	10.0	12.7	6.7	12.2	9.1	6.5	9.4		
	"Don't want to answer"/"don't know"	23.0	21.4	17.0	22.0	16.7	21.2	24.6	20.6		
City size	Oslo	23.0	20.4	12.3	13.0	10.9	9.1	11.0	13.2	63.673	<0.001
	City (>50,000 residents)	39.1	33.5	29.9	31.3	31.8	29.1	22.8	30.3		
	City (5,000-50,000 residents)	20.7	20.8	26.5	29.6	30.9	27.4	36.6	28.2		
	City/village (2,000 to 4,999 residents)	9.2	13.8	17.5	16.0	15.4	17.1	13.0	15.2		
	Countryside (less than 2,000 residents)	8.0	11.5	13.7	10.1	10.9	17.4	16.7	13.1		
Region	Northern-Norway	5.7	8.9	16.6	8.4	5.4	10.0	10.5	9.4	61.87	<0.001
	Middle-Norway	17.2	13.8	10.4	15.8	13.8	14.1	11.7	13.7		
	West-Norway	21.8	16.0	22.3	22.2	20.2	22.4	19.0	20.5		
	East-Norway	25.3	31.6	30.3	34.4	39.4	35.0	37.5	34.5		
	South of Norway (incl. Telemark)	6.9	9.7	8.1	6.4	9.6	9.7	10.9	8.9		
	Oslo	23.0	20.1	12.3	12.9	11.5	8.8	10.5	13.0		

4.2 Dietary Intakes and environmental footprint

4.2.1 Dietary Intakes

There were substantial differences between the segments' food intakes (Table 4.4 and 4.5). More than half of the respondents reported eating beef, pork, and chicken 1-2 days/week, and lamb/mutton less often than 1-2 days/week. The estimated average intake of red and total meat eaten for dinner per week was 463 and 698 grams, respectively (Table 4.5). *The Flexitarians* ate meat markedly less often than the other segments, and their estimated intake of red meat was 114 g/week, respectively. *The Omnivores*, followed by *The Carnivores*, ate meat the most often among the segments, and their estimated intakes of red meat were 717 grams and 648 g/week, respectively.

A large proportion of the sample (77%) reported eating fish and seafood 1-2 days per week or more (Table 4.4). However, there were substantial differences between the segments. *The Piscivores* reported eating fish much more often than the other segments and had an estimated intake of 471 g/week. *The Processed food-eaters* and *The Carnivores* ate fish and seafood the least often, and their estimated intakes were 175 g/week and 152 g/week, respectively.

Approximately half of the observations (52%), ate vegetables/fruits for dinner 5-7 days/week (Table 4.4). There were the largest proportions eating fruits/vegetables for dinner 5-7 days/week among *The Flexitarians, Open, The Piscivores,* and *The Omnivores. The Carnivores* and *The Processed food-eaters* ate fruits/vegetables the least often, 60% of *The Carnivores* state to eat vegetables or fruits for dinner only 1-2 days/week or less often, and 82% of *The Processed food-eaters* ate vegetables or fruits for dinner 3-4 days/week or less often.

For all segments, except *The Flexitarians*, the largest proportions of the observations reported eating beans, chickpeas, and green peas "less often" than 1-2 days/week (Table 4.4). *The Flexitarians* estimated intakes of beans, green peas, and chickpeas was 104 grams/week. *The Conservatives* and *The Carnivores* ate beans, green peas, and chickpeas the least often (estimated to 44 grams/week and 35 grams/week, respectively).

Table 4.4: Reported frequency of intakes of the different food types

Variable		The Flexitarians	Open	The Piscivores	The Processed food-eaters	The Omnivores	The Conservatives	The Carnivores	Total
	n	87	270	212	311	312	341	249	1780
Beef	Never/Less often	95.4 %	30.1 %	60.8 %	42.4 %	4.8 %	36.7 %	6.0 %	32.6 %
	1-2 days/week	4.6 %	60.6 %	37.7 %	54.0 %	54.2 %	58.4 %	62.1 %	52.6 %
	3-4 days/week or more	0.0 %	9.3 %	1.4 %	3.5 %	41.0 %	5.0 %	31.9 %	14.8 %
Pork	Never/Less often	98.9 %	52.4 %	64.9 %	48.1 %	5.5 %	42.1 %	16.9 %	40.3 %
	1-2 days/week	1.1 %	45.8 %	34.6 %	49.7 %	69.5 %	54.7 %	62.1 %	51.1 %
	3-4 days/week or more	0.0 %	1.8 %	0.5 %	2.2 %	25.1 %	3.2 %	21.0 %	8.7 %
Lamb/ mutton	Never	48.8 %	9.3 %	6.6 %	9.0 %	5.1 %	5.0 %	12.4 %	9.7 %
	Less often	50.6 %	45.0 %	58.8 %	44.2 %	5.1 %	40.3 %	16.5 %	34.9 %
	1-2 days/week or more	1.2 %	10.0 %	10.4 %	8.0 %	16.3 %	13.5 %	15.7 %	11.9 %
Poultry (chicken/ turkey)	Never/Less often	82.6 %	7.4 %	44.1 %	22.5 %	5.1 %	42.2 %	19.0 %	25.9 %
	1-2 days/week	17.4 %	64.8 %	51.7 %	67.5 %	58.8 %	52.2 %	65.7 %	58.1 %
	3-4 days/week or more	0.0 %	27.8 %	4.3 %	10.0 %	36.0 %	5.6 %	15.3 %	16.0 %
Fish/ seafood	Never/Less often	40.7 %	14.8 %	0.9 %	34.9 %	10.3 %	17.9 %	50.0 %	22.7 %
	1-2 days/week	39.5 %	73.7 %	26.5 %	63.1 %	74.6 %	70.0 %	47.6 %	60.4 %
	3-4 days/week or more	19.8 %	11.5 %	72.5 %	1.9 %	15.1 %	12.1 %	2.4 %	16.9 %
Vegetables/ fruits	1-2 days/week or less often	2.3 %	1.9 %	3.3 %	30.5 %	3.2 %	6.5 %	60.2 %	16.4 %
	3-4 days/week	11.6 %	16.3 %	23.7 %	51.1 %	29.6 %	37.1 %	34.1 %	31.8 %
	5-7 days/week	86.0 %	81.9 %	73.0 %	18.3 %	67.2 %	56.5 %	5.6 %	51.8 %
Beans (canned)	Never	2.4 %	6.0 %	9.4 %	14.6 %	9.4 %	25.3 %	36.7 %	16.0 %
	Less often	38.8 %	58.2 %	63.9 %	65.3 %	56.2 %	64.7 %	53.4 %	59.4 %
	1-2 days/week or more	58.8 %	35.8 %	26.7 %	20.1 %	34.4 %	10.0 %	10.0 %	24.7 %
Chickpeas	Never	0.0%	2.0%	7.2%	12.6%	9.5%	35.4%	39.2%	16.1%
	Less often	35.6%	61.7%	68.6%	73.0%	61.8%	61.6%	56.6%	62.5%
	1-2 days/week or more	64.4%	36.3%	24.2%	14.4%	28.8%	3.0%	4.2%	21.4%
Green Peas	Never	4.7%	4.1%	2.4%	9.1%	3.9%	9.3%	19.9%	7.9%
	Less often	61.6%	64.2%	53.8%	64.4%	51.3%	55.8%	64.3%	59.0%
	1-2 days/week or more	33.7%	31.7%	43.8%	26.5%	44.8%	34.9%	15.8%	33.1%

Orignial answer options were "never", "less often", "1-2 days/week", "3-4 days/wek and "5-7 days/week". Some categories are merged to ease reading and interpretation. See appendix 13 for full table.

There were some missing in some of the categories, and n can therefore be different for some variables. See appendix 13 for exact n for each variable.

Table 4.5: Estimated average intake of the different food types in grams/week

Food item (gram per week, cooked weight)	The Flexitarian	Open	The Piscivores	The Processed food-eaters	The Omnivores	The Conservatives	The Carnivores	Total Mean
Beef	53	209	136	171	351	188	322	223
Lamb/mutton	20	49	48	45	66	51	58	51
Pork	41	148	124	158	299	170	268	189
Poultry (chicken/turkey)	76	306	169	222	336	175	244	235
Fish/seafood	225	236	471	175	260	234	152	245
Vegetables	841	826	789	499	767	717	349	667
Egg, raw (whitout shell)	178	221	208	162	233	207	166	199
Beans, green peas and chickpeas	104	73	65	52	73	44	35	59
Total intake of red meat	*114*	*405*	*308*	*374*	*717*	*409*	*648*	*463*
Total intake of meat	*189*	*711*	*477*	*596*	*1053*	*583*	*892*	*698*

[a]The intakes of the food items are calculated based on stated frequencies of intakes of the food items for dinner. See chapter 3.4 for the method of the estimating the exact intakes.

4.2.2 Estimated environmental footprint (climate gas emissions per segment)

There were differences in the estimated climate gas emissions of the dietary patterns of the segments' dietary intakes for dinner (Figure 4.2). The average climate gas emissions of the segments' dinners were 9.0 CO_2-eq/week. *The Flexitarians'* diets had the lowest climate gas emissions (3.5 kg CO_2-eq./week), followed by *The Processed food-eaters* (7.0 CO_2-eq/week), *The Piscivores* (7.1 CO_2-eq/week), *The Conservatives* (8.0 CO_2-eq/week), and *Open* (8.6 CO_2-eq/week). *The Omnivores* and *The Carnivores* ate dinners with the highest climate gas emissions (13.1 and 11.4 CO_2-eq/week, respectively). The two segments with the highest intakes of meat, *The Omnivores*, and *The Carnivores*, were also the segments with the highest climate gas emissions of their dinners. *The Flexitarians* ate dinners with the lowest climate gas emissions, estimated to less than half of emitted CO_2-eq compared to the average of the segments.

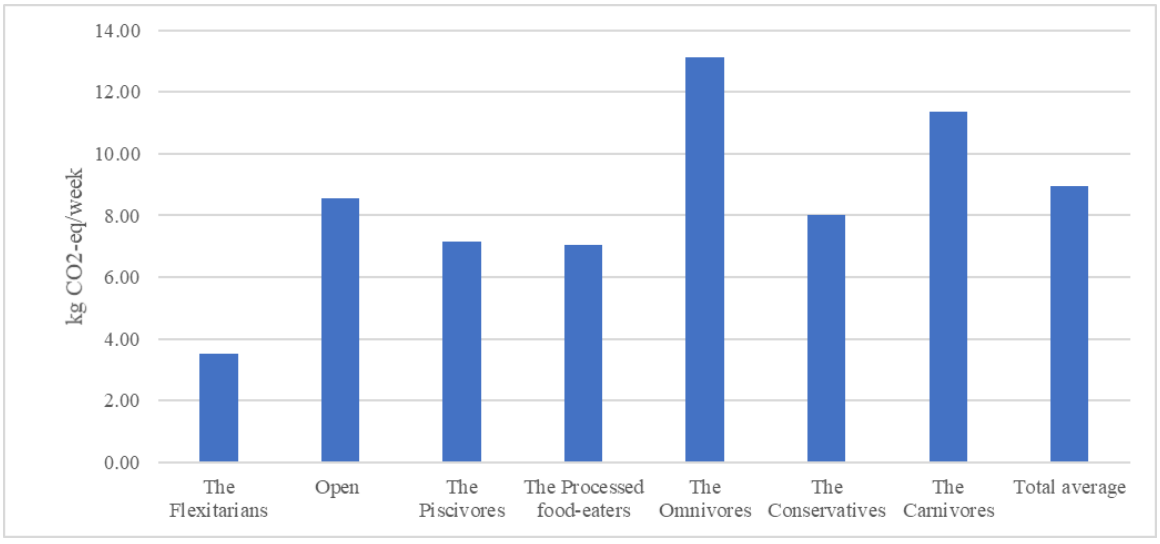

Figure 4.2: Estimated emissions of climate gases of the segments' dinner intakes

4.3 Food-related attitudes and behaviors

4.3.1 Food-related attitudes

There were statistically significant differences among at least two of the segments on all the variables regarding attitudes and habits related to food (Table 4.6). The Post Hoc test showed that *The Flexitarians* were statistically significantly different from the other segments on several aspects (Appendix 12). Firstly, they had more positive attitudes towards vegetable- or grain-based dinners and thought to a much lower extent than dinner needed meat or fish to be great. Furthermore, they were more interested in vegetarian food, eating dinners without meat and they liked the taste of legumes to a higher degree. They also liked buying ready-made vegetarian foods to a higher degree and responded to a statistically significant lower degree thinking it is easier to cook and vary meat and fish than plant-based dishes. *The Carnivores* were statistical significantly less concerned with nutritional content and responded liking lentils and chickpeas statistically significantly less than the other segments. Furthermore, did *The Conservatives* respond having a statistically significant lower interest in buying ready-made vegetarian products than the other segments.

In general, the sample showed positive attitudes towards vegetable-based dinners (sample mean=4.1, SD±0.). However, it also seemed as many thought that a dinner need meat or fish to be tasty, healthy, nutritious complete and filling (sample mean=3.3, SD±1.2), and the sample showed, on average, low interest in vegetarian foods (sample mean=2.1, SD±1.2) and eating dinners without meat/fish (sample mean=2.5, SD±1.4). All segments, except *The Flexitarians*, responded higher than the midpoint (3) on thinking it was easier to cook and vary meat and fish than plant-based dishes. Furthermore, all segments, except *The Flexitarians*, responded lower than the midpoint on the question, “I like to buy ready-made vegetarian foods.”

Table 4.6: Attitudes and habits related to food

Variable	The Flexitarians	Open	The Piscivores	The Processed food-eaters	The Omnivores	The Conservatives	The Carnivores	Total	Welch's F	Degrees of freedom	Significance
	n=86	n=270	n=211	n=311	n=311	n=340	n=248	n=1778			
	Mean ±SD	Mean ±SD	Mean ±SD	Mean ±SD	Mean ±SD	Mean ±SD	Mean ±SD	Mean ±SD			
A vegetable based dinner is: tasty, healthy, nutritious, complete and filling[ab]	**4.9**	4.7	4.3	4.1	4.0	3.7	3.4	4.1	190.9	6	<0,001
	0.2	0.5	0.7	0.7	0.7	0.9	0.9	0.8			
A vegetable based dinner is healthy[b]	**5.0**	4.8	4.5	4.3	4.4	4.0	4.0	4.4	110.1	6	<0,001
	0.2	0.6	0.7	0.8	0.8	1.0	1.0	0.9			
A dinner needs meat or fish to be: tasty, healthy, nutritious, complete and filling[ab]	**1.4**	2.1	3.4	3.1	4.0	3.9	3.8	3.3	218.2	6	<0,001
	0.8	1.1	1.0	1.0	0.8	0.8	1.0	1.2			
A dinner needs meat or fish to be healthy[b]	**1.4**	1.9	3.2	2.7	3.6	3.7	3.4	3.0	135.4	6	<0,001
	0.9	1.1	1.3	1.2	1.2	1.1	1.1	1.3			
A dinner needs meat or fish to be tasty[b]	**1.3**	2.1	3.5	3.2	4.1	4.1	4.1	3.4	226.2	6	<0,001
	0.8	1.2	1.2	1.2	1.0	1.0	0.9	1.4			
A dinner needs meat or fish in order to be filling[b]	**1.4**	2.3	3.4	3.3	4.1	4.0	4.0	3.4	170.2	6	<0,001
	0.9	1.2	1.2	1.1	0.9	0.9	0.9	1.3			
Habits of replacing milk and dairy products with plant-based options[ac]	**3.1**	2.0	1.8	1.7	1.7	1.3	1.3	1.7	48.6	6	<0,001
	1.5	1.0	0.9	0.8	0.9	0.6	0.6	0.9			
Concerned with nutritional content[ad]	3.4	3.6	3.7	3.1	3.5	3.1	**2.4**	3.2	73.5	6	<0,001
	0.7	0.7	0.7	0.7	0.7	0.8	0.9	0.8			
Concerned with protein content[d]	3.6	3.7	3.8	3.2	3.7	3.3	**2.6**	3.4	40.1	6	<0,001
	1.1	1.0	0.8	0.9	1.0	1.1	1.2	1.1			
Liking, and frequency eating beans (canned), chickpeas, lentils[aef]	**3.5**	3.1	2.9	2.6	2.9	2.1	**1.9**	2.6	158.9	6	<0,001
	0.6	0.5	0.6	0.6	0.6	0.7	0.6	0.8			
Dinners based on grains are: tasty, healthy, nutritious, complete and filling[ab]	**4.4**	4.1	3.9	3.7	3.6	3.2	3.1	3.6	55.6	6	<0,001
	0.7	0.8	0.8	0.8	0.9	1.0	0.9	1.0			
For the sake of animal welfare, I should to a greater extent replace meat and dairy products with plant-based products[b]	**4.5**	3.9	3.0	3.5	3.0	1.7	1.9	2.9	242.5	6	<0,001
	0.8	1.1	1.2	1.0	1.2	0.9	1.0	1.4			
For the sake of climate and the environment, I should to a greater extent replace meat and dairy products with plant-based products[b]	**4.8**	4.2	3.1	3.6	3.3	1.8	2.0	3.1	362.1	6	<0,001
	0.5	0.9	1.1	1.0	1.2	0.9	1.1	1.4			
Often buying processed foods, seldom cooking dinners from scrach[ab]	2.2	2.3	1.9	3.4	2.8	2.2	3.5	2.7	203.3	6	<0,001
	1.0	0.8	0.6	0.7	0.9	0.8	0.7	1.3			
Think it is easier to cook and vary meat and fish than plant-based dishes[ab]	**1.7**	3.3	3.3	3.6	4.0	4.0	3.9	3.6	79.4	6	<0,001
	1.0	1.2	1.0	1.0	0.9	0.9	1.0	1.1			
Chickpeas - How well do you like the taste of this food item?[e]	**4.4**	4.0	3.8	3.3	3.6	2.6	**2.2**	3.3	103.7	6	<0,001
	0.8	1.0	1.0	1.1	1.0	1.2	1.1	1.2			
Lentils - How well do you like the taste of this food item?[e]	**4.4**	4.0	3.7	3.2	3.5	2.6	**2.1**	3.2	131.6	6	<0,001
	0.8	0.9	1.0	1.0	1.0	1.1	1.0	1.2			
I like to buy ready-made vegetarian products[b]	**3.4**	2.4	1.9	2.6	2.0	**1.3**	1.7	2.1	88.9	6	<0,001
	1.4	1.3	1.0	1.2	1.1	0.6	1.0	1.2			
I am interested in vegetarian food[b]	**4.9**	4.1	2.8	2.8	2.4	1.4	1.4	2.5	749.6	6	<0,001
	0.4	1.0	1.1	1.1	1.1	0.6	0.7	1.4			
I am interested in eating dinners without meat or fish[b]	**4.9**	4.3	3.5	3.7	3.0	2.3	2.3	3.3	370.4	6	<0,001
	0.3	1.0	1.1	1.1	1.2	1.1	1.1	1.3			

a. This variable is a factor made of several computed variables, see table 3.1 for which variables the factor consist of.
b. The variable is measured on Likert-scale 1 "totally disagree" - 5 "totally agree"
c. The variable is measured on a scale 1 "never", 2 "rarely", 3 "occasionally", 4 "quite often" and " 5 "very often"
d. The variable is measured on a scale 1 "To a very small excent" - 5 "to a very large extent
e. The variable is measured on a Likert-scale 1 "Like very little" - 5 "like very much"
f. The variable is measured on a scale: 1 "never", 2: "less often", 3 "1-2 days/week", 4 "3-4 days/week and 5 "5-7 days/week"
Means that are significantly higher or lower than all other segments appear in bold red. See Appendix 13 for the results of the Post Hoc test.

There were also statistically significant differences between the segments in all aspects emphasized when purchasing food, except great taste, which was favored by all segments (Table 4.7). Great taste, price, fresh and healthy were generally the most emphasized aspects when purchasing foods, expressed by 78%, 67%, 58%, and 56% of the sample, respectively. These aspects were generally emphasized highly among all segments, except low proportions of *The Carnivores* emphasizing healthy and fresh. Environment/climate, however, was generally not accentuated to a large extent by most consumers (approximately 16% of the sample)(Figure 4.3). However, there were substantial differences among the segments, and larger proportions of *The Flexitarians* and *Open* responded emphasizing environment/climate when purchasing foods.

Table 4.7: Proportions of each segment emphasizing different aspects when purchasing food

Aspects considered when purchasing food:	The Flexitarian n=86	Open n=270	The Piscivores n=211	The Processed food-eaters n=311	The Omnivores n=311	The Conservatives n=340	The Carnivores n=248	Total n=1778	Chi-square	Assymptotic Significance (2-sided)
Great taste	74.4%	81.1%	77.4%	78.8%	75.6%	79.4%	78.7%	78.3%	3.815	0.702
Price	58.1%	71.9%	56.4%	71.7%	72.0%	57.4%	73.5%	66.8%	42.236	<0.001
Fresh	55.81 %	66.7%	72.5%	46.6%	61.7%	66.2%	38.3%	58.4%	93.992	<0.001
Healthy	74.4%	75.1%	72.5%	54.0%	64.6%	44.7%	24.6%	56.4%	202.012	<0.001
Nutritious	62.8%	61.5%	57.1%	37.0%	52.1%	40.3%	19.3%	45.1%	137.046	<0.001
Environment/climate	57.0%	32.2%	16.1%	14.5%	15.1%	3.5%	2.4%	15.8%	237.26	<0.001
Animal welfare	57.0%	35.6%	19.0%	21.5%	21.9%	12.6%	7.7%	21.5%	140.571	<0.001
Easy and fast preparation	34.9%	37.5%	26.1%	55.9%	38.6%	30.6%	59.3%	41.2%	100.923	<0.001
Long shelf life	12.6%	10.0%	14.7%	20.9%	18.6%	17.4%	19.4%	16.8%	16.361	<0.001
Ecological produced	39.5%	21.9%	12.3%	7.7%	10.0%	6.8%	2.4%	11.4%	128.43	<0.001
Locally produced	30.2%	25.2%	27.0%	13.8%	18.6%	22.4%	9.2%	19.7%	33.164	<0.001
Produced in Norway	34.9%	35.9%	44.1%	28.9%	35.6%	37.6%	22.5%	34.0%	30.63	<0.001
A familiar product	26.7%	27.4%	41.7%	41.2%	40.8%	38.8%	47.6%	38.8%	30.087	<0.001
New and exciting flavours	36.0%	27.8%	21.3%	20.9%	30.2%	15.9%	15.7%	22.7%	39.610	<0.001

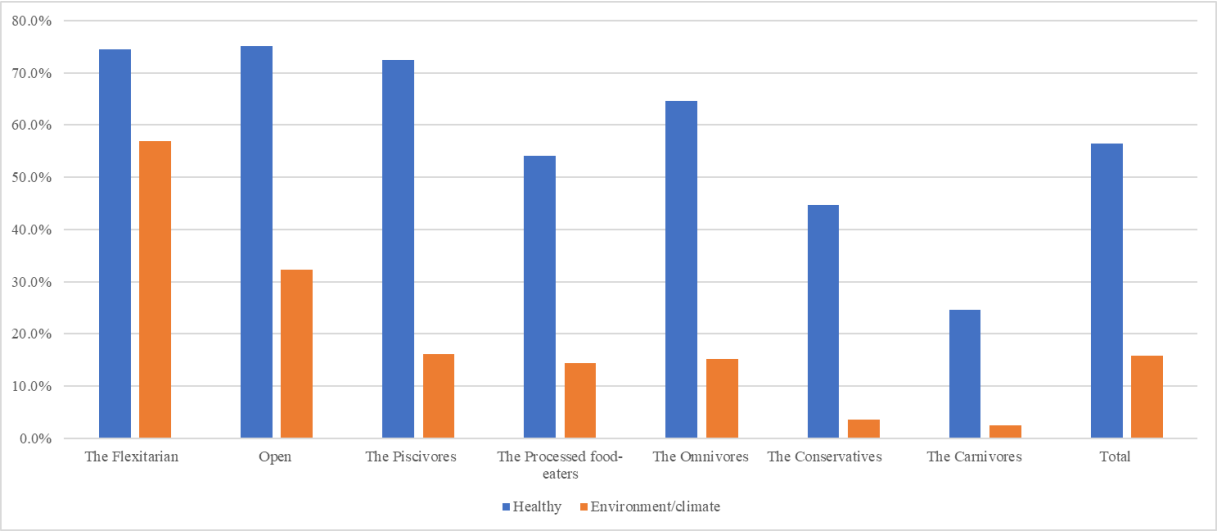

Figure 4.3: Proportions of each segment emphasizing healthy and environment/climate when purchasing food

4.3.2 Wish to change the intake of food types

In the total sample, fish and seafood were the food-types that most people reported wanting to increase the intake of (54%), followed by beans, lentils and peas (41%), egg (25%), poultry (22%) and nuts (20%) (Table 4.8). There were relatively large differences among the segments on the proportions who wanted to increase the intake of beans, lentils, and peas, see figure 4.4. *The Flexitarians* and *Open* were the segments with the highest proportions of people wanting to increase their intakes of beans, lentils, and peas (69% of both segments), followed by *The Piscivores* (54%), *The Omnivores* (48%) and *The processed food-eaters* (43%). *The Conservatives* and *The Carnivores* had the lowest proportions wanting to increase the intake of beans, legumes, and peas (16% and 15%, respectively).

Table 4.8: Proportions of each segment who wanted to increase the intake of different types of foods

Variable	The Flexitarians n=86	Open n=270	The Piscivores n=211	The Processed food-eaters n=311	The Omnivores n=311	The Conservatives n=340	The Carnivores n=248	Total n=1778	Chi-square	Assymptotic Significance (2-sided)
Beef	4.65%	4.07%	4.74%	7.37%	10.29%	10.88%	15.73%	8.77%	32.090	0.000*
Pork	4.65%	5.19%	6.16%	6.09%	9.00%	6.76%	11.24%	7.25%	11.021	0.088
Poultry	5.8%	17.0%	26.5%	22.2%	26.7%	20.3%	25.8%	22.1%	26.145	0.000*
Lamb/mutton	7.0%	14.8%	16.1%	11.6%	16.7%	18.2%	8.0%	14.1%	20.237	0.003*
Fish/ seafood	33.7%	61.1%	62.6%	55.3%	61.5%	50.6%	42.3%	54.4%	48.435	0.000*
Egg	15.1%	24.8%	27.4%	25.4%	28.6%	23.2%	23.0%	24.9%	8.427	0.208
Dairy products	4.7%	5.9%	9.0%	7.4%	11.2%	9.4%	9.7%	8.6%	8.143	0.228
Nuts	33.7%	29.3%	23.2%	21.9%	19.9%	13.2%	11.6%	20.3%	46.587	0.000*
Beans, lentils and peas	69.0%	68.5%	54.5%	43.3%	48.2%	15.9%	14.9%	41.4%	293.455	0.000*
None of these[a]	17.4%	9.3%	15.1%	15.1%	10.9%	28.2%	29.4%	17.6%	81.736	0.000*

* = P<0.05

[a](beef, pork, lamb/mutton, poultry, fish/seafood, egg, dairy products, nuts, coarse bread and cereal products, beans, lentils and peas, protein supplements.)

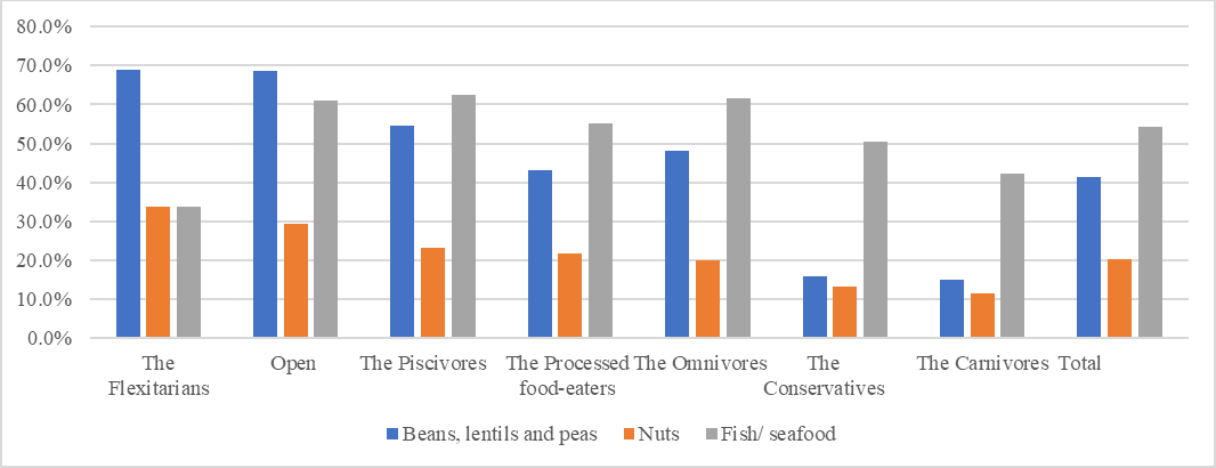

Figure 4.4: Proportions of each segment who wanted to increase the intake of beans, lentils and peas, nuts and fish/seafood

Beef and pork were the food-types that most of the respondents wanted to decrease the intake of 29% and 21%, respectively (Table 4.9). However, there were substantial differences in the proportions of each segment that wanted to decrease the intake of these types of meat (Figure 4.5). *Open* had the highest proportion wanting to decrease the consumption of beef (54%), and the next highest proportions, after *The Flexitarians*, wanting to decrease the intake of pork and poultry. *The Conservatives* and *The Carnivores* had the lowest proportion of people who responded wanting to decrease their intake of beef and pork. Approximately 11% of

these segments reported wanting to decrease their intake of beef, and 14% of *The Conservatives* and 7% of *The Carnivores* reported wanting to decrease their intake of pork.

Table 4.9: Proportions of each segment who wanted to decrease the intake of different food types

Variable	The Flexitarians n=86	Open n=270	The Piscivores n=211	The Processed food-eaters n=311	The Omnivores n=311	The Conservatives n=340	The Carnivores n=248	Total n=1778	Chi-square	Assymptotic Significance (2-sided)
Beef	43.0%	54.4%	35.4%	30.9%	29.9%	10.6%	10.9%	28.7%	194.421	<0.001
Pork	37.2%	36.7%	30.3%	20.9%	15.4%	13.5%	7.2%	20.9%	110.813	<0.001
Poultry	31.0%	11.1%	6.2%	3.8%	4.2%	4.1%	2.4%	6.5%	112.584	<0.001
Lamb/mutton	29.1%	16.7%	18.5%	8.7%	9.6%	7.4%	5.6%	11.5%	60.882	<0.001
Fish/ seafood	12.8%	4.1%	1.4%	1.6%	1.9%	3.5%	4.0%	3.3%	32.546	<0.001
Egg	21.8%	4.4%	6.6%	3.2%	4.8%	2.1%	1.2%	4.5%	75.363	<0.001
Dairy products	32.6%	18.5%	18.4%	17.6%	13.5%	9.7%	8.9%	15.1%	42.107	<0.001
None of these[a]	33.7%	25.6%	34.4%	40.5%	41.8%	52.1%	55.6%	41.7%	70.813	<0.001

[a](beef, pork, lamb/mutton, poultry, fish/seafood, egg, dairy products, nuts, coarse bread and cereal products, beans, lentils and peas, protein supplements.)

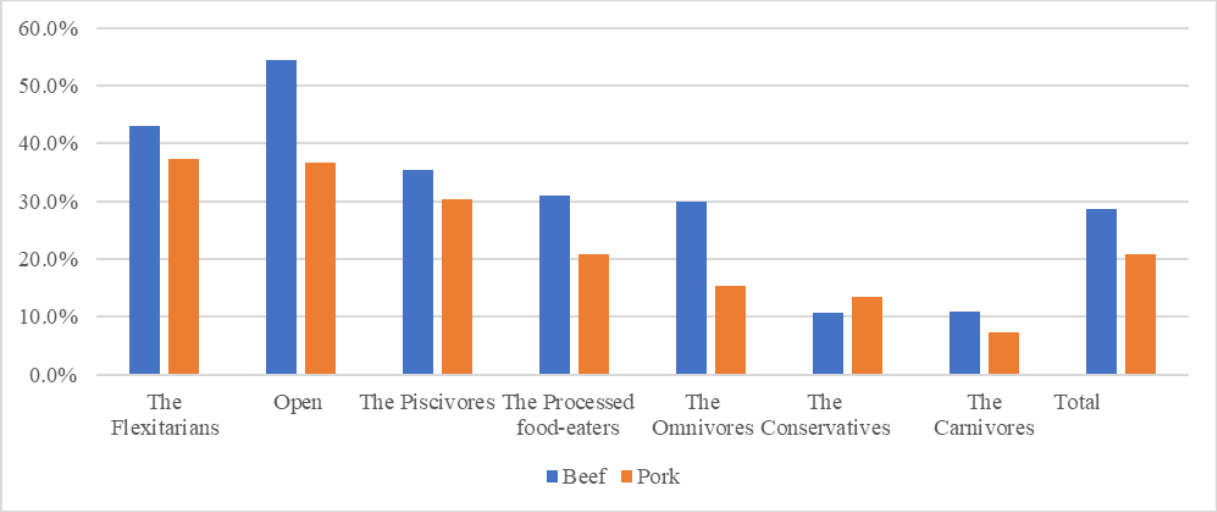

Figure 4.5: Proportions of each segment who wanted to decrease the intake of beef and pork

4.3.3 Reasoning for wanting to change the food intake

Health was the largest driver to increase the intake of beans, lentils, and peas for all the segments, expressed by 88% of the total sample (Table 4.10). Health was also the largest driver to decrease the intake of beef and pork among all segments, except *The Flexitarians* (Table 4.11). Environment/climate was the second-largest driver for wanting to decrease the intake of beef or pork, expressed by 49.2%. There were substantial differences among the segments in this aspect. *The Flexitarians* and *Open* consisted of the largest proportions reasoning their desire to decrease the intake of beef and pork with environment/climate (84.2% and 72.6%, respectively), followed by *The Processed food-eaters* (49.2%), *The Omnivores* (46%) and *The Piscivores* (33.3%)(Figure 4.6). Approximately 34% of the respondents expressed wanting to decrease the intake of beef or pork with animal welfare. The segments followed the same pattern as with the environment/climate that larger proportions of *The Flexitarians* and *Open* emphasized animal welfare.

Table 4.10: Reasons for the stated desire to increase the intake of beans, lentils, and peas

Variable	The Flexitarians n=38	Open to vegetarian foods n=169	The Piscivores n=97	The Processed food-eaters n=126	The Omnivores n=113	The Conservatives n=69	The Carnivores n=35	Total n=647	Chi-square	Assymptotic Significance (2-sided)
Health	86.7%	89.2%	87.0%	88.1%	87.9%	85.2%	91.9%	88.0%	1.409	0.965
Environment/ climate	63.3%	30.0%	37.4%	28.9%	30.0%	11.3%	24.3%	40.0%	85.119	<0.001
Animal welfare/ ethical reasons	55.0%	40.5%	14.8%	17.8%	12.7%	9.3%	2.7%	23.6%	94.703	<0.001
Other	6.7%	13.0%	12.1%	11.1%	8.7%	14.8%	18.9%	11.5%	5.581	0.472

Table 4.11: Reasons for the stated desire to decrease the intake beef and/or pork

Variable	The Flexitarians n=38	Open to vegetarian foods n=169	The Piscivores n=97	The Processed food-eaters n=126	The Omnivores n=113	The Conservatives n=69	The Carnivores n=35	Total n=647	Chi-square	Assymptotic Significance (2-sided)
Health	73.7%	75.1%	81.4%	74.6%	81.4%	87.0%	70.6%	74.6%	7.818	0.252
Environment/ climate	84.2%	72.6%	33.3%	49.2%	46.0%	20.3%	34.3%	49.2%	91.340	<0.001
Animal welfare/ ethical reasons	81.6%	52.1%	26.8%	32.5%	19.5%	10.1%	14.3%	34.0%	99.475	<0.001
Other	7.9%	8.3%	10.3%	4.8%	7.1%	5.8%	14.3%	7.7%	5.074	0.534

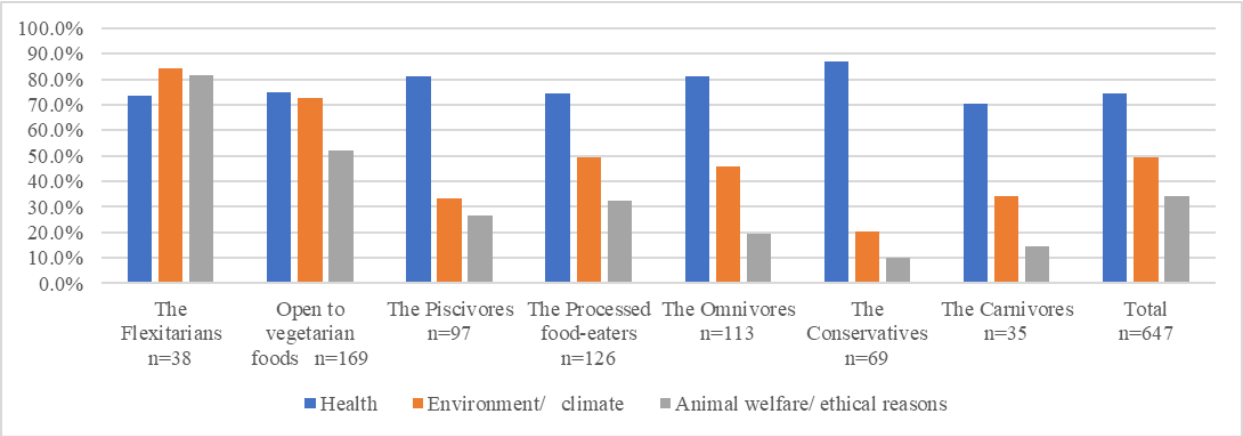

Figure 4.6: Reasons for the stated desire to decrease the intake of beef or pork

4.4 Description of each segment and comparison with the personas

In this section, the segments will firstly be described one by one. Secondly, the segments will be compared with the personas.

4.4.1 Description of the segments

The Flexitarians

This segment was the smallest of the identified segments, consisting of about 5% of the sample.

Demography and geography

The Flexitarians consisted of 79% females (Table 4.3). The segment consisted of people from all age-groups, but a relatively higher proportion of people in the second youngest age-group (30-39 years). *The Flexitarians* had the highest proportion of singles (38.4%), and the lowest proportion of people reporting to be married/partnership with children in the household among the segments (16.3%). They also had a higher proportion than average reporting to have higher education. This segment consisted of a relatively high proportion of people having a total household income in the lowest category of less than 400,000 NOK/year (20.7%), and relatively fewer than average with a total household income of more than 700,001 NOK/year. This segment consisted of the highest proportion among the segments of people living in Oslo (23%) or a city with more than 50,000 residents (39.1%), and relatively fewer living in a small city/village (9.2%) or on the countryside (8%).

Attitudes and habits related to food

The Flexitarians were statistically significantly different than all the other clusters in several aspects (Appendix 12). They thought to a statistically significant greater extent than all other segments that a dinner based on vegetables (mean=4.9, SD±0.2) and grains (4.4, SD±0.7) are tasty, healthy, nutritious, complete and filling (Table 4.6). They also reported to a statistically significant lower extent than the other segments that a dinner need meat or fish to be any of the mentioned aspects (mean=1.4, SD±0.8). Furthermore, they reported to a statistically significantly higher extent than the other segments that it is essential to reduce the intake of meat and dairy for the sake of the environment/climate (mean=4.8, SD±0.5). They also reported to a statistically significantly lower extent than the other segments, that it is easier to cook and vary meat and fish than vegetarian meals (mean=1.7, SD±1.0). Lastly, they were statistically significantly more interested in vegetarian food (mean=4.9, SD±0.4) and eating dinners without meat and fish (mean=4.9, SD±0.3).

Dietary pattern

A large proportion of *The Flexitarians* consisted of people having a vegetarian or flexitarian eating pattern, with a low intake of meat and a high intake of vegetables and legumes (Table 4.4 and 4.5). The largest proportion of this segment reported frequency of eating beef, lamb, pork, and poultry to be "never or less often than 1-2 times/week" (95%, 99%, 99% and 83% for the mentioned types of meat respectively), and their intake of red meat was estimated to be 114g per week. Furthermore, this is the segment with the highest reported frequency of eating plant-based food (vegetables and legumes), as 86% report eating vegetables/fruits with dinner 5-7 days/week, and 59%, 64%, and 58%, respectively, ate beans, chickpeas and lentils 1-2 days per week or more.

Factors considered when purchasing food

The Flexitarians were characterized by having the highest proportion among the segments emphasizing environment/climate (57%) and animal welfare (57%) when purchasing food (Table 4.7). There was also a high proportion of this segment emphasizing healthy (74.4%), ecological- (39.5%), and locally produced (30.2%) when purchasing food, relative to the other segments. The Flexitarians is also the segment emphasizing new and exciting flavors most among the segments (36%). There is a relatively low proportion of *The Flexitarians* emphasizing prize (58.1%) compared to the other segments.

Wish to increase/decrease different food types

The Flexitarians had the highest proportion among the segments wanting to increase the intake of beans, lentils, and peas (69%), and nuts (34%) (Table 4.8). They also had high proportions wanting to decrease the different types of meat, and the highest proportions among the segments wanting to decrease the intake of fish (13%), egg (22%) and dairy products (33%) (Table 4.9). They had the highest proportions among the segments reasoning the stated desire to decrease the beef or pork with environment/climate and animal welfare/ethical reasons (81.6%). They were the only segments with larger proportions reasoning their desire to decrease the intake of beef with environment/climate (84.2%) and/or animal welfare/ethical reasons (81.6%) than health (73.7%).

Open to vegetarian foods

This segment was a medium-sized, consisting of about 15% of the sample.

Demography and geography

Open to vegetarian foods had a larger proportion of females (61.9%), and more people than average in the youngest category, under 30 years (30.4%) (Table 4.3). The segment consisted of various civil status, and a high proportion (42%) having higher education (university or college for more than three years). Furthermore, there was a relatively high proportion of people living in Oslo (20.4%).

Attitudes and habits related to food

This segment reported to a low extent that dinner needs meat or fish to be tasty, healthy, nutritious, complete, and filling (mean= 2.1, SD±1.1) (Table 4.6). Furthermore, their responses showed that they think meals based on vegetables (mean =4.7, SD=±0.5) and grains (mean=4.1, SD±0.8) are tasty, healthy, nutritious, complete, and filling. They reported a high interest in vegetarian food (mean=4.1, SD±1.0) and eating dinners without meat or fish (mean=4.3, SD±1.0) and they reported thinking it is essential to reduce meat/dairy because of the environment/climate and animal welfare (mean=4.1, SD±0.9). They indicated liking the taste of chickpeas (mean=4.0, SD±1.0) and lentils (mean =4.0, SD±0.9) quite well. However, they seem not to like buying ready-made vegetarian products too much (mean=2.4, SD±1.3), and they reported thinking it is somewhat easier to cook and vary meat and fish (mean =3.3, SD±1.2). This segment was more concerned with nutritional content (mean =3.6, SD±0.7) than the average of the segments. Their response to buying processed foods and seldom cooking dinners from scratch are lower than the average of the segments (mean =2.3, SD±0.8).

Dietary pattern

This segment had a dietary pattern where their intake of beef and pork that was relatively close to the average of the segment. However, there were higher proportions than average eating poultry 1-2 days per week (65%) or three times per week or more (28%) (Table 4.4). Furthermore, they had intakes of fish and seafood close to average, and a relatively large proportion (82%) ate fruits and vegetables for dinner 5-7 days per week. Furthermore, larger proportions than average eat canned beans (36%), chickpeas (36%), and lentils (30%) 1-2 days per week or more.

Factors considered when purchasing food

This segment had the highest proportion of people emphasizing "healthy" (75%) (Table 4.7). After *The Flexitarian, Open* was also the segment with the highest proportion emphasizing environment/climate (32%) and animal welfare (36%), ecological produced (22%), and locally produced (25%). However, this segment had a higher proportion valuing price (72%) compared to the average and especially compared to *The Flexitarians*.

Wish to increase/decrease different food types

This segment had the highest proportion wanting to decrease the intake of beef among the segments (54%), and a high proportion wants to decrease the intake of pork (37%) (Table 4.9). 69% want to increase the intake of beans, lentils, and peas, and 29% want to increase the intake of nuts (Table 4.8). After *The Flexitarians*, this segment has the highest proportion of people wanting to decrease beef or pork because of environment/health (72.6%) and animal welfare/ethical reasons (52.1%).

The Piscivores

The Piscivores were the second smallest segment, consisting of about 12% of the sample.

Demography and geography

This segment had approximately equal distributions of males and females (Table 4.3). Furthermore, they had the highest proportion of people in the oldest category, 50-99 years, among the segments (77.7%). They also consisted of a high proportion (55.7%) being married or in partnership without children in the household. Furthermore, they are well educated and had the highest proportion among the segments (42.7%) with higher education of more than three years. It is also a relatively high proportion of this segment that reported living in Northern-Norway (16.6%).

Attitudes and habits related to food

The degree to which this segment thinks that dinner needs meat or fish to be tasty, healthy, nutritious, complete, and filling (mean=3.4, SD±1.0), was close to the average of the segments (Table 4.6). However, they seemed to have slightly more positive attitudes than the average on vegetable-based (mean=4.3, SD±0.7) and grain-based dinners (mean=3.9, SD±0.8). They were also slightly more interested in vegetarian food (mean =2.8, SD±1.1) and in eating dinners without meat or fish (mean=3.5, SD±1.1). Moreover, they reported liking the taste of chickpeas (mean=3.8, SD±1.0) and lentils (mean=3.7, SD±1.0) somewhat. They also

report to a lower extent than the average of the segments that they think it is easier to cook and vary fish and meat (mean=3.3, SD±1.0). However, they did not like to buy ready-made vegetarian products (mean=1,9, SD±1.0). They did not report any strong opinions on the importance of reducing meat/dairy because of environment/climate and animal welfare (mean=3.1, SD±1.1). Furthermore, they were the most health-conscious among the segments (mean=3.7, SD±0.7), and they reported to the lowest extent, often buying processed food/seldom cook dinners from scratch (mean=1.9, SD±0.6). This means that they seldom buy processed foods and often cook dinners from scratch.

Dietary pattern

The Piscivores consisted of a relatively large proportion who ate beef (61%), pork (65%), and poultry (44%) never or less often than 1-2 days per week (Table 4.4). However, a very large proportion ate fish 3-4 days per week or more (73%). Furthermore, many of them ate vegetables/ fruits with their dinner 5-7 days per week (73%). Their intake of beans and legumes were similar to the average of the clusters. However, they ate green peas more often wheres 44% eat green peas 1-2 days/week or more.

Factors considered when purchasing food

The Piscivores consisted of the highest proportion among the segments emphasizing fresh (73%) and produced in Norway (44%) (Table 4.7). They also consisted of the lowest proportion valuing easy and fast preparation (26%) and price (56%).

Wish to increase/decrease different food types

A slightly larger proportion of this segment reported wanting to decrease the intake of beef (35.4%) and pork (30.3%), and increase the intake of beans, lentils, and peas (54.5%) (Table 4.9 and 4.8). They had a high tendency to reason the desire to decrease beef or pork with health compared with the other segments.

The Processed food-eaters

This segment was a medium/large-sized segment consisting of about 18% of the sample.

Demography and geography

The Processed food-eaters consisted of approximately equal distributions of males and females (Table 4.3). The segment consisted of a higher proportion in the youngest age-categories compared to the older, and there was a relatively high proportion being single

(32.8%). The segment consists of a relatively high proportion having the highest achieved education in the lowest education category; primary- or high school (42.1%). Furthermore, the segment consisted of people living in different regions and city sizes.

Attitudes and habits related to food

This segment reported scores close to the average of the segments regarding thinking a dinner needs meat or fish to be tasty, healthy, nutritious, complete and filling (mean=3.1, SD±1.0), attitudes towards vegetable-based (mean =4.1, SD±0.7) and grain-based dinners (mean=3.7, SD±0.8) (Table 4.6). They reported being somewhat interested in vegetarian food (mean =2.8, SD±1.1), and quite interested in eating dinners without meat or fish (mean=3.7, SD±1.1), and reported higher than average of the segments thinking it is important to reduce meat/dairy because of environment/climate (mean =3.6, SD±1.0). Their responses on thinking it is easier to cook and vary meat and fish (mean =3.6, SD±1.0), and liking chickpeas (mean =3.3, SD±1.1) and lentils (mean=3.2, SD±1.0) were close to the average of the segments. Furthermore, this segment reported to buy processed foods often and seldom cooking dinners from scratch (mean=3.4, SD±0.7). Their concern with nutritional content was close to the average of the segments (mean=3.1, SD±0.7).

Dietary pattern

This segment had an intake of meat and fish relatively close to the average (Table 4.4). However, they ate fruits and vegetables for dinner less often (only 18% ate fruits and vegetables for dinner 5-7 days/week). They also seemed to eat the different types of beans and legumes slightly less often compared to the mean of segments.

Factors considered when purchasing food

The Processed food-eaters were the segment having the highest proportion emphasizing “long shelf life” (21%) among the segments (Table 4.7). They were also the segment after *The Carnivores* with the highest proportion valuing “easy and fast preparation” (56%). This segment did not stand out to a large extent on the other variables. However, they differentiate from *The Carnivores* by having proportions close to average on the emphasis on healthy, environment/climate and new and exciting flavors, when purchasing food.

Wish to increase/decrease different food types

Their reported wish to increase or decrease the intake of different food types, as well as the reasoning for this was close to the average of the segments on all variables.

The Omnivores

The Omnivores were a large/medium-sized segment, consisting of about 18% of the population.

Demography and geography

This segment consisted of approximately equal distributions of males/females and the age-categories; however, fewer than average in the oldest category, 50-59 years (30.9%) (Table 4.3). There were a higher proportion than average with the highest income-categories 700,001-1,200,000 (30.4%) and more than 1,200,000 (12.2%).

Attitudes and habits related to food

This segment reported thinking to a high degree that a dinner needs meat or fish to be tasty, healthy, nutritious, complete, and filling (mean=4.0, SD±0,8) (Table 4.6). However, their responses also indicated that meals based on vegetables (mean=4.0, SD±0.7) and grains (mean=3.6, SD±0.9) could be somewhat tasty, healthy, nutritious, complete, and filling. Their mean scores on interest in vegetarian food (mean= 2.4, SD±1.1), interest in eating dinners without meat or fish (mean=3.0, SD±1.2) and whether they thought it is important to reduce meat/dairy because of environment/climate and animal welfare (mean=3.1, SD± 1.1) did not indicate any strong opinions about these aspects. Furthermore, they indicated liking the taste of chickpeas (mean= 3.6, SD±1.0) and lentils (mean=3.5, SD±1.0). However, they seemed not to like buying ready-made vegetarian products (mean=2.0, SD±1.1), and they reported to a great extent, thinking it is easier to cook and vary meat and fish (mean=4.0, SD±0.9). *The Omnivores* were slightly more concerned with nutritional content (mean=3.5, SD± 0.7) than the average of the segments, and their responses on buying processed foods and seldom cooking dinners from scratch were also close to the average of the segments (mean=2.8, SD±0.9).

Dietary pattern

This segment consisted of a large proportion of people eating meat relatively often. 41%, 25%, and 36% ate beef, pork, and poultry three times per week or more, and 74% ate lamb/mutton 1-2 days per week or more (Table 4.4). Furthermore, they had a relatively normal intake of fish compared to the average of the segments with 90% eating fish 1-2 days/ week or more. There were also a relatively high proportion (67%) who ate vegetables or fruits 5-7 days per week. There was also a slightly higher proportion than average that eat canned beans (34%), chickpeas (29%), green peas (45%) and lentils (22%) 1-2 days per week or more.

Factors considered when purchasing food

The Omnivores did not stand out to a large extent on their emphasis when purchasing food. However, a larger proportion than average emphasized healthy (64%) and new and exciting flavors (30.2%).

Wish to increase/decrease different food types

The Omnivores did not stand out much from the average on their wish to increase/decrease different food types, or reasoning for wanting to increase/decrease the food type. About 30% wanted to decrease the intake of beef, and 15% wanted to decrease the intake of pork (Table 4.9). 62% want to increase the intake of fish, and 48% want to increase the intake of beans, lentils, and peas (Table 4.8). These responses were close to the average of the segments.

The Conservatives

The Conservatives were the largest segment, consisting of about 19% of the sample.

Demography and geography

The Conservatives consisted of an equal distribution of males and females, and a high proportion of people in the oldest age category, 50-99 years (68.1%) (Table 4.3). A relatively high proportion (50%) were married/in partnership without children in the household. Furthermore, a relatively high proportion (40.6%) reported having primary- or high school as the highest achieved education. *The Conservatives* consisted of a low proportion of people living in Oslo (9.1%), and a higher proportion of people living in a city/village (17.1%) or in the countryside (17.4%).

Attitudes and habits related to food

The Conservatives reported thinking to a high extent that dinners need meat or fish to be tasty, healthy, nutritious, complete, and filling (mean= 3.9, SD±0.8)(Table 4.6). They furthermore reported low interest in vegetarian food (mean=1.4, SD±0.6), low interest in eating dinners without meat or fish (mean=2.3, SD±1.1), and thinking to a low extent that it is important to reduce meat and dairy because of environment/climate (mean=1.8, SD±0.9). They reported thinking it is easier to cook and vary meat and fish than vegetarian food (mean =4.0, SD±0.9). They also reported a significantly lower score on liking to buy ready-made vegetarian products than the other segments (mean=1.3, SD±0.6) (Appendix 12). However, they did not report strong negative attitudes towards dinners based on vegetables (mean=3.7, SD±0.9) and grains (mean=3.2, SD±1.0). This segment reported buying processed food less often and

cooking dinners from scratch more often than the average of the segments (mean =2.2, SD±0.8). They did not stand out to a large extent regarding their concern with nutritional content (mean=3.1, SD±0.8).

Dietary pattern

The Conservatives had a relatively average intake of the different types of meat (Table 4.4). However, quite a large proportion (42%) reported eating poultry less often than 1-2 times per week (less often than average). Furthermore, they had an intake of vegetables and fish close to the average of the segments. They had a relatively low proportion who ate canned beans (10%), chickpeas (3%), and lentils (3.5%) 1-2 days per week or more. However, their intake of green peas is relatively close to the average of the segments.

Factors considered when purchasing food

After *The Carnivores*, this segment consisted of the lowest proportion who emphasized the environment/climate when purchasing food (3.5%) (Table 4.7). There were also relatively low proportions emphasizing healthy (45%), easy and fast preparation (31%), new and exciting flavors (16%), and price (57%).

Wish to increase/decrease certain food types

Together with *The Carnivores*, this segment had the lowest proportion wanting to increase the intake of beans, lentils, and peas (16%) (Table 4.8). About 50% wanted to increase the intake of fish, which is close to the average of the segments. *The Conservatives* also had the lowest proportions wanting to decrease the intake of beef (11%) and pork (14%) (Table 4.9). Approximately half of the segment report not wanting to decrease any food-type (52%).

The Carnivores

The Carnivores were a medium-sized segment consisting of about 14% of the sample.

Demography and geography

The Carnivores consisted of the highest proportion of males among the segments (68.7%) (Table 4.3). There was also a higher proportion of people in the two lowest age-categories, under 30 (32.7%) and between 30 and 39 years (23.0%). A relatively high proportion (34.5%) were single. They were also the segment with the lowest education level, with 52% having primary or high school as the highest achieved education. A high proportion of them reported living in cities with 5,000-50,000 residents (36.6%), or the countryside (16.7%).

Attitudes and habits related to food

The Carnivores reported thinking to a relatively high extent that dinner needs meat or fish to be tasty, healthy, nutritious, complete and filling (mean=3.8, SD±1.0), and they did not have firm opinions about dinners based on vegetables (mean=3.4, SD±0.9) or grains (mean=3.1, SD±0.9). They did not report thinking it is important to reduce meat/dairy because of the environment/climate and animal welfare (mean =2.0, SD±1.0). Furthermore, they reported not being interested in vegetarian food (mean=1.4, SD±0.7) or dinners without meat or fish (mean =2.3, SD±1.1). They were not interested in buying ready-made vegetarian products (mean =1.7, SD±1.0). Furthermore, they report not liking chickpeas (mean=2.2, SD±1.1) or lentils (mean=2.1, SD±2.1), which was significantly less than the other segments (Appendix 12). Furthermore, they reported thinking was easier to cook and vary meat and fish (mean =3.9, SD±1.0). This segment were significantly less concerned with nutritional content then the other segments (mean =2.4, SD±0.9), and they reported to the largest extent often buying processed foods and seldom cooking dinners from scratch (mean =3.5, SD±0.7).

Dietary pattern

The Carnivores had an eating pattern consisting of meat more often, and fish, vegetables, beans, and legumes less often than the average of the segments. A large proportion (32% and 21%, respectively) ate beef and pork three days per week or more. Furthermore, 50% ate fish/seafood and never or less often than 1-2 days/week. The Carnivores also had the lowest intake of fruit and vegetables for dinner among the segments, and 60% ate fruits/vegetables for dinner 1-2 days per week or less. Furthermore, this segment reported seldom eating legumes, only 10%, 4%, 16%, and 2% ate canned beans, chickpeas, green peas and lentils 1-2 days per week or more, respectively.

Factors considered when purchasing food

The Carnivores had the lowest proportion valuing environment/climate (2.4%), animal welfare (8%), ecological produced (2.4%), produced in Norway (23%), healthy (25%), and fresh (38%) when purchasing foods (Table 4.7). Furthermore, they were the segment with the highest proportion emphasizing easy and fast preparation (59%) and a familiar product (48%).

Wish to increase/decrease certain food types

In this segment, a larger proportion reported wanting to increase the intake of beef (15.73%), than to increase the intake of beans, lentils and peas (14.9) or reduce the intake of beef (10.9%) (Table 4.8 and 4.9). However, 42.3% of them reported wanting to increase the intake

of fish and 25.8% reported wanting to increase the intake of chicken. The majority of *The Carnivores* respond that they did not want to decrease the intake of anything (55.6%).

4.4.2 Comparison of the segments and the personas

There were several similarities with the segments identified in the quantitative study in this thesis and the personas, developed with qualitative methods. Five of the ten personas were considered to match with four of the segments identified.

The Flexitarians and the personas Thea, and Andreas

The Flexitarians had many similarities with both the persona *Thea* and *Andreas*.

Thea- the young vegan activist, is the persona that cares the most about the environment and animal welfare and represents vegetarians and vegans. She, therefore, corresponds with *The Flexitarians* on these aspects. *The Flexitarians* were also the segment eating the least amount of animal-based foods, and the most plant-based foods. *The Flexitarians* also had the most positive attitudes towards plant-based meals. *The Flexitarians* are likely to consist of people with a vegan, vegetarian or flexitarian eating pattern, and *Thea's* vegan/vegetarian eating-pattern is, therefore, likely to belong in this segment.

Andreas, the revolutionary modern young urban hipster, has many similarities with *The Flexitarians*. Even without a high budget, *Andreas* spends money on high-quality goods and supports local producers. *The Flexitarian*s consisted of a high proportion of people with a low-income level as well as a low proportion of people emphasizing prize when purchasing food. The description of *Andreas*, "He prefers food that leads to a healthier, modern, sustainable and eco-friendly lifestyle," corresponds to that *The Flexitarians* were the segment emphasizing healthy, environment/climate and ecological produce the highest among the segments. *The Flexitarians* were also the segment with the highest proportion of people living in Oslo or a large city and relatively few living in the countryside. *Andreas* is described as urban, which corresponds to *The Flexitarians*. Furthermore, *Andreas* is described to be generation y and z, and *The Flexitarians* segment consisted of the highest proportion among the segments of people in the age-group 30-39 years, which would equal the generation y. *The Flexitarians* also consisted of a higher proportion than the average segment of people under 30 years, which would equal both generation y and z.

Open to vegetarian foods and the persona Henrikke

Open and the persona, *Henrikke*, had many similarities.

Their main similarities are:

Henrikke is described as the health hedonist, and the segment *Open* were the segment with the highest proportion of people emphasizing healthy when purchasing food. They both focus on a sustainable life, however, less than *The Flexitarian*s, *Thea*, and *Andreas*. *Open* consisted of the highest proportion of people wanting to reduce their intake of beef, and *Henrikke* tries continuously to reduce her red-meat consumption.

The Conservative and the personas Berit&Knut

The Conservatives and the personas *Berit&Knut* had many similarities.

Their main similarities are:

*The Conservative*s had a high proportion in the oldest age-category, while *Berit&Knut* is described to be the old couple. There were also a high proportion of *The Conservatives* (50%) being married/partnership without children in the household, which is true for Berit&Knut. Both emphasized the environment, healthy, and new and exciting flavors to a low extent when purchasing food. However, *The Conservatives* had a higher proportion than average emphasizing food produced in Norway, which is also an important aspect for *Berit&Knut*.

The Carnivores and the persona Manfred

The Carnivores had many similarities with the persona *Manfred*.

Firstly, both have low interest in environment/climate and vegetarian foods. Secondly, they eat the most processed/ready-made food among the segments. *Manfred* loves red meat, and *The Carnivores* ate red meat (pork and beef) often and ate fish, vegetables, and legumes the least often among the segments. Furthermore, *The Carnivores* had the highest proportion among the segments emphasizing price, and easy and fast preparation among the segments. For *Manfred*, food is a need and not enjoyment. Food should be cheap, ready-made, and easy.

The rest of the segments

For the rest of the segments and personas, there were also similarities. However, some of the descriptions blend more into each other which makes it challenging to combine the two accurately. The clear correspondence between the segments *The Flexitarians, Open, The Conservatives,* and *The Carnivores* and the personas *Andreas, Thea, Berit&Knut,* and *Manfred* suggests a correspondence of the rest of the segments with the rest of the personas.

However, as the correspondence are less clear and overlap to a higher degree, it is decided that they could not be combined with a persona, one by one, with sufficient validity.

5. Discussion

This chapter will consist of two parts. In the first part, the study design and methods will be discussed. In the second part, the results will be discussed according to the objectives will be and relevant literature.

5.1 Discussion of methods

5.1.1 Data

One strength of this study was that the sample was representative of the Norwegian population and the large sample size of 1785 observations. According to Selnes (1999), external validity refers to the extent to which the results can be generalized. If the results can be applied to other situations, people, and/or points of time, the external validity is high. The country representative sample enables the results to be generalized to the Norwegian population, and thereby strengthen the external validity of the results. Furthermore, Selnes (1999) highlights that if there are systematic differences in the people choosing to participate in the study, this can limit the possibility of generalizing the results. A relatively low response rate, such as in this study (24%), can increase the risk that the respondents are systematically different from the general population. However, since the data were weighted to correct for sample deviations, it is appraised that the external validity is high and that the results can be generalized to the Norwegian population.

5.1.2 The detail level in the food intake data

One limitation of this study was the detail level of the food intake data. When collecting the survey data, the data were not initially intended to assess the nutritional quality and environmental footprint of the diet. The data of the food intake were at a frequency level, and not amount level as would have been required to provide results of nutritional quality and greenhouse gas emissions with high validity. For instance, possible differences between the segments' tendencies to eat larger or smaller portion sizes, different cuts of meat, or meals with different degrees of processing are factors that can influence the nutritional quality and environmental footprint but would not have been detected with the frequency level food intake data. There are, therefore, limitations drawn to the estimated average food intakes and estimated greenhouse gas emissions, which set limitations to what conclusions can be drawn from these types of data with sufficient validity. However, the large differences between the segments' frequencies of intakes of meat, fish, vegetables, and legumes give indications on the nutritional quality of the segments' diets. Furthermore, the large differences between the

estimated greenhouse gas emissions of the segment' dinners, indicate that there are large differences in the environmental footprint of dinners eaten by different segments of the Norwegian population. Further research with food intake data of high detail is needed to confirm the exact environmental footprint of different segments of the Norwegian population.

5.1.3 Cluster Analysis

The method of cluster analysis has been criticized for two things; 1) cluster analysis will create clusters, even in situations without structure in the data, and 2) the cluster solution is dependent upon the variables used as the basis for the analysis (Hair et al., 2014). However, these two aspects were given high emphasis when conducting the cluster analysis to achieve high validity. Firstly, the corresponding results of the cross-validation and the high cluster solution stability indicate that there was a structure in the data (described in methods 3.3.2). This strengthens the validity of the cluster analysis. Secondly, as the variables were selected to 1) categorize the objects being clustered, and 2) relate specifically to the objectives of the thesis, there was a fit between the cluster solution and the objectives of the thesis. However, it is essential to know that the segments are created according to the objectives of this thesis, and the segments might have been different if other variables had been used.

As described in chapter 3.4, it was also decided to establish criterion validity on the recommendations of Hair et al. The results showed similar correlations as found by Totland et al. (2012) between age and intake of fish, gender and intake of meat, and education and intake of vegetables. Based on these findings, we can, according to Hair et al. (2014), conclude that criterion validity is achieved. The validity of the cluster analysis is also strengthened by the correspondence with other literature on many aspects (chapter 5.2.1), and the corresponding results of the personas and the segments.

5.1.4 Silhouette scores of the cluster analysis

One possible limitation of the cluster analysis was low silhouette scores. Average silhouette width was used in the cluster analysis as a tool for assisting in choosing the optimal number of clusters. However, silhouette scores are also a way of measuring the quality of the analysis (Rousseeuw, 1987), and the scores were relatively low. On the other hand, silhouette scores are no exact blueprint of measuring the quality, and Hair et al. (2014) emphasizes cross-validation and establishing criterion validity as the most essential ways of validating the cluster analysis. Given that the cluster analysis was validated successfully in these two ways, the validity of the cluster analysis is appraised to be relatively high despite low silhouette scores.

5.1.5 Comparison of the segments and the Personas

When combining the segments with the personas, it cannot be ruled out that there is a degree of subjectivity involved. As the personas and the segments identified in this thesis were constructed with different methods, they also provide information on different aspects. The advantage of this is the additional insights that are provided from different methods. However, the method of comparing the two involved a degree of subjectivity, and since they provided information on many different aspects, not all the information provided could be compared. Nevertheless, the personas and segments that are combined correspond on several aspects and they are therefore appraised to correspond with sufficient validity to be combined. The comparison and validation by a second researcher increased the validity and objectivity of the placement of the personas in the clusters and the placement of the clusters on the innovation adaption curve. Furthermore, as both the segments constructed with the survey data and the personas are representative of the Norwegian population at approximately the same period of time, this strengthens the validity of their correspondence.

5.1.6 Personas as a tool to illustrate segments of consumers

The corresponding characteristics of the personas with the segments identified in this thesis, function as a validation of the personas and vice versa, strengthening the validity of both. The personas and the segments identified by this thesis also provide information about the same segments of consumers in different ways. This way, additional insights are added to the segments by the personas and vice versa.

An essential feature of personas is that it is a useful tool to help think about target segments as real people, with actual lives and human concerns (Revella, 2015). Furthermore, the FoodProFuture personas are a great tool to help researchers and the food industry to envision future needs, re-think their existing products, and develop new concepts that make the transition to a healthier and more sustainable diet easier. This way, the personas that were paired with the segments can be a useful tool to plan interventions, and use during product innovation to increase the intake of plant-based foods among different segments of Norwegian consumers.

5.2 Discussion of results

In this chapter, the results will be discussed. First, the characteristics of the segments will be discussed in light of other findings. Secondly, the nutritional quality and the environmental footprint of the segments' dietary patterns will be discussed, according to the second objective. Thirdly, the barriers and motivations for the different segments to increase the intake of plant-based foods and reduce the intake of meat will be discussed according to the third objective.

5.2.1 The characteristics of the segments

Demography and geography

The results showed substantial differences between the segments in demographic variables in many aspects, especially age, gender, city size and education. The results were in line with other Norwegian studies (Austgulen et al., 2018; IPSOS, 2018). Since no demography variables were used to construct the segments, it was interesting that there were statistically significant differences between the segments on all demographic variables. However, Austgulen et al. (2018) found that age, gender, and education lost significance as predictors for support for meat-free meals when value variables, such as individualistic values and trust in climate science, were introduced. Austgulen et al. (2018) therefore suggested that reported practices and values act as partly mediating variables for gender, age, education, and income.

Gender

The two segments most open for vegetarian foods, *The Flexitarians* and *Open* were also the segments consisting of most females. *The Carnivores*, a segment with low interest in vegetarian foods, had a high proportion of males (69%). This is supported by IPSOS (2018) that also found a higher percentage of females being interested in vegetarian meals, and consciously choosing meat-free days (I.e., meat-free Monday). Meat has been identified as part of masculine culture, while vegetarian food culturally is more linked to feminine values (Kildal & Syse, 2017; Park & Barker, 2020). Kildal and Syse (2017) further found that meat was considered essential for strength and building muscle among soldiers in the Norwegian army. Ruby and Heine (2011) further found that vegetarian males were perceived as less masculine than omnivores. This can illustrate a barrier, especially for men, against reducing the intake of meat. The connection between meat and masculinity is also illustrated by the persona *Manfred*, who believes “real men's” food are non-green, and that meals without red meat are not good meals. On the other hand, the well trained persona *Bjørn*, enjoy plant-based proteins in his flexitarian diet to build strength and enhance performance. *Bjørn* could

illustrate how plant-based proteins can be associated with building strength for men. If segments like the one *Bjørn* represents, have a function as trendsetters, the perception that meat is necessary for being strong and masculine could become weaker with time.

Age

The two segments most open to reduce meat and increase the intake of plant-based foods, *The Flexitarians,* and *Open,* consisted of a relatively high proportion of young people. However, *The Carnivores*, who showed quite negative attitudes towards increasing the intake of plant-based foods and reducing meat, consisted of an even higher proportion of young people. IPSOS (2018) found that the people in the youngest age-categories (under 40) were, in general, most interested in limiting the intake of meat. However, results from Norkost 3 (Totland et al., 2012) are not in line with this and showed a trend with increasing intakes of meat with younger age, which is an interesting paradox. The findings of this thesis with three very diverse segments dominated by younger people could suggest that young people have more diverse eating patterns and attitudes towards plant-based foods than older people. The higher intake of fish in older individuals as found in Norkost 3 (Totland et al., 2012) could also explain the lower intake of meat in older individuals.

Education

The results showed a clear tendency where the segments most open to increase the intake of plant-based foods were the highest educated. *The Flexitarians*, *Open,* and *The Piscivores* had the largest proportions with high education. *The Carnivores*, *The Conservatives*, and *The Processed food-eaters* consisted of higher proportions of people with lower education. These segments also followed a pattern where the highest educated segments, ate vegetables more often than the latter segments. These findings were expected as other literature also have found that people with higher education being more open to reduce the intake of meat, and having healthier dietary patterns. (Austgulen et al., 2018; Totland et al., 2012).

City size and region

IPSOS (2018) found that more people in Oslo, than in the rest of Norway responded that they wanted to limit their meat intake. The results of this thesis were consistent with those findings, as higher proportions of *The Flexitarians* and *Open* lived in Oslo, while the segments less open to plant-based foods, *The Carnivores* and *The Conservatives* had larger proportions living on the countryside.

5.2.2 Nutritional quality and environmental footprint of the segments dietary intake

The results of this thesis indicate large differences between the segments' diets, relevant for nutritional quality, and the environmental footprint. There are, therefore, different needs for changes to the diets in order for the segments to eat a healthy and environmentally friendly diet.

Nutritional quality

The results showed substantial differences between the segments' intakes of red meat. This were in line with the results of Norkost 3, which showed that the 25% of the population with the highest meat intake, ate at least 33% more than the average of the population (Totland et al., 2012). The Norwegian health authority recommends eating a maximum of 500 g red meat per week (Helsedirektoratet, 2019a). Two of the segments, *The Omnivores*, and *The Carnivores* ate more than 500 g red meat for dinner and would, therefore, receive the greatest health benefits among the segments from reducing the intake.

The results also indicated that a large proportion of the population had a lower intake of vegetables than recommended, as approximately half of the observations ate fruit or vegetables for dinner 3-4 days/week or less. As most vegetables in the Norwegian diet is eaten for dinner (Opplysningskontoret for frukt og grønt, 2019), it could be expected that people who are not eating vegetables for dinner almost every day have a low intake. This finding was expected as results from Norkost 3 have shown that over 85% of men and 87% of women ate less vegetables than the recommended 250 g per day (Totland et al., 2012). It is therefore expected that most of the segments eat less vegetables than recommended from the health authorities and would receive health benefits from increasing the intake. *The Carnivores* and *The Processed food-eaters* had the lowest intakes of vegetables, and these segments would be most relevant to focus on increasing their intakes.

Furthermore, the results showed that most of the segments, except *The Flexitarians*, still do not eat legumes regularly. The nutritional contents of legumes are especially important when limiting the intake of meat, and it can, therefore, be argued that increasing the intake of legumes is more essential in a sustainability perspective than from a nutritional perspective. However, facilitation for an increasing the intake of legumes in the population could lead to decreased intake of meat. Replacing meat with legumes (among other plant-based foods) is therefore widely suggested as good sustainability- and public health measure (Ministry of Climate and Environment, 2017; Nasjonalt råd for ernæring, 2017; Willett et al., 2019)

Environmental footprint

There were substantial differences in the climate gas emissions of the segment's dinner intakes, and the climate gas emissions seemed to correspond with the segments' intakes of meat. *The Flexitarians, The Piscivores, The Processed food-eaters,* and *The Conservatives* all ate dinners with lower greenhouse gas emissions than the average. These segments also had in common that they ate less red- and total meat than the average. This is in line with a systematic review by Aleksandrowicz et al. (2016), which found that reductions in environmental footprints were generally proportional to the magnitude of animal-based food restriction. The review further found that shifting a typical western diet to a more sustainable diet could provide reductions in greenhouse gas emissions of above 70%. The results of this thesis also indicate large potential reductions by making changes in the diet, as *The Flexitarians* ate dinners with less than half the amount of greenhouse gases compared to the average of the segments.

Another interesting finding was that the climate gas emissions of the segments were not necessarily in line with their attitudes toward having a sustainable eating pattern. *The Conservatives* ate dinners with lower greenhouse gas emissions, and less meat than the average of the sample, even though they were the segment reporting the least interest in reducing the intake of meat because of climate/environment. The opposite was the case for *Open*, whose dinners emitted close to the average of the segments' amount of greenhouse gases, even though they reported being very conscious about eating climate-friendly.

According to the innovation-adaptation curve by Rogers (2003), members of society adapt to new practices, such as eating a more plant-based diet, according to the order of the innovation- adaptation curve. It is therefore suggested that the segments will gradually adapt to eating a more plant-based diet, like *The Flexitarians*, starting with *Open, The Piscivores, The Processed food-eaters, The Omnivores, The Conservatives* and *The Carnivores.* If many segments gradually adapt to the practice of eating more plant-based foods and less meat, the results indicate that the total greenhouse gas emissions from the segments' dinners can decrease substantially, and the nutritional quality could improve.

A natural question is how this shift can be accelerated and which segments would be most beneficial to target for interventions to increase intakes of plant-based foods and decrease the intake of red meat. To reduce the total amount of red meat the most, *The Carnivores* and *The Omnivores* are apparent candidates for interventions. It is also likely that *The Carnivores* would have the best health benefits since this segment has a less optimal nutritional quality of

their diet. *The Processed food-eaters* ate too little vegetables and much pre-made foods. However, they seem somewhat open to change their diet toward more plant-based foods and less red meat and therefore seem like an exciting segment for interventions. *Open* showed signs of being ready to change their diet toward more plant-based foods and less meat. They are, therefore, also an interesting segment for interventions since their motivation is high, and a future change in their diet, therefore, seems likely.

5.2.3 Barriers and motivations to increase the intake of plant-based foods and reduce meat

The third objective of the thesis was to identify the barriers and motivations for the different segments to increase their intake of plant-based foods. The results showed that there were large differences among the segments on these aspects.

Willingness to change dietary pattern

Austgulen et al. (2018) found low consumer willingness to change diet toward a more sustainable direction among Norwegian consumers, and that many expressed that it would be hard to decrease the intake of meat without this interfering with their quality of life. However, the results of this thesis indicated a willingness to change towards a more sustainable diet as 29% of the total sample wanted to decrease the intake of beef, and 41% wanted to increase the intake of legumes. However, large differences between the segments' dietary habits and reported willingness to change diet indicate that it can be more difficult for some segments to increase the proportion of plant-based foods in the diet, than for others. The differences in barriers and motivations to change diet for the different segments indicate that the segments can have different needs in order for them to reduce the intake of meat and increase the intake of plant-based foods.

Barriers against increasing the intake of plant-based foods and reduce meat

Stubbs et al. (2018) have described a barrier in which habits, taste, convenience, and price are prioritized over health and sustainability when purchasing food. High emphasis on taste and price and low emphasis on environment/climate was in line with the results of this thesis. However, the results of this thesis, as well as other Norwegian literature, have found that health is highly emphasized (IPSOS, 2018). Nevertheless, even though health often have been self-reported as one of the most important determinants of food choice, taste, cost, brand, the attractiveness of the product and packaging can have a greater influence on food consumption (Krystallis, Maglaras, & Mamalis, 2008; Williams, 2005). Bakker and Dagevos (2012) also

highlighted that meat consumption is subject to an intention-behavior gap in which although many consumers hold the opinion that they must do something about the environment and animal welfare issues of the modern livestock industry, many consumers do not act or act inconsistently so. This could mean that both health and environmental sustainability can be reported as emphasized to a higher degree than what is the case for consumers in the actual eating situation. An intention-behavior gap could also be illustrated by the segment *Open*, as they, despite a largely reported willingness to reduce the intake of meat, still had a high meat consumption.

Several studies have also identified a barrier to reduce meat, in which many people express liking the taste, and satiety effect of meat (Austgulen et al., 2018; Milford & Kildal, 2019; Reipurth et al., 2019; Stubbs et al., 2018). The results of this thesis also showed this, as the sample responded, on average, higher than the midpoint on thinking a dinner needs meat or fish to be tasty and satiating. However, while *The Omnivores*, *The Conservatives*, and *The Carnivores* responded thinking that a dinner needs meat or fish to be tasty and filling, *The Flexitarians* and *Open* responded the opposite. Reipurth et al. (2019) also found that while negative attitudes towards taste and satiety effect of plant-based foods were a barrier in some respondents, it also served as a motivation in respondents who enjoyed the taste of vegetarian meals. This thesis confirms this tendency, as *The Flexitarians*, the segment eating the least amount of meat, reported positive views about satiating effect and taste of plant-based meals. This indicates differences in perceived taste and satiating effect of meat vs. plant-based meals that can serve as a barrier in a large proportion of the population. However, Milford and Kildal (2019) found that exposure to plant-based meals in the military created more positive attitudes towards vegetarian foods. This indicates that exposure to vegetarian meals can reduce the barrier of thinking that a meal needs meat in order to have a good taste and satiating effect.

One of the prerequisites for people to want to change their diet towards more plants and fish and less meat is knowledge of the negative consequences of meat consumption and the positive effects of more plant food and fish. Austgulen et al. (2018) found that most Norwegian consumers had limited knowledge about the environmental impact of meat consumption, and that lack of this knowledge can be a barrier against reducing meat consumption. The results of this thesis support this, as some of the segments indicated a low level of knowledge of the importance of reducing meat for the sake of the climate/environment. *The Flexitarians* and *Open* reported agreeing with the importance of

reducing meat for environmental reasons to the largest extent, while *The Conservatives* and *The Carnivores* reported disagreeing. This corresponds with the general high eagerness to reduce meat and high interest for vegetarian food among *The Flexitarians* and *Open*, and low interest among *The Conservatives* and *The Carnivores*, which can be connected to their level of knowledge of the environmental impact of meat consumption.

Lack of knowledge of the relationship between high consumption of meat and health is also an identified barrier against decreasing the consumption of meat (Stubbs et al., 2018). Milford and Kildal (2019) found that very few (only 5%) of Norwegian soldiers thought that high consumption of meat could be harmful to their health. Studies also highlight a barrier in which people have the perception that meat is better for their health than alternative options, and fear of protein deficiency if eating plant-based meals (Stubbs et al., 2018; Wyker & Davison, 2010). However, results from this thesis were not clear on whether this was a barrier for the segments. *The Omnivores*, *The Conservatives*, and *The Carnivores* reported thinking that dinner needs meat or fish to be healthy, which could indicate that this was a barrier. However, they also reported thinking that a vegetable-based dinner (without meat or fish) is healthy. The ambivalent responses could indicate a lack of knowledge- or clear opinion about whether a plant-based meal is healthy or not.

Furthermore, the results of this thesis did not show any clear tendencies to fear of protein deficiency as a barrier. *The Carnivores*, the segment least interested in eating plant-based foods, were also the least concerned with protein content in foods. *The Flexitarians* and *Open*, however, were among the most concerned with protein content. It is not surprising that people eating a plant-based diet, such as many of *The Flexitarians*, are more concerned with protein content, as a plant-based eating pattern typically requires some more attention to meet the needs of protein.

It has also been suggested that since eating habits are so strongly routinized and challenging to change, it might be easier for consumers to adopt their attitudes and beliefs to their consumption patterns than the other way around (Austgulen et al., 2018). The lack of willingness or opportunities to change meat consumption practices could encourage consumers to adopt opposing viewpoints functioning as defense mechanisms (Kollmuss & Agyeman, 2002). This could be illustrated by the persona *Manfred*, who describes vegetarians and vegans as “the crazy alternatives,” and believes the environmental revolution is for companies to make “lobby-money.”

A study by Opplysningskontoret for frukt og grønt (2015) found that lack of knowledge on how to prepare plant-based meals was a barrier for many. The results of this thesis strengthen this finding as all segments, except *The Flexitarians*, reported thinking it was easier to cook and vary meat and fish. The use of vegetarian "meat-replacers" has been suggested to make it easier for people to change diet without needing to improve their culinary skills (Mittenzwei, Walland, Milford, & Grønlund, 2020). Studies have shown that people are generally more willing to change diet if the new diet is similar to the old (Corrin & Papadopoulos, 2017). However, the results from this thesis did not seem promising on this solution, as all segments, except *The Flexitarians*, reported that they did not like to buy ready-made vegetarian products. These barriers can indicate a need for improved skills in the population of how to prepare plant-based meals, and a need for innovation of new, more attractive plant-based food products. The barrier of perceived difficulties with preperation can also be illustrated by the time trap of the persona *Family Sørum*. Eating healthy- and sustainable food is important to them, however living truly sustainably requires extra effort in addition to family life. Their children are also skeptical of some new vegetables. In the situation of *Family Sørum*, the time-trap combined with that the children can be skeptical of some vegetables can illustrate a barrier to in which making plant-based meals would require an extra effort for the busy family.

Motivations to increase the intake of plant-based foods and reduce meat

The results of this thesis showed that health was the largest driver to increase the intake of legumes and reduce the intake of meat among all segments, except *The Flexitarians.* Austgulen et al. (2018) found many focus group respondents expressing skepticism towards changing their diets because of environment and climate, but many considered increasing the consumption of vegetables and reducing meat as important for a healthy diet. The results of this thesis showed that while the tendency to emphasize health was generally high among most segments, the tendency to emphasize environment/climate or animal/welfare varied more among the segments. IPSOS (2018) has suggested that the increase in the proportion of people who want to reduce the intake of meat probably is a trend that is more driven by the environment than health. This can indicate that the proportion of people who want to change their diet for environmental reasons are growing, even though most people still are more willing to change their diet because of health, than environment/climate. Since *The Flexitarians* and *Open* were both environmental and health-conscious, this can also indicate that people can be motivated by health and environmental reasons in combination to change

their diet towards a larger proportion of plant-based foods. The persona, *Thea*, represents a segment that is driven primarily by animal welfare and environmental concerns to limit the intake of meat. The persona *Henrikke*, on the other hand represents a segment driven by health and environmental reasons combined.

5.2.4 Suggestions for further research

This thesis provides insights into the attitudes of increasing the intake of plant-based foods and reducing meat in different segments of the Norwegian population. *The Carnivores, The Omnivores, The Processed food-eaters,* and *Open* were specifically suggested as good candidates for interventions, based on indications of the nutritional quality and environmental footprint of their food intakes and their attitudes towards changing diet. Additional qualitative data collection in these segments can provide deeper insights into the barriers and motivations of these segments to increase their intake of plant-based foods and reduce the intake of meat. Further work to modify and improve the personas according to this thesis' findings can also provide a better starting point for using the personas in the development of interventions and product innovations. Additionally, collecting food intake data with a higher detail level is necessary to estimate the environmental footprint of different segments' diets. As this thesis indicate large differences in the environmental footprint of different segments' diets, confirming this would be interesting.

6 Conclusion

The results of this thesis showed that there were large differences between the segments of the Norwegian consumers' attitudes towards increasing the intake of plant-based foods and reducing the intake of meat. There were also large differences in the nutritional quality and greenhouse gas emissions of the segments' dinner intakes. The greenhouse gas emissions of the segments' dinner intakes were in line with the amount of meat the segments ate, but not necessarily in line with the segments' tendency to emphasize environment/climate when purchasing food. Furthermore, the results indicated differences between the segments' barriers and motivations to increase the intake of plant-based foods and reduce the intake of meat. Among some of the segments, a substantial proportion reported wanting to increase the intake of legumes and reduce the intake of beef and pork. However, some segments revealed low interest in making these changes. The results showed a barrier in which most segments reported thinking it was easier to cook and vary meat and fish than plant-based foods, and that most were not open to buy ready-made vegetarian products. Furthermore, the results indicated that most segments were more driven by health than by environment/climate to increase the intake of legumes and reduce the intake of meat. The thesis found a high correspondence between some of the segments and the personas. The personas, in combination with the segments, can be used as a tool when developing interventions and during product-innovation to facilitate a transition to a healthier and more sustainable diet.

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Appendices

Appendix 1: Factor loadings after rotation

Name	Item label	Factor								
		1	2	3	4	5	6	7	8	9
Q2r1	Storfekjøtt - Hvor ofte spiser du middager med følgende ingredienser?	0.01	0.09	-0.01	-0.06	0.01	0.05	-0.04	0.08	0.33
Q2r2	Svinekjøtt - Hvor ofte spiser du middager med følgende ingredienser?	-0.01	0.12	-0.04	-0.05	-0.01	0.00	-0.07	0.06	0.30
Q2r3	Lamme-/fårekjøtt - Hvor ofte spiser du middager med følgende ingredienser?	-0.12	0.02	-0.02	0.00	-0.01	-0.02	-0.10	-0.03	0.15
Q2r4	Hvitt kjøtt (kylling, kalkun) - Hvor ofte spiser du middager med følgende ingredienser?	0.04	0.05	0.03	0.02	-0.02	0.03	0.05	0.07	0.21
Q2r6	Fisk / Sjømat (skalldyr, skjell) - Hvor ofte spiser du middager med følgende ingredienser?	0.04	0.02	-0.05	0.04	0.06	-0.03	-0.02	-0.23	0.01
Q2r7	Meieriprodukter (fløte, smør, rømme, melk, yoghurt, ost) - Hvor ofte spiser du middager med følgende ingredienser?	0.08	0.02	-0.20	0.03	0.02	-0.02	-0.01	0.01	0.16
Q2r8	Egg - Hvor ofte spiser du middager med følgende ingredienser?	0.04	0.00	0.00	0.10	0.02	0.05	-0.02	-0.07	0.10
Q2r10	Grønnsaker / Frukt - Hvor ofte spiser du middager med følgende ingredienser?	0.14	-0.09	0.03	0.04	-0.04	0.04	0.09	-0.32	0.08
Q4r1	Velsmakende - Hvor enig eller uenig er du i at en middag trenger kjøtt og/eller fisk for å være:	0.00	0.87	-0.01	-0.03	0.03	-0.02	-0.01	-0.03	0.02
Q4r2	Sunn - Hvor enig eller uenig er du i at en middag trenger kjøtt og/eller fisk for å være:	-0.03	0.89	0.00	0.05	-0.02	-0.02	-0.04	-0.03	-0.10
Q4r3	Næringsrik - Hvor enig eller uenig er du i at en middag trenger kjøtt og/eller fisk for å være:	0.02	0.92	-0.03	0.03	-0.02	0.02	0.01	-0.02	-0.04
Q4r4	Komplett - Hvor enig eller uenig er du i at en middag trenger kjøtt og/eller fisk for å være:	0.01	0.73	0.00	0.02	0.01	0.04	-0.03	0.01	0.12
Q4r5	Mettende - Hvor enig eller uenig er du i at en middag trenger kjøtt og/eller fisk for å være:	0.00	0.82	-0.01	-0.02	0.00	0.02	0.02	0.00	0.09
Q5r1	Velsmakende - Hvor enig eller uenig er du i at en grønnsaksmiddag (for eksempel suppe, salat, pasta, pizza) UTEN kjøtt eller fisk kan være?	0.74	-0.01	-0.01	0.01	-0.03	-0.08	0.02	-0.02	-0.02
Q5r2	Sunn - Hvor enig eller uenig er du i at en grønnsaksmiddag (for eksempel suppe, salat, pasta, pizza) UTEN kjøtt eller fisk kan være?	0.74	0.00	0.00	-0.01	-0.03	-0.06	0.07	0.01	0.03

Q5r3	Næringsrik - Hvor enig eller uenig er du i at en grønnsaksmiddag (for eksempel suppe, salat, pasta, pizza) UTEN kjøtt eller fisk kan være?	0.78	-0.05	0.02	0.01	-0.04	-0.12	-0.01	-0.05	-0.02
Q5r4	Komplett - Hvor enig eller uenig er du i at en grønnsaksmiddag (for eksempel suppe, salat, pasta, pizza) UTEN kjøtt eller fisk kan være?	0.63	-0.09	0.01	0.01	-0.01	-0.14	0.04	-0.04	-0.08
Q5r5	Mettende - Hvor enig eller uenig er du i at en grønnsaksmiddag (for eksempel suppe, salat, pasta, pizza) UTEN kjøtt eller fisk kan være?	0.66	-0.07	0.05	0.02	0.02	-0.15	-0.01	-0.02	-0.05
Q6r1	Velsmakende - Hvor enig eller uenig er du i at en middag laget av korn eller gryn (for eksempel grøter eller supper av ris, havregryn eller bulgur) UTEN kjøtt eller fisk kan være?	0.05	-0.04	0.06	0.02	-0.04	-0.71	-0.01	-0.01	0.03
Q6r2	Sunn - Hvor enig eller uenig er du i at en middag laget av korn eller gryn (for eksempel grøter eller supper av ris, havregryn eller bulgur) UTEN kjøtt eller fisk kan være?	0.05	0.01	-0.05	0.00	0.00	-0.82	0.05	0.03	0.00
Q6r3	Næringsrik - Hvor enig eller uenig er du i at en middag laget av korn eller gryn (for eksempel grøter eller supper av ris, havregryn eller bulgur) UTEN kjøtt eller fisk kan være?	0.05	0.02	-0.02	0.02	-0.01	-0.88	0.04	-0.01	0.02
Q6r4	Komplett - Hvor enig eller uenig er du i at en middag laget av korn eller gryn (for eksempel grøter eller supper av ris, havregryn eller bulgur) UTEN kjøtt eller fisk kan være?	0.00	-0.03	0.05	0.00	0.03	-0.78	-0.01	-0.01	-0.05
Q6r5	Mettende - Hvor enig eller uenig er du i at en middag laget av korn eller gryn (for eksempel grøter eller supper av ris, havregryn eller bulgur) UTEN kjøtt eller fisk kan være?	0.11	-0.04	0.04	0.06	-0.01	-0.65	0.03	0.01	0.03
Q7r1	Jeg er interessert i å spise middager uten kjøtt eller fisk - Hvor enig eller uenig er du i følgende utsagn om middag UTEN kjøtt eller fisk?	0.21	-0.16	0.03	0.03	-0.13	-0.09	0.30	0.05	-0.12
Q7r2	En middag uten kjøtt eller fisk kan være en ordentlig middag - Hvor enig eller uenig er du i følgende utsagn om middag UTEN kjøtt eller fisk?	0.39	-0.16	-0.02	0.05	-0.09	-0.12	0.17	0.06	-0.08
Q8r1	Vegetabilsk fett (fett fra planter) - I hvilken grad er du opptatt av følgende næringsinnholdet i maten du spiser?	-0.03	0.05	0.04	0.70	0.00	-0.01	0.06	-0.01	-0.13
Q8r7	Animalsk fett (fett fra dyr) - I hvilken grad er du opptatt av følgende næringsinnholdet i maten du spiser?	-0.08	0.01	-0.01	0.73	0.00	-0.07	-0.03	0.02	-0.03
Q8r2	Karbohydrater - I hvilken grad er du opptatt av følgende næringsinnholdet i maten du spiser?	-0.05	0.01	0.04	0.72	-0.02	-0.01	0.00	0.02	0.08

Q8r3	Sukker - I hvilken grad er du opptatt av følgende næringsinnholdet i maten du spiser?	0.01	-0.14	-0.03	0.66	-0.03	0.02	0.03	0.00	0.09
Q8r4	Protein - I hvilken grad er du opptatt av følgende næringsinnholdet i maten du spiser?	0.04	0.09	0.03	0.65	-0.03	0.02	0.03	0.01	-0.02
Q8r5	Salt - I hvilken grad er du opptatt av følgende næringsinnholdet i maten du spiser?	0.04	-0.01	-0.05	0.69	0.04	-0.04	-0.04	-0.01	-0.02
Q8r6	Vitaminer og mineraler - I hvilken grad er du opptatt av følgende næringsinnholdet i maten du spiser?	0.06	0.07	0.01	0.64	0.00	0.03	0.02	-0.09	-0.06
Q14r1	Brekkbønner eller aspargesbønner - Hvor godt liker du smaken på følgende matvarer?	0.13	-0.03	-0.02	0.03	-0.27	0.00	0.01	-0.06	-0.01
Q14r2	Hermetiske bønner - Hvor godt liker du smaken på følgende matvarer?	0.06	-0.01	0.00	0.03	-0.57	-0.03	-0.02	0.05	0.02
Q14r4	Linser - Hvor godt liker du smaken på følgende matvarer?	0.05	-0.03	-0.02	0.08	-0.70	-0.04	0.06	-0.10	-0.02
Q14r5	Grønne erter - Hvor godt liker du smaken på følgende matvarer?	0.01	0.02	0.00	0.05	-0.21	-0.09	-0.03	0.01	0.01
Q14r6	Sukkererter - Hvor godt liker du smaken på følgende matvarer?	0.12	0.01	-0.01	0.04	-0.06	-0.01	0.12	0.02	-0.02
Q14r7	Kikerter - Hvor godt liker du smaken på følgende matvarer?	0.01	-0.04	0.02	0.05	-0.73	-0.10	0.01	-0.07	0.02
Q14r8	Havregryn - Hvor godt liker du smaken på følgende matvarer?	0.00	0.02	0.01	0.00	-0.05	-0.11	0.02	-0.01	-0.05
Q14r9	Byggryn - Hvor godt liker du smaken på følgende matvarer?	-0.08	0.00	0.04	0.00	-0.19	-0.17	0.05	-0.01	0.01
Q15r1	Brekkbønner eller aspargesbønner - Hvor ofte spiser du følgende matvarer?	0.04	-0.02	0.04	-0.01	-0.15	0.01	0.02	-0.07	0.02
Q15r2	Hermetiske bønner - Hvor ofte spiser du følgende matvarer?	0.03	-0.04	0.05	-0.02	-0.46	0.07	0.02	0.03	-0.03
Q15r4	Linser - Hvor ofte spiser du følgende matvarer?	-0.03	0.03	0.06	0.01	-0.57	-0.07	0.07	-0.04	-0.09
Q15r5	Grønne erter - Hvor ofte spiser du følgende matvarer?	-0.07	0.00	0.04	0.05	-0.07	-0.04	-0.05	0.02	-0.01
Q15r6	Sukkererter - Hvor ofte spiser du følgende matvarer?	0.03	0.02	0.04	0.01	0.00	0.01	0.09	0.00	-0.04
Q15r7	Kikerter - Hvor ofte spiser du følgende matvarer?	-0.02	-0.07	0.09	-0.01	-0.57	-0.03	0.05	-0.04	-0.02
Q15r8	Havregryn - Hvor ofte spiser du følgende matvarer?	0.03	-0.03	0.04	0.05	0.01	0.01	-0.01	-0.01	-0.07

Q15r9	Byggryn - Hvor ofte spiser du følgende matvarer?	-0.15	0.01	0.02	-0.03	-0.06	-0.11	0.01	0.03	-0.01
Q16r1	Jeg kjøper gjerne ferdig bearbeidede produkter som kjøttboller, fiskeboller og lignende til middag - Hvor enig eller uenig er du i følgende påstander?	0.03	0.02	-0.05	-0.02	0.02	0.00	-0.01	0.64	0.15
Q16r2	Jeg kjøper gjerne ferdig bearbeidede matretter som frossenpizza, lasagne, pai, og gryterett til middag - Hvor enig eller uenig er du i følgende påstander?	0.03	0.01	0.03	-0.02	0.03	-0.01	-0.02	0.78	0.02
Q16r3	Jeg kjøper gjerne ferdig bearbeidede vegetarprodukter til middag - Hvor enig eller uenig er du i følgende påstander?	0.05	-0.02	0.12	0.05	-0.13	0.00	0.19	0.36	-0.10
Q16r4 (variable later reversed)	Jeg lager som oftest middagsretter fra bunnen av - Hvor enig eller uenig er du i følgende påstander?	0.07	0.08	0.08	0.04	-0.06	-0.01	0.01	-0.58	0.03
Q17r1	Jeg synes det er lettere Å TILBEREDE middager med kjøtt enn grønnsaks-/vegetarmiddag - Hvor enig eller uenig er du i følgende påstander?	-0.09	0.08	-0.03	0.02	0.06	-0.04	-0.01	0.00	0.68
Q17r2	Jeg synes det er lettere Å VARIERE middager med kjøtt enn grønnsaks-/vegetarmiddag - Hvor enig eller uenig er du i følgende påstander?	-0.05	0.01	-0.05	0.00	0.01	0.03	0.00	-0.03	0.71
Q17r3	Jeg er interessert i vegetarmat - Hvor enig eller uenig er du i følgende påstander?	0.13	-0.13	0.09	0.08	-0.18	0.01	0.37	0.01	-0.12
Q18r1	Når jeg lager kjøttretter bytter jeg ut noe av kjøttet med grønnsaker - Hvor ofte gjør du dette?	0.09	-0.07	0.05	0.06	-0.04	0.05	0.09	-0.18	-0.02
Q18r2	Når jeg lager kjøttretter bytter jeg ut noe av kjøttet med gryn og korn - Hvor ofte gjør du dette?	-0.07	-0.03	0.14	-0.01	-0.04	-0.07	0.00	-0.10	-0.07
Q18r3	Jeg kjøper kjøttboller, kjøttkaker, og burgere hvor noe av kjøttet er erstattet med grønnsaker - Hvor ofte gjør du dette?	0.02	0.01	0.05	0.02	0.00	-0.01	0.06	0.13	0.03
Q18r4	Jeg kjøper gryte- og ovnsretter hvor noe av kjøttet er erstattet med grønnsaker - Hvor ofte gjør du dette?	0.04	0.04	0.06	0.02	-0.02	0.00	0.04	0.17	0.00
Q18r5	Jeg erstatter kumelk med havre-, soya-, kokos- eller mandelmelk - Hvor ofte gjør du dette?	0.03	-0.02	0.92	0.01	0.03	-0.02	-0.02	-0.02	0.07
Q18r6	Jeg erstatter meieriprodukter med produkter laget av havre, soya, kokos eller mandler - Hvor ofte gjør du dette?	0.03	-0.02	0.82	0.01	0.04	-0.02	0.01	-0.02	0.04

Q24r3	Av hensyn til miljø og klima bør jeg i større grad erstatte kjøtt- og meieriprodukter med plantebaserte produkter - Hvor enig eller uenig er du i disse påstandene?	-0.05	-0.05	-0.01	0.00	0.02	-0.04	0.89	-0.04	0.05
Q24r4	Av hensyn til dyrevelferd bør jeg i større grad erstatte kjøtt- og meieriprodukter med plantebaserte produkter - Hvor enig eller uenig er du i disse påstandene?	-0.04	0.02	0.01	0.01	0.05	-0.04	0.87	-0.01	0.03
Eigenvalues		12.97	4.91	3.78	3.12	2.79	2.04	1.76	1.72	1.44
% of variance		20.59	7.79	5.99	4.96	4.43	3.23	2.79	2.73	2.28
Crohnsback alpha		0.90	0.92	0.88	0.87	0.84	0.91	0.88	0.71	0.76

Appendix 2: Total variance explained

Total Variance Explained							
	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
Factor	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	12.972	20.591	20.591	12.373	19.640	19.640	6.393
2	4.906	7.787	28.378	4.345	6.897	26.537	6.345
3	3.775	5.992	34.370	3.247	5.155	31.692	4.092
4	3.124	4.959	39.329	2.654	4.213	35.905	5.000
5	2.791	4.431	43.760	2.244	3.562	39.467	6.108
6	2.036	3.231	46.991	1.775	2.817	42.285	6.545
7	1.759	2.792	49.784	1.312	2.082	44.367	6.219
8	1.718	2.726	52.510	1.132	1.796	46.163	2.629
9	1.439	2.284	54.794	1.033	1.639	47.803	3.208
10	1.352	2.146	56.940	0.909	1.444	49.246	3.574
11	1.225	1.945	58.884	0.941	1.494	50.740	2.800
12	1.168	1.854	60.738	0.852	1.352	52.093	1.864
13	1.087	1.725	62.463	0.588	0.934	53.027	4.628
14	1.048	1.663	64.126	0.469	0.744	53.770	1.397
15	0.998	1.585	65.711				
16	0.966	1.533	67.244				
17	0.906	1.438	68.682				
18	0.839	1.332	70.014				
19	0.821	1.303	71.316				
20	0.819	1.299	72.616				
21	0.786	1.248	73.864				
22	0.752	1.194	75.058				
23	0.743	1.179	76.237				
24	0.723	1.148	77.385				
25	0.676	1.073	78.458				
26	0.640	1.016	79.474				
27	0.622	0.987	80.461				
28	0.601	0.955	81.415				
29	0.584	0.927	82.343				
30	0.564	0.896	83.238				
31	0.556	0.883	84.122				
32	0.529	0.839	84.961				
33	0.473	0.751	85.712				
34	0.450	0.715	86.427				
35	0.436	0.692	87.118				
36	0.426	0.677	87.795				
37	0.415	0.659	88.454				
38	0.402	0.637	89.091				

39	0.394	0.625	89.716				
40	0.377	0.599	90.315				
41	0.355	0.563	90.878				
42	0.351	0.557	91.435				
43	0.342	0.542	91.977				
44	0.337	0.535	92.512				
45	0.333	0.528	93.040				
46	0.328	0.520	93.560				
47	0.312	0.496	94.056				
48	0.304	0.483	94.539				
49	0.300	0.476	95.015				
50	0.281	0.446	95.461				
51	0.277	0.439	95.900				
52	0.267	0.424	96.324				
53	0.262	0.416	96.739				
54	0.250	0.396	97.135				
55	0.240	0.381	97.516				
56	0.232	0.369	97.885				
57	0.217	0.344	98.229				
58	0.199	0.316	98.546				
59	0.195	0.309	98.855				
60	0.191	0.303	99.158				
61	0.182	0.288	99.447				
62	0.176	0.279	99.726				
63	0.173	0.274	100.000				
Extraction Method: Maximum Likelihood.							
a. When factors are correlated, sums of squared loadings cannot be added to obtain a total variance.							

Appendix 3: Average communalities after extraction

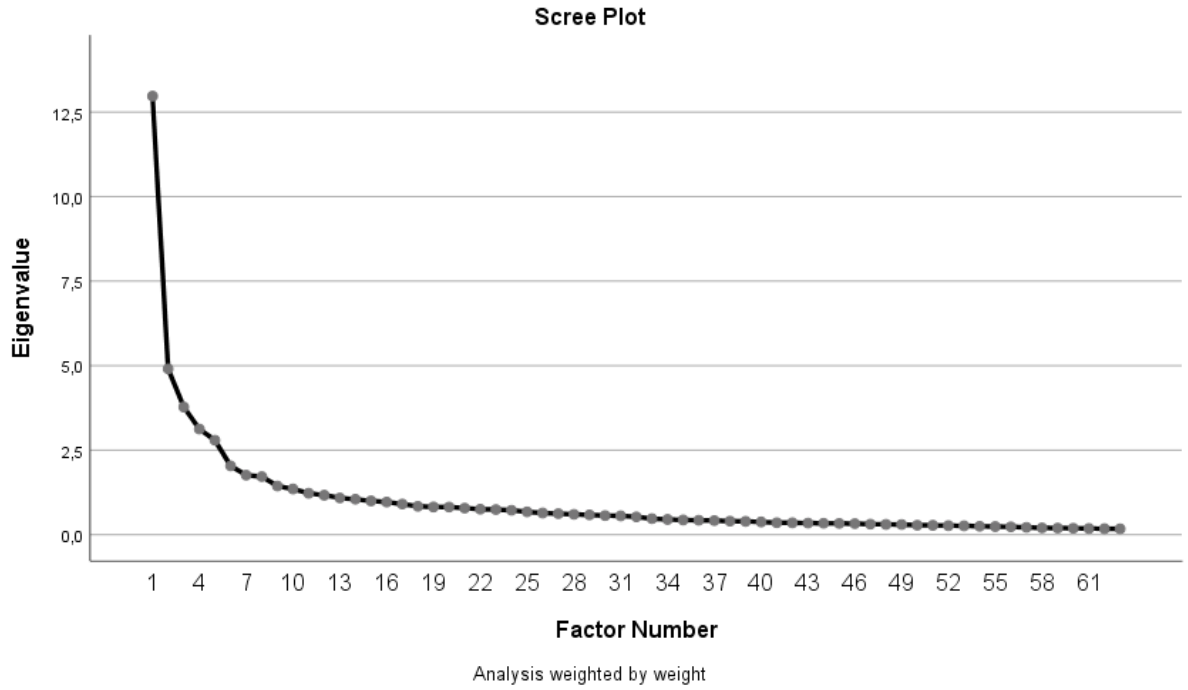
Communalities

	Initial	Extraction
Storfekjøtt - Hvor ofte spiser du middager med følgende ingredienser?	0.277	0.211
Svinekjøtt - Hvor ofte spiser du middager med følgende ingredienser?	0.251	0.191
Lamme-/fårekjøtt - Hvor ofte spiser du middager med følgende ingredienser?	0.170	0.125
Hvitt kjøtt (kylling, kalkun) - Hvor ofte spiser du middager med følgende ingredienser?	0.143	0.095
Fisk / Sjømat (skalldyr, skjell) - Hvor ofte spiser du middager med følgende ingredienser?	0.197	0.140
Meieriprodukter (fløte, smør, rømme, melk, yoghurt, ost) - Hvor ofte spiser du middager med følgende ingredienser?	0.221	0.123
Egg - Hvor ofte spiser du middager med følgende ingredienser?	0.187	0.080
Grønnsaker / Frukt - Hvor ofte spiser du middager med følgende ingredienser?	0.322	0.291
Velsmakende - Hvor enig eller uenig er du i at en middag trenger kjøtt og/eller fisk for å være:	0.754	0.797

Sunn - Hvor enig eller uenig er du i at en middag trenger kjøtt og/eller fisk for å være:	0.702	0.751
Næringsrik - Hvor enig eller uenig er du i at en middag trenger kjøtt og/eller fisk for å være:	0.750	0.802
Komplett - Hvor enig eller uenig er du i at en middag trenger kjøtt og/eller fisk for å være:	0.679	0.708
Mettende - Hvor enig eller uenig er du i at en middag trenger kjøtt og/eller fisk for å være:	0.722	0.756
Velsmakende - Hvor enig eller uenig er du i at en grønnsaksmiddag (for eksempel suppe, salat, pasta, pizza) UTEN kjøtt eller fisk kan være?	0.670	0.718
Sunn - Hvor enig eller uenig er du i at en grønnsaksmiddag (for eksempel suppe, salat, pasta, pizza) UTEN kjøtt eller fisk kan være?	0.575	0.661
Næringsrik - Hvor enig eller uenig er du i at en grønnsaksmiddag (for eksempel suppe, salat, pasta, pizza) UTEN kjøtt eller fisk kan være?	0.673	0.761
Komplett - Hvor enig eller uenig er du i at en grønnsaksmiddag (for eksempel suppe, salat, pasta, pizza) UTEN kjøtt eller fisk kan være?	0.707	0.748
Mettende - Hvor enig eller uenig er du i at en grønnsaksmiddag (for eksempel suppe, salat, pasta, pizza) UTEN kjøtt eller fisk kan være?	0.634	0.666
Velsmakende - Hvor enig eller uenig er du i at en middag laget av korn eller gryn (for eksempel grøter eller supper av ris, havregryn eller bulgur) UTEN kjøtt eller fisk kan være?	0.662	0.682
Sunn - Hvor enig eller uenig er du i at en middag laget av korn eller gryn (for eksempel grøter eller supper av ris, havregryn eller bulgur) UTEN kjøtt eller fisk kan være?	0.673	0.722
Næringsrik - Hvor enig eller uenig er du i at en middag laget av korn eller gryn (for eksempel grøter eller supper av ris, havregryn eller bulgur) UTEN kjøtt eller fisk kan være?	0.707	0.779
Komplett - Hvor enig eller uenig er du i at en middag laget av korn eller gryn (for eksempel grøter eller supper av ris, havregryn eller bulgur) UTEN kjøtt eller fisk kan være?	0.673	0.714
Mettende - Hvor enig eller uenig er du i at en middag laget av korn eller gryn (for eksempel grøter eller supper av ris, havregryn eller bulgur) UTEN kjøtt eller fisk kan være?	0.571	0.572
Jeg er interessert i å spise middager uten kjøtt eller fisk - Hvor enig eller uenig er du i følgende utsagn om middag UTEN kjøtt eller fisk?	0.639	0.593
En middag uten kjøtt eller fisk kan være en ordentlig middag - Hvor enig eller uenig er du i følgende utsagn om middag UTEN kjøtt eller fisk?	0.601	0.565
Vegetabilsk fett (fett fra planter) - I hvilken grad er du opptatt av følgende næringsinnholdet i maten du spiser?	0.545	0.567
Animalsk fett (fett fra dyr) - I hvilken grad er du opptatt av følgende næringsinnholdet i maten du spiser?	0.505	0.521
Karbohydrater - I hvilken grad er du opptatt av følgende næringsinnholdet i maten du spiser?	0.476	0.504
Sukker - I hvilken grad er du opptatt av følgende næringsinnholdet i maten du spiser?	0.488	0.443
Protein - I hvilken grad er du opptatt av følgende næringsinnholdet i maten du spiser?	0.517	0.490
Salt - I hvilken grad er du opptatt av følgende næringsinnholdet i maten du spiser?	0.497	0.481
Vitaminer og mineraler - I hvilken grad er du opptatt av følgende næringsinnholdet i maten du spiser?	0.559	0.542
Brekkbønner eller aspargesbønner - Hvor godt liker du smaken på følgende matvarer?	0.510	0.411
Hermetiske bønner - Hvor godt liker du smaken på følgende matvarer?	0.571	0.472
Linser - Hvor godt liker du smaken på følgende matvarer?	0.663	0.714
Grønne erter - Hvor godt liker du smaken på følgende matvarer?	0.536	0.604
Sukkererter - Hvor godt liker du smaken på følgende matvarer?	0.458	0.409
Kikerter - Hvor godt liker du smaken på følgende matvarer?	0.644	0.690
Havregryn - Hvor godt liker du smaken på følgende matvarer?	0.518	0.669
Byggryn - Hvor godt liker du smaken på følgende matvarer?	0.508	0.492

Brekkbønner eller aspargesbønner - Hvor ofte spiser du følgende matvarer?	0.454	0.384
Hermetiske bønner - Hvor ofte spiser du følgende matvarer?	0.527	0.406
Linser - Hvor ofte spiser du følgende matvarer?	0.596	0.664
Grønne erter - Hvor ofte spiser du følgende matvarer?	0.431	0.432
Sukkererter - Hvor ofte spiser du følgende matvarer?	0.365	0.293
Kikerter - Hvor ofte spiser du følgende matvarer?	0.592	0.626
Havregryn - Hvor ofte spiser du følgende matvarer?	0.384	0.454
Byggryn - Hvor ofte spiser du følgende matvarer?	0.418	0.407
Jeg kjøper gjerne ferdig bearbeidede produkter som kjøttboller, fiskeboller og lignende til middag - Hvor enig eller uenig er du i følgende påstander?	0.397	0.470
Jeg kjøper gjerne ferdig bearbeidede matretter som frossenpizza, lasagne, pai, og gryterett til middag - Hvor enig eller uenig er du i følgende påstander?	0.454	0.604
Jeg kjøper gjerne ferdig bearbeidede vegetarprodukter til middag - Hvor enig eller uenig er du i følgende påstander?	0.453	0.451
Jeg lager som oftest middagsretter fra bunnen av - Hvor enig eller uenig er du i følgende påstander?	0.356	0.406
Jeg synes det er lettere Å TILBEREDE middager med kjøtt enn grønnsaks-/vegetarmiddag - Hvor enig eller uenig er du i følgende påstander?	0.479	0.570
Jeg synes det er lettere Å VARIERE middager med kjøtt enn grønnsaks-/vegetarmiddag - Hvor enig eller uenig er du i følgende påstander?	0.444	0.550
Jeg er interessert i vegetarmat - Hvor enig eller uenig er du i følgende påstander?	0.637	0.614
Når jeg lager kjøttretter bytter jeg ut noe av kjøttet med grønnsaker - Hvor ofte gjør du dette?	0.435	0.471
Når jeg lager kjøttretter bytter jeg ut noe av kjøttet med gryn og korn - Hvor ofte gjør du dette?	0.509	0.550
Jeg kjøper kjøttboller, kjøttkaker, og burgere hvor noe av kjøttet er erstattet med grønnsaker - Hvor ofte gjør du dette?	0.458	0.541
Jeg kjøper gryte- og ovnsretter hvor noe av kjøttet er erstattet med grønnsaker - Hvor ofte gjør du dette?	0.496	0.584
Jeg erstatter kumelk med havre-, soya-, kokos- eller mandelmelk - Hvor ofte gjør du dette?	0.661	0.836
Jeg erstatter meieriprodukter med produkter laget av havre, soya, kokos eller mandler - Hvor ofte gjør du dette?	0.675	0.765
Av hensyn til miljø og klima bør jeg i større grad erstatte kjøtt- og meieriprodukter med plantebaserte produkter - Hvor enig eller uenig er du i disse påstandene?	0.667	0.799
Av hensyn til dyrevelferd bør jeg i større grad erstatte kjøtt- og meieriprodukter med plantebaserte produkter - Hvor enig eller uenig er du i disse påstandene?	0.641	0.742
Average communalities after extraction:		**0.538**
Extraction Method: Maximum Likelihood.		

Appendix 4: Scree plot with eigenvalues for the factors.



Appendix 5: KMO and Bartlett's test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.912
Bartlett's Test of Sphericity	Approx. Chi-Square	47274.686
	df	1953
	Sig.	0.000

Appendix 6: Missing value analysis

Missing value analysis for the variables merged into factors

	N	Mean	Std. Deviation	Missing		No. of Extremes[a]	
				Count	Percent	Low	High
Q4r1	1066	3.5300	1.31711	2	0.2	0	0
Q4r2	1061	3.1037	1.30478	7	0.7	0	0
Q4r3	1057	3.3841	1.24471	11	1.0	116	0
Q4r4	1053	3.4207	1.26695	15	1.4	115	0
Q4r5	1063	3.5174	1.26500	5	0.5	116	0
Q14r2	1009	3.1655	1.23978	59	5.5	0	0
Q14r4	966	3.1946	1.17372	102	9.6	103	0
Q14r7	922	3.2744	1.21051	146	13.7	0	0
Q15r2	1009	2.1100	0.69063	59	5.5		
Q15r4	966	2.0207	0.66409	102	9.6		
Q16r1	1062	3.0151	1.23175	6	0.6	0	0
Q16r2	1062	2.6563	1.29436	6	0.6	0	0

Q16r4_reversed	1063	2.4243	1.24482	5	0.5	0	0
Q8r1	1030	3.0913	1.13322	38	3.6	0	0
Q8r7	1026	2.9405	1.13969	42	3.9	0	0
Q8r2	1034	3.1770	1.05723	34	3.2	85	0
Q8r3	1048	3.3139	1.24379	20	1.9	110	0
Q8r4	1036	3.4208	1.05799	32	3.0	71	0
Q8r5	1050	3.2257	1.20434	18	1.7	0	0
Q8r6	1048	3.51	1.091	20	1.9	76	0
Q24r3	986	2.9503	1.37141	82	7.7	0	0
Q24r4	985	2.7797	1.37234	83	7.8	0	0

a. Number of cases outside the range (Q1 - 1.5*IQR, Q3 + 1.5*IQR).

Missing value analysis of variables used for the cluster analysis.

				Missing		No. of Extremes[a]	
	N	Mean	Std. Deviation	Count	Percent	Low	High
ZQ2r1	1068	0.03	0.98	0	0.0	0	12
ZQ2r2	1068	0.05	0.97	0	0.0	0	6
ZQ2r4	1068	-0.03	0.95	0	0.0	0	10
ZQ2r6	1068	0.02	0.97	0	0.0		
ZQ2r10	1068	-0.05	1.00	0	0.0	18	0
ZQ17r3	1054	-0.13	0.95	14	1.3	0	0
ZFaktor_2	1066	0.07	0.96	2	0.2	0	0
ZFaktor_5	1044	-0.04	0.96	24	2.2	0	1
ZFaktor_8	1064	0.02	1.00	4	0.4	0	0
ZFaktor_4	1056	0.02	1.00	12	1.1	47	0
ZFaktor_7	1013	-0.11	0.98	55	5.1	0	0

a. Number of cases outside the range (Q1 - 1.5*IQR, Q3 + 1.5*IQR).

Little's MCAR test

ZQ2r1	ZQ2r2	ZQ2r4	ZQ2r6	ZQ2r10	ZQ17r3	ZFaktor_2	ZFaktor_5	ZFaktor_8	ZFaktor_4	ZFaktor_7
0.03	0.05	-0.03	0.02	-0.05	-0.13	0.07	-0.04	0.02	0.01	-0.12

a. Little's MCAR test: Chi-Square = 177,780, DF = 132, Sig. = ,005

Appendix 7: Average distance to cluster centers

The cases marked in dark blue were excluded form analyses

Case Number	Cluster	Distance
1299	1	6.243
359	7	5.853
714	5	5.617
1050	5	5.553
182	2	5.371
1349	3	5.337
1689	2	5.117
1182	5	4.954
1523	7	4.877
1108	5	4.839
1321	3	4.812
711	1	4.770
1046	3	4.632
1427	4	4.605
762	3	4.602
248	2	4.594
307	3	4.585
1369	4	4.571
1528	2	4.566
1565	5	4.550
1612	3	4.533
1227	7	4.488
144	2	4.472
806	4	4.444
1081	2	4.441
1305	5	4.439
493	4	4.418
796	5	4.416
1302	1	4.410
1240	3	4.377

Appendix 8: Results of the cross-validation

Comparison of final cluster centers of the cluster analyses of the two sub-samples

Final Cluster Centers - Subsample 1 (Case 1-889)							
	1	2	3	4	5	6	7
Zscore: Beef - How often do you eat dinners with the following ingredients?	-1.5	0.8	-0.2	0.5	-0.3	0.0	-0.2
Zscore: Pork - How often do you eat dinners with the following ingredients?	-1.5	0.8	-0.5	0.4	-0.2	0.3	-0.3
Zscore: Poultry (chicken, turkey) - How often do you eat dinners with the following ingredients?	-1.3	0.6	0.4	0.3	0.0	-1.3	0.1
Zscore: Fish/seafood (shellfish, shells) - How often do you eat dinners with the following ingredients?	-0.1	0.2	0.3	-0.5	0.6	-0.5	-0.5
Zscore: Vegetables / Fruits - How often do you eat dinners with the following ingredients?	0.6	0.4	0.6	-0.9	0.5	-0.4	-0.8
Zscore: I am interested in vegetarian food - How much do you agree or disagree with the following statements?	1.6	0.1	0.8	-0.8	-0.5	-0.8	0.5
Zscore: Factor 2. A dinner needs meat or fish to be: tasty, healthy, nutritious, complete and filling (Q4r1-r5)	-1.4	0.5	-1.0	0.3	0.4	0.6	-0.3
Zscore: Factor 5. Liking, and frequency eating beans (canned), chickpeas, lentils (Q14r2,Q14r4,Q14r7,Q15r2,Q15r4,Q15r7)	1.2	0.5	0.7	-0.8	-0.4	-0.5	0.1
Zscore: Factor 8. Often buying processed foods, seldom cooking dinners from scrach (Q16r1,Q16r2,Q16r4_reversed)	-0.5	0.1	-0.4	1.0	-0.7	-0.1	0.8
Zscore: Factor 4. Concerned with nutritional content (Q8r1,Q8r7,Q8r2,Q8r3,Q8r4,Q8r5,Q8r6)	0.4	0.3	0.4	-1.0	0.2	-0.2	-0.1
Zscore: Factor 7. Think it is important to reduce meat/dair because of environment/climate and animal welfare (Q24r3, Q24r4)	1.2	0.4	0.7	-0.7	-0.6	-0.8	0.5

Final Cluster Centers - Subsample 2 (Case 890-1778)							
	3	2	6	7	1	4	5
Zscore: Beef - How often do you eat dinners with the following ingredients?	0.2	0.5	-0.3	-0.2	-0.8	1.0	-0.4
Zscore: Pork - How often do you eat dinners with the following ingredients?	0.4	0.6	-0.1	-0.3	-0.9	0.8	-0.7
Zscore: Poultry (chicken, turkey) - How often do you eat dinners with the following ingredients?	0.7	0.4	-0.5	-0.2	-0.6	0.4	-0.3
Zscore: Fish/seafood (shellfish, shells) - How often do you eat dinners with the following ingredients?	0.0	0.1	0.2	-0.4	-0.2	-0.5	1.0
Zscore: Vegetables / Fruits - How often do you eat dinners with the following ingredients?	0.3	0.4	0.4	-1.4	0.6	-0.8	0.5
Zscore: I am interested in vegetarian food - How much do you agree or disagree with the following statements?	0.7	-0.3	-0.8	-0.4	1.5	-0.9	0.5
Zscore: Factor 2. A dinner needs meat or fish to be: tasty, healthy, nutritious, complete and filling (Q4r1-r5)	-0.3	0.7	0.3	0.1	-1.7	0.6	0.0
Zscore: Factor 5. Liking, and frequency eating beans (canned), chickpeas, lentils (Q14r2,Q14r4,Q14r7,Q15r2,Q15r4,Q15r7)	0.3	0.4	-0.6	-0.6	0.9	-0.9	0.4
Zscore: Factor 8. Often buying processed foods, seldom cooking dinners from scrach (Q16r1,Q16r2,Q16r4_reversed)	0.5	-0.5	-0.5	0.4	-0.7	0.8	-0.8
Zscore: Factor 4. Concerned with nutritional content (Q8r1,Q8r7,Q8r2,Q8r3,Q8r4,Q8r5,Q8r6)	-0.1	0.7	-0.3	-0.1	0.4	-1.0	0.6
Zscore: Factor 7. Think it is important to reduce meat/dair because of environment/climate and animal welfare (Q24r3, Q24r4)	0.7	-0.3	-0.8	-0.1	1.0	-0.9	0.4

Number of Cases in each Cluster - Subsample 1 (Case 1-889)

		Unweighted	Weighted
Cluster	1	65	58
	2	150	149
	3	142	139
	4	141	144
	5	148	153
	6	88	95
	7	155	152
Valid		889	890
Missing		0	0

Number of Cases in each Cluster - Subsample 2 (Case 890-1778)

		Unweighted	Weighted
Cluster	3	162	155
	2	130	133
	6	150	157
	7	116	117
	1	99	88
	4	116	118
	5	116	121
Valid		889	888
Missing		0	0

Appendix 9: Cluster solution stability

Cluster number of Case (descending order)									
			1	2	3	4	5	6	7	Total
Cluster Number of Case (Ascending order)	1	Count	83	4	0	0	0	0	0	87
		% within Cluster Number of Case (ascending order)	95.4%	4.6%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
	2	Count	0	0	1	2	5	1	302	311
		% within Cluster Number of Case (ascending order)	0.0%	0.0%	0.3%	0.6%	1.6%	0.3%	97.1%	100.0%
	3	Count	3	10	254	0	1	0	3	271
		% within Cluster Number of Case (ascending order)	1.1%	3.7%	93.7%	0.0%	0.4%	0.0%	1.1%	100.0%
	4	Count	1	0	0	322	5	11	2	341
		% within Cluster Number of Case (ascending order)	0.3%	0.0%	0.0%	94.4%	1.5%	3.2%	0.6%	100.0%
	5	Count	0	202	0	6	4	0	0	212
		% within Cluster Number of Case (ascending order)	0.0%	95.3%	0.0%	2.8%	1.9%	0.0%	0.0%	100.0%
	6	Count	0	0	0	4	20	224	0	248
		% within Cluster Number of Case (ascending order)	0.0%	0.0%	0.0%	1.6%	8.1%	90.3%	0.0%	100.0%
	7	Count	1	3	31	2	267	2	6	312
		% within Cluster Number of Case (ascending order)	0.3%	1.0%	9.9%	0.6%	85.6%	0.6%	1.9%	100.0%

Appendix 10: Lavene's test of homogeneity of variances

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
1. A vegetable based dinner is: tasty, healthy, nutritious, complete and filling (Q5r1,Q5r2,Q5r3,Q5r4,Q5r5)	Based on Mean	28.480	6	1764	0.000
	Based on Median	33.303	6	1764	0.000
	Based on Median and with adjusted df	33.303	6	1574.523	0.000
	Based on trimmed mean	31.885	6	1764	0.000
2. A dinner needs meat or fish to be: tasty, healthy, nutritious, complete and filling (Q4r1-r5)	Based on Mean	13.713	6	1769	0.000
	Based on Median	14.488	6	1769	0.000
	Based on Median and with adjusted df	14.488	6	1618.806	0.000
	Based on trimmed mean	14.092	6	1769	0.000
3. Habits of replacing dairy products (Q18r5,Q18r6)	Based on Mean	50.598	6	1771	0.000
	Based on Median	51.753	6	1771	0.000
	Based on Median and with adjusted df	51.753	6	1704.031	0.000
	Based on trimmed mean	51.859	6	1771	0.000
4. Concerned with nutritional content (Q8r1,Q8r7,Q8r2,Q8r3,Q8r4,Q8r5,Q8r6)	Based on Mean	7.035	6	1755	0.000
	Based on Median	6.884	6	1755	0.000
	Based on Median and with adjusted df	6.884	6	1709.616	0.000

	Based on trimmed mean	7.130	6	1755	0.000
5. Liking, and frequency eating beans (canned), chickpeas, lentils (Q14r2,Q14r4,Q14r7,Q15r2,Q15r4,Q15r7)	Based on Mean	4.963	6	1733	0.000
	Based on Median	4.666	6	1733	0.000
	Based on Median and with adjusted df	4.666	6	1704.119	0.000
	Based on trimmed mean	5.085	6	1733	0.000
6. Dinner based on grains is: tasty, healthy, nutritious, complete and filling (Q6r1-r5)	Based on Mean	4.276	6	1751	0.000
	Based on Median	4.350	6	1751	0.000
	Based on Median and with adjusted df	4.350	6	1666.634	0.000
	Based on trimmed mean	4.279	6	1751	0.000
7. Think it is important to reduce meat/dair because of environment/climate and animal welfare (Q24r3, Q24r4)	Based on Mean	12.936	6	1689	0.000
	Based on Median	13.430	6	1689	0.000
	Based on Median and with adjusted df	13.430	6	1598.973	0.000
	Based on trimmed mean	13.593	6	1689	0.000
8. Often buying processed foods, seldom cooking dinners from scrach (Q16r1,Q16r2,Q16r4_reversed)	Based on Mean	7.269	6	1765	0.000
	Based on Median	6.472	6	1765	0.000
	Based on Median and with adjusted df	6.472	6	1677.173	0.000
	Based on	7.114	6	1765	0.000

	trimmed mean				
9. Think it is easier to COOK and VARY meat and fish (Q17r1,Q17r2)	Based on Mean	6.858	6	1684	0.000
	Based on Median	5.153	6	1684	0.000
	Based on Median and with adjusted df	5.153	6	1480.144	0.000
	Based on trimmed mean	6.594	6	1684	0.000
Kikerter - Hvor godt liker du smaken på følgende matvarer?	Based on Mean	5.702	6	1553	0.000
	Based on Median	5.105	6	1553	0.000
	Based on Median and with adjusted df	5.105	6	1533.511	0.000
	Based on trimmed mean	5.711	6	1553	0.000
Linser - Hvor godt liker du smaken på følgende matvarer?	Based on Mean	6.236	6	1613	0.000
	Based on Median	4.470	6	1613	0.000
	Based on Median and with adjusted df	4.470	6	1550.888	0.000
	Based on trimmed mean	6.882	6	1613	0.000
Jeg kjøper gjerne ferdig bearbeidede vegetarprodukter til middag - Hvor enig eller uenig er du i følgende påstander?	Based on Mean	43.227	6	1706	0.000
	Based on Median	36.909	6	1706	0.000
	Based on Median and with adjusted df	36.909	6	1442.520	0.000
	Based on trimmed mean	46.715	6	1706	0.000

Jeg er interessert i vegetarmat - Hvor enig eller uenig er du i følgende påstander?	Based on Mean	42.002	6	1749	0.000
	Based on Median	38.164	6	1749	0.000
	Based on Median and with adjusted df	38.164	6	1669.520	0.000
	Based on trimmed mean	48.856	6	1749	0.000
Jeg er interessert i å spise middager uten kjøtt eller fisk - Hvor enig eller uenig er du i følgende utsagn om middag UTEN kjøtt eller fisk?	Based on Mean	22.958	6	1753	0.000
	Based on Median	16.522	6	1753	0.000
	Based on Median and with adjusted df	16.522	6	1619.895	0.000
	Based on trimmed mean	24.651	6	1753	0.000

Appendix 11: Calculation formulas used when estimating the portion size of green peas, chickpeas and canned beans

	A	B	C	D	E	F	G
133	**N=**	**Estimated amount green peas, chickpeas and canned beans eaten in grams per week (1768 *58.8)**	**Response cathegory**	**Assumed days per week**	**Gram/week per person (mean)**	**number of respondents in the different categories**	**Total grams per week**
134	1768	103958.40	Never=1	0	0	73	0.00
135	M= mean intake per week (Norkost 3, adjusted for 2017):		1.33	0.125	10	78	776.08
136	58.8		1.5	0.25	20	34	675.79
137			1.67	0.375	30	152	4563.57
138			Less often=2	0.5	40	673	26933.93
139			2.33	0.75	60	334	20032.71
140			2.5	1	80	46	3672.31
141		1 portion (g)=	2.67	1.25	100	194	19384.23
142		80	1-2 d/week=3	1.5	120	124	14907.66
143			3.33	2	160	34	5439.10
144			3.5	2.5	200	2	405.92
145			3.67	3	240	15	3592.56
146			3-4 d/week=4	3.5	280	5	1302.31
147			4.33	4.125	330	3	1065.00
148			4.5	4.75	380	0	0.00
149			4.67	5.375	430	1	430.00
150			5-7 d/week=5	6	480		Estimated intakes from the respondents
151							103181.18
152							Difference (G151-B134)
153							-777.22

Appendix 12: Post Hoc test

Post Hoc Test: Multiple Comparisons

Games-Howell

Dependent Variable	Cluster number of case (I)	Cluster number of case (J)	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
1. A vegetable based dinner is: tasty, healthy, nutritious, complete and filling (Q5r1,Q5r2,Q5r3,Q5r4,Q5r5)	1	2	,89691*	0.04730	0.000	0.7567	1.0371
		3	,23600*	0.04137	0.000	0.1133	0.3588
		4	1,25388*	0.05482	0.000	1.0915	1.4163
		5	,61353*	0.05180	0.000	0.4597	0.7673
		6	1,46972*	0.06148	0.000	1.2873	1.6522
		7	,82099*	0.04968	0.000	0.6738	0.9682
	2	1	-,89691*	0.04730	0.000	-1.0371	-0.7567
		3	-,66090*	0.05135	0.000	-0.8128	-0.5090
		4	,35697*	0.06269	0.000	0.1715	0.5424
		5	-,28338*	0.06007	0.000	-0.4613	-0.1055
		6	,57282*	0.06860	0.000	0.3697	0.7760
		7	-0.07592	0.05826	0.850	-0.2482	0.0964
	3	1	-,23600*	0.04137	0.000	-0.3588	-0.1133

		2	,66090*	0.05135	0.000	0.5090	0.8128
		4	1,01788*	0.05835	0.000	0.8452	1.1905
		5	,37752*	0.05552	0.000	0.2130	0.5421
		6	1,23372*	0.06465	0.000	1.0421	1.4253
		7	,58499*	0.05355	0.000	0.4265	0.7435
	4	1	-1,25388*	0.05482	0.000	-1.4163	-1.0915
		2	-,35697*	0.06269	0.000	-0.5424	-0.1715
		3	-1,01788*	0.05835	0.000	-1.1905	-0.8452
		5	-,64036*	0.06615	0.000	-0.8362	-0.4446
		6	0.21584	0.07398	0.056	-0.0031	0.4348
		7	-,43289*	0.06451	0.000	-0.6237	-0.2421
	5	1	-,61353*	0.05180	0.000	-0.7673	-0.4597
		2	,28338*	0.06007	0.000	0.1055	0.4613
		3	-,37752*	0.05552	0.000	-0.5421	-0.2130
		4	,64036*	0.06615	0.000	0.4446	0.8362
		6	,85620*	0.07177	0.000	0.6436	1.0688
		7	,20747*	0.06196	0.015	0.0240	0.3909
	6	1	-1,46972*	0.06148	0.000	-1.6522	-1.2873
		2	-,57282*	0.06860	0.000	-0.7760	-0.3697
		3	-1,23372*	0.06465	0.000	-1.4253	-1.0421
		4	-0.21584	0.07398	0.056	-0.4348	0.0031
		5	-,85620*	0.07177	0.000	-1.0688	-0.6436
		7	-,64873*	0.07026	0.000	-0.8568	-0.4407
	7	1	-,82099*	0.04968	0.000	-0.9682	-0.6738
		2	0.07592	0.05826	0.850	-0.0964	0.2482
		3	-,58499*	0.05355	0.000	-0.7435	-0.4265
		4	,43289*	0.06451	0.000	0.2421	0.6237
		5	-,20747*	0.06196	0.015	-0.3909	-0.0240
		6	,64873*	0.07026	0.000	0.4407	0.8568
2. A dinner needs meat or fish to be: tasty, healthy, nutritious, complete and filling (Q4r1-r5)	1	2	-2,55328*	0.09925	0.000	-2.8504	-2.2561
		3	-,73405*	0.10906	0.000	-1.0592	-0.4089
		4	-2,54864*	0.09785	0.000	-2.8418	-2.2554
		5	-1,98385*	0.11245	0.000	-2.3189	-1.6488
		6	-2,39815*	0.10162	0.000	-2.7021	-2.0942
		7	-1,69953*	0.10414	0.000	-2.0106	-1.3885
	2	1	2,55328*	0.09925	0.000	2.2561	2.8504
		3	1,81922*	0.07821	0.000	1.5877	2.0508
		4	0.00464	0.06162	1.000	-0.1776	0.1869
		5	,56943*	0.08288	0.000	0.3238	0.8151
		6	0.15513	0.06746	0.246	-0.0445	0.3548
		7	,85375*	0.07119	0.000	0.6431	1.0644
	3	1	,73405*	0.10906	0.000	0.4089	1.0592
		2	-1,81922*	0.07821	0.000	-2.0508	-1.5877
		4	-1,81458*	0.07642	0.000	-2.0408	-1.5883
		5	-1,24980*	0.09440	0.000	-1.5293	-0.9702

		6	-1,66409*	0.08120	0.000	-1.9045	-1.4237
		7	-,96548*	0.08432	0.000	-1.2150	-0.7159
	4	1	2,54864*	0.09785	0.000	2.2554	2.8418
		2	-0.00464	0.06162	1.000	-0.1869	0.1776
		3	1,81458*	0.07642	0.000	1.5883	2.0408
		5	,56479*	0.08118	0.000	0.3241	0.8055
		6	0.15049	0.06537	0.245	-0.0430	0.3440
		7	,84910*	0.06921	0.000	0.6443	1.0539
	5	1	1,98385*	0.11245	0.000	1.6488	2.3189
		2	-,56943*	0.08288	0.000	-0.8151	-0.3238
		3	1,24980*	0.09440	0.000	0.9702	1.5293
		4	-,56479*	0.08118	0.000	-0.8055	-0.3241
		6	-,41430*	0.08570	0.000	-0.6683	-0.1603
		7	,28432*	0.08866	0.024	0.0217	0.5469
	6	1	2,39815*	0.10162	0.000	2.0942	2.7021
		2	-0.15513	0.06746	0.246	-0.3548	0.0445
		3	1,66409*	0.08120	0.000	1.4237	1.9045
		4	-0.15049	0.06537	0.245	-0.3440	0.0430
		5	,41430*	0.08570	0.000	0.1603	0.6683
		7	,69862*	0.07446	0.000	0.4783	0.9189
	7	1	1,69953*	0.10414	0.000	1.3885	2.0106
		2	-,85375*	0.07119	0.000	-1.0644	-0.6431
		3	,96548*	0.08432	0.000	0.7159	1.2150
		4	-,84910*	0.06921	0.000	-1.0539	-0.6443
		5	-,28432*	0.08866	0.024	-0.5469	-0.0217
		6	-,69862*	0.07446	0.000	-0.9189	-0.4783
3. Habits of replacing dairy products (Q18r5,Q18r6)	1	2	1,31808*	0.16810	0.000	0.8126	1.8235
		3	1,01519*	0.17064	0.000	0.5027	1.5277
		4	1,73845*	0.16339	0.000	1.2460	2.2309
		5	1,25826*	0.17048	0.000	0.7462	1.7704
		6	1,78123*	0.16416	0.000	1.2867	2.2758
		7	1,40080*	0.16551	0.000	0.9025	1.8991
	2	1	-1,31808*	0.16810	0.000	-1.8235	-0.8126
		3	-,30289*	0.07932	0.003	-0.5376	-0.0682
		4	,42038*	0.06221	0.000	0.2363	0.6045
		5	-0.05982	0.07898	0.989	-0.2937	0.1741
		6	,46316*	0.06423	0.000	0.2731	0.6533
		7	0.08272	0.06759	0.885	-0.1172	0.2827
	3	1	-1,01519*	0.17064	0.000	-1.5277	-0.5027
		2	,30289*	0.07932	0.003	0.0682	0.5376
		4	,72326*	0.06876	0.000	0.5196	0.9270
		5	0.24307	0.08424	0.062	-0.0064	0.4925
		6	,76604*	0.07059	0.000	0.5570	0.9751
		7	,38561*	0.07367	0.000	0.1675	0.6037
	4	1	-1,73845*	0.16339	0.000	-2.2309	-1.2460

		2	-,42038*	0.06221	0.000	-0.6045	-0.2363
		3	-,72326*	0.06876	0.000	-0.9270	-0.5196
		5	-,48020*	0.06837	0.000	-0.6830	-0.2774
		6	0.04278	0.05062	0.980	-0.1070	0.1926
		7	-,33765*	0.05482	0.000	-0.4998	-0.1755
	5	1	-1,25826*	0.17048	0.000	-1.7704	-0.7462
		2	0.05982	0.07898	0.989	-0.1741	0.2937
		3	-0.24307	0.08424	0.062	-0.4925	0.0064
		4	,48020*	0.06837	0.000	0.2774	0.6830
		6	,52298*	0.07021	0.000	0.3148	0.7312
		7	0.14254	0.07330	0.452	-0.0746	0.3597
	6	1	-1,78123*	0.16416	0.000	-2.2758	-1.2867
		2	-,46316*	0.06423	0.000	-0.6533	-0.2731
		3	-,76604*	0.07059	0.000	-0.9751	-0.5570
		4	-0.04278	0.05062	0.980	-0.1926	0.1070
		5	-,52298*	0.07021	0.000	-0.7312	-0.3148
		7	-,38043*	0.05710	0.000	-0.5494	-0.2115
	7	1	-1,40080*	0.16551	0.000	-1.8991	-0.9025
		2	-0.08272	0.06759	0.885	-0.2827	0.1172
		3	-,38561*	0.07367	0.000	-0.6037	-0.1675
		4	,33765*	0.05482	0.000	0.1755	0.4998
		5	-0.14254	0.07330	0.452	-0.3597	0.0746
		6	,38043*	0.05710	0.000	0.2115	0.5494
4. Concerned with nutritional content (Q8r1,Q8r7,Q8r2,Q8r3,Q8r4,Q8r5,Q8r6)	1	2	-0.05848	0.08414	0.993	-0.3101	0.1932
		3	-0.17764	0.08539	0.370	-0.4329	0.0776
		4	,33440*	0.08567	0.003	0.0784	0.5904
		5	-,32322*	0.08758	0.006	-0.5847	-0.0617
		6	1,00436*	0.09288	0.000	0.7276	1.2811
		7	,29896*	0.08322	0.008	0.0499	0.5480
	2	1	0.05848	0.08414	0.993	-0.1932	0.3101
		3	-0.11916	0.05964	0.417	-0.2956	0.0573
		4	,39287*	0.06004	0.000	0.2153	0.5705
		5	-,26474*	0.06274	0.001	-0.4505	-0.0790
		6	1,06283*	0.06995	0.000	0.8557	1.2700
		7	,35744*	0.05649	0.000	0.1903	0.5246
	3	1	0.17764	0.08539	0.370	-0.0776	0.4329
		2	0.11916	0.05964	0.417	-0.0573	0.2956
		4	,51204*	0.06178	0.000	0.3293	0.6948
		5	-0.14558	0.06440	0.266	-0.3363	0.0451
		6	1,18199*	0.07144	0.000	0.9704	1.3936
		7	,47660*	0.05833	0.000	0.3040	0.6492
	4	1	-,33440*	0.08567	0.003	-0.5904	-0.0784
		2	-,39287*	0.06004	0.000	-0.5705	-0.2153
		3	-,51204*	0.06178	0.000	-0.6948	-0.3293
		5	-,65762*	0.06477	0.000	-0.8494	-0.4659

		6	,66996*	0.07177	0.000	0.4575	0.8825
		7	-0.03543	0.05874	0.997	-0.2092	0.1383
	5	1	,32322*	0.08758	0.006	0.0617	0.5847
		2	,26474*	0.06274	0.001	0.0790	0.4505
		3	0.14558	0.06440	0.266	-0.0451	0.3363
		4	,65762*	0.06477	0.000	0.4659	0.8494
		6	1,32757*	0.07404	0.000	1.1083	1.5469
		7	,62218*	0.06149	0.000	0.4401	0.8043
	6	1	-1,00436*	0.09288	0.000	-1.2811	-0.7276
		2	-1,06283*	0.06995	0.000	-1.2700	-0.8557
		3	-1,18199*	0.07144	0.000	-1.3936	-0.9704
		4	-,66996*	0.07177	0.000	-0.8825	-0.4575
		5	-1,32757*	0.07404	0.000	-1.5469	-1.1083
		7	-,70539*	0.06883	0.000	-0.9093	-0.5015
	7	1	-,29896*	0.08322	0.008	-0.5480	-0.0499
		2	-,35744*	0.05649	0.000	-0.5246	-0.1903
		3	-,47660*	0.05833	0.000	-0.6492	-0.3040
		4	0.03543	0.05874	0.997	-0.1383	0.2092
		5	-,62218*	0.06149	0.000	-0.8043	-0.4401
		6	,70539*	0.06883	0.000	0.5015	0.9093
5. Liking, and frequency eating beans (canned), chickpeas, lentils (Q14r2,Q14r4,Q14r7,Q15r2,Q15r4,Q15r7)	1	2	,68814*	0.07020	0.000	0.4784	0.8979
		3	,43367*	0.06818	0.000	0.2296	0.6377
		4	1,37673*	0.07059	0.000	1.1658	1.5876
		5	,63085*	0.07236	0.000	0.4148	0.8469
		6	1,59560*	0.07296	0.000	1.3779	1.8133
		7	,90966*	0.06934	0.000	0.7023	1.1170
	2	1	-,68814*	0.07020	0.000	-0.8979	-0.4784
		3	-,25447*	0.04801	0.000	-0.3965	-0.1124
		4	,68858*	0.05137	0.000	0.5366	0.8405
		5	-0.05729	0.05377	0.938	-0.2165	0.1019
		6	,90746*	0.05458	0.000	0.7459	1.0690
		7	,22152*	0.04964	0.000	0.0747	0.3684
	3	1	-,43367*	0.06818	0.000	-0.6377	-0.2296
		2	,25447*	0.04801	0.000	0.1124	0.3965
		4	,94306*	0.04857	0.000	0.7994	1.0868
		5	,19718*	0.05111	0.003	0.0458	0.3486
		6	1,16193*	0.05196	0.000	1.0080	1.3158
		7	,47599*	0.04674	0.000	0.3377	0.6143
	4	1	-1,37673*	0.07059	0.000	-1.5876	-1.1658
		2	-,68858*	0.05137	0.000	-0.8405	-0.5366
		3	-,94306*	0.04857	0.000	-1.0868	-0.7994
		5	-,74587*	0.05428	0.000	-0.9066	-0.5852
		6	,21887*	0.05508	0.002	0.0558	0.3819
		7	-,46706*	0.05019	0.000	-0.6155	-0.3186
	5	1	-,63085*	0.07236	0.000	-0.8469	-0.4148

		2	0.05729	0.05377	0.938	-0.1019	0.2165
		3	-,19718*	0.05111	0.003	-0.3486	-0.0458
		4	,74587*	0.05428	0.000	0.5852	0.9066
		6	,96475*	0.05733	0.000	0.7949	1.1346
		7	,27881*	0.05265	0.000	0.1229	0.4347
	6	1	-1,59560*	0.07296	0.000	-1.8133	-1.3779
		2	-,90746*	0.05458	0.000	-1.0690	-0.7459
		3	-1,16193*	0.05196	0.000	-1.3158	-1.0080
		4	-,21887*	0.05508	0.002	-0.3819	-0.0558
		5	-,96475*	0.05733	0.000	-1.1346	-0.7949
		7	-,68594*	0.05348	0.000	-0.8443	-0.5276
	7	1	-,90966*	0.06934	0.000	-1.1170	-0.7023
		2	-,22152*	0.04964	0.000	-0.3684	-0.0747
		3	-,47599*	0.04674	0.000	-0.6143	-0.3377
		4	,46706*	0.05019	0.000	0.3186	0.6155
		5	-,27881*	0.05265	0.000	-0.4347	-0.1229
		6	,68594*	0.05348	0.000	0.5276	0.8443
6. Dinner based on grains is: tasty, healthy, nutritious, complete and filling (Q6r1-r5)	1	2	,81008*	0.09110	0.000	0.5382	1.0820
		3	,28478*	0.09204	0.037	0.0101	0.5594
		4	1,17491*	0.09427	0.000	0.8939	1.4559
		5	,51251*	0.09455	0.000	0.2306	0.7944
		6	1,27005*	0.09541	0.000	0.9857	1.5544
		7	,73294*	0.08875	0.000	0.4677	0.9982
	2	1	-,81008*	0.09110	0.000	-1.0820	-0.5382
		3	-,52530*	0.07201	0.000	-0.7384	-0.3122
		4	,36482*	0.07484	0.000	0.1435	0.5862
		5	-,29757*	0.07519	0.002	-0.5202	-0.0749
		6	,45997*	0.07626	0.000	0.2342	0.6857
		7	-0.07714	0.06776	0.916	-0.2776	0.1233
	3	1	-,28478*	0.09204	0.037	-0.5594	-0.0101
		2	,52530*	0.07201	0.000	0.3122	0.7384
		4	,89013*	0.07598	0.000	0.6653	1.1149
		5	,22773*	0.07633	0.047	0.0017	0.4538
		6	,98527*	0.07739	0.000	0.7562	1.2144
		7	,44816*	0.06902	0.000	0.2439	0.6524
	4	1	-1,17491*	0.09427	0.000	-1.4559	-0.8939
		2	-,36482*	0.07484	0.000	-0.5862	-0.1435
		3	-,89013*	0.07598	0.000	-1.1149	-0.6653
		5	-,66239*	0.07900	0.000	-0.8962	-0.4285
		6	0.09515	0.08002	0.898	-0.1417	0.3320
		7	-,44196*	0.07196	0.000	-0.6548	-0.2291
	5	1	-,51251*	0.09455	0.000	-0.7944	-0.2306
		2	,29757*	0.07519	0.002	0.0749	0.5202
		3	-,22773*	0.07633	0.047	-0.4538	-0.0017
		4	,66239*	0.07900	0.000	0.4285	0.8962

		6	,75754*	0.08035	0.000	0.5196	0.9955
		7	,22043*	0.07233	0.039	0.0062	0.4347
	6	1	-1,27005*	0.09541	0.000	-1.5544	-0.9857
		2	-,45997*	0.07626	0.000	-0.6857	-0.2342
		3	-,98527*	0.07739	0.000	-1.2144	-0.7562
		4	-0.09515	0.08002	0.898	-0.3320	0.1417
		5	-,75754*	0.08035	0.000	-0.9955	-0.5196
		7	-,53711*	0.07345	0.000	-0.7546	-0.3197
	7	1	-,73294*	0.08875	0.000	-0.9982	-0.4677
		2	0.07714	0.06776	0.916	-0.1233	0.2776
		3	-,44816*	0.06902	0.000	-0.6524	-0.2439
		4	,44196*	0.07196	0.000	0.2291	0.6548
		5	-,22043*	0.07233	0.039	-0.4347	-0.0062
		6	,53711*	0.07345	0.000	0.3197	0.7546
7. Think it is important to reduce meat/dair because of environment/climate and animal welfare (Q24r3, Q24r4)	1	2	1,53116*	0.08723	0.000	1.2721	1.7902
		3	,62806*	0.08084	0.000	0.3877	0.8684
		4	2,91362*	0.07395	0.000	2.6933	3.1340
		5	1,60191*	0.09535	0.000	1.3187	1.8851
		6	2,72632*	0.08877	0.000	2.4626	2.9900
		7	1,15821*	0.08127	0.000	0.9166	1.3998
	2	1	-1,53116*	0.08723	0.000	-1.7902	-1.2721
		3	-,90310*	0.08566	0.000	-1.1566	-0.6496
		4	1,38247*	0.07920	0.000	1.1481	1.6169
		5	0.07075	0.09948	0.992	-0.2239	0.3654
		6	1,19516*	0.09319	0.000	0.9193	1.4710
		7	-,37295*	0.08607	0.000	-0.6276	-0.1183
	3	1	-,62806*	0.08084	0.000	-0.8684	-0.3877
		2	,90310*	0.08566	0.000	0.6496	1.1566
		4	2,28556*	0.07210	0.000	2.0722	2.4989
		5	,97385*	0.09393	0.000	0.6955	1.2522
		6	2,09826*	0.08724	0.000	1.8399	2.3566
		7	,53014*	0.07959	0.000	0.2946	0.7657
	4	1	-2,91362*	0.07395	0.000	-3.1340	-2.6933
		2	-1,38247*	0.07920	0.000	-1.6169	-1.1481
		3	-2,28556*	0.07210	0.000	-2.4989	-2.0722
		5	-1,31171*	0.08807	0.000	-1.5729	-1.0506
		6	-0.18731	0.08089	0.239	-0.4270	0.0523
		7	-1,75542*	0.07258	0.000	-1.9702	-1.5407
	5	1	-1,60191*	0.09535	0.000	-1.8851	-1.3187
		2	-0.07075	0.09948	0.992	-0.3654	0.2239
		3	-,97385*	0.09393	0.000	-1.2522	-0.6955
		4	1,31171*	0.08807	0.000	1.0506	1.5729
		6	1,12441*	0.10083	0.000	0.8257	1.4231
		7	-,44371*	0.09430	0.000	-0.7231	-0.1643
	6	1	-2,72632*	0.08877	0.000	-2.9900	-2.4626

		2	-1,19516*	0.09319	0.000	-1.4710	-0.9193
		3	-2,09826*	0.08724	0.000	-2.3566	-1.8399
		4	0.18731	0.08089	0.239	-0.0523	0.4270
		5	-1,12441*	0.10083	0.000	-1.4231	-0.8257
		7	-1,56811*	0.08763	0.000	-1.8276	-1.3086
	7	1	-1,15821*	0.08127	0.000	-1.3998	-0.9166
		2	,37295*	0.08607	0.000	0.1183	0.6276
		3	-,53014*	0.07959	0.000	-0.7657	-0.2946
		4	1,75542*	0.07258	0.000	1.5407	1.9702
		5	,44371*	0.09430	0.000	0.1643	0.7231
		6	1,56811*	0.08763	0.000	1.3086	1.8276
8. Often buying processed foods, seldom cooking dinners from scrach (Q16r1,Q16r2,Q16r4_reversed)	1	2	-,57939*	0.11445	0.000	-0.9222	-0.2366
		3	-0.10784	0.11399	0.964	-0.4493	0.2337
		4	0.00387	0.11187	1.000	-0.3317	0.3394
		5	0.30582	0.11096	0.094	-0.0272	0.6388
		6	-1,39888*	0.11379	0.000	-1.7398	-1.0579
		7	-1,25183*	0.11104	0.000	-1.5850	-0.9186
	2	1	,57939*	0.11445	0.000	0.2366	0.9222
		3	,47155*	0.07092	0.000	0.2617	0.6814
		4	,58326*	0.06747	0.000	0.3837	0.7828
		5	,88521*	0.06594	0.000	0.6900	1.0804
		6	-,81949*	0.07061	0.000	-1.0284	-0.6105
		7	-,67244*	0.06608	0.000	-0.8679	-0.4769
	3	1	0.10784	0.11399	0.964	-0.2337	0.4493
		2	-,47155*	0.07092	0.000	-0.6814	-0.2617
		4	0.11171	0.06669	0.633	-0.0856	0.3090
		5	,41366*	0.06513	0.000	0.2208	0.6065
		6	-1,29104*	0.06985	0.000	-1.4978	-1.0843
		7	-1,14398*	0.06528	0.000	-1.3372	-0.9508
	4	1	-0.00387	0.11187	1.000	-0.3394	0.3317
		2	-,58326*	0.06747	0.000	-0.7828	-0.3837
		3	-0.11171	0.06669	0.633	-0.3090	0.0856
		5	,30195*	0.06136	0.000	0.1203	0.4836
		6	-1,40275*	0.06635	0.000	-1.5991	-1.2064
		7	-1,25570*	0.06152	0.000	-1.4376	-1.0738
	5	1	-0.30582	0.11096	0.094	-0.6388	0.0272
		2	-,88521*	0.06594	0.000	-1.0804	-0.6900
		3	-,41366*	0.06513	0.000	-0.6065	-0.2208
		4	-,30195*	0.06136	0.000	-0.4836	-0.1203
		6	-1,70470*	0.06479	0.000	-1.8966	-1.5128
		7	-1,55765*	0.05983	0.000	-1.7348	-1.3805
	6	1	1,39888*	0.11379	0.000	1.0579	1.7398
		2	,81949*	0.07061	0.000	0.6105	1.0284
		3	1,29104*	0.06985	0.000	1.0843	1.4978
		4	1,40275*	0.06635	0.000	1.2064	1.5991

		5	1,70470*	0.06479	0.000	1.5128	1.8966
		7	0.14705	0.06494	0.263	-0.0452	0.3393
	7	1	1,25183*	0.11104	0.000	0.9186	1.5850
		2	,67244*	0.06608	0.000	0.4769	0.8679
		3	1,14398*	0.06528	0.000	0.9508	1.3372
		4	1,25570*	0.06152	0.000	1.0738	1.4376
		5	1,55765*	0.05983	0.000	1.3805	1.7348
		6	-0.14705	0.06494	0.263	-0.3393	0.0452
9. Think it is easier to COOK and VARY meat and fish (Q17r1,Q17r2)	1	2	-2,28998*	0.11793	0.000	-2.6433	-1.9366
		3	-1,57849*	0.13011	0.000	-1.9666	-1.1904
		4	-2,28467*	0.11931	0.000	-2.6419	-1.9274
		5	-1,63829*	0.12875	0.000	-2.0225	-1.2541
		6	-2,21678*	0.12440	0.000	-2.5885	-1.8450
		7	-1,92823*	0.12049	0.000	-2.2888	-1.5676
	2	1	2,28998*	0.11793	0.000	1.9366	2.6433
		3	,71149*	0.09061	0.000	0.4432	0.9798
		4	0.00531	0.07427	1.000	-0.2144	0.2250
		5	,65168*	0.08864	0.000	0.3890	0.9144
		6	0.07320	0.08219	0.974	-0.1702	0.3166
		7	,36175*	0.07616	0.000	0.1364	0.5871
	3	1	1,57849*	0.13011	0.000	1.1904	1.9666
		2	-,71149*	0.09061	0.000	-0.9798	-0.4432
		4	-,70619*	0.09240	0.000	-0.9797	-0.4326
		5	-0.05981	0.10430	0.998	-0.3687	0.2491
		6	-,63829*	0.09888	0.000	-0.9310	-0.3455
		7	-,34974*	0.09392	0.004	-0.6278	-0.0717
	4	1	2,28467*	0.11931	0.000	1.9274	2.6419
		2	-0.00531	0.07427	1.000	-0.2250	0.2144
		3	,70619*	0.09240	0.000	0.4326	0.9797
		5	,64638*	0.09046	0.000	0.3783	0.9144
		6	0.06789	0.08416	0.984	-0.1813	0.3171
		7	,35644*	0.07827	0.000	0.1249	0.5880
	5	1	1,63829*	0.12875	0.000	1.2541	2.0225
		2	-,65168*	0.08864	0.000	-0.9144	-0.3890
		3	0.05981	0.10430	0.998	-0.2491	0.3687
		4	-,64638*	0.09046	0.000	-0.9144	-0.3783
		6	-,57848*	0.09707	0.000	-0.8661	-0.2909
		7	-,28993*	0.09202	0.029	-0.5625	-0.0173
	6	1	2,21678*	0.12440	0.000	1.8450	2.5885
		2	-0.07320	0.08219	0.974	-0.3166	0.1702
		3	,63829*	0.09888	0.000	0.3455	0.9310
		4	-0.06789	0.08416	0.984	-0.3171	0.1813
		5	,57848*	0.09707	0.000	0.2909	0.8661
		7	,28855*	0.08583	0.015	0.0344	0.5427
	7	1	1,92823*	0.12049	0.000	1.5676	2.2888

		2	-,36175*	0.07616	0.000	-0.5871	-0.1364
		3	,34974*	0.09392	0.004	0.0717	0.6278
		4	-,35644*	0.07827	0.000	-0.5880	-0.1249
		5	,28993*	0.09202	0.029	0.0173	0.5625
		6	-,28855*	0.08583	0.015	-0.5427	-0.0344
Kikerter - Hvor godt liker du smaken på følgende matvarer?	1	2	,87616*	0.10396	0.000	0.5662	1.1861
		3	,40080*	0.10444	0.003	0.0894	0.7122
		4	1,81944*	0.11112	0.000	1.4888	2.1501
		5	,67094*	0.11238	0.000	0.3364	1.0055
		6	2,18867*	0.11456	0.000	1.8478	2.5296
		7	1,13892*	0.10557	0.000	0.8243	1.4535
	2	1	-,87616*	0.10396	0.000	-1.1861	-0.5662
		3	-,47536*	0.08670	0.000	-0.7320	-0.2188
		4	,94328*	0.09465	0.000	0.6632	1.2234
		5	-0.20522	0.09612	0.334	-0.4900	0.0796
		6	1,31251*	0.09866	0.000	1.0201	1.6049
		7	,26276*	0.08806	0.047	0.0022	0.5233
	3	1	-,40080*	0.10444	0.003	-0.7122	-0.0894
		2	,47536*	0.08670	0.000	0.2188	0.7320
		4	1,41864*	0.09517	0.000	1.1369	1.7003
		5	0.27014	0.09664	0.079	-0.0162	0.5565
		6	1,78787*	0.09916	0.000	1.4940	2.0818
		7	,73812*	0.08863	0.000	0.4758	1.0004
	4	1	-1,81944*	0.11112	0.000	-2.1501	-1.4888
		2	-,94328*	0.09465	0.000	-1.2234	-0.6632
		3	-1,41864*	0.09517	0.000	-1.7003	-1.1369
		5	-1,14850*	0.10382	0.000	-1.4560	-0.8410
		6	,36923*	0.10618	0.010	0.0547	0.6838
		7	-,68052*	0.09641	0.000	-0.9659	-0.3952
	5	1	-,67094*	0.11238	0.000	-1.0055	-0.3364
		2	0.20522	0.09612	0.334	-0.0796	0.4900
		3	-0.27014	0.09664	0.079	-0.5565	0.0162
		4	1,14850*	0.10382	0.000	0.8410	1.4560
		6	1,51773*	0.10749	0.000	1.1991	1.8364
		7	,46798*	0.09786	0.000	0.1781	0.7579
	6	1	-2,18867*	0.11456	0.000	-2.5296	-1.8478
		2	-1,31251*	0.09866	0.000	-1.6049	-1.0201
		3	-1,78787*	0.09916	0.000	-2.0818	-1.4940
		4	-,36923*	0.10618	0.010	-0.6838	-0.0547
		5	-1,51773*	0.10749	0.000	-1.8364	-1.1991
		7	-1,04975*	0.10035	0.000	-1.3471	-0.7524
	7	1	-1,13892*	0.10557	0.000	-1.4535	-0.8243
		2	-,26276*	0.08806	0.047	-0.5233	-0.0022
		3	-,73812*	0.08863	0.000	-1.0004	-0.4758
		4	,68052*	0.09641	0.000	0.3952	0.9659

		5	-,46798*	0.09786	0.000	-0.7579	-0.1781
		6	1,04975*	0.10035	0.000	0.7524	1.3471
Linser - Hvor godt liker du smaken på følgende matvarer?	1	2	,99442*	0.10040	0.000	0.6950	1.2938
		3	,49264*	0.09966	0.000	0.1953	0.7899
		4	1,89294*	0.10570	0.000	1.5782	2.2076
		5	,77158*	0.10813	0.000	0.4497	1.0935
		6	2,32441*	0.10616	0.000	2.0082	2.6406
		7	1,24011*	0.10275	0.000	0.9339	1.5463
	2	1	-,99442*	0.10040	0.000	-1.2938	-0.6950
		3	-,50178*	0.08119	0.000	-0.7420	-0.2615
		4	,89853*	0.08850	0.000	0.6367	1.1604
		5	-0.22284	0.09139	0.185	-0.4936	0.0479
		6	1,32999*	0.08905	0.000	1.0663	1.5937
		7	0.24569	0.08496	0.060	-0.0057	0.4971
	3	1	-,49264*	0.09966	0.000	-0.7899	-0.1953
		2	,50178*	0.08119	0.000	0.2615	0.7420
		4	1,40030*	0.08767	0.000	1.1409	1.6598
		5	,27894*	0.09058	0.036	0.0105	0.5473
		6	1,83177*	0.08822	0.000	1.5705	2.0931
		7	,74747*	0.08408	0.000	0.4986	0.9963
	4	1	-1,89294*	0.10570	0.000	-2.2076	-1.5782
		2	-,89853*	0.08850	0.000	-1.1604	-0.6367
		3	-1,40030*	0.08767	0.000	-1.6598	-1.1409
		5	-1,12137*	0.09719	0.000	-1.4092	-0.8336
		6	,43147*	0.09499	0.000	0.1502	0.7127
		7	-,65283*	0.09116	0.000	-0.9226	-0.3831
	5	1	-,77158*	0.10813	0.000	-1.0935	-0.4497
		2	0.22284	0.09139	0.185	-0.0479	0.4936
		3	-,27894*	0.09058	0.036	-0.5473	-0.0105
		4	1,12137*	0.09719	0.000	0.8336	1.4092
		6	1,55283*	0.09769	0.000	1.2634	1.8423
		7	,46853*	0.09397	0.000	0.1902	0.7469
	6	1	-2,32441*	0.10616	0.000	-2.6406	-2.0082
		2	-1,32999*	0.08905	0.000	-1.5937	-1.0663
		3	-1,83177*	0.08822	0.000	-2.0931	-1.5705
		4	-,43147*	0.09499	0.000	-0.7127	-0.1502
		5	-1,55283*	0.09769	0.000	-1.8423	-1.2634
		7	-1,08430*	0.09169	0.000	-1.3558	-0.8128
	7	1	-1,24011*	0.10275	0.000	-1.5463	-0.9339
		2	-0.24569	0.08496	0.060	-0.4971	0.0057
		3	-,74747*	0.08408	0.000	-0.9963	-0.4986
		4	,65283*	0.09116	0.000	0.3831	0.9226
		5	-,46853*	0.09397	0.000	-0.7469	-0.1902
		6	1,08430*	0.09169	0.000	0.8128	1.3558
	1	2	1,37352*	0.16020	0.000	0.8932	1.8538

		3	,93103*	0.16715	0.000	0.4311	1.4310
		4	2,07966*	0.14977	0.000	1.6284	2.5309
		5	1,50667*	0.16207	0.000	1.0210	1.9923
		6	1,66307*	0.16050	0.000	1.1819	2.1442
		7	,80674*	0.16184	0.000	0.3218	1.2917
	2	1	-1,37352*	0.16020	0.000	-1.8538	-0.8932
		3	-,44249*	0.10477	0.001	-0.7526	-0.1324
		4	,70614*	0.07394	0.000	0.4871	0.9252
		5	0.13315	0.09647	0.812	-0.1525	0.4188
		6	,28955*	0.09379	0.034	0.0119	0.5672
		7	-,56678*	0.09608	0.000	-0.8510	-0.2825
	3	1	-,93103*	0.16715	0.000	-1.4310	-0.4311
		2	,44249*	0.10477	0.001	0.1324	0.7526
		4	1,14863*	0.08800	0.000	0.8877	1.4096
		5	,57564*	0.10762	0.000	0.2570	0.8943
		6	,73204*	0.10523	0.000	0.4205	1.0436
		7	-0.12429	0.10727	0.909	-0.4418	0.1932
	4	1	-2,07966*	0.14977	0.000	-2.5309	-1.6284
		2	-,70614*	0.07394	0.000	-0.9252	-0.4871
		3	-1,14863*	0.08800	0.000	-1.4096	-0.8877
Jeg kjøper gjerne ferdig bearbeidede vegetarprodukter til middag - Hvor enig eller uenig er du i følgende påstander?		5	-,57298*	0.07792	0.000	-0.8043	-0.3417
		6	-,41658*	0.07459	0.000	-0.6378	-0.1954
		7	-1,27292*	0.07744	0.000	-1.5023	-1.0435
	5	1	-1,50667*	0.16207	0.000	-1.9923	-1.0210
		2	-0.13315	0.09647	0.812	-0.4188	0.1525
		3	-,57564*	0.10762	0.000	-0.8943	-0.2570
		4	,57298*	0.07792	0.000	0.3417	0.8043
		6	0.15640	0.09696	0.674	-0.1308	0.4436
		7	-,69993*	0.09917	0.000	-0.9936	-0.4063
	6	1	-1,66307*	0.16050	0.000	-2.1442	-1.1819
		2	-,28955*	0.09379	0.034	-0.5672	-0.0119
		3	-,73204*	0.10523	0.000	-1.0436	-0.4205
		4	,41658*	0.07459	0.000	0.1954	0.6378
		5	-0.15640	0.09696	0.674	-0.4436	0.1308
		7	-,85633*	0.09657	0.000	-1.1422	-0.5705
	7	1	-,80674*	0.16184	0.000	-1.2917	-0.3218
		2	,56678*	0.09608	0.000	0.2825	0.8510
		3	0.12429	0.10727	0.909	-0.1932	0.4418
		4	1,27292*	0.07744	0.000	1.0435	1.5023
		5	,69993*	0.09917	0.000	0.4063	0.9936
		6	,85633*	0.09657	0.000	0.5705	1.1422
Jeg er interessert i vegetarmat - Hvor enig eller uenig er du i følgende påstander?	1	2	2,48960*	0.08000	0.000	2.2522	2.7270
		3	,81028*	0.07836	0.000	0.5776	1.0430
		4	3,48751*	0.06148	0.000	3.3039	3.6712
		5	2,08709*	0.09279	0.000	1.8116	2.3626

		6	3,41882*	0.06906	0.000	3.2133	3.6244
		7	2,08860*	0.08101	0.000	1.8482	2.3290
	2	1	-2,48960*	0.08000	0.000	-2.7270	-2.2522
		3	-1,67932*	0.08426	0.000	-1.9286	-1.4300
		4	,99791*	0.06883	0.000	0.7941	1.2017
		5	-,40251*	0.09782	0.001	-0.6923	-0.1128
		6	,92922*	0.07568	0.000	0.7052	1.1532
		7	-,40100*	0.08672	0.000	-0.6575	-0.1445
	3	1	-,81028*	0.07836	0.000	-1.0430	-0.5776
		2	1,67932*	0.08426	0.000	1.4300	1.9286
		4	2,67724*	0.06693	0.000	2.4790	2.8755
		5	1,27681*	0.09648	0.000	0.9909	1.5627
		6	2,60854*	0.07395	0.000	2.3896	2.8275
		7	1,27833*	0.08522	0.000	1.0262	1.5305
	4	1	-3,48751*	0.06148	0.000	-3.6712	-3.3039
		2	-,99791*	0.06883	0.000	-1.2017	-0.7941
		3	-2,67724*	0.06693	0.000	-2.8755	-2.4790
		5	-1,40043*	0.08335	0.000	-1.6479	-1.1529
		6	-0.06869	0.05575	0.881	-0.2338	0.0964
		7	-1,39891*	0.07001	0.000	-1.6062	-1.1916
	5	1	-2,08709*	0.09279	0.000	-2.3626	-1.8116
		2	,40251*	0.09782	0.001	0.1128	0.6923
		3	-1,27681*	0.09648	0.000	-1.5627	-0.9909
		4	1,40043*	0.08335	0.000	1.1529	1.6479
		6	1,33174*	0.08909	0.000	1.0675	1.5960
		7	0.00152	0.09864	1.000	-0.2907	0.2937
	6	1	-3,41882*	0.06906	0.000	-3.6244	-3.2133
		2	-,92922*	0.07568	0.000	-1.1532	-0.7052
		3	-2,60854*	0.07395	0.000	-2.8275	-2.3896
		4	0.06869	0.05575	0.881	-0.0964	0.2338
		5	-1,33174*	0.08909	0.000	-1.5960	-1.0675
		7	-1,33022*	0.07675	0.000	-1.5574	-1.1031
	7	1	-2,08860*	0.08101	0.000	-2.3290	-1.8482
		2	,40100*	0.08672	0.000	0.1445	0.6575
		3	-1,27833*	0.08522	0.000	-1.5305	-1.0262
		4	1,39891*	0.07001	0.000	1.1916	1.6062
		5	-0.00152	0.09864	1.000	-0.2937	0.2907
		6	1,33022*	0.07675	0.000	1.1031	1.5574
Jeg er interessert i å spise middager uten kjøtt eller fisk - Hvor enig eller uenig er du i følgende utsagn om middag UTEN kjøtt eller fisk?	1	2	1,89892*	0.07750	0.000	1.6692	2.1286
		3	,57670*	0.06846	0.000	0.3737	0.7797
		4	2,58878*	0.07145	0.000	2.3771	2.8005
		5	1,44392*	0.08130	0.000	1.2025	1.6854
		6	2,60298*	0.07717	0.000	2.3740	2.8319
		7	1,22507*	0.07016	0.000	1.0171	1.4330
	2	1	-1,89892*	0.07750	0.000	-2.1286	-1.6692

		3	-1,32222*	0.08971	0.000	-1.5877	-1.0568
		4	,68986*	0.09202	0.000	0.4177	0.9620
		5	-,45500*	0.09986	0.000	-0.7507	-0.1593
		6	,70406*	0.09652	0.000	0.4184	0.9897
		7	-,67385*	0.09102	0.000	-0.9431	-0.4046
	3	1	-,57670*	0.06846	0.000	-0.7797	-0.3737
		2	1,32222*	0.08971	0.000	1.0568	1.5877
		4	2,01208*	0.08455	0.000	1.7620	2.2622
		5	,86722*	0.09302	0.000	0.5917	1.1428
		6	2,02628*	0.08943	0.000	1.7615	2.2910
		7	,64837*	0.08345	0.000	0.4014	0.8953
	4	1	-2,58878*	0.07145	0.000	-2.8005	-2.3771
		2	-,68986*	0.09202	0.000	-0.9620	-0.4177
		3	-2,01208*	0.08455	0.000	-2.2622	-1.7620
		5	-1,14486*	0.09524	0.000	-1.4269	-0.8628
		6	0.01420	0.09174	1.000	-0.2573	0.2857
		7	-1,36371*	0.08593	0.000	-1.6179	-1.1096
	5	1	-1,44392*	0.08130	0.000	-1.6854	-1.2025
		2	,45500*	0.09986	0.000	0.1593	0.7507
		3	-,86722*	0.09302	0.000	-1.1428	-0.5917
		4	1,14486*	0.09524	0.000	0.8628	1.4269
		6	1,15906*	0.09960	0.000	0.8640	1.4541
		7	-0.21885	0.09428	0.236	-0.4981	0.0604
	6	1	-2,60298*	0.07717	0.000	-2.8319	-2.3740
		2	-,70406*	0.09652	0.000	-0.9897	-0.4184
		3	-2,02628*	0.08943	0.000	-2.2910	-1.7615
		4	-0.01420	0.09174	1.000	-0.2857	0.2573
		5	-1,15906*	0.09960	0.000	-1.4541	-0.8640
		7	-1,37791*	0.09074	0.000	-1.6465	-1.1093
	7	1	-1,22507*	0.07016	0.000	-1.4330	-1.0171
		2	,67385*	0.09102	0.000	0.4046	0.9431
		3	-,64837*	0.08345	0.000	-0.8953	-0.4014
		4	1,36371*	0.08593	0.000	1.1096	1.6179
		5	0.21885	0.09428	0.236	-0.0604	0.4981
		6	1,37791*	0.09074	0.000	1.1093	1.6465
Av hensyn til miljø og klima bør jeg i større grad erstatte kjøtt- og meieriprodukter med plantebaserte produkter - Hvor enig eller uenig er du i disse påstandene?	1	2	1,54712*	0.08782	0.000	1.2866	1.8077
		3	,61170*	0.07900	0.000	0.3770	0.8464
		4	3,01057*	0.07425	0.000	2.7898	3.2313
		5	1,64785*	0.09693	0.000	1.3600	1.9357
		6	2,79087*	0.09374	0.000	2.5126	3.0692
		7	1,22938*	0.08068	0.000	0.9898	1.4689
	2	1	-1,54712*	0.08782	0.000	-1.8077	-1.2866
		3	-,93542*	0.09074	0.000	-1.2040	-0.6669
		4	1,46345*	0.08664	0.000	1.2070	1.7199
		5	0.10073	0.10671	0.965	-0.2154	0.4168

		6	1,24375*	0.10383	0.000	0.9363	1.5512
		7	-,31774*	0.09221	0.011	-0.5906	-0.0449
	3	1	-,61170*	0.07900	0.000	-0.8464	-0.3770
		2	,93542*	0.09074	0.000	0.6669	1.2040
		4	2,39887*	0.07769	0.000	2.1690	2.6288
		5	1,03615*	0.09958	0.000	0.7410	1.3313
		6	2,17917*	0.09648	0.000	1.8933	2.4650
		7	,61767*	0.08386	0.000	0.3695	0.8658
	4	1	-3,01057*	0.07425	0.000	-3.2313	-2.7898
		2	-1,46345*	0.08664	0.000	-1.7199	-1.2070
		3	-2,39887*	0.07769	0.000	-2.6288	-2.1690
		5	-1,36272*	0.09586	0.000	-1.6470	-1.0785
		6	-0.21970	0.09263	0.213	-0.4942	0.0548
		7	-1,78119*	0.07940	0.000	-2.0161	-1.5463
	5	1	-1,64785*	0.09693	0.000	-1.9357	-1.3600
		2	-0.10073	0.10671	0.965	-0.4168	0.2154
		3	-1,03615*	0.09958	0.000	-1.3313	-0.7410
		4	1,36272*	0.09586	0.000	1.0785	1.6470
		6	1,14302*	0.11164	0.000	0.8123	1.4738
		7	-,41847*	0.10092	0.001	-0.7176	-0.1194
	6	1	-2,79087*	0.09374	0.000	-3.0692	-2.5126
		2	-1,24375*	0.10383	0.000	-1.5512	-0.9363
		3	-2,17917*	0.09648	0.000	-2.4650	-1.8933
		4	0.21970	0.09263	0.213	-0.0548	0.4942
		5	-1,14302*	0.11164	0.000	-1.4738	-0.8123
		7	-1,56149*	0.09786	0.000	-1.8514	-1.2716
	7	1	-1,22938*	0.08068	0.000	-1.4689	-0.9898
		2	,31774*	0.09221	0.011	0.0449	0.5906
		3	-,61767*	0.08386	0.000	-0.8658	-0.3695
		4	1,78119*	0.07940	0.000	1.5463	2.0161
		5	,41847*	0.10092	0.001	0.1194	0.7176
		6	1,56149*	0.09786	0.000	1.2716	1.8514
Av hensyn til dyrevelferd bør jeg i større grad erstatte kjøtt- og meieriprodukter med plantebaserte produkter - Hvor enig eller uenig er du i disse påstandene?	1	2	1,50473*	0.10965	0.000	1.1783	1.8311
		3	,62049*	0.10727	0.000	0.3009	0.9400
		4	2,81362*	0.09674	0.000	2.5243	3.1029
		5	1,52551*	0.12170	0.000	1.1636	1.8874
		6	2,67354*	0.10835	0.000	2.3508	2.9963
		7	1,06986*	0.10900	0.000	0.7453	1.3944
	2	1	-1,50473*	0.10965	0.000	-1.8311	-1.1783
		3	-,88423*	0.09862	0.000	-1.1761	-0.5924
		4	1,30889*	0.08705	0.000	1.0512	1.5666
		5	0.02078	0.11415	1.000	-0.3174	0.3590
		6	1,16881*	0.09980	0.000	0.8734	1.4642
		7	-,43487*	0.10050	0.000	-0.7322	-0.1375
	3	1	-,62049*	0.10727	0.000	-0.9400	-0.3009

		2	,88423*	0.09862	0.000	0.5924	1.1761
		4	2,19313*	0.08403	0.000	1.9444	2.4419
		5	,90502*	0.11186	0.000	0.5735	1.2366
		6	2,05305*	0.09717	0.000	1.7653	2.3408
		7	,44936*	0.09789	0.000	0.1597	0.7391
	4	1	-2,81362*	0.09674	0.000	-3.1029	-2.5243
		2	-1,30889*	0.08705	0.000	-1.5666	-1.0512
		3	-2,19313*	0.08403	0.000	-2.4419	-1.9444
		5	-1,28811*	0.10182	0.000	-1.5902	-0.9860
		6	-0.14008	0.08541	0.656	-0.3931	0.1129
		7	-1,74377*	0.08623	0.000	-1.9990	-1.4885
	5	1	-1,52551*	0.12170	0.000	-1.8874	-1.1636
		2	-0.02078	0.11415	1.000	-0.3590	0.3174
		3	-,90502*	0.11186	0.000	-1.2366	-0.5735
		4	1,28811*	0.10182	0.000	0.9860	1.5902
		6	1,14803*	0.11291	0.000	0.8134	1.4827
		7	-,45566*	0.11353	0.001	-0.7921	-0.1193
	6	1	-2,67354*	0.10835	0.000	-2.9963	-2.3508
		2	-1,16881*	0.09980	0.000	-1.4642	-0.8734
		3	-2,05305*	0.09717	0.000	-2.3408	-1.7653
		4	0.14008	0.08541	0.656	-0.1129	0.3931
		5	-1,14803*	0.11291	0.000	-1.4827	-0.8134
		7	-1,60368*	0.09908	0.000	-1.8970	-1.3104
	7	1	-1,06986*	0.10900	0.000	-1.3944	-0.7453
		2	,43487*	0.10050	0.000	0.1375	0.7322
		3	-,44936*	0.09789	0.000	-0.7391	-0.1597
		4	1,74377*	0.08623	0.000	1.4885	1.9990
		5	,45566*	0.11353	0.001	0.1193	0.7921
		6	1,60368*	0.09908	0.000	1.3104	1.8970
Velsmakende - Hvor enig eller uenig er du i at en middag trenger kjøtt og/eller fisk for å være:	1	2	-2,75270*	0.10272	0.000	-3.0595	-2.4459
		3	-,79880*	0.11333	0.000	-1.1361	-0.4614
		4	-2,83361*	0.10157	0.000	-3.1371	-2.5301
		5	-2,22502*	0.12066	0.000	-2.5839	-1.8661
		6	-2,76939*	0.10579	0.000	-3.0850	-2.4538
		7	-1,93667*	0.10955	0.000	-2.2630	-1.6103
	2	1	2,75270*	0.10272	0.000	2.4459	3.0595
		3	1,95390*	0.09088	0.000	1.6849	2.2229
		4	-0.08091	0.07571	0.937	-0.3048	0.1430
		5	,52768*	0.09988	0.000	0.2316	0.8237
		6	-0.01669	0.08129	1.000	-0.2573	0.2239
		7	,81603*	0.08612	0.000	0.5613	1.0708
	3	1	,79880*	0.11333	0.000	0.4614	1.1361
		2	-1,95390*	0.09088	0.000	-2.2229	-1.6849
		4	-2,03482*	0.08957	0.000	-2.3000	-1.7697
		5	-1,42622*	0.11076	0.000	-1.7543	-1.0982

		6	-1,97060*	0.09433	0.000	-2.2498	-1.6913
		7	-1,13787*	0.09853	0.000	-1.4294	-0.8463
	4	1	2,83361*	0.10157	0.000	2.5301	3.1371
		2	0.08091	0.07571	0.937	-0.1430	0.3048
		3	2,03482*	0.08957	0.000	1.7697	2.3000
		5	,60860*	0.09869	0.000	0.3160	0.9012
		6	0.06422	0.07982	0.984	-0.1720	0.3005
		7	,89695*	0.08474	0.000	0.6463	1.1476
	5	1	2,22502*	0.12066	0.000	1.8661	2.5839
		2	-,52768*	0.09988	0.000	-0.8237	-0.2316
		3	1,42622*	0.11076	0.000	1.0982	1.7543
		4	-,60860*	0.09869	0.000	-0.9012	-0.3160
		6	-,54437*	0.10303	0.000	-0.8497	-0.2390
		7	0.28835	0.10689	0.101	-0.0282	0.6049
	6	1	2,76939*	0.10579	0.000	2.4538	3.0850
		2	0.01669	0.08129	1.000	-0.2239	0.2573
		3	1,97060*	0.09433	0.000	1.6913	2.2498
		4	-0.06422	0.07982	0.984	-0.3005	0.1720
		5	,54437*	0.10303	0.000	0.2390	0.8497
		7	,83272*	0.08976	0.000	0.5671	1.0983
	7	1	1,93667*	0.10955	0.000	1.6103	2.2630
		2	-,81603*	0.08612	0.000	-1.0708	-0.5613
		3	1,13787*	0.09853	0.000	0.8463	1.4294
		4	-,89695*	0.08474	0.000	-1.1476	-0.6463
		5	-0.28835	0.10689	0.101	-0.6049	0.0282
		6	-,83272*	0.08976	0.000	-1.0983	-0.5671
Sunn - Hvor enig eller uenig er du i at en middag trenger kjøtt og/eller fisk for å være:	1	2	-2,29513*	0.11446	0.000	-2.6365	-1.9537
		3	-,59378*	0.11703	0.000	-0.9426	-0.2449
		4	-2,34257*	0.11141	0.000	-2.6752	-2.0099
		5	-1,85068*	0.13012	0.000	-2.2377	-1.4637
		6	-2,00197*	0.11601	0.000	-2.3479	-1.6560
		7	-1,37650*	0.11456	0.000	-1.7182	-1.0348
	2	1	2,29513*	0.11446	0.000	1.9537	2.6365
		3	1,70135*	0.09569	0.000	1.4182	1.9845
		4	-0.04744	0.08872	0.998	-0.3099	0.2150
		5	,44445*	0.11131	0.001	0.1146	0.7743
		6	,29316*	0.09443	0.033	0.0137	0.5726
		7	,91863*	0.09265	0.000	0.6446	1.1927
	3	1	,59378*	0.11703	0.000	0.2449	0.9426
		2	-1,70135*	0.09569	0.000	-1.9845	-1.4182
		4	-1,74879*	0.09202	0.000	-2.0211	-1.4765
		5	-1,25690*	0.11395	0.000	-1.5945	-0.9193
		6	-1,40819*	0.09754	0.000	-1.6969	-1.1195
		7	-,78273*	0.09581	0.000	-1.0662	-0.4992
	4	1	2,34257*	0.11141	0.000	2.0099	2.6752

		2	0.04744	0.08872	0.998	-0.2150	0.3099
		3	1,74879*	0.09202	0.000	1.4765	2.0211
		5	,49189*	0.10817	0.000	0.1713	0.8125
		6	,34060*	0.09071	0.004	0.0721	0.6091
		7	,96607*	0.08885	0.000	0.7033	1.2289
	5	1	1,85068*	0.13012	0.000	1.4637	2.2377
		2	-,44445*	0.11131	0.001	-0.7743	-0.1146
		3	1,25690*	0.11395	0.000	0.9193	1.5945
		4	-,49189*	0.10817	0.000	-0.8125	-0.1713
		6	-0.15129	0.11290	0.833	-0.4858	0.1833
		7	,47418*	0.11141	0.001	0.1441	0.8043
	6	1	2,00197*	0.11601	0.000	1.6560	2.3479
		2	-,29316*	0.09443	0.033	-0.5726	-0.0137
		3	1,40819*	0.09754	0.000	1.1195	1.6969
		4	-,34060*	0.09071	0.004	-0.6091	-0.0721
		5	0.15129	0.11290	0.833	-0.1833	0.4858
		7	,62547*	0.09456	0.000	0.3456	0.9053
	7	1	1,37650*	0.11456	0.000	1.0348	1.7182
		2	-,91863*	0.09265	0.000	-1.1927	-0.6446
		3	,78273*	0.09581	0.000	0.4992	1.0662
		4	-,96607*	0.08885	0.000	-1.2289	-0.7033
		5	-,47418*	0.11141	0.001	-0.8043	-0.1441
		6	-,62547*	0.09456	0.000	-0.9053	-0.3456
Mettende - Hvor enig eller uenig er du i at en middag trenger kjøtt og/eller fisk for å være:	1	2	-2,65337*	0.11144	0.000	-2.9870	-2.3197
		3	-,81430*	0.12496	0.000	-1.1866	-0.4420
		4	-2,58357*	0.11148	0.000	-2.9173	-2.2498
		5	-1,91979*	0.13076	0.000	-2.3091	-1.5305
		6	-2,55490*	0.11522	0.000	-2.8993	-2.2105
		7	-1,82394*	0.11810	0.000	-2.1765	-1.4714
	2	1	2,65337*	0.11144	0.000	2.3197	2.9870
		3	1,83907*	0.09139	0.000	1.5685	2.1097
		4	0.06981	0.07187	0.960	-0.1428	0.2824
		5	,73359*	0.09917	0.000	0.4395	1.0277
		6	0.09847	0.07754	0.865	-0.1310	0.3280
		7	,82943*	0.08176	0.000	0.5875	1.0713
	3	1	,81430*	0.12496	0.000	0.4420	1.1866
		2	-1,83907*	0.09139	0.000	-2.1097	-1.5685
		4	-1,76927*	0.09144	0.000	-2.0400	-1.4985
		5	-1,10548*	0.11415	0.000	-1.4436	-0.7674
		6	-1,74060*	0.09596	0.000	-2.0247	-1.4565
		7	-1,00964*	0.09940	0.000	-1.3038	-0.7155
	4	1	2,58357*	0.11148	0.000	2.2498	2.9173
		2	-0.06981	0.07187	0.960	-0.2824	0.1428
		3	1,76927*	0.09144	0.000	1.4985	2.0400
		5	,66378*	0.09922	0.000	0.3696	0.9580

	6	0.02867	0.07759	1.000	-0.2010	0.2583
	7	,75962*	0.08182	0.000	0.5176	1.0017
5	1	1,91979*	0.13076	0.000	1.5305	2.3091
	2	-,73359*	0.09917	0.000	-1.0277	-0.4395
	3	1,10548*	0.11415	0.000	0.7674	1.4436
	4	-,66378*	0.09922	0.000	-0.9580	-0.3696
	6	-,63512*	0.10340	0.000	-0.9416	-0.3286
	7	0.09584	0.10660	0.973	-0.2200	0.4117
6	1	2,55490*	0.11522	0.000	2.2105	2.8993
	2	-0.09847	0.07754	0.865	-0.3280	0.1310
	3	1,74060*	0.09596	0.000	1.4565	2.0247
	4	-0.02867	0.07759	1.000	-0.2583	0.2010
	5	,63512*	0.10340	0.000	0.3286	0.9416
	7	,73096*	0.08684	0.000	0.4740	0.9879
7	1	1,82394*	0.11810	0.000	1.4714	2.1765
	2	-,82943*	0.08176	0.000	-1.0713	-0.5875
	3	1,00964*	0.09940	0.000	0.7155	1.3038
	4	-,75962*	0.08182	0.000	-1.0017	-0.5176
	5	-0.09584	0.10660	0.973	-0.4117	0.2200
	6	-,73096*	0.08684	0.000	-0.9879	-0.4740

Appendix 13: Full table of food intakes

Variable		The Flexitarians	Open to vegetarian foods	The Piscivores	The Processed food-eaters	The Omnivores	The Conservatives	The Carnivores	Total n=1778
How often do you eat dinners with this ingredient?: Beef	n	87	269	212	311	312	341	248	1780
	Never	39.1%	0.4%	3.3%	1.6%	0.3%	0.6%	0.0%	2.8%
	Less often	56.3%	29.7%	57.5%	40.8%	4.5%	36.1%	6.0%	29.8%
	1-2 days/week	4.6%	60.6%	37.7%	54.0%	54.2%	58.4%	62.1%	52.6%
	3-4 days/week	0.0%	8.9%	1.4%	3.5%	38.1%	4.1%	29.0%	13.7%
	5-7 days/week	0.0%	0.4%	0.0%	0.0%	2.9%	0.9%	2.8%	1.1%
Pork	n	87	271	211	312	311	340	248	1780
	Never	48.3%	7.4%	6.2%	3.8%	0.3%	1.8%	0.4%	5.3%
	Less often	50.6%	45.0%	58.8%	44.2%	5.1%	40.3%	16.5%	34.9%
	1-2 days/week	1.1%	45.8%	34.6%	49.7%	69.5%	54.7%	62.1%	51.1%
	3-4 days/week	0.0%	1.5%	0.5%	1.9%	23.2%	3.2%	19.4%	8.0%
	5-7 days/week	0.0%	0.4%	0.0%	0.3%	1.9%	0.0%	1.6%	0.7%
Lamb/mutton	n	86	270	211	311	312	341	249	1780
	Never	48.8%	9.3%	6.6%	9.0%	5.1%	5.0%	12.4%	9.7%
	Less often	50.0%	80.7%	82.9%	83.0%	78.5%	81.5%	71.9%	78.4%

	1-2 days/week	1.2%	8.9%	10.0%	7.4%	12.2%	13.5%	13.7%	10.5%
	3-4 days/week	0.0%	1.1%	0.5%	0.6%	4.2%	0.0%	1.6%	1.3%
	5-7 days/week	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%	0.1%
Poultry (Chicken/turkey)	n	86	270	211	311	311	339	248	1776
	Never	33.7%	0.0%	3.8%	0.3%	0.0%	6.8%	0.4%	3.5%
	Less often	48.8%	7.4%	40.3%	22.2%	5.1%	35.4%	18.5%	22.4%
	1-2 days/week	17.4%	64.8%	51.7%	67.5%	58.8%	52.2%	65.7%	58.1%
	3-4 days/week	0.0%	25.6%	4.3%	9.6%	33.1%	5.3%	14.9%	15.0%
	5-7 days/week	0.0%	2.2%	0.0%	0.3%	2.9%	0.3%	0.4%	1.0%
Fish/seafood -	n	86	270	211	312	311	340	248	1778
	Never	20.9%	1.5%	0.0%	4.2%	0.6%	1.5%	6.9%	3.3%
	Less often	19.8%	13.3%	0.9%	30.8%	9.6%	16.5%	43.1%	19.3%
	1-2 days/week	39.5%	73.7%	26.5%	63.1%	74.6%	70.0%	47.6%	60.4%
	3-4 days/week	15.1%	11.5%	64.5%	1.9%	13.5%	11.8%	2.4%	15.4%
	5-7 days/week	4.7%	0.0%	8.1%	0.0%	1.6%	0.3%	0.0%	1.5%
Egg	n	86	270	211	312	310	339	248	1776
	Never	8.1%	0.4%	1.9%	1.9%	1.0%	2.9%	1.6%	2.0%
	Less often	33.7%	25.6%	24.6%	34.0%	19.0%	26.3%	37.9%	28.0%

	1-2 days/week	39.5%	48.1%	49.8%	49.7%	48.4%	47.2%	42.7%	47.3%
	3-4 days/week	10.5%	15.9%	16.1%	12.2%	23.9%	15.0%	15.3%	16.2%
	5-7 days/week	8.1%	10.0%	7.6%	2.2%	7.7%	8.6%	2.4%	6.5%
Vegetables / fruits	n	86	270	211	311	311	340	249	1778
	Never	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.8%	0.1%
	Less often	0.0%	0.0%	0.0%	1.9%	0.0%	0.0%	9.6%	1.7%
	1-2 days/week	2.3%	1.9%	3.3%	28.6%	3.2%	6.5%	49.8%	14.6%
	3-4 days/week	11.6%	16.3%	23.7%	51.1%	29.6%	37.1%	34.1%	31.8%
	5-7 days/week	86.0%	81.9%	73.0%	18.3%	67.2%	56.5%	5.6%	51.8%
Beans (canned)	n	85	268	202	288	299	320	221	1683
	Never	2.4%	6.0%	9.4%	14.6%	9.4%	25.3%	36.7%	16.0%
	Less often	38.8%	58.2%	63.9%	65.3%	56.2%	64.7%	53.4%	59.4%
	1-2 days/week	38.8%	29.1%	26.7%	17.7%	29.8%	10.0%	9.5%	21.3%
	3-4 days/week	17.6%	5.6%	0.0%	2.1%	4.3%	0.0%	0.5%	3.0%
	5-7 days/week	2.4%	1.1%	0.0%	0.3%	0.3%	0.0%	0.0%	0.4%
Chickpeas	n	87	256	194	278	285	271	189	1560
	Never	0.0%	2.0%	7.2%	12.6%	9.5%	35.4%	39.2%	16.1%

	Less often	35.6%	61.7%	68.6%	73.0%	61.8%	61.6%	56.6%	62.5%
	1-2 days/week	47.1%	32.4%	20.6%	12.9%	22.1%	2.6%	4.2%	17.8%
	3-4 days/week	13.8%	3.5%	3.6%	1.1%	6.0%	0.0%	0.0%	3.1%
	5-7 days/week	3.4%	0.4%	0.0%	0.4%	0.7%	0.4%	0.0%	0.5%
Green peas	n	86	268	210	309	310	335	241	1759
	Never	4.7%	4.1%	2.4%	9.1%	3.9%	9.3%	19.9%	7.9%
	Less often	61.6%	64.2%	53.8%	64.4%	51.3%	55.8%	64.3%	59.0%
	1-2 days/week	27.9%	28.0%	40.5%	25.2%	39.4%	31.0%	14.5%	29.7%
	3-4 days/week	4.7%	3.4%	2.4%	1.3%	5.2%	3.3%	1.2%	3.0%
	5-7 days/week	1.2%	0.4%	1.0%	0.0%	0.3%	0.6%	0.0%	0.4%