REDUCING MEAT CONSUMPTION

Identifying barriers and motivators for people with a lower socioeconomic position

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Reducing meat consumption

IDENTIFYING BARRIERS AND MOTIVATORS FOR/WITHIN PEOPLE WITH A LOWER SOCIOECONOMIC POSITION

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Preface

You are looking at my Master Thesis: “Reducing meat consumption; identifying barriers and motivators for people with a low socioeconomic position.” This thesis was written for the Master programme Communication, Health & Life Science at Wageningen University & Research. This research used several theoretical models, to examine drivers behind food choices made in daily life. I chose this topic because I found it interesting, but I never expected that it was this interesting. Participants kept surprising me with their thoughts and arguments, which made the thesis process way more exiting. I discovered that this might be the topic that I want to spend more time on in the rest of my life, and for the people who know me a little better, that is an uncommon thought for me. I even applied for a job at a topic-related company, which I never would have done without this thesis.

For the rest, reflecting on the processes of writing my Master thesis, I would like to thank my supervisors. First, Amy van der Heijden, for providing clear and deliberate feedback, which really helped me to dive in further or to relativize and concretize several topics. Thank you for listening to my different and chaotic lines of thought during our meetings, it was a good balance between triggering me to find the answer and helping where necessary. And, Pieter van ‘t Veer, for checking in on the relevance of the topic. Thank you for the interesting meetings and explaining your point of view. You helped me to look with a more critical view on my sometimes little biased texts. Furthermore, really cliché I am sorry, but I would like to thank Marloes Klaasse (for the first half) and Kim Medema (for the second half), for being my biggest support on the fifth floor of Lebo, I could ask the most stupid questions and you would help me out, or we would go do sports to relax for a moment. You made the process way more enjoyable, serieously! Last, a thanks to my parents and also to Luwe, for checking in on me and making sure I could make my deadlines.

For now, to you as reader, I hope you enjoy reading this Master Thesis. Although with ups and downs, I enjoyed researching and writing it.

Merel Fleur van Moorst

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Abstract

Background: It is well-known nowadays that a dietary shift towards reducing meat consumption is beneficial for the environment, animals, and public health. Little is known about different demographic groups in society, especially regarding their socioeconomic position. This study aimed to gain a better understanding of the motivators and barriers that play a role in reducing meat consumption among people with a low socioeconomic position.

Methods: After analysing several theoretical models, an Integrated Model of Changing Food Choice was proposed, forming the theoretical framework of the research. A qualitative research design was used. A total of eighteen semi-structured interviews were conducted based on an interview guide, with both low-educated participants as well as low-income participants, with different dietary preferences. Topics included perception towards current meat consumption, and perception towards reducing meat consumption, concerning topics as price, taste, habits, health, animals, and the environment. Interviews were recorded with consent, transcribed, and deductively and inductively coded and analysed with ATLAS.ti, following steps of grounded theory.

Results: The analysis suggests that in general taste was mentioned as most important barrier to reduce meat consumption. Meat is 'just tasty' and replacing it with alternatives is perceived as difficult, since their food choices are based on habits and automatic behaviour, and because of a lack of inspiration or time to find this inspiration. Furthermore, some participants indicated not being fully aware of the negative consequences of meat consumption and the need to reduce their meat consumption. Simultaneously, others did indicate to be aware, but they were avoiding the confrontation or influenced by other factors as social norms. This argument was used as a barrier, mostly adapting food choices to partners or children, or as motivator, mostly adapting food choices to friends. For a potential motivator to reduce meat consumption, a price increase of meat was mostly suggested, and an increase of knowledge about facts (e.g. environmental impact, animal welfare, personal health) and recipe inspiration.

Conclusion: Many different types of barriers and motivators were suggested in the analysis, indicating that the group of people is versatile in their opinions and experiences. A small difference in this was seen in income or education, for which future research is necessary. Many topics were addressed both as barrier and motivator, two sides of the medal, which implies for a diversity in arguments. This opens up for possibilities. For instance, since taste is important, it is necessary to focus on tasty meat replacers with persuasive communication or interventions. Since meat consumption is automatic behaviour, changing the routes and lay out of the supermarkets with discounts, might help breaking these habits, or focusing on price increases of meat to provide an incentive to change the habit. Moreover, since information about negative consequences of animal agriculture is avoided by participants, possibly due to cognitive dissonance, awareness around the choice of meat specifically should be created. All in all, there are enough ways to potentially motivate people to reduce their meat consumption, however, every person or social group needs to be targeted differently and this is not categorized in demographic factors as easily.

Table of Contents

1. Introduction

1.1 Background of the problem

Concerns around animal agriculture

Animal agriculture contributes currently to many global problems. It can be defined as the mass industrialization of the breeding, raising, and slaughter of animals for human consumption (Lingel, 2019; White et al., 2022). Heitschmidt et al. (1996) already claimed that increasing sustainability of agriculture is a lively debate and topic of interest. They mention animal agriculture as one of the most important subjects in this, since animals function as 'energy brokers', converting low quality human food into high quality human food for consumption (Heitschmidt et al., 1996). In addition, global meat consumption has increased between 1998 to 2018 with 58%, partly due to population growth, but mostly due to individual consumption, which was catalysed by changing consumer preferences and welfare (Whitnall & Pitts, 2019). Meat consumption and animal agriculture are directly linked with each other, the more meat is consumed, the more animal agriculture is required, but this is an iterative process. Animal agricultural systems, link to a diversity of interrelated issues on environmental and social levels.

First of all, environmental issues include that animal agriculture contributes significantly to climate change (Eisen & Brown, 2022; Gerber et al., 2013). Global warming is increased by the ongoing emissions of greenhouse gasses, as methane emitted by livestock and nitrous oxide which are used in agriculture to support livestock (Eisen & Brown, 2022; Gerber et al., 2013). The global impact of animal agriculture represents 14,5% of human-induced emissions (Bailey et al., 2014). Furthermore, animal agriculture is partly responsible for deforestation, water pollution and soil loss, and is therefore a compounding pressure on biodiversity losses (Buff, 2015; Lingel, 2019; Machovina et al., 2015).

Second, animal agriculture increases food insecurity, due to imbalance and inefficiency (Buff, 2015; Nobari, 2021). In 2017, one out of nine people was undernourished and the world population keeps increasing, jeopardizing food security (Nobari, 2021). One of the reasons behind this is the inefficient use of land and resources; animals need on average six times as much protein than they produce (Luyten, 2022). On top of this, the other side of this imbalance concerns the prevalence of obesity in the Western world. Research suggests that meat availability is correlated with obesity and higher weights, combined with economic development it is stated as most significant predictor of the prevalence of obesity (Wang & Beydoun, 2009; You & Henneberg, 2016). In the United States, this is the biggest part of the current health crisis, where two-third of Americans are overweight (Buff, 2015). Besides obesity, other public health risks due to meat consumption include higher risks of cancer and cardiovascular diseases when consuming high-processed meat (Lingel, 2019).

Furthermore, other issues include that the intensive system around animal agriculture increases the risk of pandemics, since agricultural industry includes many industrial-scale factory farms where zoonotic diseases can jump from animals to humans (Dhont et al., 2021). Adding to that, on the economic side animal agriculture results in exploitation of farm workers, exhaustion, injuries and underpaid workers (Buff, 2015; Lingel, 2019). Moreover, from a sociocultural perspective, in the current intensive industrial system animals have become commodities in an efficient system (Jackson et al., 2021). Simultaneously, the human-animal relationship has been changing through ages, resulting in nowadays a growing emphasis on animals and relating ethical concerns (Marie, 2006). Animal agriculture is perceived as cruel because of several reasons (Solis, 2021), under which the cruelty in intensive livestock industry (Heeres et al., 2017). In turn, CBS (2021a), Profeta et al. (2021) and White et al. (2022) all mention animal welfare as one of the determinants why people reduce their meat consumption. It implies that animal welfare and the ethical considerations around it are of influence in food choices made.

Reduction of meat consumption as potential solution

The issues combined imply that reducing animal agriculture and correspondingly reducing animal-based products from our diets has many advantages for the planet, the environment, animals and public health, which is substantiated by research. First, reducing meat consumption is for example the best effective way to lower the environmental impact of diets (Kramer et al., 2017), mainly by reducing greenhouse gas emissions (Broekema et al., 2020; Eisen & Brown, 2022; Vellinga et al., 2022). Especially for countries in the West-European geographical region as the Netherlands, decreasing meat consumption is considered important (Broekema et al., 2020). Furthermore, from a food security perspective, the advantage of reducing meat consumption is that eliminating the step of producing food for livestock feed, the amount of land-use is reduced significantly. A piece of land that is needed for one kilogram of beef, can provide almost 100 kilograms of plant-based food, implying that plant-based diets could solve world-hunger to a large extent (Luyten, 2022). Last, for public health it has advantages to reduce meat consumption. Reducing meat consumption may have good effects on preventing obesity and a transition towards more healthy diets, as You & Henneberg (2016) suggest that meat consumption in the diet should be reduced to overcome the US obesity-related health crisis. Moreover, people who eat no meat at all (vegetarians) appear to eat more fruits and vegetables (Perry et al., 2002; Robinson-O'Brien et al., 2009), and live longer because of lower risks of cancer and cardiovascular diseases (Orlich et al., 2013; Wozniak et al., 2020). Although, a vegetarian diet should be consumed in a balanced and diverse way, to not be prone to nutritional inadequacies such as iron (Baines et al., 2007; Baudry et al., 2016; Bhatnagar & Padilla-Zakour, 2021; Broekema et al., 2020). A further step, a fully plant-based diet, requires attention to a healthy balanced scale and nutritional inadequacies, but is associated with lower risk of mortality and reduced risk for depressive symptoms (Kim et al., 2018; Lee et al., 2021).

1.2 Dietary transition

As mentioned, reducing meat in the diet is seen as the most effective option for lowering environmental impact of dietary patterns, while having advantages for individual's health and animal welfare as well. Making the steps towards more vegetarian meals is important since it has a critical role in 'stimulating consumption changes towards sustainable diets, better for both earth and inhabitants' (White et al., 2022, p. 1). Eckl et al. (2021) conclude that decreasing meat consumption especially in developed countries will help abating disastrous consequences for both the planet and society. As the EAT-Lancet Commission developed, recommended diets for sustainable food systems can be win-win as long as numerous changes are adopted (Willett et al., 2019). One of these changes is reducing meat consumption, and although this is getting more awareness, a transition towards plant-based diets requires time and multiple phases (Wozniak et al., 2020). This is the so-called 'protein transition', a shift where animal-based foods are replaced by plant-based foods (Heerschop et al., 2022; Ritchie et al., 2018; White et al., 2022; Wozniak et al., 2020). It is a slow shift which is argued to require transition products as meat substitutes (Ritchie et al., 2018; White et al., 2022), mostly made of plant-based proteins as beans (Jallinoja et al., 2016).

Kramer et al. (2017) state that reducing meat consumption in people's diet is a very effective change to reduce environmental impact. This is one of the first steps, becoming flexitarian (reducing meat to less than two times a week, still consuming dairy and eggs) or even vegetarian (eliminating meat and fish from the diet, still consuming dairy and eggs) (Wozniak et al., 2020). Numbers show that awareness around the topic and correlating behaviour are increasing; 41% of the Dutch people eat less meat then five years ago (Kien, 2018), and 35% claims to have reduced their meat consumption in the last year by having meat-free days or smaller portions of meat (CBS, 2021a). However, only 5% of these people eliminate meat completely from their diet, under which 3% still eat fish (pescetarian) (CBS, 2021a). Heerschop et al. (2022) found that people who eat less meat, eat more meat substitutes, more fish, nuts and seeds, and cheese.

The protein transition is partly in the hands of consumers, as their purchase has a powerful influence on the market (McMullen & Halteman, 2019), a market being strongly dependent on supply and demand interactions. Millennials (the generation of people born between 1980 and 1999) are seen as one of the key drivers for a global shift towards are less animal-dominated diet (Kemper & White, 2021). This is mainly since the currently happening shift is driven by millennials, they consider their impact more while making purchase decisions, but also other generations including celebrities and athletes are slowly transitioning (Rowland, 2018). It appeared that consumers feel uncertainty about whether their consumer behaviour can have a positive and significant impact, but McMullen & Halteman (2019) argue that single individual consumers can make a positive difference with their consuming behaviour, and more individual changes make the bigger changes (Dagevos & Reinders, 2018; Sijtsema et al., 2021). As Dagevos & Reinders (2018) mention, social marketing strategies might be needed for the protein transition, and they propose nudging and plant-based alternatives as a way to achieve dietary transitions via 'sustainability by stealth', since consumers are more likely to accept meat-free options when not noticeably different (Dagevos & Reinders, 2018; White et al., 2022). Hence, people are becoming more aware over the years, about the impact of their diet and according to Kemper & White (2021) online exposure, social networks and the rise of confronting documentaries play a significant role in this. Also White et al. (2022) argue that information is acquired more via social media these days. Although some people acknowledge that certain documentaries may be biased, this is often the easy accessible first source of knowledge and information about the agricultural system and consequences of meat consumption (Kemper & White, 2021). This information is collected and in turn triggers to do more fact checking, have discussions with peers or lead to a first shift in attitude (Kemper & White, 2021; Park & Kim, 2022). On the other side, Kristiansen et al. (2020) claim that public awareness of the link between climate change and animal-based consumption is low, being an obstacle for the protein transition. Media plays a role in this, even more than the government, since most content was found in media rather than coming from government sources (Kristiansen et al., 2020).

1.3 Social practices of food

Heerschop et al. (2022) argue that to initiate the 'protein transition', it is required to examine the relation to behavioural and psychological determinants, for a better understanding about the acceptability of plant-based diets. These determinants align with underlying beliefs, motivations and barriers that influence food choice. White et al. (2022) researched possible consumer adoption of plant-based meat substitutes, an alternative for reducing meat consumption in the diet. Their focus was based on the theory of social practices, existing of materials, meanings and competences (White et al., 2022). They found that consumers are engaged in a network of related practices on a small and large scale. These included for instance materials, e.g. the skills of cooking without meat, accessibility of replacers or recipes, information about products and background, but also packaging and storage possibilities. Meaning is in turn given by social norms and underlying values, and the more an individuals' values align with values around meat substitutes (as environmental concerns and animal welfare), the more the individual consumes plant-based alternatives (Profeta et al., 2021; White et al., 2022). For example, Khara et al. (2021) found that in Australia meat-eating practices are changing, in response to shifts in conventions and social infrastructures. These are varying from environmental concerns and ethical perspectives, to also health consciousness and increasing fluid societal norms (Khara et al., 2021). Regarding dietary differences between people, empirical research has shown that vegetarians mostly have animal welfare or environmental issues as top reasons to reduce meat consumption, while flexitarians have more personal top reasons, including health and taste (CBS, 2021a). This implies that different people have different arguments and behavioural determinants for their dietary food choices, associated with different dietary patterns as well. This opens up for possibilities to align interventions' focuses on certain determinants. To conclude, White et al. (2022) argue that it is needed to strengthen ties between rewards, meanings, and social networks, to gain

normalization and make the transition possible. All in all, there are some barriers for people to reduce meat consumption in their daily food practices.

Perceived barriers to reduce meat consumption

One of the reasons that not many people adhere to a vegetarian diet, might be that the food choice of many consumers is not influenced by considerations regarding sustainability, since price, taste and individual health appear to be more influential than sustainability (Van Bussel et al., 2022). This relates to a lack of awareness about the role of animal agriculture in climate change, according to Kristiansen et al. (2020) partly caused by too little information from the government. In line with this, Dhont et al. (2021) found that people are more likely to blame wild animal trade or illegal practices for the occurrence of pandemics, then that they blame global meat consumption. This results in misperception of accountability, resulting the regular meat consumer not being willing to change their dietary habits of meat consumption to reduce the risk of pandemics. Moreover, Northstone & Emmett (2010) found that especially men have a pattern of tradition, a tradition of consuming meat, which is inversely associated with the lower report of vegetarians among men implying that traditions play a role in dietary patterns as well.

Directing at individual food choices, there are many studies that aimed to examine reasons or determinants why people make the meat or meat-free choices they make. Generally, White et al. (2022) summarize multiple barriers, but mainly state that in order to change behaviour on the aspect of making more vegetarian food choices, social contexts are seen as main factor of influence. This is mainly related to social practices, barriers include exclusion from social networks and the lack of social support (Daly, 2020; Sijtsema et al., 2021), as well as the control of food choices feeling as control over their identity (Collier et al., 2021; Mylan, 2018). Also, the social prejudice and societal negative associations with vegetarian (and vegan) diets is mentioned (Khara et al., 2021; Sijtsema et al., 2021). Besides, food choices are strongly determined in social and cultural practices, embedded in structures that are full of traditions and habits that play a significant role in facilitating an inhibiting change (Chen & Antonelli, 2020; Sajdakowska et al., 2018).

On the practical side of the barriers, the biggest challenges include limited access to recipes and a lack of competence for preparing delicious meals without meat (food literacy) (Khara et al., 2021). This includes the lack of familiarity with a product, or the uncertainty and lack of familiarity, also related to new sensory experiences and expectations that are (not) met (Collier et al., 2021). Also limited substitutes in the supermarket are mentioned as barriers (Khara et al., 2021; Sijtsema et al., 2021). This accessibility links to the economic access to meat or alternatives. Meat substitutes are perceived as more expensive, price can therefore be a barrier to reduce meat consumption (Park & Kim, 2022). To add, a study in the US found that reducing costs of meals with plant-based ingredients blended in, would be an incentive to consume less meat in meals (Lang, 2020), illustrating price could be a motivator and is now a barrier. Moreover, Eckl et al. (2021) mention price as the third most influential product attribute when determining a choice of meat versus meat substitutes, mainly for price-conscious consumers.

Lastly, a lack of knowledge and information can lead to misperceptions and uncertainties concerning perceived health of meat and meat substitutes. Collier et al. (2021) concluded that some people are sceptical about food safety and healthiness of meat substitutes, especially compared to meat as this is a natural product. This lack of trust in the products and the industry leads to a barrier for people to reduce their meat consumption, not knowing why to make this decision.

1.4 Relevant target groups

The mentioned group of vegetarians differs in demographics, as it is known that there are more high-educated people among them (CBS, 2021a). 10% of the high-educated population adheres to a pescetarian diet (eliminate meat, still eat fish, dairy and eggs) or vegetarian diet, while for low-educated people this is only 1% (CBS, 2021a; Wozniak et al., 2020), is a significant difference. Lower educated people have a lower socio-economic position (SEP). This term will be used in this research, since it refers to "social and economic factors that influence what position individuals or groups hold within the structure of a society" (Galobardes et al., 2006, p. 7). SEP is determined by three main indicators; education, income and occupation (Galobardes et al., 2006). Education aims to capture knowledge and skills of a person, and can be measured by for instance looking at the highest achieved diploma at school (Galobardes et al., 2006). Occupation mostly represents of social standing, income and intellect together, reflecting a person's place in society (Galobardes et al., 2006). Income aims to measure the material resource component, influencing a wide range of circumstances. It is measured by simply reporting disposable income per individual or per household, mostly in predefined categories (Capelli & Vaggi, 2013).

Although Kourlaba et al. (2009) did not find any significant difference in socio-economic status indicators, many researchers found that sociodemographic characteristics of vegetarians often include a higher education level (Aggarwal & Drewnowski, 2019; Allès et al., 2017; Baudry et al., 2016). This implies that lower educated people are less likely to have a vegetarian diet. An important detail is that only Aggarwal & Drewnowski (2019) found this difference only in education, not in income. This in turn implies that these factors are not necessarily related, as it implies that income does not per definition play a role in the vegetarian choices made. Although, Aggarwal & Drewnowski (2019) do state that plant-based diets might be the best cost-effective way to improve diet qualities among all income groups. Combining studies from Aggarwal et al. (2011), Aggarwal and Drewnowski (2019) and Eckl et al. (2021), it can be suggested that there is uncertainty about these SEP-factors influencing behaviour change and food choices. Therefore it is useful to examine SEP and the determinants linked to this and the underlying beliefs behind this, to cover the conditions behind food influencers and decisions.

Regarding people with a low SEP specifically, not much research has been done. Although, for example Eckl et al. (2021) mention price as the third most influential product attribute when determining a choice of meat versus meat substitutes, for price-conscious consumers. People with a low SEP are expected to have a lower income and therefore might be price-conscious (Aggarwal et al., 2011). Price-conscious consumers were the largest part of the meat eaters (Eckl et al., 2021), implying that price-conscious people with a low SEP might choose between meat or meat substitutes partially based on price. In addition, Aggarwal et al. (2011) found that diet costs mediated the diet quality, implying that the lower income can have on diet quality.

Concerning reasons to focus on lower SEP, it appears that people with a low SEP or low-educated people have a lower intake of nutrients required for a healthy diet, which is an effect of the combination of several social processes which are underpinned by the indicators of SEP, being education, income and occupation (Si Hassen et al., 2016). For a nutritional intervention it is required to look at risk populations as a key element (Si Hassen et al., 2016), implying that focusing on the low-SEP group to change their diet into vegetarian is necessary.

1.5 Research objective and question

Not much research has been done about differences between high- and low-educated people and their dietary choices in terms of sustainability or plant-based options. Also Eckl et al. (2021) state that more research is necessary to establish the relevance of socioeconomic status/position (SEP), about the influence on people's attitude towards non-meat protein sources. Their systematic literature review did include many factors relating to reduction of meat consumption, but little research focused on socioeconomic status, while it is cited as one of the influencers of food choice (Eckl et al., 2021). Therefore this research will focus specifically on this sociodemographic factor, in terms of socioeconomic position or status. Besides on education and income, this research will targeted at the Western population, specifically in the Netherlands.

The goal for this research is to find barriers and motivators for reducing meat consumption in diets among people with a low SEP. The overarching societal goal is to increase the 1% of vegetarians among the low-SEP group as mentioned, for the greater good of the planet, the animals and for public health. In addition, this research tries to fill the knowledge gap described above, and it is scientifically relevant in multiple other ways. First of all, it aims to improve understanding of consumer perceptions in general, which is crucial for the development of products (Collier et al., 2021). Then, since this research focuses on a specific target group and reducing meat consumption, it can play a role in understanding how more people can be motivated to contribute to sustainable diets and on top of that it can help designing an intervention targeted at this group. In general, the research aims to contribute to the literature on consumption patterns and reducing meat consumption in general.

Furthermore, most research that has been done, was quantitative, aiming for numbers and generalizations (Khara et al., 2021). In the literature review of Eckl et al. (2021), twenty studies were quantitative, versus only one qualitative study. This one study did semi-structured interviews and focuses on young adults in New Zealand, but does not take into account socio-economic position specifically (Kemper & White, 2021). This implies that the detailed determinants or underlying beliefs of food choices in terms of reducing meat consumption choices are not examined qualitative very well yet. Quantitative methods are limited for understanding nuances and complexities behind these food choices and related behaviours (White et al., 2022). Therefore this research aims for a qualitative approach, to find deeper underlying beliefs behind the current behaviours. Qualitative research provides the ability to ask follow-up questions and deeper thoughts.

Research questions

The aim of this research is to get a better understanding of the underlying beliefs in terms of motivators and barriers that play a role in food choices for reducing meat consumption in populations with a low SEP. The research will focus on people with a low SEP because relatively little is known about motivators, barriers and underlying beliefs for reducing meat consumption in this target group. Also because they currently eat less vegetarian than high- SEP people, and there are more health benefits to be gained in the low-SEP target group. Better understanding can help providing a recommendation for interventions to motivate people to reduce meat consumption. On top of this, it will also be investigated what the target group itself finds motivating for potential changes in their diet, whereby these can result in an advice for a bottom-up recommendation intervention or provide a top-down recommendation for potential regulations. This together will give the possibility to co-create with participation an intervention on the longer term.

This leads to the following research question:

"What are motivators, barriers and underlying beliefs regarding the reduction of meat consumption for people with a low socioeconomic position in the Netherlands, and what are feasible ways for them to reduce their meat consumption?"

This research question is divided in the following sub-questions:

1) *What are the underlying beliefs, motivators, and barriers regarding the reduction of meat consumption for people with a low SEP in the Netherlands?*
2) *What are feasible ways to motivate people with a low SEP in the Netherlands to reduce their meat consumption?*

This thesis will be structured as follows. After this introduction, a theoretical framework is provided to gain a better understanding of food choices and eating patterns, where a model is proposed based on the Influencers of Food Choice, linked to the Reasoned Action Approach and the Social Cognitive Theory. Then the methods are described, after which the results will be suggested. Then the results will be discussed and interpreted, with theoretical and practical implications for an intervention, whereafter recommendations for future research directions will be given. A concluding chapter provides an overview in the end.

2. Theoretical framework

Theories are used to provide a framework for examining the problem, and to be able to answer the research question based on theoretical models and logic (Kay Bartholomew Eldredge et al., 2016). Several theories will be synthesized to provide a comprehensive overview of behavioural processes that play a role in the food choice practices as well as general behaviour change practices. These include the Influencers of Food Choice, the Reasoned Action Approach, and the Social Cognitive Theory, which together are implemented in a proposed model.

2.1 Food choice and behaviour

2.1.1 Influencers of Food Choice

The first used theory for this theoretical framework is focused on food choice. As White et al. (2022) describe, there are many factors influencing the consumption of meat. These factors include social and cultural structures that combined facilitate behaviour change and simultaneously inhibit it. As Eckl et al. (2021) summarize, these include socio-demographic factors, sensory and hedonic attributes, hunger cues, personality traits, knowledge and skills, emotions and cognitive dissonance, values and attitudes, consumer habits, culture, social norms, economic factors, the food environment, and animal welfare (White et al., 2022, p.1). The Influencers of Food Choice (IFC) are combined in a model by Contento (2011), providing an overview of the numerous influences on food choice and dietary practices (Contento, 2011). Later, Monterrosa et al. (2020) describe implications for a sustainable diet, for which they use the IFC model as well, representing determinants in a multilevel socioecological framework, where individual environments interact with social and physical environments to influence food choice. They apply the framework on sustainable healthy diets, and conclude that an analysis of sociocultural influences is necessary (using for instance the IFC framework) to be able to for example developing food policies. In this research the IFC model (Contento, 2011; Monterrosa et al., 2020) will be applied on influencers of food choice concerning choices for meat and reducing meat consumption, to provide theoretical background on potential motivators and barriers for reducing meat consumption. The model distinguishes four layers of influencing determinants, shown in figure 1 (Contento, 2011; Monterrosa et al., 2020), which will described individually below.

Sensory-Affective Motivations

The first two layers are the food-related determinants, and together form the sensory-affective motivations. These consist of first the layer that describes the food related determinants from a biological perspective, pointing at the biological predispositions towards liking certain flavours and rejecting others. For instance, liking the sweet taste is universal in all cultures from birth (Drewnowski, 1997; Drewnowski et al., 1992) , and liking the salt taste develops later (Contento, 2011). Also, the biological mechanisms control the feeling of hunger and satiety to meet the required energy intake, which results in a preference for calorie-dense foods (Drewnowski et al., 1992). Because of this same mechanism, there is a sensory or taste specific satiety, making sure humans consume enough variety (Contento, 2011). In this layer of biologically determined factors, genetical factors play a role as well, resulting in differences in preference per individual.

Other factors influencing the sensory affective motivations include the previous experiences with food, the second layer of the IFC. Food acceptance patterns are largely learned from the positive and negative consequences that are associated with experiences from exposure to a certain food (Contento, 2011; Monterrosa et al., 2020). These psychological consequences show that aversions are powerful and quick achieved, while preferences are build up slowly, and are continued through human's whole life. For

instance, some bad memories about certain vegetables are difficult to overcome, because an aversion is powerful. By this psychological conditioning of experiences and its results, food preferences, safety and satiety are conditioned (Contento, 2011; Monterrosa et al., 2020). When after a certain meal a person feels content and satiated, it is an incentive to like this meal. Thus, if a meal with meat is always enjoyed, conditioning around the satisfied feeling of this meal is build up. Moreover, social-affective context plays a role in these experiences. This is the emotional context around the eating of foods, which is mostly created in the social context of eating, food is associated to the emotional responses during these practices (Contento, 2011). This is also described as social conditioning, which in the case of food choices is mostly influenced by the parents during upbringing, where context of food encounters is shaped (Monterrosa et al., 2020; Savage et al., 2007). For instance, when it is normal to eat meat with every meal since the first memories, the person will consider this sensory-based as a nice and normal meal. As mentioned, these first two layers combined form the sensory-affective motivations.

Beliefs, Norms, Attitudes & Skills

The subsequent layer of the model includes the personal drivers, describing the beliefs, attitudes, norms, knowledge and skills. These are influenced by interactions in the social environment with others and divided between intrapersonal and interpersonal determinants. The intra-person factors are within a person, they include personal perceptions on the foods, beliefs about what the food choices will give. Foods need to be motivating, including aspects as tasty, convenient, affordability, familiarity and comfort (Contento, 2011). Meals with meat can be a convenient habit, a familiar recipe is comforting and time-efficient. This in turn influences attitudes around the values of the foods, also for instance the relation between a food and one's identity. For example, men are expected to be meat-lovers, while vegetarians have a different perceived identity (Northstone & Emmett, 2010; Rothgerber, 2013). Norms play a role concerning social and cultural context, with expectations and traditions (Contento, 2011; Monterrosa et al., 2020). This can include cultural traditional meals that contain meat. Our food choice is based on the interaction between these factors, combined in thoughts and feelings and the experience of the environment. These thoughts are also influenced by facilitating determinants, including people's food literacy, knowledge about nutrition and foods, and skills and competences of for example cooking meals without meat, which might be more time consuming (Monterrosa et al., 2020). Besides intrapersonal determinants, inter-person factors are part of the personal drivers (Contento, 2011). This mainly focuses on the network of social relationships, involving everyone in the surroundings of individuals, as family, friends, co-workers and more. When these people all eat and prefer meat constantly, it is difficult to reduce meat in the meals you cook for and with them. Social networks influence both structural eating patterns and everyday choices.

Social & Environment Influences

The last and all-encompassing layer is about the environmental drivers, including several external factors. First, the physical & built environment includes the food environment, describing food availability (physical presence of food), accessibility (access to resources and convenience), quality (external factors and production elements) and technology (production and processing) (Contento, 2011; Monterrosa et al., 2020). For instance, availability and quality of meat substitutes can be a barrier to reduce meat consumption. Second, the social and cultural environment influence food choice in several ways, since most of the eating happens in social context, implying for potential role models or peer pressure (Contento, 2011). Culture includes the traditions and behavioural patterns that are shared by members of the group, leading to a worldview consisting of cultural practices in which certain foods are accepted and preferred. When for instance in a culture a specific animal is not eaten, it is accepted widely to not eat this meat. Social structures are the basis of society, as it is a group of interacting people with shared institutions, also derived from policies and practices. A third element includes the economic environment, mainly describing

price, income, time and education (Contento, 2011; Monterrosa et al., 2020). The amount of money available and the market prices influence product choices, as well as time availability in the people's everyday life. This implies that the price of meat influences to what extent it will be purchased, so does the price difference between different types of meat and quality. Last, the informational environment is about the information distribution from institutions or companies, consisting of senders as media, advertisements and priming factors, but also regular and specific education about food and nutrition (Monterrosa et al., 2020). For instance, special advertisements and discounts around meat substitutes can (temporary) incite people to purchase these more. All in all, these four environments together are the social and environment influences.

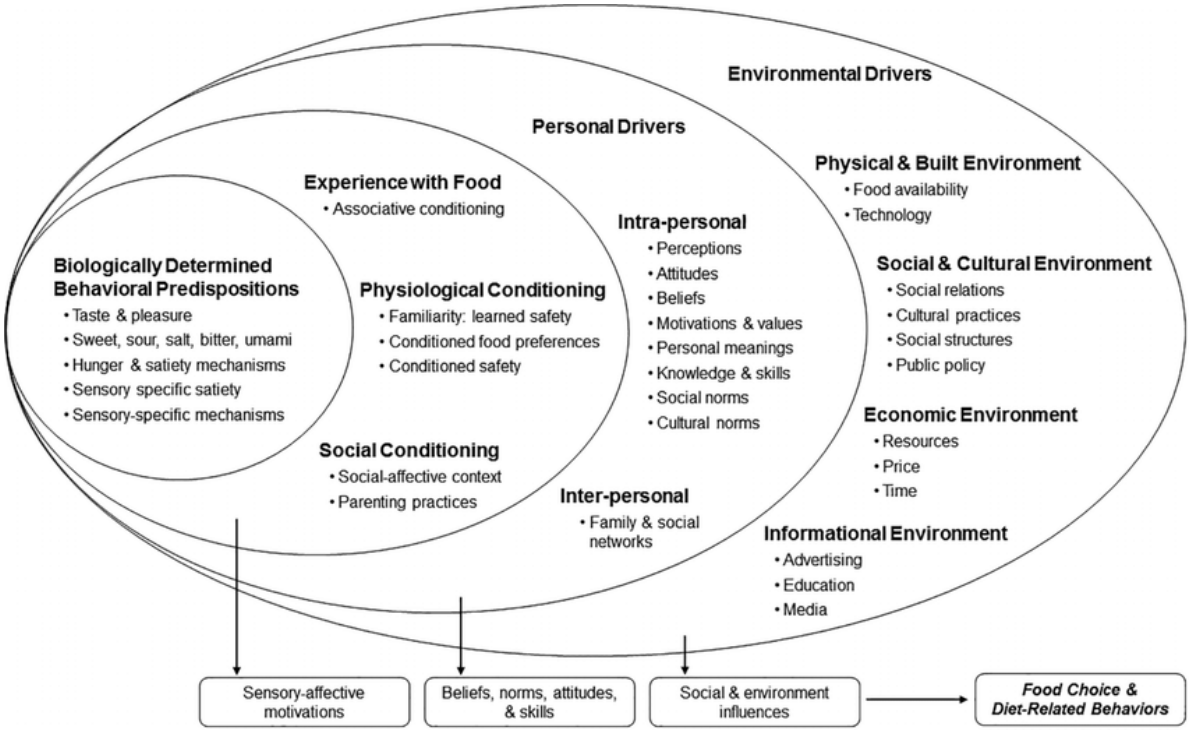

Figure 1: The Influencers of Food Choice (Monterrosa et al., 2020, p. 61)

2.1.2 Reasoned Action Approach

Besides focusing on food choice, it is also important to focus on behaviour change theories. The Reasoned Action Approach (RAA) by Fishbein & Ajzen (2010), displayed in figure 2, is an elaboration on the Theory of Reasoned Action (TRA), which is used on food choice by Petrovici et al. (2004). Both models state that behaviour is determined by intention, but the RAA states that this is the case as long as there is actual control over behaviour, which is influenced by environmental factors and skills (Fishbein & Ajzen, 2010; Kay Bartholomew Eldredge et al., 2016). Actual control relates to someone's skills and abilities that can break or make the intention to a certain behaviour. Although the TRA has been used in combination with food choices (Petrovici et al., 2004), the actual control specific for the RAA is applicable to the current case of meat consumption, therefore the RAA is used instead of the TRA. Someone can for instance have the intention to reduce meat consumption, but to be actual able to do it requires extra determinants (actual control), as cooking skills, time, and accessibility. The environmental factors influencing actual control can be broad, varying from availability to culture and from price to education, and these have a strong influence on food choices (Fishbein & Ajzen, 2010; Kay Bartholomew Eldredge et al., 2016). Non-availability of knowledge, time, or products can in turn be an obstacle to the intention to reduce meat.

The determinants influencing intention are described by Fishbein & Ajzen (2010) as follows. First, the behavioural beliefs align with outcome expectancies, implying that it includes de beliefs about the consequences – positive or negative – that they might experience when performing the behaviour. These are based on previous experiences or expectations, so previous experiences with meat alternatives could for example result in a positive behavioural belief. This has influence on the attitude towards certain foods, so towards certain positive or negative evaluation of the behaviour as well. Second, normative beliefs include the perceived (dis)approval of others, or perceived social pressure to engage in a certain behaviour, resulting in a perceived norm and the intention to also want to perform this behaviour or not (Fishbein & Ajzen, 2010). For instance, when other people in one's surroundings pressure to keep eating meat regularly (demanding partner or friends), someone might experience a decreased intention to reduce meat consumption. Last, a combination of personal factors and environmental factors, results in the control belief, or self-efficacy (Fishbein & Ajzen, 2010). This implies for a perceived behavioural control, the extent to which someone feels to be able to perform a certain behaviour. For instance, the extent to which someone's feels capable to cook meals without meat of try new recipes. Or, price as a perceived barrier to purchase meat alternatives. This is in turn influenced by the actual control, the actual skills and abilities that can influence the perceived behavioural control as well, so for instance the actual capability or cooking skills to cook meals without meat. This could also relate to environmental factors as price or availability. Hence, it might be the case that someone has the intention to reduce meat consumption, based on e.g. outcome expectancies, however if the self-efficacy of cooking without meat is low, the influence on behaviour will be small.

These three factors together influence intention, which is the key factor for behaviour, as shown in the model in figure 2 (Fishbein & Ajzen, 2010). As an overarching factor before the three beliefs, the background factors play a role. These factors include demographic factors as age and gender, but also socioeconomic factors as income and education, and individual factors as personality and religion. Last, information and knowledge also have influence on all beliefs, and overall these background factors influence the extent to which every belief has influence on intention and behaviour in the end (Fishbein & Ajzen, 2010). For instance, certain religions can be a background factor that influences meat consumption with traditional meals, directly influencing beliefs and therefore the intention to change behaviour to reducing meat consumption.

Habits

One note to this model concerns the influence of habits on intention. As stated by Kay Bartholomew Eldredge et al. (2016, p. 92), intention only predicts behaviour if habits are weak. Habits are mentioned as a special case of autonomic behaviour, a learned combination of acts that has developed into an automatic response to certain cues (Kay Bartholomew Eldredge et al., 2016). Habits are functional in achieving specific goals, but mainly without much awareness and therefore energy efficient. Regarding intention, when there is easy access, the autonomic behaviour of habits can overrule intention (Kay Bartholomew Eldredge et al., 2016). For instance, when there is an easy accessed habit to eat meals including meat, it might be that this habit overrules intention to reduce meat consumption. This implies that intention requires a certain amount of rational thinking steps. Although in both behaviour change models and the IFC the automatic habitual behaviour is not taken into account, it is necessary to incorporate this in the theoretical framework as well.

To change habits and ultimately behaviour, people need to start learning practices to give up familiar habits (Bandura, 1986). For instance, learn how to cook meals without meat. For this it is important that people understand how the new behaviour (reducing meat consumption) will be beneficial, that they should be taught how to change their existing habits, and they themselves should feel capable of doing so (Bandura,

1986; Sheeshka et al., 1993). This means that it is important that people understand why it is beneficial to reduce meat consumption, how they can best do this, and make them feel comfortable and capable doing so. In this process it is also important that social influences are not hindering personal change (Sheeshka et al., 1993). This might imply that to reduce hindering social influences, it might be good to collaborate with each other in reducing meat consumption.

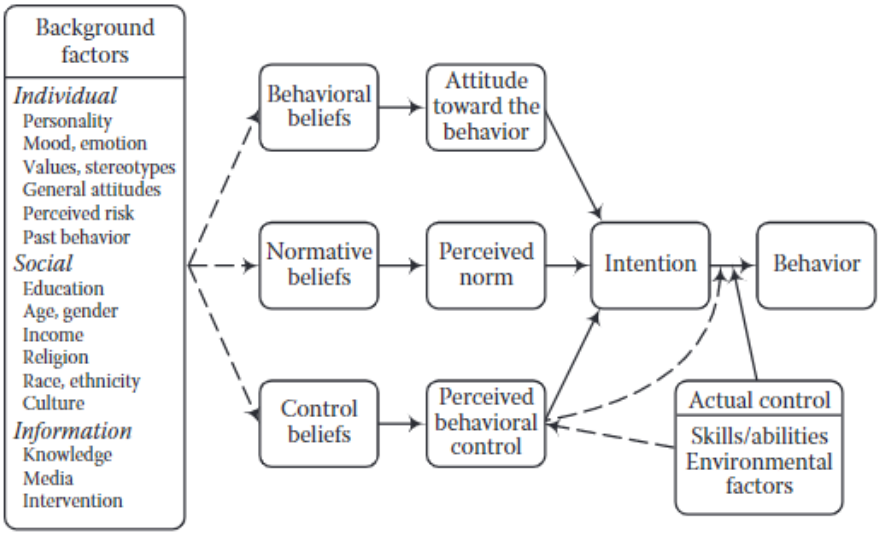

Figure 2: Schematic presentation of the Reasond Action Approach (Fishbein & Ajzen, 2010, p. 22)

2.1.3 Social Cognitive Theory

The Social Cognitive Theory (SCT) is mostly applied to behaviours that are "complex and require considerable behavioural capability […] and when there is a strong impact of the social and the physical environment" (Kay Bartholomew Eldredge et al., 2016, p. 113). The relatively slow shift towards meat-reduced diets implies that this is both the case in the topic of this research, therefore this model is useful.

The SCT aims to describe how behaviour is influenced by goals, the plans to act (Bandura, 1998, 2004). Goals in turn are based on knowledge about the risks and benefits of a certain (health) behaviour and influenced by several determinants. In the SCT goals are dependent on outcome expectancies, socio-structural factors and self-efficacy, which is shown in figure 3. Bandura (1998, 2004) claims that knowledge is a prerequisite for behaviour change, it does not necessarily influence other factors but knowledge and consciousness about a topic are necessary for people to change their behaviour. On top of that, personal efficacy, or self-efficacy is the basis for change, other factors may serve as motivators or directions, but they are all rooted in someone's core belief, self-efficacy, that this person has the power to change its behaviour by doing certain actions (Bandura, 2004). Applied to the behaviour of reducing meat consumption, this means that someone needs to believe that one is capable to change their food choices to less meat, to be able to cook meals without meat, and to have the power to change the habits around the current behaviour of consuming meat. This self-efficacy in turn has influence on the outcome expectations, the 'outcomes people expect their actions to produce' (Bandura, 2004, p. 144). This can be physical, as the pleasurable and aversive effects of for instance delicious new meals without meat. The outcomes can be social, linking to (dis)approval of others in the personal relationships, such as the approval of the partner and family to like vegetarian meals. Furthermore, the self-evaluative outcomes relate to self-satisfaction and self-worth from behaving in certain ways (Bandura, 2004). This can link to positive and negative self-evaluative reactions that pop up when reducing meat consumption and trying other products. Last, self-efficacy has influence on the socio-structural factors, the structures of society and the individuals

life, being facilitators or impediments (Bandura, 2004). The latter are obstacles and can be personal or social, forming an integral part of self-efficacy assessment. For instance, different obstacles as stress, pressure and tiredness, are considered in judging the personal efficacy. On the other hand are the facilitators, that can provide self-efficacy to be able to obtain the goals.

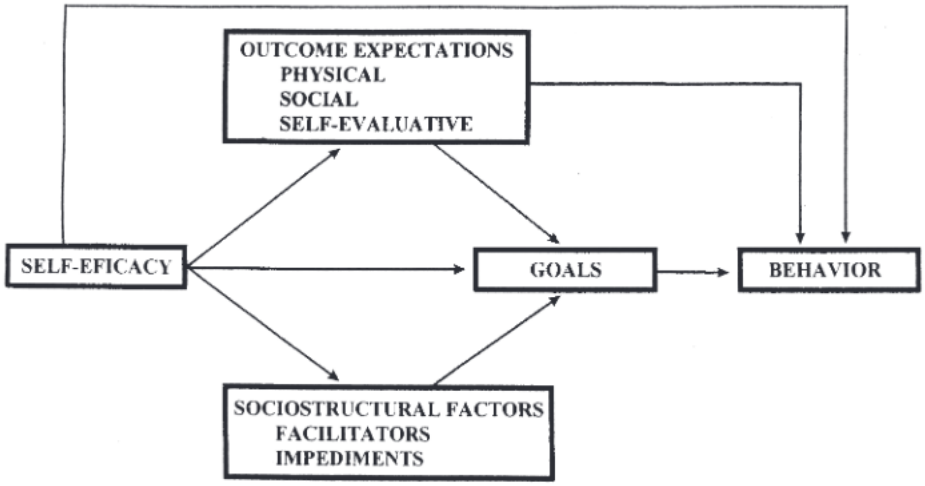

Figure 3: Social Cognitive Theory; the causal model (Bandura, 1998, 2004, p. 146)

Elaborating on the original SCT, the model is described by Schunk & DiBenedetto (2020) as that it examines the triangle interaction between cognitive factors, personal factors, and environmental events, with behaviour. These triangle influencers have a dynamic interplay in the model. It was originally described by Bandura (1986), and conceptualized as 'triadic reciprocality'. Schunk & DiBenedetto (2020) discuss the social cognitive theory and this triangle while linking it to motivation. Motivation is referred to as internal processes that lead to outcomes as choice, effort, persistence, achievement and environmental regulations (Schunk & DiBenedetto, 2020). Motivation is therefore key in behaviour change, thus in the goal of reducing meat consumption. Schunk & DiBenedetto (2020) argue that the triangle interplay is represented by self-regulation, which is defined as self-generated thoughts and behaviours, that orient towards attaining one's goals. In addition, it is stated that self-regulative capabilities include how people are not only influenced by external forces, but choose to position themselves in the environment they believe is conductive for their goals and learning (Schunk & DiBenedetto, 2020). This can imply that the balance between motivators and barriers is indirectly self-positioned. For instance, self-generated thoughts about motivators and barriers towards a goal of reducing meat consumption, can influence behaviour. This implies that the underlying beliefs, motivators and barriers, play a role in behaviour change, they are of significant importance to reduce meat consumption. The self-regulation suggests that the interrelation between personal, behavioural and environmental processes results in the interactive causalities of different influences.

2.1.4 Combining models

The theories that explain and predict behaviour, as elaborated upon in the previous paragraphs, and the model of influencers of food choice, have similarities and differences. Some theoretical concepts are defined as roughly the same, but named differently in different theories, while other concepts are not used at all. The overlapping concepts are presented in table 1, where different concepts are aligned to provide an overview of overlaps and gaps.

The most salient differences are the terms used in the RAA and SCT, they can be viewed as aiming for the same determinants. Also the overlap with the IFC at first does not seem clear, but comparing the

definitions it appears that drivers do overlap broadly. It is striking to note that some terms are missing for some models, for instance the SCT does not include any personal drivers that include norms and values specifically. Moreover, the IFC does not focus on behaviour in a way that intention or goals is not included. Besides, the significant role of self-efficacy called in both behaviour change models, is not used in the IFC at all, which appears to be the main gap of this model.

Table 1: Overlaps and discrepancies between concepts represented in various models. Influencers of Food Choice, Reasoned Action Approach, Social Cognitive Theory

IFC	RAA	SCT
-	Intention	Goals
-	Self-efficacy	Self-efficacy
Skills and abilities	Actual control	Actual control
Environmental drivers	Environmental factors	Socio-structural factors
(Inter)personal drivers	Normative beliefs	-
Conditioning/ sensory-affective motivations	Behavioural beliefs	Outcome expectancies

Integrated Model of Changing Food Choice

Combining these models, how they link with each other and how the behaviour theories link with the food choices, the following model is proposed; Change Model of Food Choice, which is shown in figure 4. In this model, the personal drivers and environmental drivers together determine intention, which in turn determines behaviour. The personal drivers exist of different elements that overlap from the mentioned explained models, amongst others self-efficacy, outcome expectations, social norms and sensors-affective motivations. These elements exist of different factors, which are also shown in the model. For environmental drivers, availability, socio-structural factors, and background determinants individually influence intention, which in turn are influenced by other practices and factors shown in the model.

In this model, personal and environmental drivers are chosen as the overarching determinants leading to intention and behaviour. Other determinants that are considered important for food choices are integrated in the personal and environmental drivers. For instance, the outcome expectations that are elaborated upon in the SCT or the several beliefs from the RAA, are put into the drivers here, and the separate parts are considered the determinants. The second point that makes this model different from the IFC, is the inclusion of intention; the determinants first influence intention, which in turn influences behaviour. In addition, the model proposes that some drivers can influence behaviour directly as well (social norms, availability, self-efficacy) similar to how self-efficacy in the SCT (Bandura, 1998) has the possibility to directly influence the behaviour when a person is just not convinced to be able to perform the new behaviour. The effect of this in the model, is that it implies that several drivers as indeed self-efficacy but also perceived norms and availability, can all individually influence behaviour, even though they might develop other intentions that are different from the performed behaviour. This will be necessary in this research, to find pathways of people that might have the knowledge or intention to change their food choices, but still are not able to do so. As a practical example, when an individual mentions the partners unwillingness to reduce meat consumption as reason to not reduce meat consumption themselves, it does not necessarily mean that there is no personal intention to change behaviour. This proposed model leaves space to interpret such a situation as an interpersonal driver bypassing intention to stop behaviour change. This explains why some of the overarching boxes of drivers have the capacity to directly go past the intention in the model.

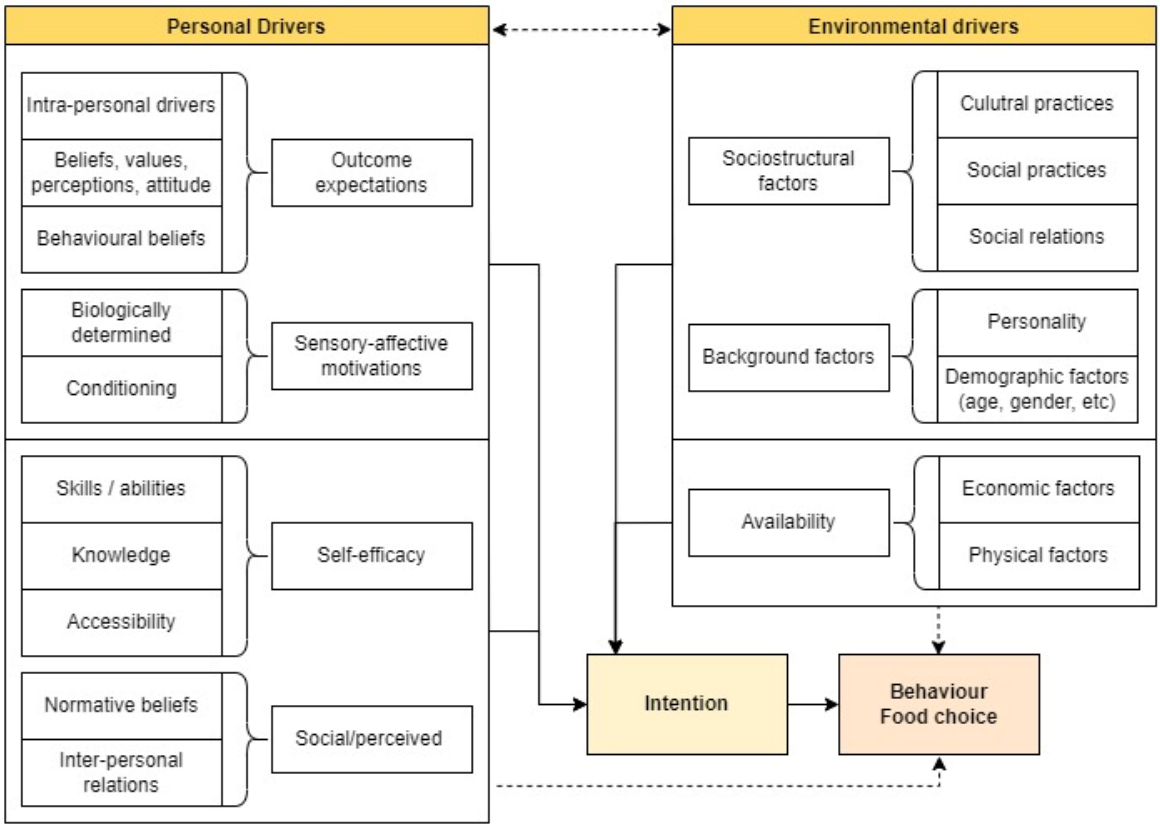

Figure 4: Integrated Model of Changing Food Choice

2.2 Behaviour Change

Transtheoretical Model of Behaviour Change

To be able to answer sub-question 2, the Transtheoretical model of behaviour change (TTM) is applicable. Kay Bartholomew Eldredge et al. (2016, p. 95) state that this model is used by researchers to describe changing addictive habitual behaviours and predict health-promoting behaviours. Consuming meat products can be seen as habitual behaviour (Farah & Shahzad, 2020) and reducing meat consumption can be seen as health-promoting (American Dietetic Association, 2009), therefore this model can be applicable in this case as well. The model involves six stages of change (Kay Bartholomew Eldredge et al., 2016; Pope et al., 2015; Prochaska & Velicer, 1997), which is shown in figure 5.

The first stage is precontemplation, where there is no awareness and no intention of changing behaviour. Next, contemplation is where people are thinking about changing the behaviour, they are aware and plan to change their behaviour, but without any commitment yet. The third stage is preparation, where people are planning to change behaviour on a relatively short term and are wanting to follow through. After this is the action stage, where people have implemented their new behaviour (partly) and try to change it. The fifth stage is maintenance, where people maintain the changed behaviour for at least six months already. The last stage is termination of the behaviour.

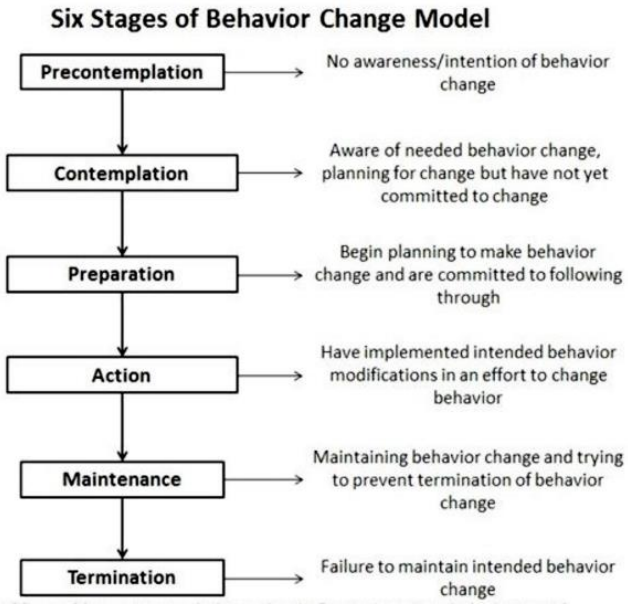

Figure 5: Transtheoretical Model of Behaviour Change (Pope et al., 2015, p. 1206)

In this specific research it will be explored what the underlying beliefs are for consuming meat or not. Obtaining what people think, from experiences and perceptions, might help to determine in what stage of change they are, providing an overview of the current situation. In addition, this might give insights about follow-up research or types of interventions necessary.

3. Methods

In this chapter the methodology for this research is discussed, including a study design, data collection, participants recruitment, and data analysis.

3.1 Study design

Kay Bartholomew Eldredge et al. (2016) recommend that qualitative research is best for a first step in behaviour change related topics, finding salient underlying factors that play a role in behaviour. The main reason for this is that qualitative research aims to generate theory, by examining how for instance behaviour processes work. For this, profound data needs to be collected focussing on details in context and experiences of individual participants. This way, a complete as possible image can be mapped of the reasons behind for instance the certain behaviour, a goal that qualitative research aims to achieve. Mostly, after this stage of qualitative orientation, the hypothesis can be tested with quantitative data. As the present study aims to identify motivators and barriers regarding reducing meat consumption, including their underlying beliefs, it is appropriate to collect qualitative data. Context and individual experiences are necessary to map, to provide a complete overview including potential motivators for future research. The underlying factors of food choices regarding meat consumption and reduction were examined to be able to map and analyse the behavioural, normative, control beliefs that play a role in these choices. The study design in turn, was based on the conservative grounded theory, originally from Glaser & Strauss (1967). For this research, this enabled combining codes and categories being integrated in a theoretical framework. This theory is also used to refine categories (Hennink et al., 2010a, 2010b; Noble & Mitchell, 2016).

3.2 Target group

The aim was to include respondents with a low-socioeconomic status. In this research it is defined as follows. In the Netherlands a guideline for calculating SEP is provided, including factors as education, income, and occupation (CBS, 2021b). Since low-SEP itself is not well-defined, this research will aim for low-educated people, and people with a low income. Low education in the Netherlands is defined as finished primary school, finished high school MAVO, the first three years of HAVO/VWO, or finished MBO1 (CBS, 2021b). The inclusion criteria for participating in the study regarding education were however broadened with finishing high school, or finished MBO1 to MBO4. This was done because of pragmatic reasons, the target group is difficult to reach (Stuber et al., 2020), and this criteria included more people. Other inclusion criterium included a low income, based on neighbourhoods incomes. These neighbourhoods were found and selected via CBS numbers from the most recent available year 2019 (CBS, 2019). The included cities were Utrecht, Arnhem and Amersfoort, because of convenience reasons. Wageningen was on purpose excludes, to prevent any form of bias. Within these statistics, the criterium was to include neighbourhoods with the lowest income of the city. The used criteria was that 70% of the households should be in the 40% lowest income household on a national scale. Concerning gender, a varied group was aimed for, around the age of 20-50, since these generations have more future for change. For the rest, all the participants should live in the Netherlands, and all cultures were welcome, although this was considered a potential bias that needs to be taken into account. Finally, the participants did not necessarily need to adhere to a specific diet, as motivators and barriers to reduce meat consumption of both vegetarians and non-vegetarians are of interest. It was asked for during the interviews, to help interpret the collected data.

Participant recruitment

Recruitment of participants was done in multiple ways, mainly since it is difficult to reach people with a low-SEP (Stuber et al., 2020). The main focus was on personal approaches, done in several ways with the

focus on two different criteria. First, with the focus on low-income, people in neighbourhoods with a low average income were approached by walking around in those specific neighbourhoods. Potential participants were approached if they wanted to participate in a research for food choices and meat consumption. Many people seemed enthusiastic to participate, they were given a flyer with information about the interview (attached in appendix I) and some time to think about it. Eventually only a total of six respondents was recruited this way. A second way of recruitment concerned low-education. For this, via the researchers' network it was asked around to find non-educated or practical educated people (MBO), or if they knew more people from the target group. They received the same flyer with research information (mostly online). A total of five respondents was recruited this way. In addition, participants were recruited from employment situations that were expected to require and yield a low education level and a low income, respectively. These included in this study; helping people in the care-sector, which requires MBO2 (Zorgcollege, 2022) who were recruited at the researcher's work in an elderly home. Also people from the building sector were recruited (Bouwmensen, 2022), by visiting their working places on site and approaching them for an interview. This group mostly received the research information from the flyer verbally. A total of five respondents was recruited this way. Lastly, every participant was asked if they know people who might be interested to participate in the study, to find more participants via the snowballing method, which resulted in two more respondents.

The participants were given the opportunity to win a 10 euro voucher, which was given via a lottery. This price was used to get the attention of participants and was also put on the flyers with information. A total of 5 vouchers was raffled among the respondents randomly.

3.3 Data collection and processing

To obtain the qualitative data, semi-structured interviews were conducted. For this, an interview guide was made, provided in appendix II. This guide was set-up via a decomposition method, which required to make steps from the research questions to an interview blueprint, with objectives, topics, aspects necessary to get an answer to the research questions (Emonds, 2022). The blueprint is provided in appendix III. The function of the objectives and topics is to decompose the research questions to smaller questions that are applicable to ask in an interview. The function of the aspects is to note down all the possible answers that the researcher can think of or has been shown in literature, so that during the interview, the (considered) important aspects can be lightened out as prompts or focuspoints. For this, literature was used to hypothesise barriers and motivations regarding price, taste, social contexts, prejudices, tradition and more (Chen & Antonelli, 2020; Collier et al., 2021; Daly, 2020; Dhont et al., 2021; Khara et al., 2021; Kristiansen et al., 2020; Mylan, 2018; Northstone & Emmett, 2010; Sajdakowska et al., 2018; Sijtsema et al., 2021; van Bussel et al., 2022). These aspects became the deductive codes during analysis. This blueprint turned into the interview guide, in which the order of the questions was changed to an applicable order and questions were formulated. The interview guide was pre-tested with two persons (personal contacts from the researcher); one not in the target group but experienced in interviewing, and one in the target group without experience in interviewing. Subsequently, the guide was adapted accordingly. In the guide, a structure with topics was provided, that needed to be addressed during the interview. Also, probing and prompting questions were provided in the interview guide, adaptable to every situation, with the goal of stimulating the conversation without providing biases (Rubin & Rubin, 2005). The interview guide aimed to obtain a conversation about meat consumption, reducing meat consumption, reasons why or why not to reduce meat consumption, and potential motivators to do so. In the interview there was also space for topics or (additional) elements that the participants mentioned themselves, these became the inductive codes during analysis.

The practicalities of the interviews include the following. The interviews were between 15min and 70min, depending on the participant's answers and the available time. Interviews were done between half September and end of October. To be able to record the interviews, participants provided written informed consent for audio recording of the interview and using the data for this thesis. For this, an information sheet including the research goal and the details about data handling, including a signing form was set up, and signed in advance of the interview. This signing form is provided in appendix IV (CCMO, 2022). When a respondent was not able to sign the form in real life, due to an online appointment, a Google Forms was sent in advance, including the information on the information sheet and the button to give consent. In this online form, also demographic questions were asked, including age, gender, postal code, household, education and occupation, to save time during the interview. All recordings were transcribed afterwards, in the transcriptions every word is literally written down including silences and hesitations to provide a precise as possible conversation. For one respondent the recorder broke down halfway the interview, for this respondent the interview is summarized based on memory of the researcher with the note that the answers cannot be used as quotes. The recordings were deleted when the transcription was finished. All interviews were held in Dutch, to be able to get the participants to talk freely and let their thoughts flow in their mother tongue. Transcription and coding was therefore also in Dutch, quotes were translated by the researcher.

Data analysis

The principles of grounded theory were used as a guideline for the analysis, combining deductive and inductive coding, using the analytical steps derived from Hennink et al. (2010a, 2010b). First the participants were anonymized and the data was transcribed. Since the interviews were held in Dutch, the recorded interviews were transcribed in Dutch and coded in Dutch as well. The quotes mentioned in the results are however translated, as well as the topics. Based on the literature and the interview guide, deductive codes were generated, put in a codebook. Then coding was done with ATLAS.ti Windows (Version 22.1.5). A first round of open coding was done during the code development, with six randomly chosen interview transcripts. In this round, inductive codes were added to the codebook as well, codes retrieved from the data instead of retrieved from literature. Then, the rest of the interview transcripts were coded based on the already acquired codes. When applicable, other inductive codes were added during this process as well. The codes were all combined in a codebook, attached in appendix V including the codes used for analysis. Next, all interviews were coded again in the same order, for instance to see if any later inductive codes were applicable before and missed, and to already categorize where possible. After this, the transcripts were perceived as saturated, and categories were concretized. Codes and categories were constantly compared, being an iterative process. When categories were more concrete, one last round of coding through the interviews was done, to check if all codes were properly linked to the right category. Last, the categories were conceptualized. Then the results were linked to the proposed theoretical model, the Integrated Model of Changing Food Choice.

4. Results

4.1 Participants characteristics

For this research seventeen interviews were conducted. At some interviews two people were spoken to, which resulted in a total of 20 interviewed people. From these, two extra people were in the background, and one extra person was actually interviewed. Therefore a total of 18 participants was recruited, shown in table 2. The participants included ten men and eight women. They differed in age, between the ages of 23 to 71, which were categorized in young adults (18-29, five participants), middle-aged adults (30-49, eight participants), and senior adults (>50, five participants).

The majority of the participants has a Dutch nationality, except for one Austrian, and one Syrian participant. Households varied from single households (two participants), to partner households without kids (seven participants, under which two do have children living apart), to families with children (eight participants, varying between one to four kids), and shared households with multiple people (one participant). All participants in shared households indicated shared responsibility for the groceries, differing in deliberating grocery lists to taking turns in doing groceries.

Concerning educational level, the group of respondents differed between a low education, including only high school (three participants) and MBO 1/2 (five participants, in the sectors: care, housekeeping, painter), to middle education, including MBO 3/4 (five participants, in the sectors: care, hotel, and logistics) and HBO only a propadeuse (four participants), to high education, including HBO (one participant).

Income was extrapolated from the average neighbourhood income of each participant: based on the four digits of the postal code and the average income of that neighbourhood, using data from 2018 since this is the most recently available source (CBS, 2018). CBS (2018) uses the median of the neighbourhood in this file, the median of all incomes on yearly basis, minus the supplements. Taking the median of the participants' postal code, but taking into account significant information retrieved during the interviews (e.g. rights to benefits or AOW) even more, the following appeared. One participant has a high-income (28 400 – 36 600), nine participants have a middle-income (22 200 – 28 400), and eight participants have a low-income (16 800 – 22 200, and one participant <16 800). More thoughts about this will be discussed in the Discussion.

Last, the respondents had different dietary preferences with regard to meat consumption, some were regular meat-eaters (twelve respondents), some were flexitarian, meaning a little conscious about reducing meat consumption at least three days per week (five respondents), and one vegetarian respondent.

Table 2: Participant characteristics overview. With education as highest level of diploma achieved. With Income as income of residential neighbourhood.

NR.	Gen-der	Age group	Natio-nality	House-hold size	Education level	Income	Dietary preference	Recruitment method
1	M	18-29	NL	8	Middle	Low	Vegetarian	Neighbourhood income
2	M	>50	NL	2	Low	Middle	Flexitarian	Via network: education
3	F	30-49	NL	2	Middle	Low	Meat-eater	Neighbourhood income
4	M	18-29	NL	2	High	Middle	Flexitarian	Neighbourhood income
5	M	30-49	NL	2	Middle	Middle	Meat-eater	Neighbourhood income
6	F	30-49	NL	3	Low	Middle	Meat-eater	Type of job
7	F	30-49	NL	3	Middle	Middle	Flexitarian	Type of job
8	M	18-29	NL	2	Middle	Low	Meat-eater	Via network: education
9	M	30-49	NL	4	Middle	High	Meat-eater	Via network: education
10	F	30-49	NL	6	Low	Middle	Meat-eater	Type of job
11	M	>50	NL	2	Low	Middle	Meat-eater	Type of job
12	M	>50	NL	2	Low	Low	Meat-eater	Type of job
13	F	>50	Austria	1	Low	Low	Meat-eater	Neighbourhood income
14	F	>50	NL	4	Low	Middle	Meat-eater	Via network: education
15	F	18-29	NL	1	Middle	Low	Flexitarian	Snowball
16	M	30-49	NL	4	Middle	Middle	Meat-eater	Via network: education
17	F	30-49	Syria	4	Low	Low	Flexitarian	Neighbourhood income
18	M	18-29	NL	2	Middle	Low	Meat-eater	Snowball

Note: Gender: M=male, F=female. Age: in years. Household size: number of people joining for dinner frequently. Education level: Low=high school or MBO1/2, Middle= MBO3/4 of HBO(p), High=HBO. Income: Low=<22000, Middle=220000-28400, High=>28400. Recruitment method: how the participant was approached and recruited.

4.2 Barriers and motivators to reduce meat consumption

The barriers and motivators section is build up as follows. Every concept that was perceived as a barrier and/or motivator by the participants is discussed. These concepts are discussed in terms of hindering and/or motivating aspects thereof, depending on in what context they were mentioned by the participants. In addition, potential motivators are discussed. This includes concepts that the participants pointed out as being potentially motivating to them to reduce meat consumption. They are placed in order based on prevalence (of one specific argument), with general knowledge as separate and final factor. First, figure 6 provides a visual overview of all mentioned barriers, motivators, and potential motivators, based on these categories, after which each topic is mentioned.

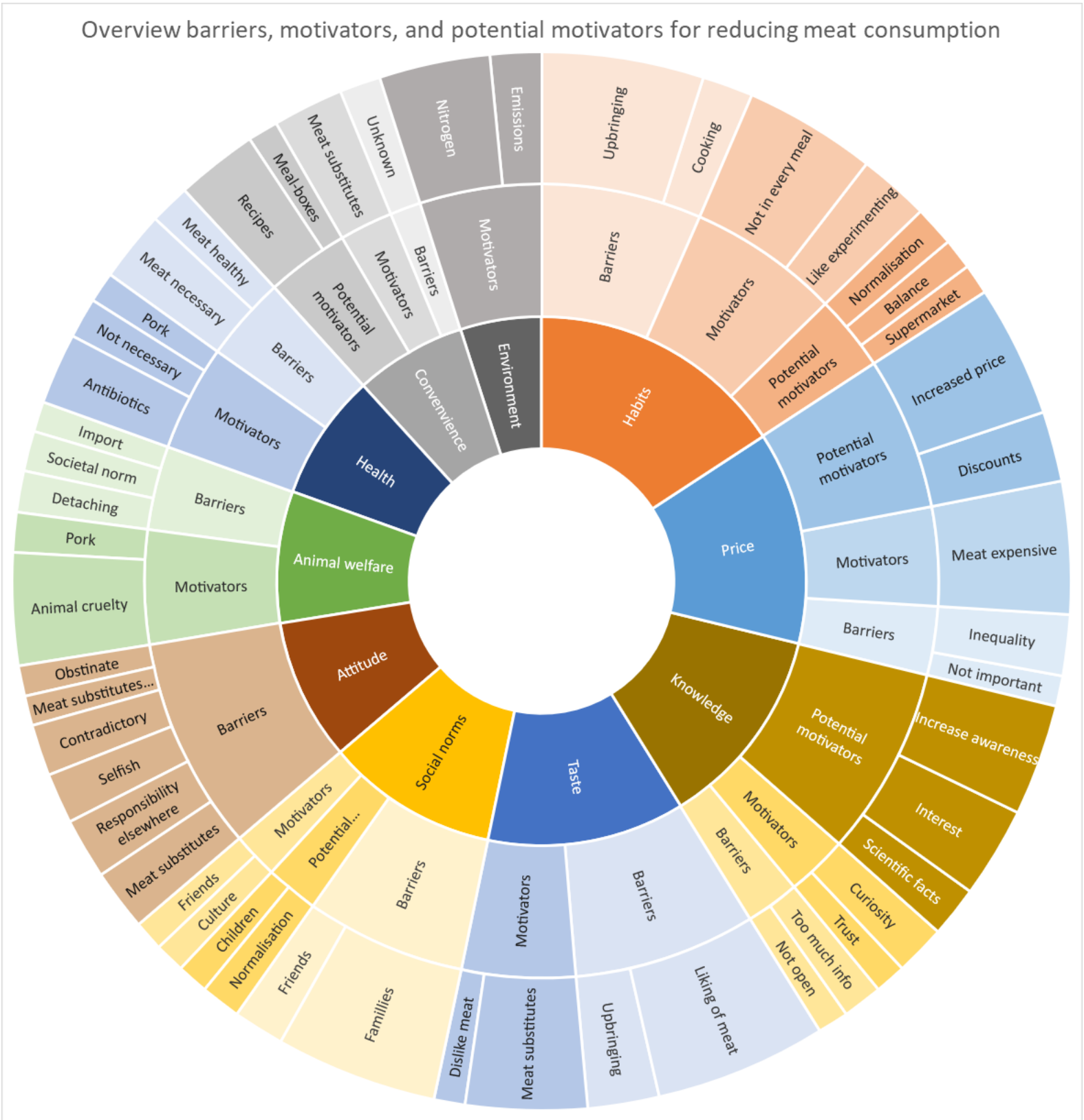

Figure 6: Overview barriers, motivators and potential motivators in a sunburst diagram

4.2.1 Taste

Barriers

Liking of meat

First of all, almost all participants pointed out, sometimes even several times, that meat is very tasty and that this is the reason they keep eating meat. In total this is mentioned more than 80 times, meat is tasty. For some participants it was difficult to come up with other potential reasons to eat meat, because this reason is obvious enough for them. Meat is 'just very tasty'. As participant I10 answered to the question why she eats meat every day: *"Yes we just really find it really tasty."* Four participants, specifically indicated the gravy that comes with the preparation of meat, as being key in this tastiness of meat. This is linked to the taste of meat directly. In addition, eight participants indicate meat as the special component of meals, meat is what they like most of some special combinations of meals. For instance, participant I5 argued about the added value of meat: "*The combination of flavours, a meal should be something for me to enjoy, and when cooking meat, it should have added value to be special, tasty and just really good."* The good taste of meat is taken to another level, nine participants talk about themselves or someone else as a 'real meat eater', implying that liking meat is such a big motive to eat meat, that it has become an identity. Combined, this resulted in tastiness being the top 1 argument to eat meat, implying being the top 1 barrier to reduce meat consumption.

Upbringing

A part of this group finding taste this important, seven of them specifically mentioned that they feel like their upbringing had influence in their taste. The combination of habitually eating meat resulted in them liking meat this much nowadays. For example, participant I4 explained: "*Yes, you develop your taste there (referring to upbringing), and there we for instance did eat meat balls very often, which I like now."* Or, another example, participant I12 explained: "*I got that from home, [..] from the past, there had to be some meat in the meal, otherwise it did not taste good*". With this, it is implied that the meat would make the meal taste better, and the children are thought that meat tastes good. Similar to this, the way meat and its taste is treated by the parents, influences this as well. For instance, participant I10 explained that she and her husband always save the meat for last, for themselves and for their children. The meat is consumed after the vegetables and potatoes are finished. This indicates that in the upbringing the children learn that meat is tasty and special, the tastiest part of the meal, perhaps even as a reward after eating the vegetables and potatoes.

Motivators

Dislike meat

Besides as a barrier to reduce meat consumption, taste is also mentioned as motivator. Some participants indicated that they already reduce meat consumption, or even eliminate it fully (as much as they see possible, differing per individual). In this group, several reasons come forward, including dislike of taste of meat, the texture, or more often, specific types of meat (e.g. pork, fish). In addition, some participants indicated that not every meal needs meat, when it does not add anything. In some cases this linked to the participant consuming meat substitute, that are perceived as tastier than animal-meat. For instance, participant I16 said: "*For some things we find meat substitutes really better than real meat, [..] with kapsalon (originally fries, doner, and lettuce) we use fake-gyros and we love that taste*."

Meat substitutes

Concerning meat substitutes in general, the opinions are very different within the participants. Twelve of them said that in general they think meat replacers are a tasty and good alternatives (depending on the type of meat-substitute). To illustrate, participant I14: *"I do enjoy a vegetarian burger, maybe even more than a real piece of meat on my plate."* Liking meat substitutes can have motivational aspects.

4.2.2 Habits

Barriers

Upbringing

As next mentioned reason, mostly after the participant gave some thoughts to the situation, it appeared that habits are a common argument to consume meat (e.g. daily, weekly). These habits come partly from their upbringing, where the parents for instance cooked meat every day. Besides learning that meat is tasty, as mentioned above, with this upbringing the normalisation of meat in the meals is learned too. For instance, the typical Dutch AGV'tje (short in Dutch for potatoes, vegetables, and meat), is a very common meal, which nine participants argue to be the norm in their current household as well. As participant I10 pointed out: *"You know, I am old school in that, we eat almost every day potatoes, vegetables [..], my children just love that the most."* Partly because of this, meat is something that really belongs in the meal according to almost all participants, sixteen out of the eighteen at least mention that they feel this is the case. A meal or some specific meals/recipes are not complete without it. Participant I6 talked about her husband: "*For him, a meal without meat is no meal."* And, where participant I9 was corrected by his wife in the background: *"You often say when we eat noodles, this is no real food, why not, because there is no meat in it. I mean, habits, because you are raised like this, because it is a habit that you have meat in your dinner."* This is also part of a habit, that things should be as they always are, including every part the meat norms.

Cooking

Furthermore, habits of cooking imply the cooking itself, being an habit, being automatic generated behaviour. Some participants do not think conscious before deciding the meals, it is an automatic normal way of running the household. Participant I7 argued: "*Mostly I make nasi or macaroni, or chicken curry, [..], so there is meat included in my version".* This is the same for doing the groceries, an automatic habitual route through the supermarket has developed over the years, in the case of meat-eaters most likely to cross the meat department in the supermarket, and not the vegetarian department. Habitual grocery shopping naturally influences choices of ingredients and therefore cooking meals as well. In addition, as a more exceptional argument, one participant indicated her partner as being on the spectrum, and therefore automatically wanting to eat the same meals every week, all including meat.

Motivator

Not putting meat in every meal

On the other hand, thirteen participants indicate that it is not always necessary to include meat in every meal, taste is more important. Participant I3 explained: *"[..], when I like something I would make it again, and then I do not think, 'this needs meat or this does not need meat', but I just think, this meal is nice so I cook it. My vegetarian friend inspired me to discover different meals without meat."*

Like experimenting

Moreover, seven participants pointed at that they like cooking, the like to try out new recipes. In these meals, the requisite is that the picture looks tasty, it is not perceived as necessary to include meat in every meal. Some even try vegetarian options, as participant I18 said: *"I really do love cooking, I prefer diversity, [..], so I prefer to have something else than potatoes, vegetables and meat, that is boring. [..] I try to make new things, [..] like a vegetarian stew, to see if I can try to make it really have the same effect as meat but then vegetarian."*

Potential motivator

Supermarket placements

As mentioned, the supermarket routes can form a habitual routine for people. Supermarkets using these habits to change behaviour or at least create consciousness among consumers can be a way to potentially motivate people to reduce meat purchases. Some participants indicated that putting the advertisements/discounts on the top counters, helped three of them choosing the meat substitute over meat in the past. At least for trying them out. Participant I3 for instance mentioned: "*What I have often, in the supermarket when something from the vegetarian foods is on discount, they are in the counter before you walk to the meat department [..], then I think, let's eat this today with vegetarian shoarma [..]*"

Normalisation

In addition, a general form of normalisation can be a potential motivator. To change habits, normalising several practices is mentioned by several participants. Cooking programmes on television, recipes in supermarket magazines, but also restaurants, kiosks, canteens, and other horeca places should offer more vegetarian options, with the goal of normalising the existence and consumption of less meat. Participant I2 summarized this as: "*It is a process that takes a long time, [..], but that there are restaurants that only serve without meat, programmes that, cook vegan or vegetarian, do everything, everyone reads that [..]*". The slow pace of this process of normalisation is something that four participants mentioned specifically as well. This mainly concerns personal experiences with the process towards a vegetarian diet being too fast, or talking about humans in general. As participant I8 brainstormed: *"I think people should start slowly, when you say they cannot eat meat anymore, everyone will be irritated. [..]. people will get irritated if they have to change something close to home and there habits, [..]".* She implied from personal experience that a slower process can lead to more normalisation on individual level as well.

Balance

Most participants argued that finding a balance is key to being open to reduce meat consumption, a balance in meat and vegetarian food, with different types of substitutes and recipes. Some relate it to health, some to price, some to environment, some to the openness to change their diet at all. This balance mostly included eating meat some days of the week, and slowly decreasing the quantity per week. Besides, three participants argued for better quality meat and less meat per week. Participant I9 stated: *"I would choose to eat three times a week good and tasty meat, and then four times no meat, than that I would eat a cheap piece of fish or meat every day."*

4.2.3 Convenience

Barrier

Unknown/Unaware

As a barrier, it was not necessarily mentioned that people did not know what to cook without meat. This is something that indirectly appeared from other barriers or motivators, such as meat being an automatic choice, or for example the groceries route. One participant for example, mentioned that she does not know where the meat substitutes are, because they are not on her route. Participant I7: "*I have to admit, at the Plus were I go I have not even seen them, the meat substitutes."* This ultimately forms a barrier for this participant, since she is not reminded of the existence of meat substitutes and at the same time it is extra inconvenient to search for them.

Motivator

Meat substitutes

Convenience is also about the easiness of creating, cooking, and preparing meals, as some participants focused on. For instance, some participants mention meat substitutes related to this. Meat substitutes can

be perceived as easy, or even easier than meat, shortly mentioned by seven participants. For instance, Participant I14 stated: "*We have them in the fridge, [..] when you need to make something quick and easy, you always have some ready, and it is done quite fast, easy to make, so yes.*" Seven participants agreed that meat substitutes are easy to use. The other participant did not mention anything about this.

Potential motivators

Meal-boxes

Participants also mentioned several potential motivators to reduce meat consumption that related to convenience, self-efficacy and skills. For instance, meal boxes and associated ease of cooking were mentioned by three participants as a potential motivator to reduce meat consumption. They pointed at meal-boxes as HelloFresh, a way to do groceries very quick and easy by clicking on meals to eat. Here a price difference in vegetarian and meat-containing meals could be of influence, as one participant argued. Or, for instance, normalising the options for vegetarian choices by giving them the majority. As participant I18 answered when discussing vegetarian HelloFresh options: *"I would not care at all, it is nice that you don't have to think about what to eat, they decided that for you."* Potentially, information streams can be included here is as well, which will be further discussed in the recommendations.

Recipes

In addition, possibly combined with the discounts, eight participants argued for more inspiration or recipes to try for reducing their meat consumption. For instance, when the participant and their family is stuck in a rhythm with meals containing meat, new recipes could be helpful. As mentioned by participant $I9_2$, the discounts could be combined with a simple recipe how to use this meat-substitute. Or in the supermarket magazines providing more vegetarian options. In addition, several participants indicated that they will not be open to try meat substitutes because they expect it to not be tasty, they first want to try it (for free or with a discount) to see if they might like it. This could be combined with new recipes in the supermarket, stands with no-meat products to try for free. As participant I7 brainstormed: "*Yes sometimes you have in the supermarket those try-outs, and then I would think, yes, maybe this is nice.*" Other ways of getting inspired for cooking ideas according to the participants mostly include cooking television programmes. However, some participants indicated to not be open to try new things, cooking from a recipe or cookbook is not something they are interested in, in terms of time, effort, and not feeling this necessity.

4.2.4 Social norms

Barrier

Partner and families

Linked to habits in families, social norms are perceived to play an apparent role in the experience of sixteen participants. These differ in strength, as well as in direction. First, six participants pointed at their partner as being the main reason to eat meat at their frequency. Participant I6: "*My husband really wants a piece of meat on his plate, for me it does not matter, I do not eat that much meat, but my husband yes, he really wants a piece of meat on the plate.*" Adapting to these influences and norms is seen as easier, than for instance starting a discussion with the partner. However, concerning partners, it seemed that participants were trying to hide behind them, shifting responsibility to someone else's wishes. Some participant's interviews were slightly contradictory, the participant seemed enthusiastic about meat consumption and a few minutes later it was mostly the husband who wanted meat. Second, five participants pointed at their children or family as providing norms and needs to give attention to meat consumption. For instance, participant I10 responded to the question about openness for reducing meat consumption: "*I think for me it does not matter this much, but my children, yes .. they miss it yes".* Similar to partner, this can be seen as a way of shifting away responsibility. Since children are dependent on the upbringing and norms of their

parents, it can be perceived as a contradictory situation. In general, participants tried to please partners and family members with meat in meals.

Friends

Adding to the barriers concerning social norms above, a third way is that five participants mention friends in the surroundings as reason to consume meat. The difference with mentioning partner or children is that that can be perceived as habitually adapting to their wished, while adapting to social norms of groups of friends results in more awareness and choices made. Participant I15 for instance, reduced her meat consumption when eating alone, but only when having dinner with friends she still consumes meat. Comparable with other participants, her arguments include that it is easier to adapt to them, the conversations about it are tiring, and it is more important to not be a burden to the other. Participant I15 about a certain conversation regarding vegetarian meals: "*The conversations are just very tiring [..] and then I feel like I am not informed enough to defend myself, [..], and then the conversations gets stuck that way, and then I feel like I lost [..]".* Moreover, some participants indicate that they find themselves a flexible person, being flexible and adaptive to others wishes to not stand in the way or ask to cook differently. These norms of flexibility are considered more important than reducing meat consumption in every situation. One participant takes this perspective from another angle, talking about cooking clubs. He argues that principle vegetarians cannot join such clubs. Participant I2 continued arguing: *"I know people who are vegetarian, or vegan, and I think, I have the feeling that if you have this principle, you don't have to think anymore."* This brings annoyance to him and the surroundings.

Motivator

Friends

Related to the inspiration retrieved from a vegetarian friend mentioned earlier, in social norms there is a noticeable difference. This concerns that in adapting social norms, adaption towards partner or family is often in the direction of consuming meat in the meals, while adaption towards friends in the younger generation seemed to appear the other way around as well. As for example participant I3 explained: "*When I eat with my vegetarian friend, I do not eat meat as well. I do not need it, [..], it is even that when I eat with her, it is something different and that inspires me [..]".*

Culture

Besides, more broad social norms concerning culture or religion can play a role in food choices. For instance, one participant reduced her meat consumption for a few months now, because of her religious beliefs and the need to fast and sacrifice to a certain amount. As participant I13 explained: "*[..] as a cleaning for your body, [..], because you have to do it with your heart, not for others but really for God, [..], and for me it is a real sacrifice that I skip meat a few times per week. And I mean it with my heart, it helps me, and my religion [..]".* One other participant does cook traditional cultural meals with meat for her family. But since a few years already, they reduce their meat consumption within the household, since their culture provides traditional foods that (partly) do not include meat in it, but for instance beans, and this is liked even more by her children.

Potential motivator

Children

One interesting potential motivator, related to social norms, came across. A few participants mentioned their children as important factors to adapt their meals to. Therefore, it was mentioned to target children, on their primary school, with information about for instance animal welfare. Children could get influenced and go to their parents with a different mindset, possibly influencing the parents' choice to cook meat for the children. Participant I9 talked about his son: *"[..], when he, if he would be convinced to not eat it, because he thinks animals suffer, then I would not sit next to him and eat .. no I would reduce that [..]*". This

implies that this participant would potentially be motivated to reduce meat consumption when his children would suggest so.

Normalisation

Besides the normalisation mentioned above, also normalisation in social norms were mentioned as potential motivators by four participants. This for instance includes films and series, where repeated exposure influence societal norms and values. As participant I1 explains: *"Through direct commercials or normalisation through media, so when for example they eat meat in a movie, it is normalised to eat meat."* This implies that the other way around, it could motivate contradictory.

4.2.5 Price

Barrier

Not important

The price of meat is not necessarily seen as a barrier to reduce meat consumption. Only one participant talked about the price of meat substitutes, he mentioned that not consuming meat and substituting it with meat-alternatives might be more expensive. However, participants nuancing price as motivator, can be implied as barrier. Illustrating, a few participants emphasized that they or their family would not care about price increase of meat, they would still eat it. For instance, participant I15 talked about her mother: "*She would not buy less meat when the prices increase, she earns enough to compensate for that."*. This implies that when people earn enough money, and have other motivations to eat meat, a price increase would not be an argument to reduce meat consumption for some.

Motivator

Meat expensive

Price was often mentioned by participants, thirteen of them indicate meat as being expensive. However, not many of them give the current price as a reason to reduce meals containing meat at this moment. It is more framed as eating a lower quantity of meat per day, as by participant I9 about the increased price of meat: *"That is something we take into account, [..], by not eating like 3 kg of chicken, if you can do it with 200 grams as well."*. This participant linked price to the current inflation rate, the price of meat is increasing. Many participants are aware of this, they indicate meat as expensive and getting even more expensive. Also compared to meat substitutes, the inflation is perceived as higher. As participant I16 thought aloud about the price of meat: *"In the past I liked the price of meat, but it is getting less. I think vegetarian is maybe almost cheaper than meat, [..], I maybe know that for sure, [..], earlier minced meat was 2 euros for 300 grams at the Deen, now that is 3,50, [..], meat substitutes is almost the same I think."* This is a motivation to consume less meat for some participants already, and others indicate that it might become a motivation in the future. At least, for five participants the price difference with organic meat is a reason to not purchase the more expensive organic varieties to their favourite meat. Participant I3 explained: "*If I would not have to look out for my money, I would choose organic, [..], but yes, I have to think of my own wallet unfortunately."*

Potential motivator

Increase meat price

A majority of the participants indicated price as key factor of possibly motivating them for reducing meat consumption. Although some seem to be very consistent in their meat consumption, thirteen of them argued that it might be helpful if the price of meat would increase a lot. Examples mentioned by the participants indicated a roughly doubling of the price compared to meat substitutes, will they make the decision to reduce meat consumption. For instance, participant I12 argued about vegetarian meat-balls: "*Then I would be inclined to say, okay that one (meat) is 3,50 and the vegetarian one is 2,00, that is 1,50*

difference and it tastes okay." The focus is on an increase of the price of meat, not a decrease on meat substitutes.

On the other hand, more expensive meat can lead to inequalities in society. Six people indicated to be aware of this. As participant I13 gave her opinion about price increase: *"It must not be something that shows people like look there is change, with a law or rule that harm other people, it should be something that touches upon everyone."* In addition, participant I2 argued about the cheapest meat, the 'kiloknaller': "*It is my opinion that the kiloknaller has its function, because when you are a single mother on benefits, [..], and you have three children at home, [..], so for that mother it is good that the kiloknaller exists, [..], this family can eat meat then two times a week."* This shows that although it is a potential motivator, increasing the price has its disadvantages as well.

Discounts

Another way concerning price, are the discounts, influencing at least seven of the participants. Meat substitutes in the discount could be a way how several participants would be more motivated to buy or try them. Participant I14 said: "*I always pay attention to discounts, when the vegetarian burgers are on discount [..], I am the one that does the shopping."* It is argued multiple times that a combination of this and the increase of the price of meat mentioned above, is the most motivating.

4.2.6 Animal welfare

Barrier

Societal norm

Regarding animal welfare, the motivations to reduce meat consumption will be discussed below. However, what seems striking, is that it is also seen as an (indirect) barrier. Some participants, four of them, indicated to be aware of animal cruelties, but do not find it cruel. These participants do not feel emotions for animal cruelty and emphasize that livestock exists for slaughter and human consumption. Participant I5 levelled this up: *"I have to say, I grew up at the Achterhoek, I know how it goes and friends of mine had a farm, [..], cows are sweet, but they just do not retire, horses do, but cows don't, they are there to be slaughtered. It is how it is, if we would let them retire, we would get even more nitrogen."* It is argued that this is the way it is, resulting it not being an argument to reduce meat. This implies that meat consumption is seen as societal norm, concerning animal welfare and related norms and values.

Detaching

Moreover, the link between a piece of meat and the animals is difficult to make for some participants, four of them detach the meat on their plate with the living animal. As participant I6 also argued: *"When I have a piece of meat on my plate and I don't see what it is, yeah, I think it is okay [..]"*. This implies that animal welfare is not linked to meat consumption and not seen as a potential argument to reduce meat consumption.

Import/export

Some participants think a step ahead already. Two participants argued that reducing the meat production in our country would mean that we would need to import meat from other countries, where it is not clear what the rules and laws around animal welfare are. Moreover, export is mentioned as one of the causes we have this much livestock in the country, a lot is for foreign countries, which is perceived as a vague situation. These are indirect barriers to reduce meat consumption.

Motivator

Animal cruelty

The top reason that participants mention to reduce their meat consumption, is animal welfare, or the lack of animal welfare. All of them, except only one, in any form say that they feel like eating meat is cruel for animals, or at least indicate that they understand that some people have this feeling. Eleven of the participants show to have emotion for animal cruelty as one of the main reasons they already reduce or would be open to reduce meat consumption. As participant I4 argued: *"I am not fully in the details, but the way animals are kept together, how they are bred to produce the meat, [..], it is known that that is not really good.".* The enormous amounts of animals in big stables are mentioned by four participants, or the livestock that is seen in trucks on the highway. Some respondents take it to a higher level, regarding animal suffering and the role of humans. Participant I1 points at possession and power: *"I feel that we as humans have a certain power position in the world, compared to animals and each other, and I think that comes with responsibility [..] to make sure that we prevent suffer."* Participant I15 took a similar perspective: *"Why do I have the right to this meat, and why does this chicken do not have the right to live peacefully?"* Different levels of awareness are seen in the group of participants, but it seems overarching that there is awareness and understanding of these facts.

Pork

Besides, pork is mentioned as most cruel by four respondents, with different arguments regarding stress, stories from farmers, or trucks on the highway. Participant I8 pointed at the intelligence of pigs: *"With pigs I just feel really bad, because those animals are smarter than dogs, they have stress and so on, I really don't like that association, to eat it, no".* This indicates that for reducing meat consumption, specifically pork, animal welfare is a specific issue.

4.2.7 Health

Barrier

Meat is healthy

A reason to eat meat and to keep eating meat that is mentioned by nine participants, is that meat is perceived as healthy. They seem to be aware of the nutrients that meat contains, for example protein is mentioned by four of them. As participant I16 argued right after naming tasty as top reason: *"[..] and to take in protein, that is my personal reason."*

Meat is necessary

Others phrase it differently, as participant I5 touched upon: "*I hear often from people who are vegetarian, that they need extra pills to [..] get their minerals, and then I think, this is not healthy as well [..]"*. With this, the participant shifts the focus to not eating meat being unhealthy, instead of meat being healthy. Combined with the perception of meat being healthy, it comes down to the same point. The argument that is used the most for this by seven participants, is that the prehistoric primitive man needed meat in the diet as well. As participant I11 stated: "*We are built to eat meat I think, yes I do think so, [..], I think from the prehistoric man"*.

Motivator

Meat not necessary

The majority of the participants, fourteen to be precise, indicate that they find health important. However, not many of them link meat consumption to being bad for health. What stands out, is that mostly people do not mention meat as being unhealthy, but more that they do not find it necessary to consume meat every single day for their health. Participant I14 pointed at: *"I think for your health it is better to not consume to much meat, [..], it is not necessary to eat meat or chicken or fish every day."*

Antibiotics

When in turn participants do mention meat as being unhealthy, it concerns the way animals are treated with vaccines and antibiotics. Seven respondents link the (potential) un-healthiness of meat to how animals are treated or how meat is processed. Participant I6 explained why she is open for change: *"Yes because it is better for yourself, right, and it is better for the animals, but it is just pure better for yourself. Nowadays they put so much rubbish in the meat, that if you would get sick, you would be immune for some medication because there is so much antibiotics in the meat."* Linked to this, some participants link personal potential illness to how animals are treated, and explain that this could potentially have influence.

Pork

Moreover, six participants mention to eat no or less pork meat, under which three participants pointed at pork meat specifically as being unhealthy, mostly because of personal experiences or stories. Participant I3 argued: *"I know that with pork meat, a lot of people do not respond good on that. [..]. Someone once told me that pork meat is very similar to human meat, so our body cannot really do something with it, so people can respond bad on it."*. This will be touched upon in the Discussion as well.

4.2.8 Attitude

Barrier

Diminishing responsibility

Many participants indicated to have a strong opinion about different topics, resulting in attitudes. First of all, this links mostly towards the enormous size of the problem, and especially the environmental crisis is mentioned for this by six participants. On the one hand, it is mentioned that the responsibility is not in the hands of the consumers, the participants feel like change should come from a different direction, such as policy measures. For instance, participant I1 said: *"I feel like the, for the environment, the decisions should not come bottom-up, but laws or rules should become mandatory top-down."* Besides the government, different scales are mentioned that need to work along, as 'other countries' and 'individual consumers'. The tendence is that it will not make sense to change alone, when other actors are not changing as well. This seems to stop some participants from feeling the need to change behaviour. Also big companies in other non-environmental friendly businesses were mentioned, for instance participant I16 wondered: *"I do believe that it is not good for the environment, but I wonder how much that is compared to big companies as TataSteel or other big polluters, [..], then the farmers are a little piece of that [..]".* This way, environment would not be a reason this participant would consider reducing meat consumption.

Selfishness

In addition, some participants touched upon the perception to be consciously selfish, they named it. Talking about consequences of meat production and consumption, five participants explicitly mentioned to notice their selfishness. This concerns mainly how the advantages (e.g. tasty) level out the potential disadvantages. Participant I16 was self-aware when he argued: *"[..] I would not change my habits for that, maybe I am to selfish for that, maybe not, maybe I am, [..], that I put my own interests before that of improving animal welfare or the environment.".* Some of these participants also touched upon the awareness retrieved from sources as news or documentaries, actively avoiding these sources to be able to eat meat without feeling guilty. Participant I4 talked about his friend: "*The friend that watched Cowspiracy decided to not watch Seaspiracy, because he thought then I do not want to eat fish anymore as well."*

Moreover, this attitude of the selfishness and the diminished responsibility mentioned above, mostly relates to an avoiding attitude. The participants are (partly) aware, but nine participants do show avoiding behaviour. This in turn goes hand in hand with confronting elements of for instance information streams, as the documentary mentioned above. Participants seemed aware of this behaviour.

Contradictory

Related to this, some participants seem to be contradictory. A total of seven participants were found to be contradictive in their opinions and behaviours. For instance, participant I14 argues: "*It raises aversion, actually, maybe the whole story behind it, I find it really sad, actually I think it is not done.*". At the same time, this participant still eats meat quite often, and points more in the direction that *"I think some people might think so yes."*, placing the responsibility in the hands of others. Another example of contradictory behaviour concerns contradicting answers, first they tell the researcher that they do not eat meat-replacers very often, as participant I12 argued that he ate meat substitutes only two times in his life. After this participant I12 explained about a vegetarian meatball-replacer: "*And it was actually not as bad, so from that time on, I do eat the vegetarian meatball more often*." This will be discussed in the Discussion as well.

Obstinate

One participant specific developed an obstinate attitude towards reducing meat consumption, concerning how the government is handling farmers and nitrogen, but also his own contribution to society (e.g. taxes), resulting in the attitude being rebellious. Participant I11: *"[..] I feel like I deliver and work a lot, I do not feel everyone is doing that, [..] so I feel like I may do what I want."* Also regarding rules in his work field, the building sector, this participant feels like the government is doing it wrong: *"I do believe that the environment needs to be saved, but how they do that, I do not trust that this will work. And then I can become a little rebellious, yes."* It is an attitude that forms a barrier to reducing meat consumption.

Meat substitutes

Furthermore, an attitude towards meat substitutes is an argument to not reduce meat-consumption, for instance not liking them and the ultimate perceived lack of tasty alternatives. Six participants indicated that they do not like meat substitutes. The taste is not comparable with real meat, and that is perceived as more important. As participant I11 told about when his wife tried to prank/deceive him with fake meat: "[..] *I left it on the plate, I did not eat it, because I did not like it. [..] just did not like the taste."* This implies that meat substitutes are sometimes seen as the only way to reduce meat consumption, by simply replacing them with an alternative. When not liking the taste of these replacers, it is seen as direct barrier.

Meat substitutes names

Other disgust towards meat substitutes comes from the name. Two participants were really clear about how they do not appreciate the name of for instance the Vegetarian Butcher, it results in an ironic attitude towards these products and influences their willingness to replace real meat with a meat substitute. Participant I2 for example: *"I am in favour of not talk about meat substitutes, or how is it called, vegetarian fishsticks, [..], stop with comparing to meat, [..], the fake names that contain meat, that is only jokes, you fool everyone because they think we are stupid, 'when I say it is like meat they are fooled and buy it', no that is stupid."* Participant I12 agreed on the assuming people are stupid part: *"Like the commercial of the vegetarian butcher, what does he slaughter, I have never seen a stupid commercial like that, [..], what do you slaughter, [..], plants, peas, vegetables?"* An aversive attitude towards meat substitutes indirectly forms a barrier to reducing meat consumption.

Motivators

No specific attitudes are observed that can be perceived as motivation to reduce meat consumption.

4.2.9 Environment

Barrier

Environment is never mentioned as barrier to reduce meat consumption. Only indirectly, linked to for example attitude, as described above in the responsibility of reducing environmental impact not being perceived as in the hands of the consumer but more in the hands of big companies.

Motivator

Nitrogen crisis

The environment, the current crisis is not mentioned very often as a reason to reduce meat consumption. The participants mostly do not mention it themselves. Only after the researcher asks what they know about livestock and the environmental consequences, the participant touches upon nitrogen mostly, eleven participants do so. They recognize it from the news, nitrogen being an important issue in the country at this moment. As participant I11 touched upon after being asked to elaborate on environment: "*Well, what everyone knows right, with the farmers and the nitrogen and what do I know, [..].*" Protesting farmers made their impression, however it is clear that the participants are not up to date about the detailed facts.

Emissions

Since the current crisis is not mentioned very often, this may imply that environmental concerns are not a salient belief for most participants. However, five participants do mention it themselves (after a while) as an argument to personally reduce meat consumption to some extent. The hierarchy differed per person, but for instance participant I1 covered it: *"As disadvantages [..], and currently also the emission and the impact on the environment is more a thing."* Others are aware to an extent that they adapt their meat consumption to the animals that have the least impactful emissions. Participant I8 explained: "*If we eat meat, we eat chicken, [..], since chicken have a smaller ecological footprint, they need less space and that is less bad."*

Other

Other motivators besides those are shortly mentioned, by one participant only. They concern the deforestation, with the nuances about soy included, or the enormous water use. Also the food efficiency, about the land use for livestock feed is mentioned shortly by one participant.

4.2.10 Knowledge

(Potential) Barriers

Too much information

Concerning a stream of information or an increase of knowledge, the participants did not agree in general. Four of them mentioned that there is already too much information send towards them, in commercials, newspapers, television, news, talkshows, etc. so they filter this out and will not be sensitive for more information. As participant I13 illustrated: *"There are so many conversations on television, so many talkshows that it becomes a mess, so many people, so many opinions, different opinions."* This way the participant indicates that not everyone would be sensitive for more knowledge.

Reluctant to change

Also, some participants, three, indicate that they are so content stuck in their habits that they do not feel the necessity to be open for more information or knowledge to potentially change their habits into reducing meat consumption. Participant I11 for instance stated when talking about potential change: "*No, no, it is that we talk about this, but normally I do not think about it."* R: *"[..], what if you would think about it?"* Participant I11: *"Then I would still not reduce meat consumption, no, [..], I do not find it important."* They indicate that their habitual rhythm of finding meat tasty will not be changeable with some information.

Motivator

Curiosity

It appears that participants who have determinants mentioned above as reason to reduce meat consumption, are partly based on knowledge. This information is mostly in the direction of animal welfare, health, or environment. This information is in most cases retrieved by the participants out of curiosity, in

the form of newspaper, YouTube videos, books, or articles, by at least five participants. For instance, participant I1 explained why he does not eat meat for eight years already: *"It was because of a video from someone on internet, [..], he talked about how weird it was that we eat meat. And then I started thinking about it, and I agreed [..]."* The majority of the rest of the participants did catch some parts of information, but found it difficult to remember from where.

Trust

The other way the participants indicate to receive information, is from friends and family. These people in the social surroundings are often trusted more. Three participants indicate to get information from people in their smaller circles. As participant I3 illustrated: "*I would prefer hearing it via-via. It is maybe not the most efficient way of passing information, [..]. Yes and then you know it is from a sort of trustworthy source, instead of, .. well at least someone that you can trust, instead of here and there a newsletter or email."*

Potential motivators

Increase awareness

Awareness is a word that was mentioned often by the participants. Eleven of them talked about becoming aware of something, differing in topics but mainly on animal welfare. They indicated that 'people in general' should become more aware of the consequences and consciously start making their choices. The conscious choices can be changed in the supermarket as well as at home planning the meals. In the conversation participant I9 stated: *"It is actually very good that this topic is touched upon more nowadays. [..]. I really think that, people, me included, should become more aware of this."* This indicates that it could be a potential motivator to become more aware of several aspects. Relating, it is argued by at least three participants, that a cause is necessary to motivate behaviour change. As participant I6 explains about her awareness: *"It sometimes just needs to come together, [..], there needs to be a cause before you, as this interview, that you have to become really aware about why do I do certain things and can I live without."*

Interest

Besides the potential barriers mentioned, on the other hand nine participants mentioned that they would be interested to know more about the concerning topics around meat consumption. It is argued that this will help to become aware of the consequences of meat consumption, and could slowly increase this awareness to a point where reducing meat consumption becomes a possibility.

Scientific facts

Five participants clarified that they do find it important to have scientifically proven information, that is based on real facts. Participant I16 for instance states strictly: "*If the source would really be, like scientifically proven, then I would find it interesting [..]".* There are three topics that got the most attention during the interviews that might be topics for sending information.

1. Animal welfare; seventeen participants argued that animal welfare could be a reason to reduce meat consumption, and thirteen of them were themselves very aware of the cruelties in the animal industry. However, since they often do not make the link between meat on their plate, and animals in de industry, the focus of this information stream should be about this particular awareness. Participant I8 about fish consumption: "*I think that because, when I eat fish, it is a square piece, or kibbeling, I do not associate that with suffer, pain and empty oceans, I just think, oh this is a very tasty piece of food on my plate [..]*". In addition, participants indicate that they do 'know it is not good', but just refuse to acknowledge this.
2. Health; it appeared that several participants reduced their pork consumption, because they heard or read or experienced that pork is not that healthy. Participant I18 for instance: *"I do not eat pork meat, because I know that can be unhealthy, [..], so I am careful with that [..]".* This is only for pork, but since fourteen participants paid attention to pointing out that health is important for them,

this implies that more information about health and meat consumption, including also other types of meat, can be helpful.

3. Environment; as stated before, mainly the nitrogen crisis is mentioned when the conversation turned to the environment. Since the farmers and their protests were on the news a lot, eleven of the participants mentioned nitrogen or nitrogen crisis as the obvious topic concerning environment. As participant I9 responded to the question to say a bit more concerning environment: "*[..], and nitrogen, of course."* Therefore the news or knowledge that needs to be filled is the side of the planet (instead of the farmers) and the broader scope around climate and livestock.

Pathways of information

The ways these information streams could reach the targeted people, varied among the participants. Although some of them were certain that not any form of knowledge could motivate them to reduce meat consumption, most of the participants brainstormed of ways they could be reached, or how they feel they are reached now as well. These are listed below, in order from most often mentioned to least often mentioned. Since the total amounts are not that high, differences between groups could not really be seen. It depended more on the interviews and the brainstorm that was created by the participant.

- News; on the news on television or in the newspapers. Provide news and information in formal forms.
- Television programmes; including talkshows, cooking programmes, and more.
- Documentary; on streaming services or television documentaries filled with information
- Supermarkets; in the supermarkets provide information, near the meat products
- Youtube; videos of people using scientific facts to make a point and provide information
- Social media; including advertisements or influencers giving and promoting information
- Campaign; larger-scale campaign repeating knowledge and necessity to change
- Posters; in supermarkets posters of animal cruelty, or unhealthy people, confronting the consequences near the purchase of meat
- Book/article; more informal ways of communicating information in a book or articles in magazines
- Advertisement
- General practitioner; focussing on information concerning health as individual advise
- Voedingscentrum; providing knowledge on health necessities for everyone, focussing on the nuance around meat and protein necessity

Combining and repetition

One overlapping element that multiple participants mentioned, is to combine several pathways of information. Four participants argued that repetition can be key in retrieving the information, since for one or a few times of exposure, it is relatively easy to ignore or avoid the specific information given. Also, three participants specifically mentioned that (behaviour) change is temporary sometimes, as is the awareness. Another advantage of repetition is achieved when it is seen from multiple channels, since it might get the conversation going as well. Participant I4 endorsed: "*[..] when I see something on my social media first, [..], then a talkshow, than again a documentary, then my girlfriend this, then the conversation in my friend circle, then you unconsciously stay on topic."* In addition, relating, the power of repetition is mentioned by some respondents as well, ways of retrieving motivation should repeat themselves to create more awareness.

4.3 Underlying beliefs

4.3.1 Norms and values

During the interviews information regarding several topics related to the potential motivators and barriers were asked. Information was retrieved about several underlying beliefs. However, these questions were not standardized in every interview, or addressed as much in every interview, so the numbers are approximate guesses and therefore only shortly mentioned here.

First, animal welfare was mentioned by everyone, eleven participants argued that they themselves find it cruel for animals, indicating that they find this important. Not all of them adapted behaviour because of this, implying that their norms / underlying beliefs are not aligned. Only five of them explicitly explained that this is a current reason why they (try to) eat less meat. On the other hand five participants argued that they do not think animal welfare is important. Second, regarding taste, as mentioned above, almost everyone stresses out that this is important, the norm is to have nice food. This directly links to their values, what people find important. Furthermore, the importance of health appeared from the way participants talked about their health of the arguments around health they gave. Fourteen participants indicated in some way that they do pay attention to their own health, which implies that one of the underlying beliefs / values is their personal health and the health of their families, wanting to take care of them. Up next, the importance of price. Twelve participants mentioned that price is important for them. This information was retrieved by analysing to what extent the participant talked about adapting habits to different prices, as for instance discounts and price differences in meat. From these conversations, it appeared that price is something this many participants consciously think about during doing groceries or cooking. This indicates underlying beliefs regarding priorities or welfare. On the other hand, one participant explained that her mother does not find price important, since her income is high enough to not worry about price. This implies that there is a relation between income or the availability of resources, and the importance of price. In addition, time was mentioned as important for them by seven participants. This was mostly related as that they do not have that much time to think about or cook something new, or they prefer some quick and easy meals, implying that this time is valuable for them. It appears that a preference for quick and easy meals, whether they include meat or not, is shaped by a (perceived or real) lack of time in some participants. Lastly, the influence of social norms and its underlying beliefs was retrieved from participants talking about adapting to others opinions or norms. It appeared that sixteen participants explicitly indicated to be sensitive to someone else's opinion. Social norms have influence on their underlying beliefs or actually form these. On the other hand, this is not for everyone, which seemed to be due to different social groups. In general, it was clear that the social norms come from underlying beliefs of not wanting to be difficult, it is easier to adapt, and the necessary conversations are difficult.

4.3.2 Demographic factors

The underlying beliefs (linked to motivators and barriers) differ per demographic group. The outstanding results are discussed below. These numbers are based on how often the topic was mentioned separately, implying where the focus of the conversation was. It is not about the number of participants talking about a topic. Also, the overall topics are named here, not the valence of the opinion. The reason for this is that no major differences were found between demographic groups in the valence of the discussed topics, but there were differences between which topics were discussed most in various demographic groups. Besides, the number of participants was too small to be able to generalize properly between these groups. Therefore it was chosen to only use the overall topics. This is summarized in table 3.

Table 3: Overview of demographic subgroups and topics

Topic		Education			Income			Gender		Age		
	Group	**Low**	**Middle**	**High**	**Low**	**Middle**	**High**	**Man**	**Woman**	**Young**	**Middle**	**Old**
	N(t)	**8**	**9**	**1**	**8**	**9**	**1**	10	**8**	**N 5**	**N 8**	**N 5**
Animals	N(c)	34	68	6	50	55	3	65	43	46	39	23
	N(a)	4,3	***7,6***	6	6,3	6,1		***6,5***	5,4	***9,2***	4,8	4,6
Environ-ment	N(c)	23	43	4	26	28	16	53	17	22	28	20
	N(a)	2,9	***4,8***	4	3,3	3,1	***16***	***5,3***	2,12	4,4	3,5	4
Habits	N(c)	98	118	10	91	117	18	114	112	53	112	61
	N(a)	***12,3***	13,1	10	11,4	13		11,4	***14***	10,6	***14***	12,2
Health	N(c)	43	64	6	61	48	4	66	47	34	55	24
	N(a)	5,4	7,1	6	***7,6***	5,3		6.6	5,9	6,8	6,9	***4,8***
Knowledge	N(c)	36	51	5	49	42	4	51	44	25	42	28
	N(a)	4,5	5,7	5	***6,1***	4,7		5,1	5,5	5	5,2	5,6
Price	N(c)	41	66	6	54	50	9	68	45	33	50	30
	N(a)	***5,1***	7,3	6	***6,7***	5,55		***6,8***	5,6	6,6	6,3	6
Social norms	N(c)	44	62	8	56	48	10	61	53	45	41	28
	N(a)	5,5	6,9	8	***7***	5,3		6,1	6,6	***9***	5,1	5,6
Taste	N(c)	42	51	12	49	47	9	58	47	31	51	23
	N(a)	5,3	5,7	***12***	***6,1***	5,2		5,8	5,9	6,2	6,3	***4,6***
Time	N(c)	9	17	1	8	14	5	10	17	3	19	5
	N(a)	1,1	***1,9***		1	1,6		1	***2,12***	0,6	2,3	1
Meat-re-placers	N(c)	31	51	5	34	44	9	50	37	26	42	19
	N(a)	***3,8***	5,7		4,3	4,9		5	4,6	5,2	5,3	***3,8***
Total	N(c)	403	596	63	478	496	88	600	462	318	481	263
	N(a)	***50,3***	66,2		59,8	55,1				63,6	60,1	***52,6***

Note: With N(t) as the total amount of participants/interview transcripts in this group, with N(c) as the total amount of codes., and with N(a) as the average amount of codes per participant/interview. The bold italic cells are discussed in text.

First, concerning education, the most striking results are the following. The low-educated participants had a lower average amount of codes. Taking this into account, they still talked most about habits, compared to other topics. Also a little more about price. Middle educated participants talked more about animal welfare and the environment in general. Striking is that for the topic of taste, it is comparable, implying that taste is as important for both demographic groups. Secondly, concerning income, the total number of codes were more comparable, although a bit more for the low-income group of participants. Then, these low-income participants talked more about several topics, such as health, price, taste, and social norms. The topics animal welfare, environment, and habits, were more comparable for both low-income and middle-income. Next up, regarding gender, a difference seems to be found in that women talk a little more about habits, or time (implying they cook more), while men talk more in general, and about the topics health, price, taste, and also a little more about environment and animal welfare. Lastly, regarding age, although the interviews lasted longer with the older aged group, the amount of codes is lower. They talked less about health, and less about taste. The middle aged group talked most about habits, and striking within the younger generation is that they talked a lot more about animal welfare and social norms.

4.4 Behaviour change stages

In Chapter 2 attention was paid to Transtheoretical model of behaviour change (TTM) (Kay Bartholomew Eldredge et al., 2016; Pope et al., 2015), to examine in what stage the interviewees may be in. Although generalization is not possible based on the low number of participants, it may provide an indication of the stage of change people with a low SEP are in with regard to reducing meat consumption. As can be seen in the model in figure 5, there are six stages. In the interviews, it was also asked if the participant was open to change behaviour with reducing meat consumption. From this, it appeared that nine were open for change, and five were not open for change, the rest did not provide a clear answer. Based on the rest of the interview and the interpretation of the researcher, this seems linked to awareness. The less aware (e.g. of negative consequences of meat consumption), the less open for change. The interviews were analysed to find indications to what stage a participant might be in. The participants are placed into stages, based on the general tone and findings of the conversation interviews, as perceived by the researcher. Note that behaviour change is not defined as diet in terms of eliminating meat consumption (vegetarian or flexitarian), but defined as reducing meat consumption. For instance, when a participant explains to intend to reduce meat consumption to a maximum range per week, it is already behaviour change. This leads to the following, summarized in table 4.

Table 4: Participants spread over the six stages of change

Stage of change	Number of participants
Precontemplation	3
Contemplation	4
Preparation	7
Action	3
Maintenance	1
Termination	0

Three participants are placed in the precontemplation stage, they are perceived to be not aware about any negative consequences of meat consumption, and they feel no intention to change their behaviour to reducing it. For instance, I10 about potential reasons why other people eat less meat: "*No, yeah, I would not really know why people would be vegetarian, yeah I would not [..], yes that is because we are really used to it, and then you just do not think about it.*". Next, four participants are perceived to be in the contemplation stage, they seem aware of the need to change behaviour, they are planning to reduce their meat consumption, but not committed yet. This postponed dedication can have several reasons, but for instance I9 got the awareness during the interview: "*At some point you start to think, with the little children, they have to grow up in a world that is liveable, [..], so maybe it is smart to, in the long run, become a little more reasonable, and euh eat a little less meat.*" It appears that there might be planning to change behaviour in the future. The third stage, of preparation, is the most crowded in this group of participants, seven participants are placed in this group. There is a begin in planning to change behaviour and reduce meat consumption, these participants already have one or more days in the week that they consciously do not eat meat. I14 explains her awareness and her planning on changing the menu with balance: *"[..] that you have a balance, I find that important. [..]. Well, [..], and sometimes meat and then occasionally no meat or vegetarian indeed."*. Furthermore, the action stage includes three participants, who are aware of the need and implement their intention to change behaviour in terms of reducing meat consumption. These participants modified their food choices already to an extent to make them seem fully aware of the need. Also, they are on the way to make an effort to reduce meat even more, as I15 argues: *"I think I am just a little on the slow path to vegetarian, [..], so probably at a certain point I might prefer to not eat meat with*

my parents as well, [..].”. Following, the stage of full behaviour change and maintaining this, is perceived as the stage where a participant is content, fully aware, and no intention to further change. One participant is placed in this stage, being vegetarian for a few years already. He is trying to prevent termination, by even intensifying his reducing meat consumption to dairy reduction and trying to influence others in this as well. I1 explains about the house rules: *“I am the biggest advocate for more vegan food, and I think that is increasing because of that.”* The final stage of termination is currently not occupied by any of the participants. However, two participants mention that in the past they were fully vegetarian and they stopped doing that (for different reasons). Both of them are now placed in another stage, based on their current point of view and behaviour.

In short, it can be retrieved from this analysis, that different people are placed in different stages, and they cannot be generalized to one stage of awareness and intention. One thing that can be slightly pointed out, is that the majority of this research group is in the preparation phase, meaning that they are aware of (some of the) negative consequences and subsequent need to reduce meat, and as they themselves say the intention is there to some extent, but they did not engage fully in behaviour change yet.

5. Discussion

The aim of this research was to get a better understanding of the motivators and barriers that play a role in reducing meat consumption among people with a low socioeconomic position. The detailed research question was: "What are motivators, barriers and underlying beliefs regarding reducing meat consumption for people with a low socioeconomic position in the Netherlands, and what are feasible ways for them to reduce their meat consumption?" For this, semi-structured interviews were conducted with eighteen participants, which were coded in multiple rounds and analysed. After the presented results, this discussion is structured as follows: First the most apparent results are interpreted and placed in the context of other literature in the research field. These interpretations are structured based on prevalence of the topic, corresponding with the results chapters. Then, results are linked to the proposed theoretical model. Strengths and limitations of the research are discussed, and lastly recommendations for practice and future research are proposed.

5.1 Interpretation results

Tasty meat (substitutes)

It was found that taste is the most often mentioned barrier. Participants perceived meat as very tasty, which diminished their willingness to reduce meat consumption. This is also found in previous research (Hielkema & Lund, 2021; Sanchez-Sabate et al., 2019; Stoll-Kleemann & Schmidt, 2017), where taste is also positively linked to familiarity of the product. Although it is perceived by participants a barrier, it opens up for possibilities; replacing meals, or meat substitutes should just be very tasty. The differences between people, varying from specifically liking the taste of meat to indicating to find taste in general more important, do imply that the added value of meat to a meal is perceived versatile. Tasty meat substitutes could be replacing the tastiness of meat. Especially for those who like a meal in which meat has a prominent place, such as potatoes, vegetables and meat, which is a common meal type in the Netherlands (AGV). It is important to personally experience and look for tasty meat alternatives. However, many people with a negative attitude towards reducing meat consumption, point at the non-tastiness of meat substitutes, implying that they are not aware of other options to reduce meat consumption. Alternative possibilities, such as eggs or beans need to be pointed out as well as inspiration for tasty recipes.

Habitual practices

Many people agreed to be eating meat regularly because they perceived it as normal, it is a habit, they do it automatically. The conclusion was drawn by participants that this came from their upbringing. Literature has indicated habits in social practices as determinant for food choice, being the barrier to change food choices as well (Chen & Antonelli, 2020; Sajdakowska et al., 2018; Stoll-Kleemann & Schmidt, 2017). Social factors influence this, like partners or families with children, following an automatic rhythm. Awareness plays a role in consciously changing habits, and for some participants the interview was an incentive, they even mentioned how this made them think about their habits. One potential explanation for these habits can be regarding historical developments, in previous generations meat developed in being a luxurious product, as extensively discussed by sociologist Bourdieu (2010). In some participant's habits it could be seen that they still see meat as a treat, the luxurious and most flavourful part of the meal. On the other hand, some participants are open for change, or already change their habits sometimes. Besides, automatic behaviour also opens up for possibilities, targeting automatic routes in supermarkets or normalising norms, which will be touched upon later.

Social environments

Elaborating on social factors, one remarkable outcome in the social norms area is that many participants mentioned people in their surroundings as factors to not reduce their meat consumption, but do not seem

aware of its influence and their adaptive behaviour. They valued the opinion of their partner or children and adapted their own meat consumption behaviour to their wishes. These family norms seem to differ from norms between friends, they are different social environments with a different influence. Cooking for family is more about what one thinks they would want to eat, for instance the husband argued often that he needs the meat. This is the so-called injunctive norm, doing what you expect others to approve (Cialdini et al., 1990). On the other side, the descriptive norm seems to be more present in groups of friends, do what most others do (Cialdini et al., 1990). If friends eat meat, one will just join them, and contradictory, if friends are vegetarian, it is not a big problem to adapt for that. Research found social factors as relevant motivators as well (Hielkema & Lund, 2021; Stoll-Kleemann & Schmidt, 2017). White et al. (2022) argue that social practices around meat consumption are one of the main barriers for adoption of plant-based alternatives. However, both norms are shifting, based on the results of the present study generations seem to differ from opinion, the younger generation is more open for change and their social environments offer space for inspiration and transition towards reduced meat consumption.

Economic priorities

Price was perceived by the participants in several ways, differing from 'too cheap' to mostly 'too expensive'. In addition, the current inflation is mentioned by almost everyone, many participants point out how everything including meat is getting more expensive. Simultaneously, it is also claimed by participants that the price of meat-replacers is not increasing that much, some participants mentioned to switch to meat-replacers because of price. This is a very current development (influenced by present economic developments), since in research it is found the other way around, the high price of alternatives being the main barrier (Eckl et al., 2021; Park & Kim, 2022; Vos et al., 2022). Also regarding the specific target group of people with a low-SEP, it was expected that price of meat substitutes was mentioned more as barrier than as motivator (Aggarwal et al., 2011; Eckl et al., 2021), however this was not supported by the findings, possibly also because of currently high inflation rate. While an even higher increase of the price of meat seems a logical recommendation for practice, some participants pointed how this might not be ethically right, creating or increasing inequalities in society. And, whether the extent to which a price incentive would influence people, depends on personal priorities with respect to the disposable income.

Knowledge of facts

Considered information concerns animal welfare, health, and environment. Such information can possibly influence choices for reducing meat consumption, as suggested by the results. However, while some participants argue that having more information might help them reducing meat consumption, this does not necessarily mean it actually does. For instance, taste is seen as important barrier in the results, while simultaneously it is not mentioned as information topic that would be of influence. From theoretical models explained in the theoretical framework, it is clear that knowledge is necessary for behaviour change, but only knowledge is not enough (Bandura, 1998; Fishbein & Ajzen, 2010). This is also called intention-behaviour discrepancy, and can be originated from different factors making it difficult to map and overcome (Wong & Sheth, 1985).

In addition, misinformation appears to have influence as well, participants reasoned with arguments that are based on false information. This implies that there are knowledge gaps that should/could be filled. Collier et al. (2021) linked sceptical attitudes towards meat substitutes to this lack of knowledge, implying that knowledge might have a positive influence. In general, generating more knowledge should be done via several ways, as multiple participants argued. Several channels could help creating awareness, while on the other hand some participants also indicated they would not be sensitive for more knowledge, concerning the amount of streams constantly going.

Regarding the topics specifically, animal welfare seems to be the most apparent argument that multiple participants were aware about. Contradictory, many of them do not act on it, pointing at avoiding behaviour, ignoring and postponing the confrontation. This avoidance can be interpreted as a consequence of so-called 'meat-related cognitive dissonance' (Kwasny et al., 2022). The knowledge of consequences that people avoid influence their values, but do not align with the behaviour and therefore avoiding is easier to also avoid this state of dissonance. This in turn relates to the diminishing of responsibility to big companies or the government, avoiding their own personal accountability. On the other hand, meat consumption can be explained by animal agriculture being the norm, to slaughter and eat animals is normal and consequently the negative effects are perceived as normal as well. Besides animal welfare, health appears to be a superficial topic, especially apparent is the focus on the historical men as an argument. Also Vos et al. (2022) showed that people with a lower SEP have a positive attitude towards healthy food choices. Since the individual health is a personal individual argument, just like tastiness and price, this might be the best topic to focus on for interventions, since multiple participants indicated their selfishness as well. As a last topic, knowledge about environmental consequences and concerns was mentioned the least by the participants, aligning with Sanchez-Sabate et al. (2019). Simultaneously, other research shows that environment can be the top one driver to reduce meat consumption (Hielkema & Lund, 2021). Besides, concerning the personal stories from participants, it is striking that nitrogen and farmers were mentioned the most, since this is a current development in the news. This confirms the agenda-setting function of the media, influencing the public agenda and opinion (McCombs, 2002). It appears that these news items did make an impression, leaving room for implications regarding news items, while at the same time there are interpretations that this one-sided information about protesting farmers can create related aversion.

Underlying beliefs

Beliefs underlying various motivators and barriers were mainly mentioned in ways that directly linked to those motivators or barriers, thus not as a separate determinant. For instance, price is linked to someone's potential money issues or their priorities. Regarding health, some participants did indicate that they find their health important, and some linked this to meat being healthy (barrier), some to meat being unhealthy (motivator). A last example concerns the lack of time or need for time efficiency. Some participants liked quick and easy meals, because they feel they need this convenience. However, this differs per personality and varying priorities, from healthy cooking, to quick cooking, to tasty cooking. This differs per day, per family, per week, per job, and per situation. Therefore, it was not possible to point out beliefs underlying motivators or barriers that were applicable to all participants, and thus, also not generalizable to other people with a low SEP.

Comparison with other SEP groups

This study focused specifically on a group of people with a low socioeconomic position. Studies that specifically focus on people with a high SEP are not found, but the results can be compared with the general barriers and motivators stated by several researches and systematic literature reviews. The tastiness of meat is found to be a barrier more often as well, although in existing literature taste as motivator is mentioned relatively more (Sanchez-Sabate et al., 2019). Apparent is that in their systematic literature review, it also appeared that nutrition and health plays an important role in choosing meat (Sanchez-Sabate et al., 2019), which is something that is not necessarily confirmed by this current research on people with a low socioeconomic position. Last, other researchers focused more on environmental concerns in their researches and participants mentioned that more as well compared to the group of participants in this research (Hielkema & Lund, 2021; Stoll-Kleemann & Schmidt, 2017). However, because of the small group participating in this research, no generalizing conclusions can be drawn.

5.2 Contextualizing theory

Proposed model

In the theoretical framework, the Integrated Model of Changing Food Choice (figure 4) is proposed. As it appears in the results, many different types of barriers and motivators are mentioned in the interviews, which could be linked to the personal drivers and environmental drivers in the proposed model, shown in figure 7. It is striking that barriers and motivators are spread over the model, implying that both personal drivers and environmental drivers can be a barrier or motivator to reduce meat consumption. Only availability as environmental driver was mentioned most as motivator or potential motivator, in both economic and physical availability. This has implications for practice, which will be mentioned below.

In addition, the proposed model focused on behaviour change, taking into account the intention to change behaviour retrieved from other models. In the applied model, it is visible that some barriers indeed have the possibility to overrule intention. For instance, some participants explained that they would like to cook less meat, but that their partner/husband really wants meat and this influences them.

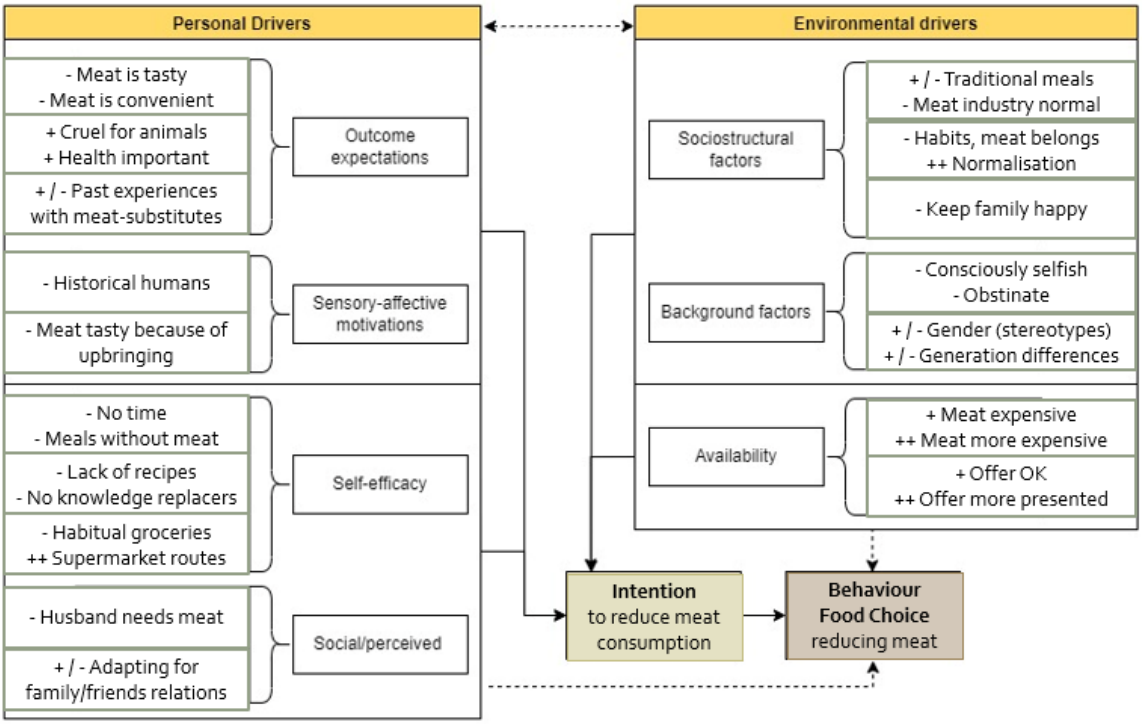

Figure 7: Applied Integrated Model of Changing Food Choice

Note: Barriers for reducing meat consumption are labelled with a (-), Motivators with a (+), and Potential motivators with a (++).

Theoretical concepts

Regarding other concepts described in the theoretical framework, some findings are interesting as well. For instance, attitude is shown only shortly in the proposed model. However, in practice, attitude was more complicated and versatile, linking to personality traits in the model. Especially the barrier of diminishing responsibility is one that does not belong to attitude only, it is more complicated than that. A combination of confronting information, avoiding behaviour, and awareness about other potential factors, results in participants being able to diminish responsibility. Moreover, topics as environment, health, and animal welfare, are not individually shown in the model while they were individually discussed in the results. They were combined to attitude and beliefs, but the model does not show the versatile topics that were combined within that.

5.3 Strengths and Limitations

5.3.1 Strengths

Strengths of this research include that it aimed to focus on people with a low socioeconomic position. This is not done very often, since this group is more difficult to reach (Stuber et al., 2020). Therefore, trying to fill a gap, this research adds to existing literature well. Besides, within this research, it appeared that results from people with a low socioeconomic position are not easy generalized in terms of motivators and barriers, and in terms of consisting of subgroups with people with a low education or a low income and not necessarily both. This small-scale research aligns with Aggarwal & Drewnowski (2019), stating that education and income might have a separate influence on people's food choices.

Another strength concerns the qualitative ground of this research. With qualitative interviews extensive information was retrieved, enabling to find deeper layers and more in-depth insights in the more general topics for barriers and motivators. This was done with semi-structured interviews, which is structured on the one side and leaves space for individual input on the other side. In addition, the qualitative data was systematically analysed using principles of the grounded theory. Therefore the research process is transparent.

5.3.2 Limitations

Besides strengths, the research also has its limitations. For instance, limitations concern the target group (e.g. low education and low income). These are important, since they have an influence on the usability of the research. The target group was an important factor in the research question, these limitations might make the research less lucrative. Other limitations concern methods of interviews and analysis, which have less influence on the usability, since these are more common in this type of research and concern typical limitations.

Target group

First of all, limitations concern the target group. The aim of the study was to find specifically people with a low-SEP, targeting mainly low-income and low-education. However, since it was difficult to find a combination of both these inclusion criteria at the same time, the research focused on several ways of recruiting participants, each way with another applicable criteria. The relation education-income was less clear to describe and recruit then expected, as was the assumption that those two factors would relate to a certain extent. Only two participants had both a low education as a low income, the rest had either one of them. This raises some discussion on the actual SEP of the participants: for example, they may have scored 'low' on education, and middle or high on income.

Regarding income of the participants, it is questionable whether the average household income of the postal code (four digits) is actually the income of the participant. For example, some participants who were classified as high income in their postal code, talked in between the lines about extra allowances, which they only are allowed to receive below a certain income boundary. This was taken into account for the results, by assigning these participants to the applicable low income group. In general, participants were indicated in the lower, though not the lowest income categories.

Furthermore, besides income limitations, also education limitations were found. These include that MBO 3/4 was taken into account as well, while according to the Dutch norms this is average education, so this is not the first chosen target group. In addition, some participants who were recruited in neighbourhoods, or for example via-via, during the interview appeared to have done HBO for a year. Officially this does not include them in the high education classification, but this might influence their point of view, their

awareness, or their knowledge. The HBO(p) were therefore included in the middle-education group participants, they have finished more then only high school.

Interviews

A limitation of qualitative research concerns the semi-structured interviews. Besides being a strength to a certain extent as well, semi implies that every interview had a different structure, which could have an impact on the interview, on the participant, and therefore on the results. Although with the interview guide it was tried to have a similar interview with every participant as possible. However, every participant had his own story and adapted the topics on that, which implies that some topics were addressed more in some interviews than in others. It is not sure if this is because of the follow-up questions or because of the personal topics of the participant. Moreover, the semi-structured interview guide was not useful to find underlying beliefs, as appears in the results. Participants tend to no deepen their answers after only one or two probing questions. Another limitation concerns the interview scene, interviews were all done in different settings, inside, outside, online, or on the phone. This resulted in different qualities of the recording, one of them even stopped halfway through.

Another bias that could have taken place, is the interviewer bias. Although the researcher tried to be as objective as possible, it is always uncertain to what extent the participants were influenced by the questions, the probing questions, and the non-verbal communication by the researcher. This could have had an influence on the given answers, and therefore on the results as well. Besides, this could have been different at the first interviews compared to the latter interviews.

One of the options that this interviewer bias could have had, concerns the social desirability, where participants tried to give as acceptable answers as possible. One of the ways to counteract this, was that in the introduction explanation, attention was paid to honesty of the participant and no judgement of the researcher. Other ways that were applied were to first ask questions concerning meat consumption, before mentioning reducing meat consumption, and by asking simple questions at the start of the interview, regarding households, groceries, and cooking, easing the participant. Moreover, participants responded at the end of the interview in varying ways, differing from curious about other participants, to curious about the researcher. What was striking, is that some participants seemed to use the interview to let go of their personal thoughts and let off steam, they seemed relatively lonely and just happy with the conversation.

Coding

The aim with the coding was to code as objective as possible. However, only one researcher did all the coding, so there is room for a personal bias. A second independent coder could have improved this inter-coder reliability. Moreover, it is possible that codes were missed, misinterpreted, or misunderstood by the coder, which could imply that the quantification might not be fully correct. A last limitation is that coding could have differed per interview, since the coding was done over a few weeks. A way to tackle this limitation was to code every interview three times, to align the code names within and between the interviews, to make a complete picture as possible.

5.4 Recommendations for practice

There are a few things that could help reducing meat consumption according to the participants, and they were all in different directions. It is important to note that what people think will motivate them, does not always align with what really motivates them. This can also be linked to the mentioned intention-behaviour discrepancy, there is dissonance is what is said and what is done or will be done (Wong & Sheth, 1985). Therefore, the potential motivators were combined with the thought of the researcher based on literature, to result in the following recommendations.

Increasing awareness

First of all, a recommendation concerns awareness. Meat consumption should become a conscious choice. Since habitual behaviour plays an apparent role in meat consuming behaviour and some participants were in the precontemplation stage, it is recommended to break these habits by exposure to relevant contextual cues (Kay Bartholomew Eldredge et al., 2016). For instance, by educating on risks and consequences, creating awareness. Mostly people know a bit, they are aware of for instance animal cruelties, but just avoid this confrontation or put their own pleasure higher. As stated before, consumers tend to have so called 'meat-related cognitive dissonance' (Kwasny et al., 2022), consequently they are avoiding meat-related information that contradicts their beliefs. Only creating more awareness about these topics is not enough, it is about creating awareness around the choice they have. One example, participants did often not count meat slices for breakfast or lunch as 'consuming meat'. This awareness can for instance be created with information streams. Possibilities were posters with information targeting several topics, as for example tastiness of meat-replacers, but also topics as individual health and animal welfare. The latter can also be placed on the meat packages, with pictures or illustrations targeting animal welfare. This is a way of using persuasive communication to target creating awareness around automatic behaviour, and changing the behaviour to becoming aware of the habit and deciding not to buy the meat product. Besides, awareness could be created by repeating messages, news items, by several channels, combined with social media from multiple streams, as also argued in research (Dagevos & Reinders, 2018; Kemper & White, 2021; White et al., 2022). One of the purposes of these information streams is to avoid misinformation, which some participants seemed to have. Moreover, an increase of awareness can reduce the dissociation of living animals with meat, as found in the systematic literature review by Kwasny et al. (2022).

Another recommendation concerns children. Children have a strong influence on healthy and sustainable food choices of parents, as participants said and was shown by Vos et al. (2022). Therefore awareness could be created via children on preschools, creating awareness around animal welfare, health, environment with children who in turn can influence their parents.

Perceptions on convenience and taste

Furthermore, recommendations for practice include to focus on availability and convenience, relating to skills and self-efficacy as well. As suggested, this has influence as a barrier, as well as a potential motivator. This partly concerns people in the contemplation stage, focusing on supporting barriers and misconceptions. This can be in many directions. The current research relates to other research, finding that a lack of skills and inspiration is a main barrier for sustainable food choices or reducing meat consumption (Khara et al., 2021; Vos et al., 2022). First, inspiration for recipes can influence convenience, showing people what the possibilities without meat are. This should be focused on taste, since taste was the driver that was mentioned the most as being an important reason to consume meat and simultaneously was not mentioned by participants as potential motivator. Thus, instead of the focus of recipes being on vegetarian, the focus should be on tastiness. Habitual meals including meat should be rediscovered how they are tasty as well without putting meat in it automatically. It is a way of persuasive communication targeting automatic behaviour. They can be shown on cooking programmes on television, but also in supermarket magazines. The latter can in turn be linked to the products being displayed on the counter tops, to make it visible. Besides, reinforcing messages can nudge the choices of the consumers, which is especially helpful for the people in the preparation and action stage, being encouraged to make the choices they do.

Second, related to the supermarket, when the products are more visible, they can also have a taste test desk where consumers can try the products. It appeared that some participants do not consume meat-replacers, because they think it does not taste well, although they never tried it. Trying to influence the perception about the tastiness of meat substitutes can be done with these test desks. Showing the easiness

of preparing these meals can in turn enhance the self-efficacy of the consumer. White et al. (2022) argue that meat substitutes are often seen as more convenient, which makes targeting this aspect valuable. A combination with discounting these products could be a convenient incentive to purchase a substitute.

In addition, meal-boxes such as HelloFresh can be a convenient target as well, with interventions as decreasing the price for vegetarian options and enlarging the amount of vegetarian options, to normalise vegetarian options. Again, not necessarily mentioning the absence of meat, but focussing on the tastiness of meals. Related to this, an increased availability of alternatives (products and recipes) will increase the normalisation of vegetarian options, which is discussed by the participants, as well as in previous research (White et al., 2022). Normalisation should be in terms of increased availability, but also increased exposure in commercials, films, and restaurants.

Regulations

Besides targeting consumers individually, the government could also help in motivating consumers. For instance, the price of meat should be increased, this will motivate people to reduce their meat purchases. It is not necessarily important that meat substitutes decrease in price, it concerns more the increase of meat. In addition, the government could take care of the campaigns and supermarket regulations mentioned above, when this is implemented top-down there is more financial support.

5.5 Recommendations for future research

Recommendations for future research are given, based on results and limitations discussed before. The order of mentioned recommendations is based on the order of previous chapters.

Target group

First of all, in future research the target group should be more narrowed down to people with both a low income and a low education. They should be recruited in places where it is likely to find only this population. Related to the specifications of the target group, it might be interesting to examine if there is a difference between education and income. Not many research focused on this difference, although Aggarwal & Drewnowski (2019) found that education has more influence on plant-based protein consumption than income, among US adults. Since also for this current research it appeared that there might be slight differences between education groups, and other differences between income groups, this might imply that some topics are more generalized in society than others. To examine this even further, quantitative data sets should be conducted and used for analysis, to be able to generalize the target groups. In addition, since the current group of participants appears to be very diversifying on other demographics as well, with different opinions and experiences, it might be interesting to dive further in this. For instance, find ways to split up the groups and find demographics that have an influence. Do people from different work areas have different opinions? Hypothetically, do people in the building sector prefer more meat in their meals, compared to people in the care sector? And why is this, are there specific underlying beliefs that created these habits within certain social environments like those? And more importantly, how does this influence their openness to any dietary transition? Many interesting and relevant questions for future research.

Knowledge

Knowledge has been a topic on several aspect of this research, as what knowledge is known, what is not known, what knowledge has influence or not, and are there specific parts of knowledge that people miss and want to know? What appeared in this research, is that this really differed per individual person, in all aspects. Therefore this is a topic for future research; what do people know about the consequences of meat consumption? Most information they have, especially the middle and older generations, is superficial and stops at ‘animals and nitrogen’. What do they know exactly, or, formulated differently, what information has reached them and what not? Where is the literal knowledge gap? And in turn, what

knowledge might have an influence, or is it perceived as one big hump of non-importance? This might be interesting for future research, since it might be a component of creating awareness. Where are the people aware about, what can they become aware about, and what do they want to become aware about?

Social impact

Many drivers related to social norms and the impact of it remain unknown. For instance, is there a difference between friends and family regarding these food choices? And then, how significant are these norms in food choices within households? It seems as if partners, or husbands, do have a large impact in this group of recruited participants. How big is this impact, are there ways to overrule this impact, and what or who should do this? All questions that are relevant for future research. Besides, concerning the norms of friends, it seems like there is a possibility, friends inspiring each other with new recipes. So why does this apply for some people and for others not? And, this implies that there needs to be a start, an oil stain that spreads. Is there any possibility to catalyse these starters? Social environments stay social bubbles, bubbles have a strong influence, so ways to inject these bubbles need to be found.

Theories

Lastly, theories can be deepened in future research. Besides the used theories in the theoretical framework, including the Influencers of Food Choice, the Reasoned Action Approach, the Social Cognitive Theory, and the proposed Model of Food Choice Change, other theories might be interesting as well. For instance, the Precaution-Adoption Process Model (Kay Bartholomew Eldredge et al., 2016) to look specifically at the high-resistant people, which seemed to be present in this target group. Or, since changing food choices is partly about self-regulation, the Self-Determination Theory (Kay Bartholomew Eldredge et al., 2016; Ryan & Deci, 2000), to examine the self-motivation and self-determination of people at individual levels, focusing on social and cultural factors. Self-regulation is perceived as one of the most important factors in changing food choices, more research on this should be done (Schunk & DiBenedetto, 2020). Moreover, to examine more about the persuasive communication possibilities to target the automatic behaviour of food choices, models as the Elaboration Likelihood Model (Petty & Cacioppo, 1986) could be used, to examine attitude changes and stages, or the Dual System Theory (Morewedge & Kahneman, 2010) could be used to find what processes in food choices happen which way. A last recommendation is to use Implicit Association tests (Karpinski & Hilton, 2001) to find out what moves people to eat meat. They apparently do not know it themselves, so it might be all unconscious processes, as habits. Implicit association are test to measure the unconscious attitudes. In general, for creating an intervention, it is recommended to use the Intervention Mapping Approach by Kay Bartholomew Eldredge et al. (2016), since well-grounded steps are provided.

6. Conclusion

This study aimed to gain a better understanding of the motivators and barriers that play a role in reducing meat consumption among people with a low socioeconomic position. As stated, reducing meat consumption is necessary to target issues around environmental concerns, animal welfare, public health, and food insecurity.

It can be concluded that reducing meat consumption for the group of people with a low socioeconomic position is not as simple or black and white as was assumed from literature by the researcher. There are many different arguments for reducing meat consumption, and the perceptions are versatile. This means that most topics were addressed both as barrier and motivator, two sides of the medal, for instance for taste, habits, and social norms. Some barriers were shared by a majority of the participants, such as meat being tasty or cooking meat being a habit. Motivators to reduce meat consumption mainly concerned an increased price of meat or an inspiration boost. For both barriers and motivators social norms play an important role but differing by personal situation and social environment; households have rhythms, partners want to please each other, friends can inspire each other. Individual thoughts and beliefs were included in all arguments, making it difficult to draw straight conclusions. Moreover, information about negative consequences of animal agriculture is avoided by participants, which is possibly due to cognitive dissonance. When aware, some participants diminish their feeling of responsibility by placing accountability with big companies, the government, or other chain actors.

In general recommendations include the need for more awareness about the conscious choice for meat. It is important for people to be able to make the link between relevant topics (e.g. individual health, environment, animal welfare) and the choice of meat on their plates. This can be done by creating awareness through information streams via different channels, nudging factors in the supermarket, and illustrations on packaging. Another way to influence behaviour is to promote the tastiness of meat substitutes or other recipes without meat, influencing the taste perception of these meals. Last, regulations could increase the price of meat, making it more attractive to choose other options as meat substitutes, which should be on discount more often.

Future research should be targeted on first examining the available knowledge and information, second, finding the underlying automatic attitudes, and third, differentiating between demographic groups as education and income separately. To conclude, every individual has a different perspective, with different norms and values, therefore needing different types of interventions. All in all, there are enough ways to potentially motivate people to reduce their meat consumption, however, every person or social group needs to be targeted differently and this study shows that people or social groups can not easily be categorized by demographic factors.

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Appendices

Appendix I – Information sheet

Informatie voor deelname aan onderzoek

Gewoontes rondom het eten van vlees.

Onderzoek naar gewoontes en meningen over vleesconsumptie.

Inleiding

Beste heer/mevrouw,

Met deze informatiebrief wil ik u vragen of u wilt meedoen aan dit onderzoek. Meedoen is vrijwillig. U leest hier om wat voor onderzoek het gaat, wat het voor u betekent, en wat de voordelen en nadelen zijn. Wilt u de informatie doorlezen en beslissen of u wilt meedoen? Als u wilt meedoen, kunt u het formulier invullen dat u vindt in de bijlage.

1. Algemene informatie

Dit onderzoek is voor mijn eindopdracht bij de universiteit van Wageningen, voor mijn studie Communication, Health & Life Sciences. Deze eindopdracht duurt 6 maanden, en een belangrijk onderdeel van mijn onderzoek is het praten over gewoontes rondom vlees eten met verschillende mensen.

2. Wat is de achtergrond en het doel van het onderzoek?

De achtergrond komt uit nieuwsgierigheid naar het eten van vlees, waarom precies eten mensen vlees? Het doel van dit onderzoek is dan ook om dit te ontdekken, met de gewoontes rondom het eten van wel of geen vlees bij verschillende maaltijden.

3. Hoe verloopt het onderzoek?

Hoelang duurt het onderzoek?

Het gesprek, een interview, duurt in totaal ongeveer 30 tot 45 minuten.

Hoe ziet het onderzoek eruit?

Ik neem contact met u op om een afspraak te plannen. Dan zoeken we een plek om rustig te zitten, dit kan thuis zijn, maar ook buiten, of in een buurthuis, of bij een openbare plek. We praten dan over uw gewoontes bij het eten van vlees. Om te onthouden wat er allemaal gezegd wordt, maak ik een geluidsopname van het gesprek. Daarna schrijf ik het gesprek uit. Ik gebruik het gesprek voor het schrijven van mijn eindopdracht.

Wat gebeurt er na het onderzoek?

De geluidsopname wordt verwijderd direct na het uitschrijven van het gesprek. Het uitgeschreven gesprek wordt geanonimiseerd bewaard zodat het niet ter herleiden is naar u. De goedkeuring van het gebruik van het gesprek met u kunt u op elk moment weer intrekken.

4. Wat zijn de voordelen voor u als u meedoet aan het onderzoek?

Meedoen aan het onderzoek heeft verschillende voordelen.
Allereerst worden er aan het eind drie cadeaubonnen ter waarde van 10 euro verloot onder de deelnemers.

Verder draagt u bij aan onderzoek dat een duurzame samenleving probeert te stimuleren.

5. Heeft u vragen?

U kunt uw beslissing nemen met de informatie die u in deze informatiebrief vindt. Daarnaast raden we u aan om dit te doen:

- Stel vragen aan de onderzoeker die u deze informatie geeft. Contactgegevens staan hieronder.

- Praat met uw partner, familie of vrienden over dit onderzoek.

Contactgegevens onderzoeker:

Naam: Merel van Moorst, BSc (student Communication, Health & Life Sciences bij Wageningen University)

Begeleiders: dr. Amy van der Heijden (Strategische Communicatie) & Prof. dr. Pieter van ’t Veer (Humane Voeding en Gezondheid), Wageningen University

Tel: 06-39300843

Email: merelfleur.vanmoorst@wur.nl

6. Hoe geeft u toestemming voor het onderzoek?

U kunt eerst rustig nadenken over dit onderzoek. Daarna vertelt u de onderzoeker of u de informatie begrijpt en of u wel of niet wilt meedoen. Wilt u meedoen? Dan vult u het toestemmingsformulier in dat u bij deze informatiebrief vindt. U en de onderzoeker krijgen allebei een getekende versie van deze toestemmingsverklaring.

Dank voor uw tijd.

Appendix II - Interview Guide

Introductie

Hallo/Goedemiddag, mijn naam is Merel, en allereerst bedankt dat u met mij dit interview wil doen. Ik ben een Masterstudent in Wageningen, en op dit moment ben ik geïnteresseerd in het eten van vlees en doe ik daar een onderzoek over als eindscriptie. Ik studeer Communicatie en Innovatie, bij een onderzoeksgroep over Communicatie. Mijn begeleiders zijn Amy en Pieter. Dit interview is dus voor mijn onderzoek, ik ga u wat vragen stellen over wat u allemaal eet en waarom. Het doel van dit onderzoek is vooral om er meer te weten over te komen. U heeft aangegeven geïnteresseerd te zijn in dit onderzoek, en na een korte screening met dat formulier, bent u uitgekozen voor een uitgebreider interview (in het kader van een gevarieerde doelgroep). Hiermee heeft u dus kans op één van de drie VVV bonnen die na afloop verloot zullen worden. Dan gaan we zo beginnen. Vindt u het goed als ik dit interview opneem voor de transcriptie? U kunt tussendoor altijd nog aangeven als de opname gestopt moet worden, en ze zullen na afloop van het onderzoek gelijk verwijderd worden. **Bij 'ja' leg de recorder klaar.**

Goed, dan wil ik u in ieder geval vragen om de vragen zo eerlijk en uitgebreid mogelijk te beantwoorden, maar onthoud vooral dat er geen goede en foute antwoorden zijn. Ik ben vooral benieuwd naar uw mening. U kunt zo open mogelijk zijn tijdens het beantwoorden, u kunt later altijd nog aangeven als er iets uitgehaald of veranderd moet worden. Verder zal het interview ongeveer 45 minuten tot een uur duren, waarin ik eerst wat vragen over u stel, zoals hoe oud u bent, en dan wat vraag over uw eetgewoontes, de boodschappen, de maaltijden die u eet, en daarna gaan we wat dieper in op de vleesconsumptie. Maar ik zal u door de onderwerpen heen helpen. Heeft u nog vragen?

Demografische vragen

Veel hiervan staat al in de Google Forms, maar de belangrijkste dingen worden hier nog gevraagd voor dubbelcheck.

Wat is uw naam?

Wat is uw leeftijd?

Wat is uw geslacht?

Wat is uw beroep?

Wat is uw opleidingsniveau?

Welke stad/dorp woont u? / Wat is uw postcode

Vragen – 1

Uit hoeveel mensen bestaat uw huishouden? En in wat voor verband?

In uw huishouden, wie is er verantwoordelijk voor de boodschappen?

En wie is er verantwoordelijk voor de boodschappenlijstjes?

En wie is er verantwoordelijk voor het koken? Of besluiten wat er op het menu staat?

Hoe vaak in de week eet u / eten jullie thuis vlees?

Wanneer wordt dit vlees meestal geconsumeerd?

Denk aan ontbijt, lunch, avondeten?

En hoe zit dit met vis?

Wat is voor u een motivatie om vlees te consumeren?

Waarom koopt en kookt u vlees?

Denk aan gemak, lekker, goedkoop, norm, gezond

Hierbij doorvragen bij alle redenen met ´waarom´

Waarom makkelijk, waarom goedkoop, waarom (on)gezond

Weet u wat het minderen van vlees eten betekent?

Hoe vaak in de week eet u / eten jullie geen of minder vlees?

Welke maaltijden zijn er dan bijvoorbeeld zonder vlees?

Denk aan ontbijt, lunch, avondeten?

(Bij wel eens zonder vlees) Waarom kiest u ervoor om wel eens zonder vlees te eten?

Wat zijn redenen voor u om geen vlees te eten?

Denk aan kennis (milieu/dieren/gezondheid), lekker, goedkoper, leuk, gezond, sociale kringen

Hierbij doorvragen bij alle redenen met ´waarom´

Waarom kennis, waarom goedkoper, waarom (on)gezond

(Bij nooit vegetarisch) Waarom kiest u ervoor om nooit zonder vlees te eten?

Wat zijn de redenen om geen opties zonder vlees te kiezen (barriers)?

Denk aan duur, geen tijd, geen inspiratie, niet lekker, ongezond, invloed anderen

Hierbij doorvragen bij alle redenen met ´waarom´

Waarom geen tijd, waarom geen geld, waarom (on)gezond

Bent u zich bewust van de voordelen van eten met minder vlees?
//Weet u waarom anderen mensen ervoor kiezen om minder vlees te eten?

Heeft dit invloed op de keuzes die u maakt?

Tussenstuk

Oke, dat was het eerste gedeelte van het interview. Nu heb ik een beter beeld van wat u meestal eet verschillende redenen hierachter voor u persoonlijk. Zover ik heb begrepen, hoeveel vlees/vega en belangrijkste reden.

Ik zal nu verder vragen stellen, over waarom u bepaalde keuzes maak. En bijvoorbeeld wat u het meest lastig vind, en vooral wat zou kunnen helpen om dingen te veranderen.

Vragen - 2

Wat zou u zelf onder minder vlees eten verstaan?

Denk aan hoeveelheid, hoe vaak per week, hoe vaak per dag

Staat u open voor het verminderen van vlees in uw eten?

(Bij ja) Waarom wel?

Wat zijn voor u de grootste motivaties om vlees te minderen?

Denk aan milieu, dieren, gezondheid, prijs, lekker,

Hierbij doorvragen met ´waarom´

Wat zou er volgens u moeten gebeuren om dit makkelijker te maken?

Denk aan recepten, aanbiedingen, kennis/informatie,

Hierbij doorvragen met ´waarom´ of ´hoe´

(Bij nee) Waarom niet?

Wat zijn voor u de grootste barrières om vlees te minderen?

Denk aan duur, geen tijd, vies, mening van anderen

Hierbij doorvragen met ´waarom´

Wat zou het wel aantrekkelijk te maken om minder vlees te eten?

Denk aan goedkoper, lekkerder, kennis,

Hierbij doorvragen met ´waarom´, waarom zou dit verandering brengen?

Afsluiting

Hartelijk bedankt voor uw deelneming, {NAAM}. U heeft zojuist geholpen om 4 onderzoeksvragen te beantwoorden, met wat vervolgvragen erbij, wat veel betekent voor dit onderzoek over vleesconsumptie. Heeft u nog vragen?

{ korte samenvatting van interview }

Voordat we dit interview afsluiten, kunt u mij misschien vertellen hoe u dit ervaren heeft? En heeft u nog vragen of suggesties voor verdere interviews?

Ik vond het in ieder geval een goed interview, dus bij deze zal ik de opname stoppen. Nogmaals ontzettend bedankt. **Stop de opname.**

Appendix III - Blueprint

Interview Guide – Blueprint

Research question

- Objective
    - Topic
        - Aspect

RQ1:
What are the underlying beliefs, motivators, and barriers regarding reducing meat consumption and vegetarian consumption for people with a low SEP in the Netherlands?

- O: To determine current meat/vegetarian consumption
    - T: Participants meat consumptions every day/week
        - A: Breakfast / lunch / dinner
        - A: Every day / some days
        - A: Quantity: only meat or partly vegetables etc
- O: To determine who is responsible in the household for the meals
    - T: Responsibility groceries
        - A: Groceries themselves
        - A: Someone else
        - A: separated
    - T: Responsibility cooking/meals
        - A: themselves
        - A: Someone else
        - A: Divided
- O: To identify motivators for this consumption
    - T: Motivations or reasons to like meat
        - A: It is nice and delicious
        - A: It is cheap
        - A: Knows how to cook it, so time efficient
        - A: It is a habit
        - A: It is tradition
        - A: Influenced by advertisements and bonus
        - A: Social pressure of partner/household
        - A: Social pressure of friends
- O: To identify barriers for this consumption
    - T: Perceived barriers and reasons to not eat vegetarian
        - A: It is experienced as expensive
        - A: It is too much effort
        - A: It is time consuming
        - A: It is not delicious
        - A: Social pressure of partner/household
        - A: Social pressure of friends
- O: To identify underlying beliefs for this consumption
    - T: Beliefs about meat consumption

        - A: It is healthy
        - A: It is necessary
        - A: It is a tradition /habit
    - T: Beliefs about 'too expensive'
        - A: No money for it
        - A: No time to find price friendly solutions
    - T: Beliefs about 'no time'
        - A: No time because of work
        - A: Not want to make time
        - A: No time because of stress

RQ2:
What are feasible ways to motivate people with a low SEP in the Netherlands to reduce their meat consumption?

- O: To determine what reducing meat consumption is in the eyes of the participant
    - T: Definition of reducing meat consumption
        - A: Less meat per meal
        - A: Less meat per day
        - A: Less meat per week
- O: To determine how the participant reduces meat consumption currently
    - T: Current reducing meat consumption
        - A: None
        - A: Sometimes fish instead of meat
        - A: Sometimes no meat
        - A: Sometimes less meat per day
    - T: Quantity of reducing meat consumption
        - A: Every day
        - A: Every week
- O: To identify ways that the participant might want to reduce meat consumption
    - T: Possible ways to reduce meat
        - A: If it was cheaper
        - A: If there were recipes included
        - A: If it was ready to go meals
        - A: If it was in the BONUS
        - A: If they know how to cook it
        - A: If they know about the arguments why (climate/animals/health)
- O: To identify these especially for the low SEP people
    - T: Specific points for this target group
        - A: Less knowledge?
        - A: Less time?
        - A: Less money?

Appendix IV – Consent form

Bijlage: toestemmingsformulier proefpersoon

Behorende bij “Gewoontes rondom het eten van vlees”

- Ik heb de informatiebrief gelezen. Ook kon ik vragen stellen. Mijn vragen zijn goed genoeg beantwoord. Ik had genoeg tijd om te beslissen of ik meedoe.
- Ik weet dat meedoen vrijwillig is. Ook weet ik dat ik op ieder moment kan beslissen om toch niet mee te doen met het onderzoek. Of om ermee te stoppen. Ik hoef dan niet te zeggen waarom ik wil stoppen.
- Ik geef de onderzoekers toestemming om mijn gegevens te verzamelen en gebruiken. De onderzoekers doen dit alleen om de onderzoeksvraag van dit onderzoek te beantwoorden.

- Ik wil meedoen aan dit onderzoek.

Mijn naam is (proefpersoon): ……..

Handtekening: …… Datum : __ / __ / __

Ik verklaar dat ik deze proefpersoon volledig heb geïnformeerd over het genoemde onderzoek.

Wordt er tijdens het onderzoek informatie bekend die die de toestemming van de proefpersoon kan beïnvloeden? Dan laat ik dit op tijd weten aan deze proefpersoon.

Naam onderzoeker (of diens vertegenwoordiger):…….

Handtekening:…… Datum: __ / __ / __

De proefpersoon krijgt een volledige informatiebrief mee, samen met een getekende versie van het toestemmingsformulier.

Appendix V – Codebook

Category	Inductive / Deductive	Codename (in Dutch, as used in ATLAS.ti)	Definition
Taste	Deductive	Ta. Belangrijk	Taste is mentioned as important.
		Ta. Onbelangrijk	Taste is mentioned as not very important.
		Vlees is lekker	Taste is mentioned as argument.
	Inductive	Cultuur	Culture is mentioned as an important factor.
		Eerst proeven	The importance of tasting food or knowing how it tastes before buying is mentioned, e.g. concerning meat-replacers.
		Hoort bij specifieke maaltijden	That meat belongs to a specific meal is indicated.
		Specifiek varken niet lekker	Specifically pigs meat is not tasty
		Vis is lekker	Fish is indicated as tasty.
		Vlees niet lekker	Meat is indicated as not tasty.
		Vlees textuur niet lekker	Meat texture is indicated as not tasty.
		Vlees voor jus	Meat indicated to use for gravy.
		Vleesvervanger niet lekker	Meat-replacers are indicated as not tasty.
		Vleesvervanger wel lekker	Meat-replacers are indicated as tasty.
Habits	Deductive	Ha. Gewoonte	Literally saying it is a habit
		Vlees automatisch	The participant shows that the habit to eat meat is automatic, they do not think about it.
	Inductive	Balans in maaltijden	Meals are cooked based on variation and balance.
		Gewenning is veiligheid	Habituation is mentioned to feel safe.
		Gewoonte agv'the	AGV'tje is indicated as a standard meal, including typical Dutch potatoes, vegetables and meat.
		Gewoonte door opvoeding	Habit of eating meat is taught through upbringing.
		Gewoonte moeilijk veranderen	The participant indicates that change is difficult.
		Mijn schuld	Literally saying that it is "her/his fault"
		Niet mee bezig	The participant mentioned that he/she is not consciously thinking about this topic.
		Opvoeden (vlees hoort erbij)	From upbringing it is taught that meat belongs to each meal.
		Opvoeding vlees is lekker	It is taught through the upbringing that meat is tasty.
		Vega automatisch	The participant mentions the unconsciousness of preparing/buying meals without meat.
		Vlees hoeft niet altijd	The participant points at that meat is not always necessary to have in meals.
		Vlees hoort erbij	The participant points at the habit that meat 'just belongs' to the meal.
		Vlees is gewoon lekker	The participant points that meat is "just delicious"
		Vlees is speciaal	Meat is indicated as the special/luxurious part of a meal or in general.

Convenienve	Deductive	Heeft geen tijd	The participant emphasizes that is there he/she has no time to prepare the meal.
		Kost te veel tijd	The participant points out that it takes too long to prepare the meal.
	Inductive	Boodschappen makkelijk	The participant emphasizes that groceries must be done easy/quick.
		Boodschappen slager	The participant emphasizes that he/she does groceries at the farmer or butcher.
		Boodschappen vers	The participant emphasizes that groceries must be fresh.
		Boodschappen route automatisch	The participant highlights that doing groceries is a routine task.
		Leuk om nieuwe dingen te koken	The participant likes cooking and spending time in the kitchen.
		Niet zoveel zin	The participant thinks he/ she does not want to put effort into cooking.
		Vleesvervangers makkelijk	Replacing meat with meat-replacers is perceived as easy.
		Vleesvervangers moeilijk	Replacing meat with meat-replacers is perceived as difficult/ extra effort.
		Wil snel simpel	The participant points at the necessity to cook ‘fast and simple’.
Social norms	Deductive	Aanpassen aan omgeving	The participant adapts to wishes or opinions from others.
		sn. geen invloed	The participant indicates to not be influenced by social norms.
		Sn. Invloed	The participant indicates to be influenced by social norms.
		Partner sterke mening	The participant indicates to be influenced by his/her parter.
		Familie/kinderen sterke mening	The participant indicated to be influenced by family members.
		Vrienden sterke mening	The participant indicates to be influenced by friends.
	Inductive	Aanpassen aan anderen pleaser	The participant indicates that he/she pleases others concerning food.
		Erover praten	The participant emphasizes that he/she talks over the topic.
		Lasting om minder vlees te eten	The participant points at the difficulty to go against norms.
		Makkelijker om aan te passen	The participant indicates that it is easier to adapt yourself to others.
		Mensen die anders doen zijn lastig	The participant indicates that people who eat differently are difficult to account for.
		Vermoeiende gesprekken	The participant highlights that it is a tiresome conversation to have.
Price	Deductive	Pr. belangrijk	The participant indicates that he/she pays attention to price.
		Pr. niet belangrijk	The participant indicates that price does not play a big role.
		Vlees duur	Meat is judged as being expensive.
		Vlees is te goedkoop	Meat is judged as being cheap.

		Vlees moet duurder	It is indicated that increasing the price of meat would make a difference in the decision making.
	Inductive	Aanbieding heeft invloed	The participant indicates they are influenced by price reductions from advertisements
		Alles wordt duurder	The participant is very conscious about the price inflation.
		Biologisch vlees is duur	The participant specifically points at organic meat as more expensive.
		Duurder vlees is ongelijkheid	A higher price for meat as opposed to meat replacers is perceived as inequality
		Gezonde dingen moeten goedkoper	The participant emphasizes healthy food should be cheaper
		Kiloknaller heft functie	The participant indicates the “kilo banger” (cheap meat by the kilo) has a function
		Vega is goedkoper	Vegetarian food is perceived as cheap
		Vis is duur	Fish is perceived as expensive
		Vlees te duur	Meat is perceived as too expensive
		Vlees wordt duurder	The participant points out meat is becoming more expensive
		Vleesverangers moeten goedkoper	The participant indicates that meat replacers should be cheaper
		Vleesvervangers zijn duur	Meat replacers are perceived as expensive
		Vleesvervangers zijn goedkoper	It is mentioned that a vegetarian meal/diet is less expensive.
		Vleesvervangers zijn duur	It is mentioned that a vegetarian meal/diet is more expensive.
		Vleesvervangers zijn goedkoper	It is mentioned that a vegetarian meal/diet is cheaper
		Zou meer vlees en/of vis willen eten	The participant indicates they want/would like to eat more meat and/or fish
Animal welfare	Deductive	Niet zielig voor dieren	When a person shows that animal cruelty does not matter, he/she does not feel emotion for the animals.
		Zielig voor dieren	When a person shows that animal cruelty does matter, he/she does show emotion for the animals.
	Inductive	Bio beter voor dieren	Organic meat is perceived as better for animal welfare
		De grote stallen	Large stables of animals are mentioned
		Geen associatie vlees en dier	The participant indicates that meat (piece/slice) and the animal are difficult to associate with each other.
		Import/export	The participant is aware of import and export of mat
		Onderscheid in dieren	The participant makes a distinction between different animals in terms of welfare and importance of welfare
		Onszelf boven dieren plaatsen	The participant points at the animals not being our possession.
		Overschot aan hebberigheid	People are perceived as excessively greedy when it comes to consuming meat

		Slachting zien	The participant indicates that meat consumption would change if slaughter was visible
		Specifiek varken zielig	The participant mentions pork specifically as more cruel.
		Sterk tegen, niet achter staan	The participant is against animal cruelty
		Verantwoordelijkheid om leed te voorkomen	The participant feels responsible for preventing suffering
		Vis beter dan vlees	Fish is perceived as better than meat of land animals in terms of animal welfare
		Vlees afkeer	The participant feels aversion towards meat
		Vrachtwagens	The participant perceives trucks for transport of animals as poor animal welfare
Health	Deductive	He. Belangrijk	The participant points at the importance of a healthy diet for him/her personally.
		He. Niet belangrijk	The participant says that health is not important for him/her.
		Vlees is gezond	The participant implies that he/she consumes meat because it is healthy.
		Vlees is ongezond	The participant implies that he/she thinks meat is not healthy.
	Inductive	Allergie	The participant implies allergies play a role
		Alternatieven zijn gezond	The participant implies that he/she consumes meat replacers because they are healthy.
		Bonen als vv	The participant implies that he/she consumes legumes as meat replacers because they are healthy.
		Halal vlees	The participant implies that he/she consumes halal meat because it is healthy.
		Oermens	The participant implies that he/she consumes meat because prehistoric men already consumed its and it is thus naturally healthy.
		Specifiek varken ongezond	The participant mentions pork meat specifically as being unhealthy.
		Troep in vlees	The participant implies there is ‘rubbish’ in meat
		Vis is gezond	The participant implies that he/she consumes fish because it is healthy.
		Vlees eiwitten	The participant implies that he/she consumes meat because of the protein it provides.
		Vlees is niet altijd nodig	The participant indicates they think meat is not always a necessary part of a meal
		Vleesvervanger is gezond	Meat replacers (or beans) are indicated as healthy.
		Vleesvervanger is ongezond	Meat replacers (or beans) are indicated as unhealthy.
		Ziek worden van vlees	The participant implies meat can make them ill
Attitude	Deductive	At. Bewust	The participant shows that he/she is aware of the consequences of his/her behaviour and it has influence on their attitude.
		At. Onbewust	The participant shows that he/she is not aware of the consequences of his/her behaviour and it does not influence their attitude.

	Inductive	At. Niet bewust/onbewust	The participant shows that he/she is not aware of the consequences of his/her behaviour and it does not influence their attitude.
		Aanleiding nodig	The participant shows they need a cause for not eating meat
		Bewust egoistisch	The participant mentions that it feels as an egoistic choice.
		Confrontered	The participant feels it is confronting to consider consequences of meat consumption
		Diet moet ik eigenlijk niet doen	The participant shows they can be aware that they should not eat meat
		Ontwijkend gedrag	The participant shows he/she is conscious about the consequences of his/her behaviour but simultaneously ignores this fact.
		Spreekt zichzelf tegen	The participant contradicts themselves
		Tegendraads gedrag	The participant shows obstinate behaviour
Environment	Deductive	En. belangrijk	Environment is mentioned as an important factor.
		En. niet belangrijk	Environment is identified to be a non-significant factor.
		Slecht voor milieu	The environment is mentioned, that eating meat has negative consequences for the environment.
	Inductive	Compenseren met andere bezigheden	The participant mentions that the environmental factors should be compensated with something else.
		Heeft geen nut	The participant points at feeling as if the little amount of individual effort does not help.
		Jonge mensen het probleem	The participant highlights that the youth is the problem.
		Ontbossing	Deforestation is mentioned as a link to the environmental impact.
		Stikstofcrisis	The participant links environment to the current nitrogen crisis and the farmers.
		Veel watergebruik	The participant links the high water usage as a crisis.
		Verantwoordelijkheid bij grote bedrijven	The participant points at the direction of environment being the responsibility of companies.
		Verantwoordelijkheid niet bij ons	The participant points at the direction of environment being the responsibility of others (e.g. companies or government).
		Verschillend per dier	The participant indicates that the environmental impact differs per animal type.
		Voedsel efficiëntie	It is indicated that food efficiency is important to consider.
Knowledge / Information streams	Deductive	Inf. zou helpen	It is indicated that having more information would be helpful.
		Inf. zou niet helpen	It is indicated that having more information would not necessarily make a difference.
	Inductive	Algoritme	It is indicated that there is a Algorithm of receiving information.
		Bewustwording nodig	The participant indicates that there is more awareness needed.

		Kennis van feiten	The participant mentions or wants facts with information.
		Media werkt niet per se	The participant points out that the media platforms do not work to transmit information.
		Misinformatie	The participant gives information that is factly wrong (while he/she thinks it is right).
		Te weinig kennis	The participant mentions that he/she has to little knowledge on this topic.
		Teveel informatie	The participant mentions that there is too much information on this topic.
		Verschillende verhalen	The participant highlights that there are different stories told about this subject.
		Vertrouwen	Information comes from (or should come from) someone they trust.
		Voedingscentrum	Information is (or should be) transmitted through the Nutrition Center.
		Acties/aanbiedingen	The participation mentions promotions or offers.
		Advertenties	Information comes from (or should come from) advertising.
		Boek/artikel	Information comes from (or should come from) a book.
		Campagne	Information comes from (or should come from) campaigns.
		Documentaire	Information comes from (or should come from) documentaries.
		Huisarts	Information comes from the house doctor.
		Kinderen via school	Information is taught to children in schools.
		Kook/maaltijdpakketten	The participants prepared cooking or meal packages.
		Kookinspiratie/recepten	The participant mentions cooking inspiration or recipes.
		Nieuws, journaal/krant	Information comes from (or should come from) the news.
		Posters dieren	The participation mentions posters about animals.
		Restaurants meer vega	Restaurants are offering more vegetarian options.
		Social media, influenceer	Information comes from (or should come from) social media.
		Supermarkten	The participant mentions supermarkets as a source of information.
		Tv programma	Information comes from (or should come from) a television programme/documentary.
		Van alle kanten	Information comes from various sides.
		Vanuit overheid	Information comes from the government.
		Voorproefdingetjes	The participant indicates trying the samples.
		Vv raar	The participant indicates he/she finds meat-replacers weird (comparisons/names/products).
		Wetenschappelijk onderbouwd	The participant highlights to receiving his/ her information from scientifically proven research.
		YouTube	The participant points out YouTube as a information platform.