How do we behave around meat consumption?

Msc Thesis Eileen van Gorp

Thesis Report

How do we behave around meat consumption?

A way of finding out why people change their meat consumption

Author	Eileen van Gorp [1048331]
Supervisor	Katrine Soma
Couse code	ENR82000
Study program	MSc Environmental sciences
Date	May 16th, 2022

This MSc research was carried out within the motif 'Feeding cities and migration settlements' (2282700540), as part of the programme of Food Security and Valuing Water (KB-35-002-001) of Wageningen University and Research and was subsidized by the Dutch Ministry of Agriculture, Nature and Food Quality. The MSc has been written in the scope of the Feeding cities & Migration settlements project, related with the development of the Value Analyses of Relative Importance (VARI) App in this project.

Summary

In combination with the rapid growth of efficiency in the agricultural sector, the population growth has caused an increase in greenhouse gases (GHG). A significant factor in this increase in GHG is the livestock industry (14.5%) (Macdiarmid et al., 2016), of which the demand for meat can be seen as the biggest contributor (Gerber et al., 2013). In order to lower the GHG emissions, meat consumption needs to decrease. To make consumers decrease their meat consumption, the influences determining meat consumption need to be acknowledged. This needs to be considered since there is a lack of research on behavioural economics incentives and meat consumption. Therefore, this thesis aims to investigate the influencing factors that can make consumers change to a less meat-intensive diet by analysing whether students change their meat consumption because of behavioural economics incentives. These behavioural economic incentives will address different themes, namely knowledge, surroundings and social media. In addition, it will address the theories, framing effect, availability bias, and cooperation.

The research within this thesis can be broken down to three distinct steps; first, a Scopus literature review of the different themes and theories is conducted. Secondly, interviews are held with students and experts to find what they see as influencing factors, these factors are placed into a decision tree to give them a more hierarchical overview. Finally, with this decision tree, the influences are put into a survey that forms the last step's base. In this step, students fill out a pairwise comparison survey based on the eigenvalue. The different themes, theories, and results from the literature review and interviews are incorporated into the survey.

The most important result from the different research questions is that the different themes and theories do influence consumers. For the interviewees, it is straightforward to imagine the influences of their surroundings. However, when looking at students from Wageningen University, the survey showed that people are most influenced by knowledge. For flexitarians, vegetarians and vegans, this is ranked as the most influential, with the knowledge regarding the meat industry being the decisive factor.

Conscious behaviour seems to be the main explanation of the interview and survey results, even though unconscious processes can also be an important driver of human behaviour. Nevertheless, based on the theories from Szmigin et al. (2009), consumers need to consider different factors and are more likely to make a conscious decision for an ethical choice. Furthermore, this thesis uses the eigenvalue method as part of the Analytical Hierarchy Process. The reason to use this method is that the influencing factors are ranked and shows how much more influencing a factor is comparing it to another factor. Also, the reasoning for this ranking can be explained.

Based on the results and discussion, the following can be concluded. In order to decrease the greenhouse gasses and improve the climate, consumers can be influenced through behavioural economic incentives. To make this change more significant, consumers need to gain knowledge about meat consumption and its effect on the climate. This information can be obtained through social media and surroundings, which in themselves are also influencing factors themselves. Furthermore, it is recommended to do follow-up research about the unconscious behaviour of consumers and their meat consumption and to look at the incorporation of these findings in society.

Acknowledgements

I would like to give my sincere gratitude to my supervisor Katrine Soma, she always made time to help me, inspired me to always do better and steered me into the right direction. Furthermore, her feedback thought me how to improve my writing skills and thoughts.

To help me gain more insight and improve VARI I am deeply grateful for the help from Annette Breemer and Frodo Wesseling. They were always willing to help with any questions and helped me enthusiastically.

Furthermore, I would like to thank Tim den Hoedt, Tosca Versloot and Josefien Bloem for their support during my thesis. They did not only encourage me to strive to improve myself furthermore they also helped me improve my thesis with new insights or feedback.

Finally, I would like to add that in this thesis there is spoken a lot about consumers, but I would like to address that we are all consumers. Which is why in the title consumers are addressed as we.

Index

List of tables and figures

Figures

Tables

1. Introduction

To ensure that future generations will be able to use the planet as we know it, it is critical to keep the global temperature from rising. The rising temperatures is due to increased greenhouse gas (GHG) emissions. Over the last 50 years, there has been rapid population growth which means that the efficiency within the agricultural sector has improved, resulting in increased GHG emissions (Burney et al., 2010). One of these GHGs is CH_4, produced in agricultural services (Hedenus et al., 2014). Within the agricultural services, the production of meat and other animal-based products (livestock) contributes 14.5% of GHG emissions (Macdiarmid et al., 2016). The livestock sector not only contributes to GHG emissions, but also uses 35% of the total crop production and 20% of green water worldwide (Bonnet et al., 2020). In addition, livestock does not only produce meat but also milk and eggs. Comparing the emissions from milk (18 CO_2 -eq per kg) to beef (68 CO_2 -eq per kg), the emissions of beef are almost four times higher than for milk (Gerber et al., 2013). This means that if only the meat consumption reduces, this will still contribute to reducing the total GHG emissions.

If we look at the Netherlands, 5% of the population does not eat meat, and one-third of the people ate less meat during 2020, according to Kloosterman et al. (2021). However, it is unclear what the exact reasons are that trigger people to change their meat consumption, as people can have different reasons for changing their meat consumption (Rosenfeld & Burrow, 2017). For instance, it can be related to climate or animal welfare knowledge. There can also be other factors that influence people's meat consumption. For example, the influence of social media, where there is increasing trend in the number of advertisements promoting eating vegetarian. People can also be influenced by their environment; they tend to act like the social settings they are placed in. Another motive can be reducing the costs by changing to a diet with less meat. Lusk & Norwood (2016) found out that vegetarians spend about 7% less money on food, where this does depend on how a diet is structured. This shows that consumers are influenced by many different factors that in the end determine their purchase. This can be explained by a few economic theories.

Looking at the basic neoclassic economic theory, it is assumed that people maximize their utility and make rational choices (Thaler, 2017). By assuming individuals are well informed and fully rational while focusing on optimizing behaviour, neoclassical economics analyses how this optimisation develops in a specific context and equilibria (Morgan, 2016). Zooming in on the term "neoclassical", developed by Alfred Marshall, it explains the connection of the subjective and objective value that a consumer gives to a good or service within a diagram of supply and demand (Boerger, 2016). According to Boerger (2016), the supply and demand diagram is a combination of production costs and the value of a consumer, which is determined by individual utility. It aims to maximize its utility for individuals, achieved by choosing between different alternatives. With this choice, they act rationally where the input should be minimized, and the output is maximized (Boerger, 2016). Rationality is achieved by comparing costs and benefits with marginal utility (marginal increase in utility because of an extra unit) is an influencing factor. Like most theories, neoclassical economics has continually changed and developed over the last few decades. As a consequence of critical assessments of the assumptions made of human behaviour, arguments about the de-rationalization of human actions developed into the theories of behavioural economics (Boerger, 2016). Behavioural economics is a subcategory of neoclassical economics and is explained further.

Behavioural economics gives a broad view of economic principles by looking not only at rational calculations but also at social and psychological influences that determine decisions. This makes it a more intuitive approach to decision-making. Lusk (2014) defines this behavioural economics as follows: "Behavioural economics is the field of study which suggest that, among other things, people are: too impatient and short-sighted to make 'optimal' choices over time; too sensitive to low probability risks relative to the true 'objective' likelihood of outcomes; too sensitive to losses relative to gains and overly influenced by how choices are presented." (p. 357). In behavioural economics, it is assumed that people are not rational, unlike in neoclassical economic theory, and that there are limits to making rational choices (Baddeley, 2017). In the paper from Mathis & Steffen (2015), behavioural economics is described as the psychological explanation of why consumers are not rational maximisers. Behavioural economics focuses on what triggers individuals to cause errors in maximizing utility (Erev & Roth, 2014). Furthermore, other theories explain an individual's decision-making process, like behaviour change and consumer behaviour.

Behaviour change is a process by which influences are needed to change someone's behaviour. This behaviour change depends on a person's intentions: the bigger the intentions, the more likely it is to change behaviour- and motivations (Sniehotta, 2009). Furthermore, having a plan has a positive influence on changing behaviour. Finally, the consumer behaviour theory is the study of the process and reasons of consumers that lead to purchasing a particular good or service to satisfy their needs (Solomon et al., 2013). The following themes have been made to define this thesis; knowledge, surroundings, and social media. During this research, these themes are tested and are part of the central core.

1.1. Problem statement

There has been extensive research about meat consumption and how people behave around meat. Lentz et al. (2018) studied which factors influence people's support and acceptance regarding new measures to reduce meat consumption and how this affects the willingness and intentions to reduce personal meat intake. Lentz et al. (2018) used different theory components to see how proposed structural agreements affect meat reduction. Arnaudova et al. (2022) analysed the acceptance of meat alternatives, willingness to reduce meat intake, consumption habits, and attitude and knowledge by assessing the behaviour of Swiss students to see the behavioural changes. Hartmann & Siegrist (2017) gave a literature overview of the barriers and chances of consumers in motivating changes to their meat consumption behaviour. Harguess et al. (2020) also gave a literature overview of the factors and experimental studies that made consumers reduce their meat consumption behaviour. Kwasny et al. (2022) did a systematic literature review of how individuals change their meat consumption based on different experimental studies investigating how consumption measures change behaviour. These factors were analysed through the theory of Stoll-Kleemann and Schmidt. Through the help of a Meat Reduction Intervention Framework, the links between the effectiveness of the variables are analysed.

Although much research has been conducted on behavioural change in changing from meat to vegetarian, a series of research gaps have been identified in the literature. For instance, Lentz et al. (2018) proposes studies with a better understanding of the attachment towards meat by a more psychological approach by connecting or comparing theoretical models. In addition, Arnaudova et al. (2022) suggest that studies should focus more on the willingness to change to the next phase of behaviour and put it into action. Furthermore, Arnaudova et al. (2022) oppose looking more into the barriers and the motivational drivers that change meat consumption

behaviour. The research done by Hartmann and Siegrist (2017) highlights the need for more research about what motivates consumers to reduce their meat consumption and how pro-environmental meat consumption behaviour choices could be encouraged.

New research is conducted to give more insights into how people behave around meat consumption and their drivers and barriers. In this research, answers are sought through the theory of Behavioural Economics. The method used is a mixed-method where systematic literature research, interviews and surveys are used.

1.2. Aim and research questions

This thesis aims to investigate the influencing factors that can make consumers change to a less meat-intensive diet by analysing whether students change their meat consumption because of behavioural economics incentives.

The following objectives reflect the ways to accomplish this aim. The first objective is to find out what the literature says about the influencing factors of changing meat consumption. The second objective is to identify what students and experts think are relevant influencing factors to change meat consumption. Finally, the third objective is to evaluate the survey's outcome regarding the extent to which some factors influence changing meat consumption among students than others.

To answer the main aim, the following sub-questions are needed:

- Why do people change their meat consumption according to the behavioural economics literature focussing on the theme's knowledge, social media and surroundings?
- What do students and experts at the Wageningen University and Research (WUR) recommend as influencing factors that change their meat consumption?
- What are the relatively more influencing factors for students at WUR to change their meat consumption based on the theme's knowledge, price-quality, surroundings, and social media?

In Figure 1, the sub-questions are listed in a specific order because each question is the base for the next question but also gives different insights

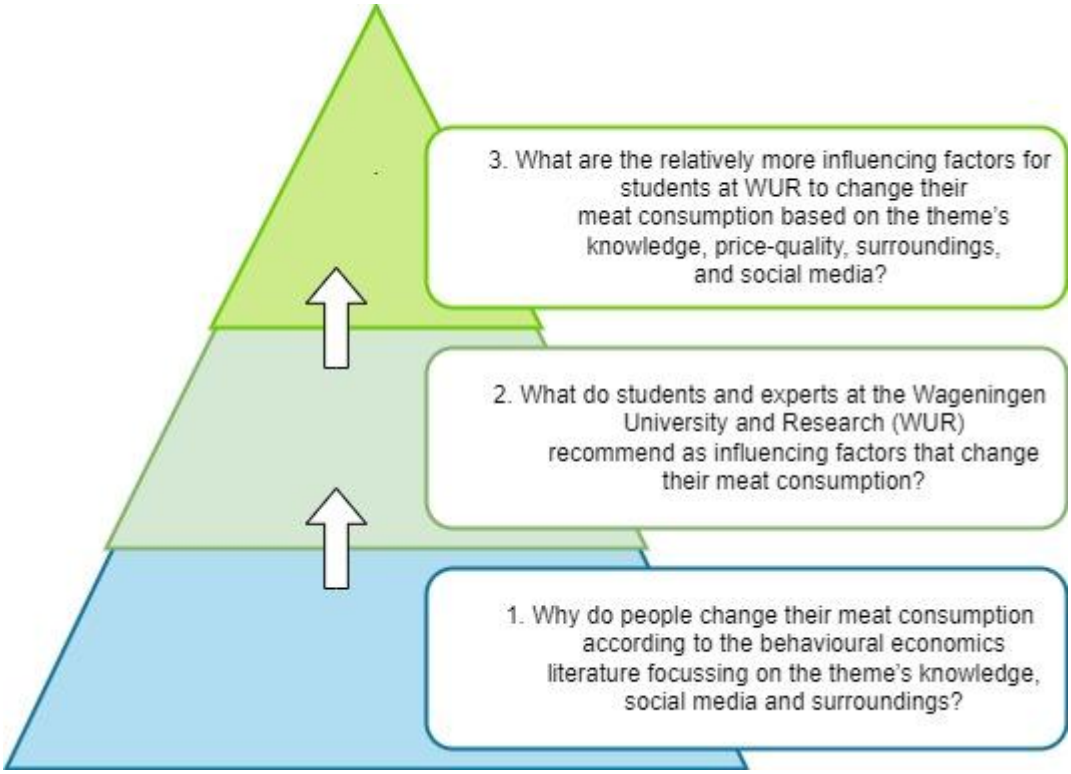

Figure 1 Order of sub-questions

1.3. Structure of the thesis

This report has the following structure. The second chapter provides a theoretical framework for the theories used within this thesis, whereas the third chapter explains the method used to answer the research questions. Chapter four gives the results of the research questions, starting with the literature research in subsection 4.1, followed by the interviews used for the decision tree in subsection 4.2. Subsection 4.3 gives an overview of the survey. Chapter five discusses the results, along with the strengths and limitations of the report. The report closes with chapter six, with summarizes the findings and provides recommendations.

2. Theoretical framework

For this thesis, the theories used are behaviour change, consumer change, and behavioural economics. Given that to a certain extent consumers still make rational choices, this thesis is also partially based in neoclassical economic theory. However, the neoclassical economic theory is not the primary research field.

Neoclassical economics theory assumes individuals want to maximize their utility, where they make rational choices to minimize the input and maximize the output (Boerger, 2016). This is done by comparing the costs and benefits of goods and services to minimize the input and maximize the output. These comparisons between costs and benefits are shown on a supply and demand curve (Boerger, 2016). Neoclassical economics analyses how consumers make these well-informed rational choices to optimize their behaviour in a static context (Morgan, 2016). However, over the years neoclassical economic theory has been criticized over de-rational choices of the consumer, leading to the development of behavioural economics (Boerger, 2016).

2.1. Behavioural economics theories

Behavioural economics looks not only at rational choices but also at the psychological and social factors that influence choices. Lusk (2014) states that "*Behavioural economics is the field of study which suggest that, among other things, people are: too impatient and short-sighted to make 'optimal' choices over time; too sensitive to low probability risks relative to the true 'objective' likelihood of outcomes; too sensitive to losses relative to gains and overly influenced by how choices are presented*." (p. 357). Behavioural economics looks for reasons why consumers are not always maximizing their utility (Erev & Roth, 2014), and so provide a psychological explanation of why consumers are not always rational (Mathis & Steffen, 2015). Within the behavioural economic framework, various theories are used to explain consumer behaviour and/or behaviour change and explain why consumers change their meat consumption.

Figure 2 shows the theories within the theoretical framework, where these are chosen due to their fit within the behavioural economics framework and the different themes used in this research. First, behaviour change and consumer behaviour are explained to understand how consumer behaviour changes and behaves. Then the different themes are explained, followed by the different theories and ending with the Analytical Hierarchy Process (AHP) approach.

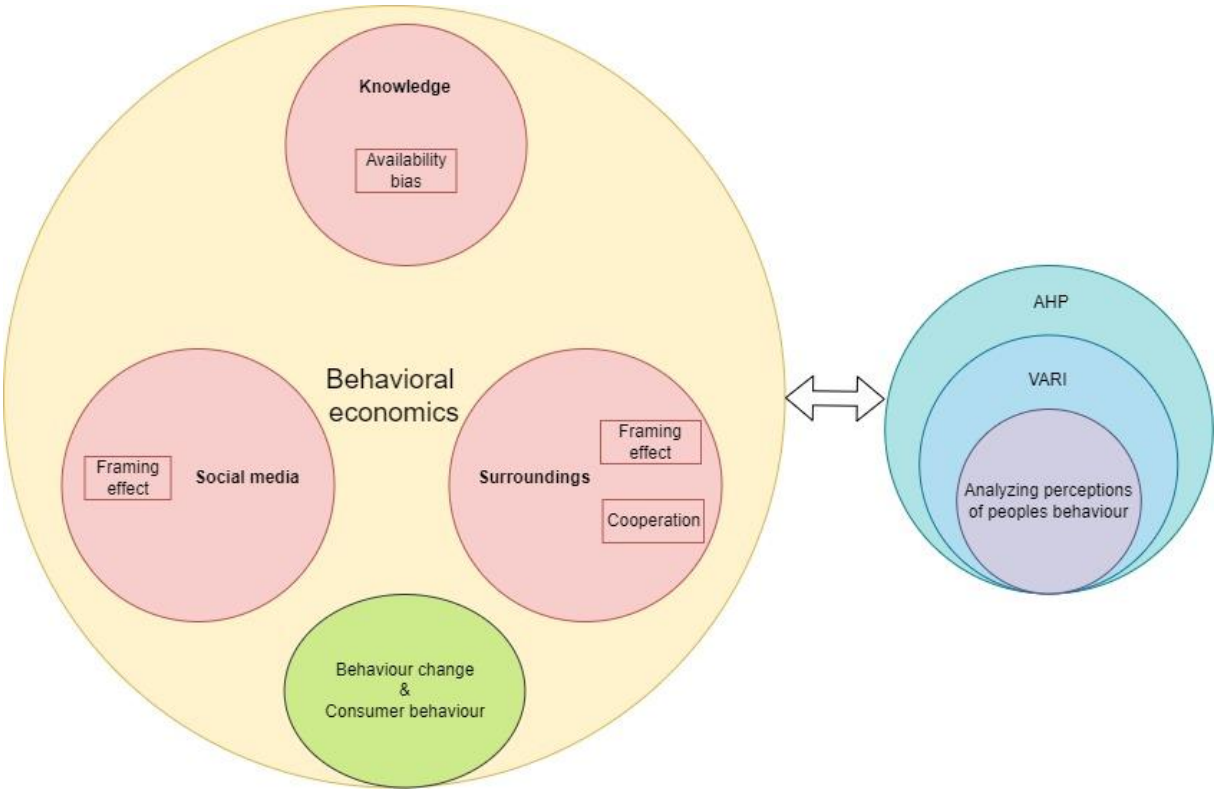

Figure 2 Construction of the theoretical framework

2.1.1. Behavioural change

In any situation, individuals have a number of different behavioural options to choose from. Which behaviour is chosen depends on prior behaviour, intention and impulses. For each individual, time and context, a particular behaviour is likely to happen because of habits, motivations, opportunities, cues, and resources (Kwasnicka et al., 2016). To change behaviour, an individual needs to have an intention or motivation to change their behaviour. The stronger this intention or motivation, the more likely it is for an individual to change their behaviour (Sniehotta, 2009). Kwasnicka et al. (2016) address another essential factor in changing behaviour: social influence. The influencing factors are other people's opinions, emotional states, knowledge, skills, observation and replication of actions. People tend to change their behaviour when they are with people they trust, and they need a feeling of relatedness to one another's actions.

According to Sniehotta (2009), a way of explaining behavioural change is the Implementation intentions (IMP). IMP implies that behaviour X will be performed when conditional plans and situation Y occur. Linking the 'if' and 'then' components is an accessible and effective way to change behaviour where the critical point is the 'if' factor. This results in the fact that it is easier for people to change their behaviour when making plans and it is why SMART goals and action plans work so well (Sniehotta, 2009). The essential factor to making these changes work is to make a plan based on the situation, instead of just adapting an existing plan. Furthermore, change over time is also still a way of changing behaviour when this becomes the dominant response in different contexts (Kwasnicka et al., 2016).

2.1.2. Consumer behaviour

For consumer behaviour, the following definition from Solomon et al. (2013) is used during this thesis: *"it is the study of the processes involved when individuals or groups select, purchase, use or dispose of products, services, ideas or experiences to satisfy needs and desires."* (p. 3). In consumer behaviour, people can take a particular role when they want to purchase a good. The "play" that they are in affects the purchase they want to make, called the role theory. Consumers purchase a specific good because it has a particular value to them. This value is not only created during the purchase but also before and after the purchase as "value of use".

Consumer behaviour is crucial for adapting marketing strategies to consumers. In order to attract consumers, marketers need to know how consumers behave in order to set up a good marketing strategy (Solomon et al., 2013), which in turn determines if a company is profitable. The consumer response is the measuring mechanism to see if the strategy will succeed. This response is based on data and only appeals to the core market. One of the critical points is identifying products that reflect consumers' needs and discovering new trends.

In addition, Solomon et al. (2013) found that people often purchase goods because of what it means instead of what it does. This means that people give more meaning to the good's role in their lives instead of the good's function, where a product could have a different meaning for a person. Self-concept attachment, the product contributes to the identity of the user. Nostalgic attachment, the product, is a bridge that links with a past self. Interdependence, in the daily routine a product is used. Love, a product, brings emotions like warmth or passion.

People can have different consumption activities: an experience, an integration, a classification and a play (Solomon et al., 2013). Consuming as experience is when the consumption of an object gives an emotional or aesthetic reaction. Consuming integration is using objects to express aspects of yourself or society. Consuming as classification is when consumers communicate their association through objects for themselves and others (Solomon et al., 2013). Finally, consuming as play is when consumers use objects to merge in a group and/or have the same experience.

In consumer behaviour, consumers make choices based on many different influencing factors and consumption activities like searching for information, evaluating alternatives, the intention of purchase, and the act of purchasing (Bray, 2008).

2.1.3. Knowledge

Knowledge can motivate consumers to change their behaviour because of the new information they have gathered. Also, knowledge can determine consumer behaviour since people often purchase goods because of what they mean to them, and knowledge can determine this. When knowledge about the environment is gathered, people tend to change their attitudes towards the environment (Arcury, 1990). To change a person's behaviour, knowledge is seen as a key condition for motivation, where an increase in knowledge helps overcome psychological barriers necessary to change people's actions (Frick et al., 2004). To change a person's actions, the knowledge and the attitude toward the environment need to change (Arcury, 1990). From the studies used in Arcury's (1990) work, it is shown that age, education level, income, and gender are important factors that influence the amount of environmental knowledge of a person. Within environmental knowledge, there are three different forms. The first is system knowledge, where

people need to understand how ecosystems work and which processes there are within. The second is action-related knowledge about which actions can be taken to tackle environmental problems. The last one is effectiveness, which is about how beneficial different environmental actions are compared to each other (Frick et al., 2004). For this research, we need to know how people change to know why people change. Frick et al. (2004) see action-related knowledge as the knowledge that changes behavioural actions, and therefore action related knowledge is the base of this research.

2.1.4. Surroundings

According to Kwasnicka et al. (2016), social influences and surroundings are essential factors in changing behaviour. Surroundings are also important factors for people to do integration consuming where they want to express themselves or the society (Solomon et al., 2013). Looking at food choices in general, it is often the case that adolescents eat what is served to them when they still live with their parents. Also, nine out of ten times, people agree with what "the chef" is making rather than making dinner yourself (Contento et al., 2006). Another familiar thing is that the family has input in what is cooked for dinner every now and then, and often everyone agrees. This is because growing up in the same house with the same traditions leads to a similar eating pattern for the whole family (Contento et al., 2006). Not only the family but also friends, acquaintances, and peer networks have strong influences on the eating habits of adolescents (Story et al., 2002). People often tend to eat more when they are around people and tend to eat less healthy when they are with friends. On the other hand, people think they eat healthier when they eat with their partners (Story et al., 2002). So, looking at these incentives, surroundings influence what a consumer eats, how much it is, and how healthy this is.

2.1.5. Social media

Social media is an important medium to communicate information that can motivate behaviour change. Furthermore, social media contributes to consumer behaviour since it shows new trends, one of the critical points in reflecting the need for a product (Solomon et al., 2013). There is increasing evidence of the influence of advertising on the eating behaviour of people (Story et al., 2002; Vukmirovic, 2015), but is hard to assess the significance of this influence since it is hard to find a control group. However, the more tv is watched, the more stronger the influence (Story et al., 2002). The effects of the media on food behaviour are often subtle but effective, as consumers are often not even aware of the effects of the media (Vukmirovic, 2015). Social media is used to influence, inform, and persuade adolescents, where social media negatively influence middle schoolers to eat junk food instead of fruit and vegetables (Chung et al., 2021). The influence of peer groups, social norms, and social support through in-person interactions or social media can shape people's eating behaviours (Chung et al., 2021). Through social media platforms, people also share information and support each other to eat healthier. Since people tend to share their personal opinion on social media it is also likely that meat consumers and vegetarians influence each other to change their eating behaviour.

2.1.6. Availability bias

Availability bias states that the easier and quicker a person can imagine or remember an event, the more likely they are to subjectively perceive an event (Mathis & Steffen, 2015; Thaler, 2017). For behaviour change, if people cannot imagine something to happen, they are not likely to change their behaviour since they need some kind of motivation to change behaviour (Sniehotta, 2009).

For consumer behaviour, consumers give more meaning to the role a good plays than to the function therefore. As such, consumers are more likely to purchase a good if they can understand the role it can play in their life (Solomon et al., 2013). People base the probability of an event on how easy an event is to imagine (Carmerer & Loewenstein, 2014). For this case, an example could be that it is hard for people to imagine making dinner differently, like without meat. People also use the frequency or probability of an event happening to assess availability (Tversky & Kahneman, 1973).

Furthermore, Tversky and Kahneman (1973) address an essential factor is that people assess frequency or probability on how easily this comes to mind. Therefore, the strength of association is the basis of how frequency is judged. Because of the involvement of memory, availability is more of a mediating variable rather than a developing variable, according to Tversky and Kahneman (1973). The explanation is that the more something happens (frequent), the easier it is to recall or imagine. Therefore the example given by Tversky and Kahneman (1973) is *"Is it more likely that the word starts with a K, or that K is its third letter?"* (p. 211). People tend to answer that more words start with a K because these come easier to mind, which is an excellent example of how people think regarding recipes with and without meat.

2.1.7. Framing effect

Information needs to be framed so that people use this information as a motivation to change their behaviour. For consumer behaviour, the framing of a product can determine if a consumer purchases a good. Looking at rational decisions, the way contents are communicated should not affect this decision. However, if the communication frame changes, the focus of the content can change, which might mean a different outcome will occur. If people react automatically, their decisions might change depending on how the communication frame is stated (Thaler, 2017). People tend to prefer a positive framed statement over a negative framed statement. The framing effect is based on loss aversion and is one of the most critical factors within the human decision-making process (Mathis & Steffen, 2015). Kahneman (2011) refers to framing effects as *"Different ways of presenting the same information often evoke different emotions"* (p. 87). The book also states that changes in preferences can be caused by changing the wording in a choice problem. For example: "this dish has 10% fat in it" or " this dish is 90% fat free" (Kahneman, 2011). Both frames say the same thing, but something being 90% fat free will sound more attractive. An explanation for this is that a feeling of loss (in this case 10% fat) gives more negative feelings. The reason for this is that system 1 is used to make this decision and system 1 is not reality bound. This is because system 1 is based on automatic reactions. Although Kahneman (2011) mostly talks about framing and system 1, there is also framing for system 2, where reactions are based more on controlled operations. Looking at the example of organ donation, where people need to withdraw if they do not want to donate their organs, the laziness of system 2 is used to make a decision. Therefore, framing can be an effective way to make consumers change their behaviour.

2.1.8. Cooperation

Cooperation is the fact that people are willing to do things for others or a common goal or vision without expecting something in return (Cohen & Dickens, 2002). This connects to behaviour change because people might need to change something in their current behaviour to come to this common goal. Furthermore, for consumer behaviour, the connection to cooperation is in "consuming to play", where consumers purchase goods to fit within a group (Solomon et al., 2013).

In cooperation, when someone "takes one for the team", the overall efficiency increases and reduces the cost of non-cooperative behaviour. Furthermore, when people think they can get punished, they are more willing to cooperate (Shogren, 2012). In addition, Shogren (2012) found that when there is a punishment for non-cooperation, people are more willing to sacrifice their wealth. Brekke & Johansson-Stenman (2008) reported that people are more willing to cooperate if other people do so as well. When there is fairness and equity concern, social rationalities chose cooperation over the self-interest standard model (Fehr & Schmidt, 2000). Whether individuals will be cooperative depends on many variables like group size, heterogeneity of participants, how dependent they are on their benefits, the discount rates, the type and how predictable the transformation process is, the forming of organizational levels, monitoring techniques and the amount of available information (Ostrom, 1998).

Furthermore, whether social dilemmas are solved depends on how the rational choice develops in the behaviour theory. Ostrom (1998) also states that rational individuals are often trapped in social dilemmas where they cannot escape without sanctions and, therefore, cooperate. As a result, people tend to cooperate with others, and when the norms of cooperation are violated, they are punished, even when this is at personal cost where it is not expected to get repaid (Gintis et al., 2003).

2.2. Analytic Hierarchy Process

AHP is a multicriteria method that can be used to rank factors based on a pairwise comparison. The AHP uses pairwise comparison for estimating weights and for assigning impact scores in an impact assessment (Saaty, 1987). By aggregating impact scores and weights, the AHP can estimate most prioritised solution. This is not the intention in this thesis. For this thesis not the whole AHP is used only parts of it, especially the impact assessment. The parts used include a decision tree which map out all relevant criteria and specify them from the main goal down to criteria and sub-levels of the criteria (Figure 3).Moreover, a pairwise comparison strategy is used for assigning the priorities of different stakeholder groups and eigenvalue matrices are used to estimate the preference scores for each criterion and sub-criterion in the decision tree. In the decision tree objectives and criteria are shown for different hierarchical levels of specification, with the more general criteria at the top, and with sub criteria and even sub-sub criteria specified for each criterion. This looks like the following using an example of purchasing a computer:

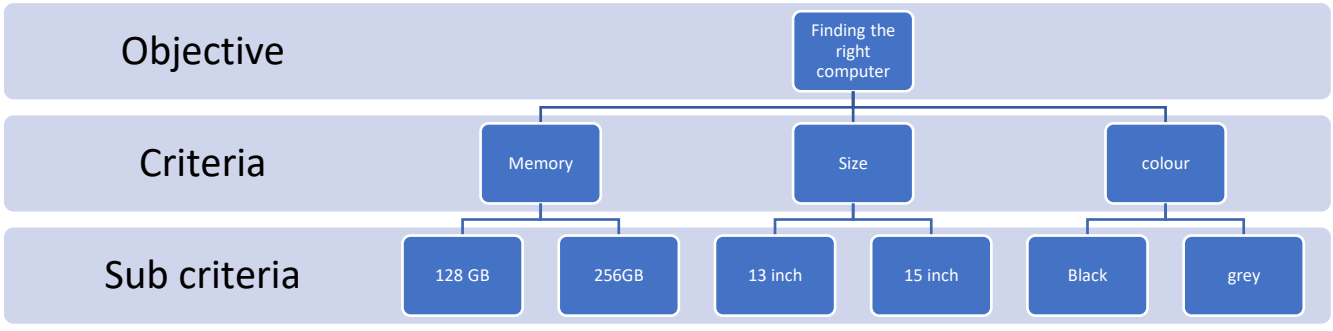

Figure 3 Decision tree explanation with a computer example

To find which criteria are relatively more important for specific interviewees and stakeholder groups, a pairwise comparison is made. Within this pairwise comparison a respondent needs to choose which criterion is more important than the other one and how much more important this

criterion is. The overview of how much more important a criterion is than the other is put into a pairwise comparison matrix. An example is given in Table 1 below.

Table 1 Pairwise comparison matrix example

	Memory	Size	colour
Memory	1	2	5
Size	1/2	1	3
Colour	1/5	1/3	1

Where the matrix shows that memory is twice as important than size and memory is five times more important than colour to the respondent. The rest of the scores are also shown in the table. This pairwise comparison matrix can also be represented in the following way (Brunneli, 2015):

$$\begin{pmatrix} 1 & 2 & 5 \\ 1/2 & 1 & 3 \\ 1/5 & 1/3 & 1 \end{pmatrix}$$

Where this matrix is used to aggregate the eigenvalue and rank how much more important the one criterion is over the other in percentages adding up to 100%. To calculate the eigenvalue also an eigenvector is needed. The eigenvector of the example would look like the following (Brunneli, 2015).

$$\begin{pmatrix} 5 / & 9 \\ 3 / & 9 \\ 1 / & 9 \end{pmatrix}$$

To calculate this eigenvalue with the eigenvector the VARI app is used where these calculations are integrated into the program. These calculations are done through excel and is done by the CGI software (n.n., AHP Calculation software, n.d.).

The VARI app does not only show how much more a criterion is preferred over another criterion but also how consistent this choice is. How consistent this choice is, is calculated with the consistency index (CI) and the consistency ratio (CR) which are essential factors that define how consistent consumers are (Saaty, 1990). The CI is defined in the following way:

$$CI = \frac{\lambda_{max} - N}{(N - 1)}$$

Where the λ_{max} represents the eigenvalue and N is the number of attributes that are being compared. To have an entirely consistent matrix, the eigenvalue needs to be $\lambda_{max} = N$ (Saaty, 1990). This also means that CI≥ 0, where the closer the value is to 0, the higher the consistency. To measure the level of consistency, the CR is used with the CI and the random index (RI), which represents the average of reciprocal matrices over a large number with random entries (Saaty, 1990).

$$CR = \frac{CI}{RI\ (n)}$$

When the CR is significantly small, meaning 10% or less, the results are highly consistent. However, a moderate consistency ratio form 15% will suffice in this thesis (Apostolou & Hassell, 1993).

3. Method

Some of the biases from rationality addressed in behavioural economics address how information about feelings and thoughts influence behaviour. In this research, not the 'how much' needs to be answered but also the 'why'. Therefore, a mixed-method is used because it combines quantitative and qualitative research (Creswell, 1999). Furthermore, since this research is about the self-reported behaviour of consumers, it is a social study that is often complex because people do not always know why they do the things they do (Malina et al., 2010). Therefore, this research uses a mixed-method to make more accurate and reliable conclusions in such a complex context.

Within this research, three sub-theories of behavioural economics are used: availability bias, framing effect, and cooperation. The reason for using these theories is that they fit within the three themes used in this thesis (see Table 2). In addition, the end goal of this research is to find out why people change their meat consumption, and while there can be many contributing factors and processes, this thesis focuses on these three sub-theories as they are thought to be the main drivers.

Table 2 Themes and theories

Knowledge	**Surroundings**	**Social media**
Availability bias	Framing effect	Framing effect
	cooperation	

A way of gathering this information is by analysing information from literature, surveys or interviews. Looking at existing surveys, one limitation is that there are often unmotivated participants that might not give a realistic or representative answer (Baddeley, 2017). In addition, different data sources are often required besides the typical market variables (e.g. prices and quantities produced and consumed). Therefore, this semi-quantitative research is done through a closed questionnaire survey. The survey is conducted based on the approach of the AHP method in combination with in-depth interviews and literature research. In Figure 4, a small overview of the different steps in the method is shown, this is explained more profound in the upcoming paragraphs.

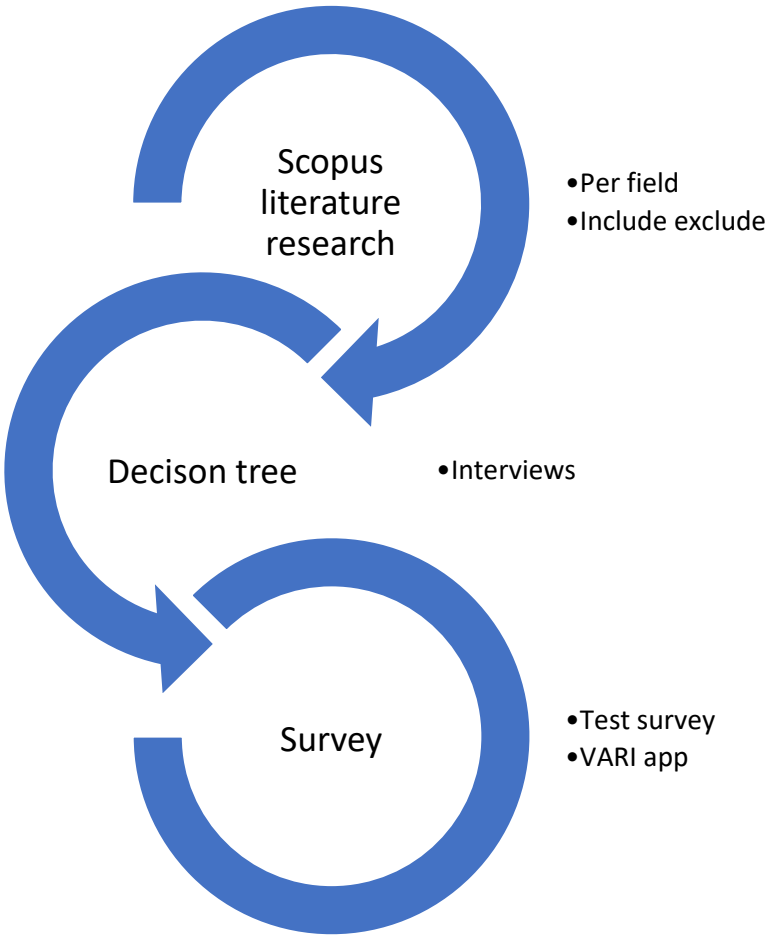

Figure 4 Method overview

3.1. Scopus literature search method explained

To answer the question "Why do people change their meat consumption according to the behavioural economics literature focussing on the theme's knowledge, social media and surroundings?" a literature study is conducted via Scopus. A systematic literature review differs from a general literature review because it is more valid, reliable, and repeatable (Xiao & Watson, 2019). Therefore, it is used as a valuable overview of the topic to make better decisions and have a higher quality of the literature that is found (Xiao & Watson, 2019). A systematic literature review also has a standard process. First, the problem is defined, make a research design (proposal), look for literature, screen for inclusion, define the quality, extract data, analyse data and report your findings (Xiao & Watson, 2019). Therefore the choice is made to use a systematic literature review that is based on the work of Soma et al. (2016) and Xiao & Watson (2019).

Since the problem is already known and the proposal has been made, the next step is to look for the literature. One of the things that need to be defined is the search terms. These terms, in the end, define which information is found and if this is the information that is needed. Different terms are used in a series of trials to find the correct terms and combinations (Appendix 1. Scopus term table). After the search terms are defined, a selection is made based on the different subject areas, years, and language. The year range is set from 2015 until 2022, and this is done to get information that is still accurate. The language is English, but often this did not need to be selected since all the documents were already in English. The selected subject areas are Agricultural and Biological

Sciences, Environmental Science, Psychology, Nursing, Business, management and Accounting, Social Sciences, Economics, Econometrics and Finance, Engineering and Multidisciplinary. These areas are selected because they fit within the topics and give the best results in finding documents that fit. To ensure that these subject areas and years are within the search, all the other subject areas and years are excluded instead of including these topics. This way of excluding is chosen because Scopes sometimes excludes necessary documents when using the including way instead of the exclude way.

When this is finished, each document is scanned over the title to see if it fits within this thesis. Then, the final papers used within this thesis are selected based on how well the abstract fits within this thesis. Later some documents are still excluded because they eventually did not have helpful information. The data collection process of search terms with restrictions and amounts is shown in Figure 5, and further explained in the text below.

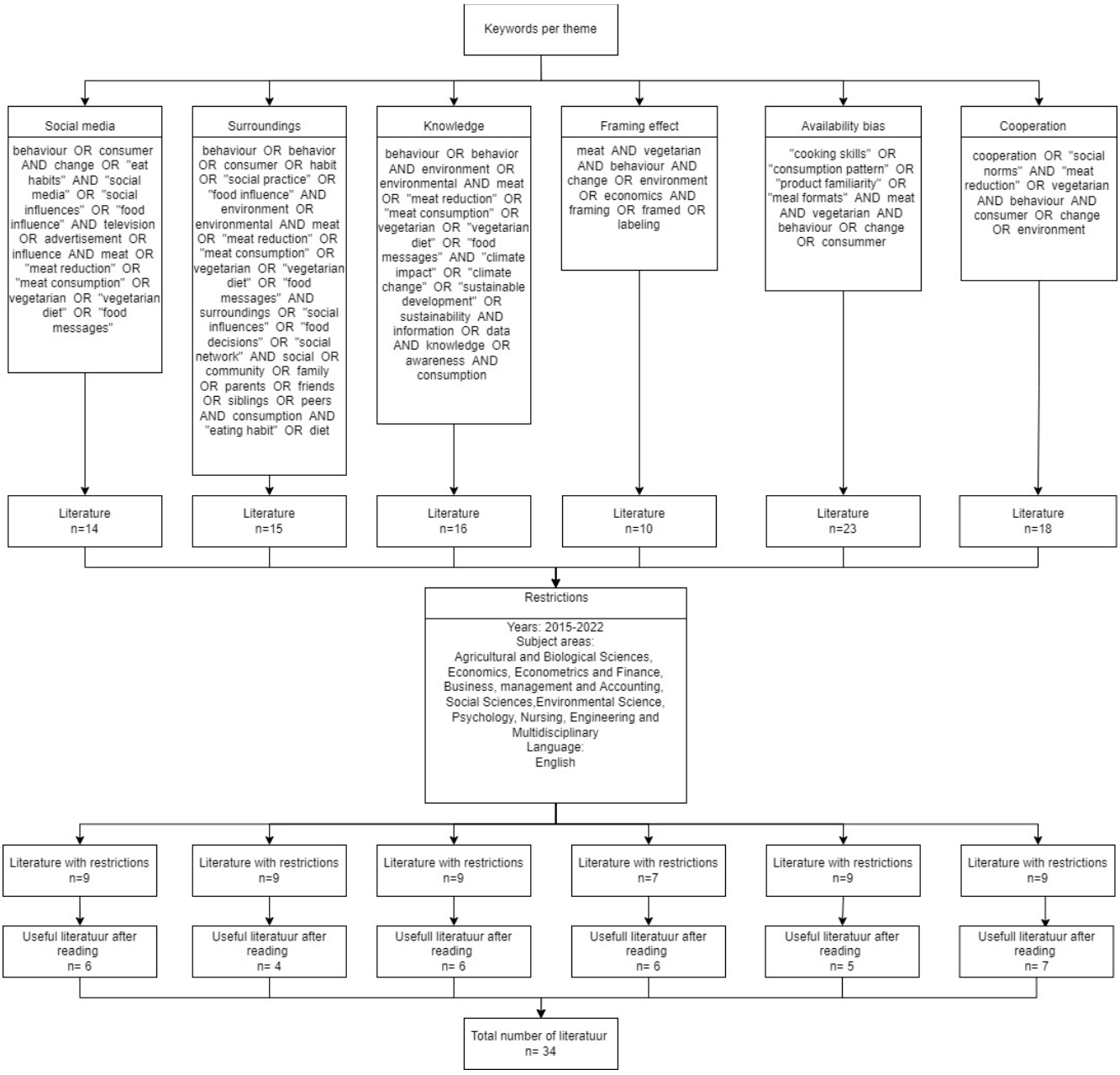

Figure 5 Data collection process

The overview shows which search terms are used per theme, which restrictions are used, and how many documents are found. The final and complete search terms used with the restrictions are shown in Figure 6 below.

Social media	Surroundings	Knowledge	Framing effect	Avalibility Bias	Cooperation
(behaviour OR consumer AND change OR "eat habits" AND "social media" OR "social influences" OR "food influence" AND television OR advertisement OR influence AND meat OR "meat reduction" OR "meat consumption" OR vegetarian OR "vegetarian diet" OR "food messages") AND (EXCLUDE (SUBJAREA , "MEDI") OR EXCLUDE (SUBJAREA , "BIOC") OR EXCLUDE (SUBJAREA , "NEUR")) AND (EXCLUDE (PUBYEAR , 2004))	(behaviour OR behavior OR consumer OR habit OR "social practice" OR "food influence" AND environment OR environmental AND meat OR "meat reduction" OR "meat consumption" OR vegetarian OR "vegetarian diet" OR "food messages" AND surroundings OR "social influences" OR "food decisions" OR "social network" AND social OR community OR family OR parents OR friends OR siblings OR peers AND consumption AND "eating habit" OR diet) AND (EXCLUDE (PUBYEAR , 2007) OR EXCLUDE (PUBYEAR , 2001)) AND (EXCLUDE (SUBJAREA , "MEDI") OR EXCLUDE (SUBJAREA , "ENER"))	(behaviour OR behavior AND environment OR environmental AND meat OR "meat reduction" OR "meat consumption" OR vegetarian OR "vegetarian diet" OR "food messages" AND "climate impact" OR "climate change" OR "sustainable development" OR sustainability AND information OR data AND knowledge OR awareness AND consumption)) AND (EXCLUDE (PUBYEAR , 2014)) AND (EXCLUDE (SUBJAREA , "MEDI") OR EXCLUDE (SUBJAREA , "ENER"))	(meat AND vegetarian AND behaviour AND change OR environment OR economics AND framing OR framed OR labeling) AND (EXCLUDE (SUBJAREA , "HEAL") OR EXCLUDE (SUBJAREA , "MEDI"))	("cooking skills" OR "consumption pattern" OR "product familiarity" OR "meal formats" AND meat AND vegetarian AND behaviour OR change OR consummer) AND (EXCLUDE (PUBYEAR , 2014) OR EXCLUDE (PUBYEAR , 2013) OR EXCLUDE (PUBYEAR , 2012) OR EXCLUDE (PUBYEAR , 2009) OR EXCLUDE (PUBYEAR , 2007) OR EXCLUDE (PUBYEAR , 2005) OR EXCLUDE (PUBYEAR , 2004) OR EXCLUDE (PUBYEAR , 2001)) AND (EXCLUDE (SUBJAREA , "MEDI"))	(cooperation OR "social norms" AND "meat reduction" OR vegetarian AND behaviour AND consumer OR change OR environment) AND (EXCLUDE (PUBYEAR , 2013) OR EXCLUDE (PUBYEAR , 2008) OR EXCLUDE (PUBYEAR , 1992)) AND (EXCLUDE (SUBJAREA , "MEDI") OR EXCLUDE (SUBJAREA , "ENER") OR EXCLUDE (SUBJAREA , "ARTS"))

Figure 6 Search terms incl. restrictions

With these search terms, the documents are selected that are used to answer the first research question. To select the information from the documents, important messages are marked to compare them to other documents and later made a text to answer the first research question.

3.2. The interviews and decision tree method

To answer the question 'What do students and experts at the Wageningen University and Research (WUR) recommend as influencing factors that change their meat consumption?' the AHP method from Soma et al. (2016) is used where a decision tree is conducted (Figure 7). This tree is conducted to show the hierarchy of the themes used within this thesis. The main aim (white) is shown at the top, followed by four different themes (blue). The different behavioural economics theories that fit within a theme are shown in the oval-formed red boxes. Each theme has different sublevels (purple) or sub-sub levels (orange), which differ per theme. These different levels are conducted from reading literature and some general thoughts. To make this tree more reliable, adaptations are made during the thesis. First of all, there are in-depth interviews with students and some experts about why they changed their meat consumption in general and their thoughts on the different objectives. The questions are framed to guide the interviewee on where the conversation needs to go but leave room for interpretation (see Appendix 2. Interview questions). This makes the interviewees think about their influences without steering them in a particular direction and bias them. Students' usage is preferred because they often cook their own meals, making it more accessible to change their meat consumption. Also, the youth is still easy to shape (Cesareo et al., 2022), and during this period, students develop their own opinion about how to live their lives. Therefore, they are more accessible/willing to change their behaviour. To see a trend among students in the Netherlands, the theoretical target population is defined as the students, and the research unit is WUR students.

To gather students to do an interview, an advertisement is sent out on "Wageningen student plaza" on Facebook. Different students are interviewed based on their reactions, four flexitarians, one pescatarian and one vegetarian. Also, two friends are selected to interview, a flexitarian and a vegetarian. This is because friends are often more willing to give extensive and more detailed answers since the factor of favour is higher. Lastly, two experts are selected, one that is vegan and

one that is flexitarian. These experts are doing research in the meat-eating sector, which is why they are selected. The vegan is researching how to reduce animal meat consumption. The flexitarian is researching meat consumption and its influences on meat consumption.

A summary is made and sent to the interviewees for approval from these interviews. When the summaries are approved, the information is used to answer the second research question and update the decision tree. An example of a decision tree is given in Figure 7.

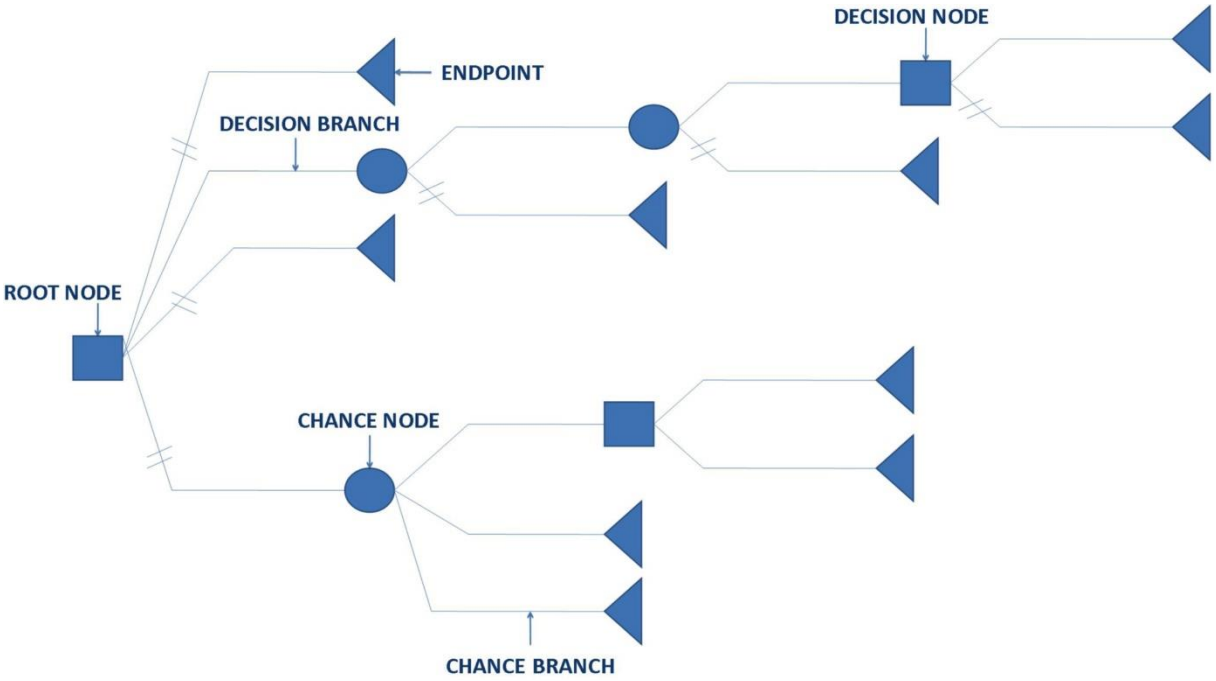

Figure 7 Example of a decision tree (Suner et al., 2012)

Figure 7 shows that a decision tree has different hierarchical levels and that these can differ for each of the different criteria. Sometimes it ends at the second level, and it sometimes has four levels depending on the criteria. The updated decision tree based on the interviews will, together with the literature from research question one, form the basis of the survey questions used to answer the third research question.

3.3. The pairwise comparison survey method

To conduct information regarding "What are the relatively more influencing factors for students at WUR to change their meat consumption based on the theme's knowledge, price-quality, surroundings, and social media?" a survey is set up. The survey is based on the AHP from Kostagiolas (2012) to identify the priorities and criteria of the participants regarding their meat consumption. Then, based on the decision tree and the literature, the questions are conducted. This is formed into a five-point weighing scale to make pairwise comparisons based on eigenvalue matrixes. Pairwise comparison is chosen since this thesis looks for the differences between different influencing factors and not only the overall best.

To gather participants, all of the students at the WUR that have a last name between the A and D received an email to fill in the survey. The 2858 email addresses from the students are gathered through outlook and placed into Excel to upload them into VARI. From these 2858 emails, 2845 participants are eventually sufficient since there are some auto-replies regarding not being a student anymore. The final number of participants who finished the survey within the 7 given

days is 225, accounting for 7.9% of the total number of participants. However, this could have been more since 31 participants are still in the preview, which means they did finish the survey but have not pressed "submit" yet, and therefore the results are not uploaded.

Furthermore, 200 participants opened the survey and answered the general questions but did not finish the survey. This means that 2389 participants ignored the email and did nothing with the survey. An overview of the number of emails and participants is shown in Figure 8 below.

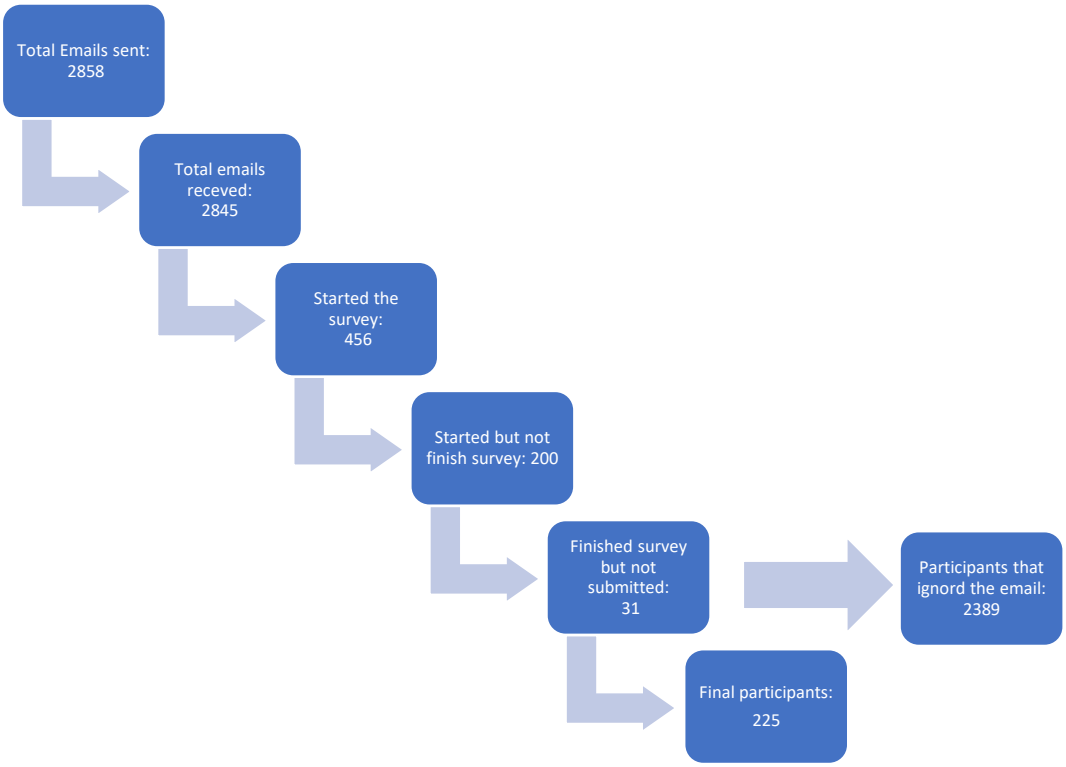

Figure 8 Overview of participants

Looking at the results of these 225 participants, one had an error, and 24 are not sufficient since they had a consistency ratio (is explained further in this chapter) above 15%. Whereas high consistency is lower than 10% following AHP, in this survey, we have accounted for moderate consistency up to 15% (Apostolou & Hassell, 1993). So, 200 participants are sufficient and form the results for the third research question. Nevertheless, when a group is smaller than 5% this group is so small that it is not a representative result and will therefore not be shown in the results.

The survey starts with the central part with five questions to gather information about the respondent. The first question is needed to define the meat consumption of the participant. It states, "What is your current way of meat consumption?" with the options: meat-eater, flexitarian, vegetarian and vegan (see Figure 10). The second question is whether there is a difference between gender and states, "What is your gender?" with the options: Male, female, other, or rather not tell (see Figure 9Figure 11). The third question is "What is your current age?" and is to check if there is a difference between ages and meat consumption, with the options: <18 years old, 18-22 years old, 23-26 years old, 27-30 years old, 31-34 years old, >34 years old (see Figure 11 Figure 10). The fourth question is to check if there is a difference in educational background and meat

consumption and is “What is your current chair group/study department?” and is shown in Figure 13Figure 12, with the options: Social sciences, Animal sciences, Environmental sciences, Plant sciences and Agrotechnology and Food, which are based on the chair groups that are selected by the WUR (Wageningen University & Research, 2019). The last question is shown in Figure 12Figure 13 and states, “What is your current living situation?”. This question is relevant for this survey to check if there is a difference when students live at home and might get more influence from their parents from their home country. The options given are: Living with your parents, having my own house or room in my own country and having my own house or room in a foreign country.

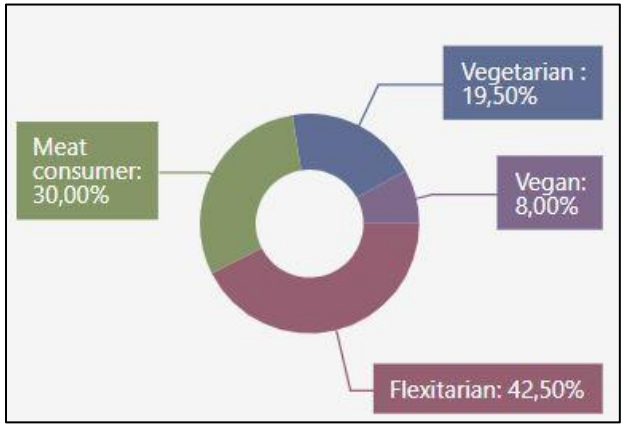

Figure 10 Distribution of respondence on consumption pattern

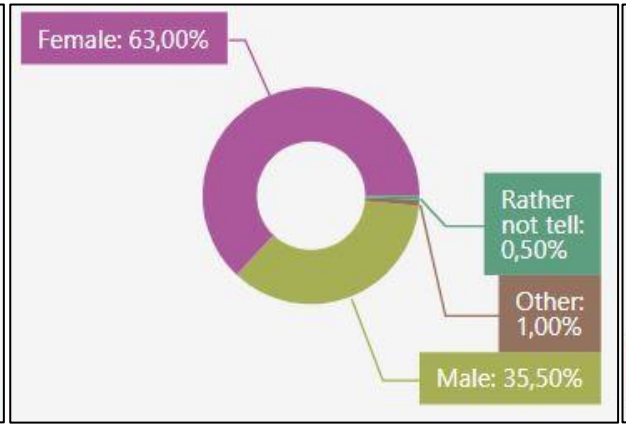

Figure 9 Distribution of respondence on gender

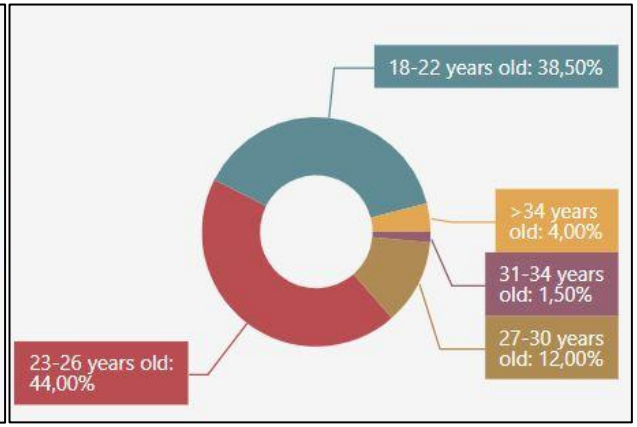

Figure 11 Distribution of respondence on age

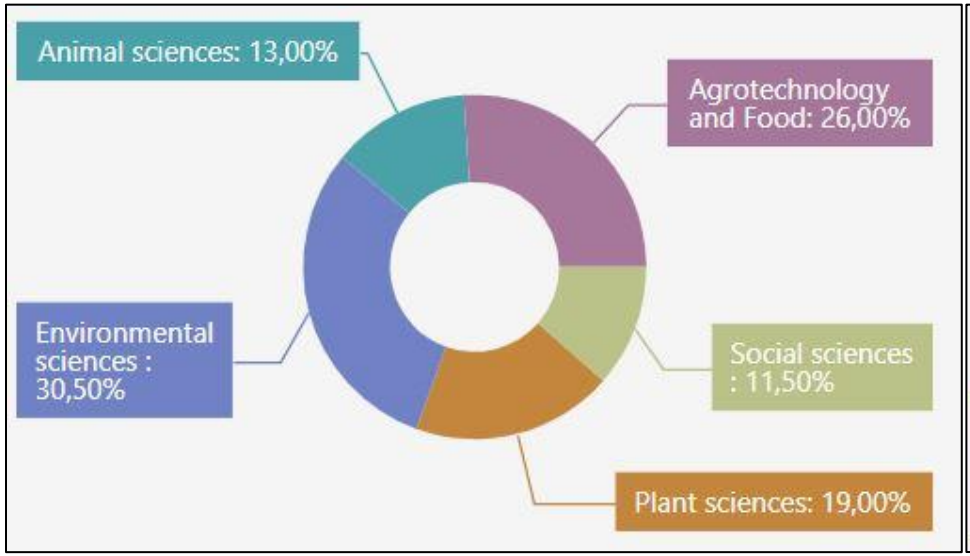

Figure 13 Distribution of respondence on study department

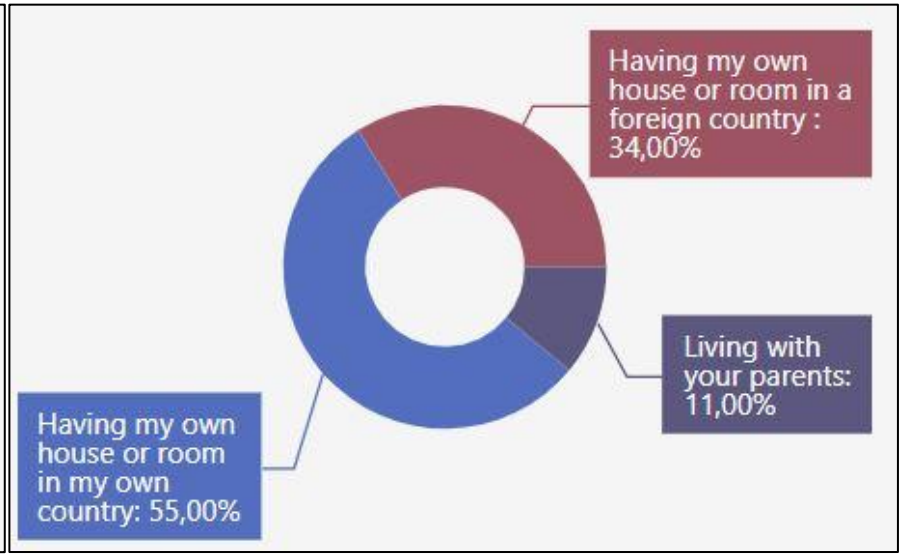

Figure 12 Distribution of respondence on living situation

The survey is set up with one statement on the right and one on the left, and the participant must choose how much he or she agrees with the one according to the other one. As shown in the decision tree, each theme has a few different behavioural economic theories that fit within the theme. In Figure 14 below, an overview of the questions on the different hierarchical levels is shown, where pink is the general goal. Blue stands for the different themes in this thesis. Purple is the sublevels, and green is the sub-sub levels. The survey contains four themes instead of the three themes that are already addressed. The reason for this is that more factors play a role in defining meat consumption. Based on the interviews, a few of these criteria have been selected and put into a different category, "price-quality". This category shows how influential price, taste, and health factors are for consumers. The addition of this category is necessary because students who are not consuming less meat need to be able to show why they are not consuming less meat and what is an important factor for them to continue eating meat. Furthermore, it is also added since it is important influence according to the interviews and a part of the neoclassical economics theory.

Description	Acronym
What are the influences that define my plant-based meat consumption choices?	
My consumption pattern is influenced by social media	Social media
My consumption pattern is influenced by watching documentaires regarding meat consumption	Documentaires
My consumption pattern is influenced by social media channels like Facebook, Instagram, YouTube, etc.	FB, insta, YouTube
My consumption pattern is influenced by commercials and/or advertisements on media channels	Commercials advertisements
My consumption pattern is influenced by recipe blogs	Recipe blogs
My consumption pattern is influenced by people in my surroundings	Surroundings
My consumption pattern is influenced by my social/societal environment (e.g. friends and family)	Social/societal environment
My consumption pattern is influenced by my parents opinion	Parents opinion
My consumption pattern is influenced by my parents consumption pattern	Parents consumption
My consumption pattern is influenced by my work or student colleagues	Colleagues
My consumption pattern is influenced by my friends opinion	Friends opinion
My consumption pattern is influenced by my friends consumption pattern	Friends consumption
My consumption pattern is influenced by my cultural habits (e.g. the food that you are used to)	Cultural habits
My consumption pattern is influenced by my social norms (social standards on how to behave in a group)	Social norms
My consumption pattern is influenced by my religion or believes on meat or meat substitutes	Religion
My consumption pattern is influenced by habits	Habits
My consumption pattern is influenced by avoiding to be a burden to others	Burden
My consumption pattern is influenced by my knowledge regarding a plant-based or meat diet and the environment	Knowledge
My consumption pattern is influenced by my nutritional knowledge/awareness	Nutritional knowledge
My consumption pattern is influenced by my knowledge/awareness about meat consumption and the environment	Meat knowledge
My consumption pattern is influenced by my cooking skills	Cooking skills
My consumption pattern is influenced by my creativity of finding new recipes	New recipes
My consumption pattern is influenced by my knowledge on how to use spices to make a tasteful meal	Spice usage
My consumption pattern is influenced by price quality factors	Price quality
My consumption pattern is influenced by the price of meat or meat substitutes	Price
My consumption pattern is influenced by the taste of meat or meat substitutes	Taste
My consumption pattern is influenced by my believes regarding health impacts of meat or meat substitudes	Health

Figure 14 Survey questions with the different levels

A test survey is sent to ensure that the survey is formulated right. This survey is sent out like a natural survey for people to fill in. The only difference is that they are asked to give feedback on the survey. To ensure that people will not fill in the test and final survey, the test survey is sent to a select group of six students who have a critical look at the survey. With the feedback from the

test survey, the survey is updated to the final survey. This survey aims to determine why people change their meat consumption by looking at the themes knowledge, surroundings, social media and price-quality.

The survey is based on a pairwise comparison, based on the answers from the respondents these results are put into a pairwise comparison matrix, looking like the following:

$$\begin{pmatrix} 1 & 2 & 5 \\ 1/2 & 1 & 3 \\ 1/5 & 1/3 & 1 \end{pmatrix}$$

The matrix above has just random numbers and is just an example of how it could look like. Based on this matrix an eigenvector is created and looks like the following:

$$\begin{pmatrix} 5 / & 9 \\ 3 / & 9 \\ 1 / & 9 \end{pmatrix}$$

Again, the numbers are random and just an example. With these matrixes the eigenvalue is calculated by the CGI software (n.n., AHP Calculation software, n.d.), that is used in VARI. This eigenvalue shows how much a factor is preferred over the other in percentages of a total of 100%.

How consistent this choice is, is calculated with the consistency index (CI) and the consistency ratio (CR) which are essential factors that define how consistent consumers are (Saaty, 1990). The CI is defined in the following way:

$$CI = \frac{\lambda_{max} - N}{(N-1)}$$

Where the λ_{max} represents the eigenvalue and N is the number of attributes that are being compared. To have an entirely consistent matrix, the eigenvalue needs to be $\lambda_{max} = N$ (Saaty, 1990). This also means that CI≥ 0, where the closer the value is to 0, the higher the consistency. To measure the level of consistency, the CR is used with the CI and the random index (RI), which represents the average of reciprocal matrices over a large number with random entries (Saaty, 1990).

$$CR = \frac{CI}{RI\ (n)}$$

When the CR is significantly small, meaning 10% or less, the results are highly consistent. However, a moderate consistency ratio form 15% will suffice in this thesis (Apostolou & Hassell, 1993). Furthermore, Elliott (2010) refers to two reasons from Saaty to allow a level of inconsistency. First of all, a small inconsistency level will not significantly impact the total weights. Secondly, small inconsistencies are not always errors in the individual consistency supply but can also result from experiences from the individual that make judgements more consistent. This method is chosen because it ranks the preferences of the participants, whereas in this case, it ranks the influencing factors of the students.

After collecting all the data, the data needs to be analysed. This is done through the VARI app. This app will give an overview of which themes are ranked as most important and for which group, e.g. meat-eating students, are most influenced by social media.

4. Results

Within this chapter, the results of this thesis are discussed. The first research question is based on the literature, the second research question is based on the interviews, and the third is based on the survey.

4.1. Literature review on meat consumption and behavioural economics

The following research question is answered in this paragraph "Why do people change their meat consumption according to the behavioural economics literature focussing on the theme's knowledge, social media and surroundings?". Within this paragraph, the themes are addressed first in the following order social media, surroundings and knowledge. Then the theories are addressed as follows framing, availability bias and cooperation.

4.1.1. Social media based on the literature

Social media, a world without it, is not imaginable anymore. When exposed to normative content, social media can even lead to behaviour change (Vogelaar & Priante, 2021). Patel and Buckland (2021) showed a significant increase in environmental issues on social media and campaigns. García-González et al, (2020) state that food sustainability is seen as a 'hot topic'. According to the literature, influencers show how to become more sustainable on platforms like Instagram, Tiktok or Facebook, which is proven to positively influence sustainable consumer behaviour (Patel & Buckland, 2021; Vogelaar & Priante, 2021). Therefore, more influencers are vegetarian, which means that vegetarianism is getting more and more attention. Roy et al. (2021) shows that influencers have a significant influence on consumers' food choices. The report also showed that consumers look at social media to find recipes that meet their cooking needs. The report shows that consumers who follow food influencers are more likely to become vegan. Furthermore, students tend to believe what celebrities, sports figures, health food store personnel and health professionals post on social media regarding food consumption choices (Roy et al., 2021).

Other media methods include campaigns to make people more aware of what meat consumption is doing to the climate. Apostolidis and McLeay (2016) found that to maximize consumers' effect, these educational campaigns should be focused on health, the environment, and animal welfare. Waters (2018) states that when a campaign is being held for at least a year, it will become influential in increasing the number of vegetarians. However, the campaign's effect will decrease when the campaign is longer than three years. Similarly, Niemiec et al. (2021) found that when consumers are shown videos regarding the impact of meat consumption on personal health, consumers will reduce their meat consumption. In addition, Kwasny et al. (2022) found that television programs about "the negative effects of meat" increase knowledge and change attitudes toward consuming less meat. Therefore public health organizations see opportunities to use social media to reduce meat consumption (Roy et al., 2021).

According to the literature, other social factors that influence meat consumption are social traditions, gender power balance and political attitudes (Waters, 2018). For example, think about turkey on thanksgiving or the fact that meat and masculinity are seen as relatable (Bogueva et al., 2020; Pohjolainen et al., 2015). Another critical influence that Waters (2018) noticed is the household, as it is found that in the U.K., the number of vegetarians depends on the characteristics of a household. This implies that the traditions and norms within a household often determine meat consumption.

4.1.2. Surroundings based on the literature

Social influences refer to the influencing factors within an individual's social life, and these can be family(Habib et al., 2021; Mohamed et al., 2017; Roy et al., 2021; Waters, 2018), friends (Mohamed et al., 2017; Roy et al., 2021; Waters, 2018), peers (Mohamed et al., 2017), work (Mohamed et al., 2017; Waters, 2018), organizations (Habib et al., 2021), (social) media with influencers (Habib et al., 2021) and health professionals (Roy et al., 2021). When these social influences promote social behaviour, this is often against the existing social norm. However, people often act regarding what they think the new future norms will be (Habib et al., 2021). For example, if people think that the new norm will be only to eat fish, they will already start following this norm even though it is not there yet. In addition to this, Vogelaar and Priante (2021) found out that individuals use socially-based information to make decisions. Furthermore, a consumer depends their meat-eating behaviour on the people who are important to them and who give them advice (Shepherd, 2017). The norms, behaviours, and attitudes of social groups affect the individuals' attitudes, choices, and behaviour (Kwasny et al., 2022). Thus, when people are willing to change their attitude or behaviour regarding food choices, social influences are the factors that might drive them over the edge (Hielkema & Lund, 2021; Patel & Buckland, 2021). People often find it hard to make changes because they see many barriers. However, Sparkman and Walton (2017) found that people will reconsider these barriers when observing other people change their behaviour. In other words, they use other people's behaviour to guide the social world (Shepherd, 2017). It is kind of an "if they can do it, so can I" behaviour, which motivates reduced meat consumption (Habib et al., 2021).

According to the literature, when a consumer has social networks that reduce their meat consumption, this will work as a driver for them to consume less meat (Hielkema & Lund, 2021). Hielkema and Lund (2021) states that when consumers have vegetarian friends, they are more likely to reduce their meat intake. Especially men are more influenced by friends regarding their meat intake (Bogueva et al., 2020; Hielkema & Lund, 2021). Therefore, the social context is critical for making ethical food consumption choices for young consumers, where acquaintances, family, and friends mainly influence them. In the research by Roy et al. (2021), it has been shown that 35% of the participants state that their family or friends influence their food consumption. They also found that the number of vegetarians or vegans among family or friends can influence the meat consumption of a person, even when they do not push consumers to change their meat consumption.

However, Hielkema and Lund (2021) found that family and friends might also be why people will not start eating less meat. On the one hand, they might be afraid that their friends and/or family will think negatively about them when they start eating less meat. However, on the other hand, the supportiveness of friends and family can also be the reason to consume less meat (Hielkema & Lund, 2021). Therefore, according to the literature, family, friends and social network support are essential factors in changing meat behaviour (Vainio et al., 2016).

4.1.3. Knowledge based on the literature

Specific knowledge is an important factor influencing a consumer's attitude and, therefore, changing behaviour (Kwasny et al., 2022). According to Oke et al. (2020), there is a lack of knowledge connecting meat consumption and its environmental impact. Because there is a lack of

knowledge regarding the consequences of food consumption, there is also a lack of conversation about the topics (Oke et al., 2020). This makes people decrease their awareness (Macdiarmid et al., 2016; Siegrist & Hartmann, 2019) of the meat consumption problem and have less understanding of the problem (Habib et al., 2021). According to the literature, this lack of knowledge (Kwasny et al., 2022; Oke et al., 2020; Pohjolainen et al., 2015) and awareness (Mullee et al., 2017; Patel & Buckland, 2021) is a significant barrier for consumers to change their food consumption behaviour.

Furthermore, a share of the literature insists that the people who believe that there is a connection between meat consumption and climate change consist of small percentages like 10 or 20% (Macdiarmid et al., 2016). Siegrist and Hartmann (2019) concluded that when consumers are better educated, they have more preference for meat substitutes than less educated consumers. When consumers are better educated, they gain self-confidence and overcome the knowledge gap (Varela et al., 2022). The literature states that more public knowledge (Siegrist & Hartmann, 2019) and awareness (Hielkema & Lund, 2021; Siegrist & Hartmann, 2019; Vogelaar & Priante, 2021) about the environment can contribute to consumers making more sustainable food choices. Piester et al. (2020) state that for consumers to change into a more sustainable food consumption pattern, the first step is to educate them on the impacts of food choices and the environment.

Another problem is that dietary advice changes so much that people lose their fate and are unwilling to change their meat consumption (Macdiarmid et al., 2016). Especially young people must get qualitative and reliable information. They use this information to make ethical food choices and base their consumer behaviour on this (Oke et al., 2020). Furthermore, some literature informs that consumers do not believe that meat should be replaced with other products like beans and lentils (Ekelund & Spendrup, 2016). This disbelieve is formed because of a lack of knowledge regarding nutrients (Pohjolainen et al., 2015; Siegrist & Hartmann, 2019) and the fear of missing nutrients (Hielkema & Lund, 2021). The fear of missing nutrients comes from the fact that animal products have specific nutrients that not a lot of other products have, think about B12, vitamin D, calcium, etc. This is why vegetarians need to eat fortified foods and take macronutrient supplements to uptrain the missing nutrients (Sanne & Bjørke-Monsen, 2022). This makes it hard for people to change their diet, but more knowledge might push them over the edge.

4.1.4. Framing based on the literature

According to the literature, framing is a way to trigger the knowledge or beliefs that a person already has and get this activated by new information (Stea & Pickering, 2019; Vainio et al., 2018). In climate change communication, information about co-benefits or behaviours as framing is an important technique (Vainio et al., 2018). How persuasive a message is famed can determine how much a person changes their behaviour (Stea & Pickering, 2019). Furthermore, to change behaviour, a critical factor in framing these messages is that the message is framed so that people will accept them (Stea & Pickering, 2019). A good way of framing is to design a message to increase social pressure so that it promotes sustainable behaviour. However, women are more influenced by sustainable information than men. Therefore, women are more likely to purchase a vegetarian burger labelled as sustainable (Piester et al., 2020). This also means that a “one size fits all” approach will not work to change consumers' behaviour.

Kwasny et al. (2022) state that messages that are a combination of environment and health are the best way to make consumers reduce their meat intake. Vainio et al. (2018) add that framing the focus on specific important reasons, can form the understanding and base of their choice. For example, framing messages regarding the impacts of meat on the climate, increased consumers' intentions to reduce their meat consumption (Niemiec et al., 2021). The literature states that depending on the value of consumers, framing can affect the attitude and/or intentions regarding meat consumption (Niemiec et al., 2021; Vainio et al., 2018). Using multiple frames is seen as an effective tool to promote plant-based diets, but there is a limit to the effectiveness of this technique (Vainio et al., 2018). The most effective way to apply these frames to change behaviour includes public personal health benefits and addressing barriers and motivations to reduce meat (Niemiec et al., 2021).

One category of framing is labelling, where products get specific labels that indicate, for instance, how climate-friendly a product is. According to the literature, climate labelling is an effective way to make food choices more sustainable. After labelling, more than three-quarters of the consumers were willing to change to a more sustainable diet (Ekelund & Spendrup, 2016). Labels can help people gather more knowledge regarding the products they consume. However, other factors play a more critical role in defining what they consume (Kaljonen et al., 2020). For example, consumers only use the information they seem essential to base their choices on Apostolidis & McLeay, 2016), resulting in labelling not always being an effective way to change behaviour. Kwasny et al. (2022) found that based on an experiment in a university restaurant, a colour based labelling schema is not an effective way to decrease meat sales for students. However, labelling is an effective way to make people more aware of their influence on the climate (Habib et al., 2021). Apostolidis and McLeay (2016) conclude that food labelling is recommended to encourage consumers to lower their meat consumption. Vainio et al. (2018) add that if consumers are already sceptical, labelling has an even more significant effect. According to Harguess et al. 2020), knowledge-based interventions combined with animal imagination frames can change behaviour. Overall, based on the literature, when people already are sceptical about meat consumption, framing is an effective way to change behavioural intentions.

4.1.5. Availability bias based on the literature

Availability bias is that when people can imagine something, it is easier to overestimate the likelihood of this happening, making it more accessible (Mathis & Steffen, 2015; Thaler, 2017). This means that when something is new and not imaginable, this is seen as a barrier and makes it harder to try new things. For example, an excellent way to stimulate sustainable behaviour is to represent the outcome of what products become after recycling (Habib et al., 2021).

An example of connecting availability bias and meat consumption is showing consumers how to make a vegetarian dish, to make it more accessible. Furthermore, people will not consume food if they do not know how to prepare it (Roy et al., 2021). According to the literature, the connection between availability bias and meat consumption can be the lack of imagination or cooking skills in making vegetarian dishes that connects these topics. Insufficient cooking skills is a barrier to eating vegetarian (Hielkema & Lund, 2021; Klöckner, 2017; Kwasny et al., 2022; Patel & Buckland, 2021; Pohjolainen et al., 2015; Varela et al., 2022). Mullee et al. (2017) found that insufficient cooking skills account for 12,3% of why consumers do not want to eat vegetarian. Another barrier is unfamiliarity with plant-based foods (Mohamed et al., 2017), making it harder to imagine that a dish without meat can be tasteful (Hielkema & Lund, 2021). The consumption of plant-based

food is influenced by the meal formats, product familiarity, cooking skills, preferences, and motivational orientations towards food, which are availability based influences (Mohamed et al., 2017).

4.1.6. Cooperation based on the literature

Cooperation is the fact that people naturally try to cooperate or work together because of the social norms and rules (Fehr & Fischbacher, 2004). For example, looking at meat consumption, people can eat together and adapt to the other person's diet to cooperate. The fact that someone will adapt to another diet -which in this case is vegetarian- is a part of being cooperative since the need to work together is higher than the craving for meat.

A person's behaviour is connected to the behaviour of the social group and the social norms that are formed (Shepherd, 2017). *"Social norms are standards of behaviour that are based on widely shared beliefs how individual group members ought to behave in a given situation"* (Fehr & Fischbacher, 2004, p1). Looking at the theory, a person needs three things to change their behaviour, including 1) an individual's control over an action, 2) normative beliefs or social pressure and 3) behavioural beliefs or attitudes. Therefore, social norms are essential in changing someone's behaviour (Stea & Pickering, 2019). For example, in meat consumption, social norms help reduce meat intake and support plant-based consumption (Çoker et al., 2022). In general social norms assist in archiving a more sustainable behaviour (Vogelaar & Priante, 2021). To maximize the influences of social norms and social influences, the behaviour needs to be aspirational or positive to change meat-eating behaviour (Patel & Buckland, 2021). Another way to boost social norms is by using framing construct to encourage sustainable behaviour (Stea & Pickering, 2019).

Kwasny et al. (2022) state that culture, religion, and social norms shape a consumer's meat consumption behaviour. Eating meat is still the social norm in many cultures and communities and can form a barrier (Patel & Buckland, 2021; Stea & Pickering, 2019). This makes it harder for these consumers to change their meat consumption behaviour since they feel that they are acting differently from the norm (Macdiarmid et al., 2016). Therefore, a good alternative is a social network with low meat consumption that can change social norms (Hielkema & Lund, 2021).

Another important factor is personal norms that are strong definers to change behaviour and are often formed by social norms and awareness (Klöckner, 2017). Therefore, especially when people become aware of the impact of meat consumption and accept responsibility, they will change their meat consumption behaviour, according to Klöckner (2017).

4.2. Interviews and meat consumption

To answer this second research question, "What do students and experts at the Wageningen University and Research (WUR) recommend as influencing factors that change their meat consumption?" interviews with students and experts at the WUR have been conducted. There are ten in-depth interviews with eight students and two experts (Appendix 3. Interviews). Overall, the interviewees consist of one vegan, one pescatarian, two vegetarians and six flexitarians. This paragraph has the following build-up; first, an overview of the themes and theories addressed in rq1 is shown in Table 3 and Figure 15 with the main results of the interviews. Then, the "price-quality factors", which are the factors that are mentioned as important by the interviewees and

are a part of the neoclassical economic theory, are explained first. Then, the influencing factors based on the themes and theories of this thesis are explained in further detail per theme or theory. Now first, an overview of the themes and theories is given.

Table 3 Overview themes, theories and factors

Price quality		(Social) Media		Surroundings		Knowledge		Framing effect		Availability bias		Cooperation	
Price	4	Documentories	7	consumption pattern of parents	5	Knowledge	6	Youth trauma	2	Recipe ideas	9	Being the stainge vegeterian	2
Taste	6	commercieals	2	Vegetarian or vegan friends	5	School projects	3			Cooking skills	2	Don't want to be the burdon in the room	3
Health	2	FB, insta, YouTube	8	Friend support	4	Work related	3			Creativity	6	Habit	5
		Recepi blogs	2	Social or societal environment	7							Culture	7
				Colleagues	2								

Table 3 above shows per theme or theory which factors are addressed by the interviewees and are seen as influencing. The numbers show how much interviewees addressed this factor. For example, for the theme "price-quality", the influence of "Price" is addressed by four interviewees. The fact that the table is colour coded is needed for the figure below and is explained later.

Now that it is known which factors are addressed by the interviewees, it is time to show which theme or theory is addressed the most (Figure 15). Which factor is which is shown in Table 3 and is needed to be able to read Figure 15. The colour code shows which factor has which colour in Table 3, and how much it is addressed is shown in Table 3 and shown in Figure 15.

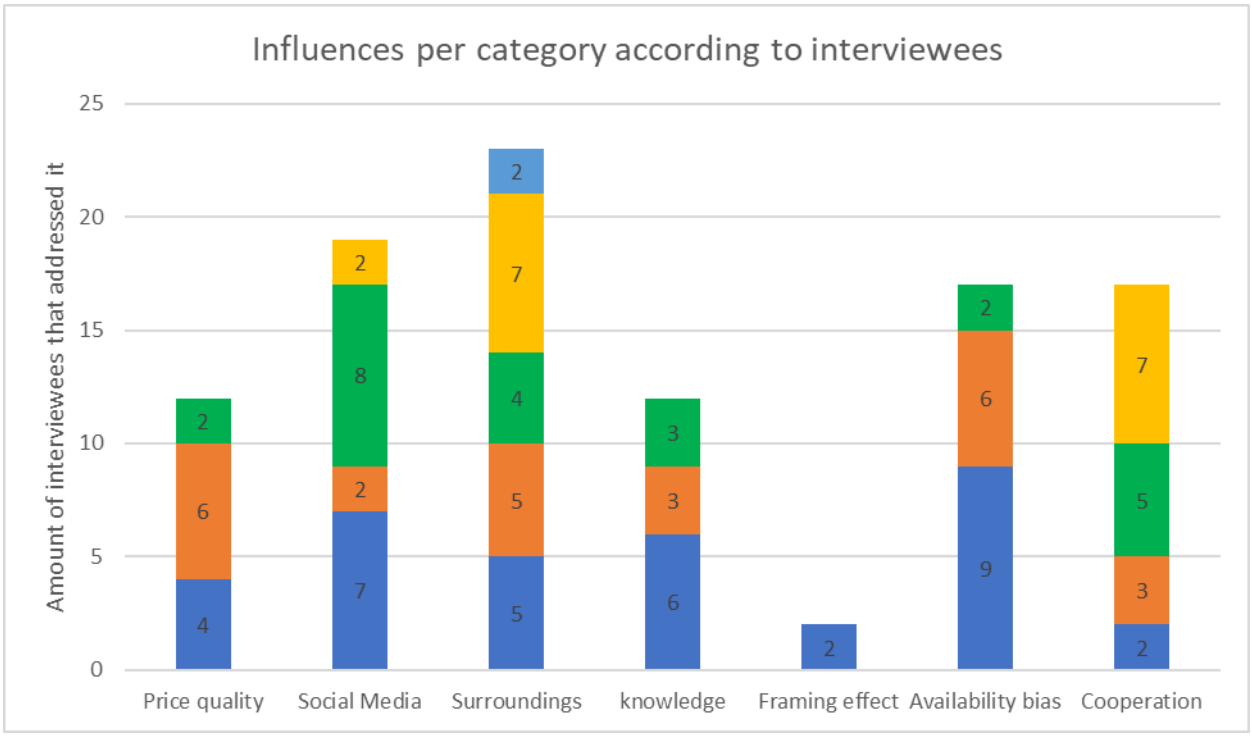

Figure 15 Influences from the interviewees per theme or theory

Figure 15 shows per factor how often this influence is addressed within the theme or theory, but it is also shown how this factor is noticed compared to the other factors. However, the "blue" can not be compared to "blue" to show that there are different factors within each theme or theory. Now that the factors are given in an overview, it is time to go deeper into the results of the interviews, which are shown below per theme or theory.

4.2.1. Price quality based on interviews

The factors that are addressed by the interviewees that are a part of the "price-quality factors" are price, health, and taste. The price of a specific product is, according to Suharso (2020), seen as one of the most important factors in purchase decisions. However, Suharso (2020) also states that other important factors that determine if a consumer will purchase a product in the food sector are quality, brand, health & environmental safety and taste.

Going back to the interviewees, the factors that are addressed most are price (4), taste (6) and health (2)(shown in column 1, Table 3), and therefore these three factors are explained. Starting with price, interviewees A, G, and H stated that the main reason for not always eating meat is based on the price of meat and the budget to purchase food. Interviewee F thinks that meat is expensive in the Netherlands compared to other countries.

Six interviewees address taste as an influencing factor regarding meat consumption. One of the reasons for interviewee A to keep consuming meat is the taste. First of all, the taste of meat is too good to stop consuming it. Furthermore, the bad taste of meat substitutes is also not helping to stop consuming meat. These reasons are almost the same for interviewees G and I, but they say that the taste of meat substitutes is getting better. However, it is not so tasteful as real meat, which can be a barrier for consumers. Finally, interviewees D and H see the good taste of meat as a barrier for consumers or themselves to stop eating meat. According to interviewee D, there is this concept that a dish needs meat to be tasteful.

The minor but still noticeable reason for factor is health which two interviewees address. Eating less meat is healthier, according to interviewees C and D. Furthermore, some interviewees do not address health directly but do address it indirectly. For example, interviewee A started to consume less meat at a young age because of parents who want to consume less meat for health reasons.

4.2.2. Social media based on interviews

According to the interviewees, important social media factors that influenced their meat consumption are documentaries (7), commercials (2), social media channels like Facebook, Instagram and YouTube (8) and recipe blogs (2). (See the second column of Table 3). According to the interviewees and the literature, the different social media platforms are chosen because they are seen as influential (see rq1). The different influencing factors are explained per factor and based on what the interviewees addressed in the paragraphs below.

For interviewees F and G, documentaries helped them gather more knowledge regarding their doubts about the meat industries and gave new reasons to convince them to consume less meat. According to interviewees E and H, documentaries have this confronting feeling, making them more convinced to eat less meat. Finally, documentaries showed how meat is produced for interviewee B and convinced even more not to consume meat as the parents said.

Two interviewees say that commercials influence them. Interviewees A and B state that commercials confront what is already known. However, interviewees A and B process this information in a different way. For interviewee A this means contributes to the idea about meat

and motivates to stay vegetarian. For interviewee B, the taste of meat is too good to stop consuming meat completely.

Social media platforms are addressed by nine interviewees and therefore seen as one of the most influential regarding meat consumption. Since students and some experts are asked, it seems like a logical outcome. The students from now grow up with these platforms and get their information from them, whether it is conscious or subconscious. Interviewees B, E, and J use YouTube to watch movies regarding meat consumption and get their information. Other people like interviewee C, use social media platforms to get ideas for new plant-based recipes. According to interviewee E, vegetarian or vegan influencers are also important influences to reduce meat consumption. This is because most people are meat eaters and people find it easy to just go with the flow, making eating meat look normal. Therefore, vegan or vegetarian influencers can break this pattern those students have. Social media platforms can also give insight into the fact that small changes in meat consumption can already influence the environment, according to interviewee G. The social media platforms are also places to keep up to date about meat consumption and the environment (interviewee H). The messages presented in the media are especially influential on the level of awareness and gathering knowledge and a bit less on behavioural change. However, according to interviewee I, meat consumption became an important topic of discussion and conversation.

Food or recipe blogs are ways to stay creative and give new ideas about food or how to make a meatless meal in the cases of interviewees D and J. Looking at the influence of social media. It is so that people get reminded of eating less meat and get influenced by other people's ideas.

4.2.3. Surroundings based on interviews

Several different influences play an important role in changing to a less meat consuming diet for surroundings. These are influences like the consumption pattern of the parents (5), the amount of vegan or vegetarian friends (5), friend support (4), social or societal environment (7) and (student) colleagues (2), which is presented in column three Table 3. These different influences in the surroundings have been chosen because they are stated in the interviews and are also seen as influential according to the literature (see rq1)

Looking at the consumption pattern of the parents, half of the interviewees have parents that were, for some reason, already consuming less or no meat. Although in the case of interviewee A there were health reasons for consuming less meat at a younger age, at an older age, it makes it easier to find inspiration for meatless meals. For other people being vegetarian is the only way of living that they know (interviewee B). Even though the parents gave the opportunity of eating meat by giving interviewee B the choice to make a meat dish yourself, interviewee B still decided to stay vegetarian. Interestingly, this is the complete opposite of what is “normally” done in Western culture. Most of the time, eat meat is served during dinner, and to have a meatless dinner, this needs to be self-made. Furthermore, the outcome is the same, the consumption pattern of the parents is copied, which takes the least amount of effort. However, interviewee B has more reasons for not consuming meat, like eating meat feels frightening and that we need to show respect to nature. For interviewees C, D and F, their mother already started a (partly) plant-based diet, making it easier to consume and make plant-based diets.

Another aspect that accounts for half of the interviewees are having vegan or vegetarian friends. Interviewee A is willing to make a vegetarian meal when cooking with vegetarian friends.

However, at a BBQ, meat is a necessary factor. Interviewees D find it easier to eat vegetarian with vegetarian friends because it does not give a weird feeling. Also, arguing with them about documentaries or other meat-related topics helped them switch to a less meat intensive diet and gave them new ideas for recipes. The fact that interviewee E and his/her friends are more aware of the effects of meat consumption supports the vegan decision. Having vegetarian friends makes it easier to step into the vegetarian world (interviewee G).

Friends can also have another role in consuming less meat, supporting their friend's choices. For example, interviewees B, D, F and J's friends have a more supportive role that helps them continue their vegetarian path.

Another factor that many students and experts see as influential is their social or societal environment. Interviewees B and F, for example, believe that a societal group can be the factor that makes it more accessible to change into a less meat intensive society. Indeed, eating less meat is supported in some social environments, influencing interviewee D to eat less meat. For interviewee C, it is more about adjusting to the people around you. For example, when eating with meat-eaters, meat will be consumed. A different experience had interviewee E, who had neighbours that did not consume meat or eggs and experienced eating without meat. This made the transfer to being vegan easier at a later age. In the social group of interviewee G, it even became a game to try and be vegan twice a week, so they positively challenged each other. In the social circles of interviewee I, it is pretty normal to consume less meat, which is not the case in all social circles.

The last and least influential point in students' surroundings is their colleagues. First of all, this could be logical since not all of them will work. However, some PhD students do have several colleagues. For example, interviewee C has 80% vegetarian PhD colleagues, making it easy to follow this new diet. Furthermore, interviewee I, say that his/her colleagues are one of the biggest influences on consuming less meat.

4.2.4. Knowledge based on interviews

Knowledge has three different categories that came forward from the interviewees (see column 4, Table 3), namely, knowledge (7), school projects (3) and work-related (2). Different kinds of knowledge can influence a person's behaviour. These different factors are chosen because they are addressed by the interviewees multiple times and corresponded to the literature found in RQ1.

Interviewee B believes that knowledge is essential in defining your opinion on meat consumption at an older age. Also, parents' knowledge helps form a better understanding of the meat problem. For interviewees C and E, their research gave them more knowledge and changed their perception regarding meat consumption. Interviewee F went on a personal journey to gather more information and data regarding meat consumption which influences his/her meat consumption. Also, knowledge regarding meat consumption is more accessible (interviewee H). Finally, knowledge and research regarding meat consumption are the most influencing factors (interviewee I). Interviewee J had an internship on a farm and learned about how animals are held, and after gathering that knowledge, a meatless diet is the next step.

Looking at these interviews, most of them gathered their knowledge through projects or work-related influences. (school) Projects like internships and minors are for interviewees H and J the actual reason to investigate more into the meat consumption topic and to change their behaviour. Interviewee B also had projects regarding meat consumption which gave more insight. Looking at the work-related projects, participants E and H got more influence. They are both doing research regarding meat consumption which made them gather more knowledge which changed their perception of meat consumption and later changed their behaviour and started to consume less or no meat. This means that work and school can increase knowledge and, in time, change behaviour.

4.2.5. Framing based on interviews

Framing is a relatively more complicated topic to address during the interviews. This may be explained by framing is not often consciously noticed by people, although it often does influence them. However, what hit some interviewees is some kind of trauma (2) that they had (see column 5, Table 3). Framing effect and decisions are closely related to each other, looking at the report from Cho and Bates (2018), who stated the following "*The preferences of decision makers for different options are influenced by how equivalent information is formulated or framed.*" (p.117). Looking at how this connects to trauma, something is framed so that it impacts the decisions that a consumer makes, which is why trauma is seen as a part of framing effect in this report.

For example, interviewee E saw a meat truck at a younger age, and that had such an influence that he/she even tried to eat less meat. However, since the family still did consume meat, this made it more complicated, but he/she always had the idea to consume less meat when being more independent and older. Interviewee J did an internship at a chicken farm and saw how animals were treated. This is such a traumatic experience that it resulted in a meatless diet within two weeks.

The interviewees did notice some points that are a way of framing. For example, interviewees B and C state that meat consumption is seen as a definer of social status. Interviewee C also states that meat is seen as something festive, so it is seen as needed to make an event festive. Another point that interviewee D states is that all that "stuff" about being green is annoying but does not feel influenced by the media. The fact that interviewee D is annoyed by this green stuff means that he/she does notice it and gets more aware of the problem. The fact that films and commercials still use meat is a barrier to changing into a less meat intensive society (interviewee E). Also, in restaurants, there is still this feeling that meat lives up to the fanciness of a dish (interviewee G). Interviewee H says that there is still a stigma on meat, such that a sufficient dinner needs meat. It sometimes feels like people need meat to be a part of society. For interviewee J, it is even so that in his/her culture, it is known that when a child does not eat meat, this kid has problems at home. All of these ways of framing have different reasons, but from the interviews, it is seen that it is often a part of a tradition, habit, culture or religion.

4.2.6. Availability bias based on interviews

For availability bias, the following topics are seen as most influencing; recipe ideas (9), creativity (6) and cooking skills (2), as shown in column 6, Table 3. This links to availability because availability bias is the theory that explains that the quicker and easier consumers can imagine something to happen, the more likely consumers are to purchase something (Carmerer &

Loewenstein, 2014). Therefore, recipe ideas, creativity and cooking skills are part of availability bias. They all influence how easily a consumer can imagine cooking a dish without meat and therefore eat less meat.

Recipe ideas are pointed out most in the interviews. The interviewees say that it can often be hard to find recipes without meat or that it can be hard to imagine dishes with a new recipe to make it a meatless dish. On the other hand, when interviewees already had been in contact with vegetarian dishes, it is easier for them to develop meatless recipe ideas. Interviewee A notices that in almost every recipe, meat is a substance which makes it hard to make a meatless dish. However, seeing other people make meatless meals makes it easier to make meatless meals. Seeing these new and delicious vegetarian recipes on social media made interviewee C more into meatless dishes. Interviewees A, D, E, F, and G have surroundings (mostly parents) that already made dishes without meat at a younger age, making it easier for them to make meatless meals at an older age. For interviewee H, the lack of making a recipe accessible for a meat substitute or being meatless is seen as a barrier. Furthermore, interviewee I sees the change in recipes where there are more and more recipes without meat or with meat substitutes. For interviewee J, recipe blogs are needed to find new vegetarian dishes. All in all, recipes are an essential factor; whether there is a lack of them or not, it is a factor defining meatless dishes.

Also, the amount of creativity in making or imagining new recipes is an important factor that the interviewees mention. Interviewees A, F, G and H think it is the lack of being creative that forms a barrier and makes meatless meals less accessible. It is often problematic for people to imagine how to make a dish without meat. For other people, it is an opportunity to be creative and invent new ways of cooking, like interviewee D. Other people like interviewee J use food blogs to stay creative and get new recipe ideas. Nevertheless, as interviewee D said, “you have to think outside the box, which can be challenging”. Interviewees A and D think that the amount of cooking skills also defines how easily a person switches to a less meat intensive diet.

4.2.7. Cooperation based on interviews

Cooperation has four topics that interviewees see as influencing people on their meat consumption (shown in column 7, Table 3), the fact that people think that vegetarians are “weird” (2), that people do not want to be a burden to other because they are vegetarian (3), habit (5) and culture (7). Weird is a term that is connected with cooperation since people dismiss cooperation with vegetarians with a slogan of labelling as “weird”, “awkward”, “anti-social”, etc. These two topics are connected with cooperation because cooperation is based on social norms. Social norms are informal understandings created within society and assume that people behave according to these understandings(Cho & Bates, 2018). The interviewees, however, show that reducing meat consumption is not seen as a social norm and, therefore, not cooperative.

Interviewee B has always been a vegetarian. However, at a young age, other children see this as the weird vegetarian one that does not eat meat. This shows a stigma around eating meat, everyone should consume it, or people are seen as not following the social norm. Interviewee D needed it that friends are also vegetarian not to feel weird about being vegetarian.

For other interviewees, being vegetarian makes them feel like they are a burden to others since people have to adapt meals for them when eating together. Interviewee C would adjust to the social setting and still eat meat in social settings where meat is served to avoid being a burden to

others when not completely cooperative and following the social norms. Another problematic point is that people sometimes make food for you and that you cannot eat something because it is not vegan or vegetarian, according to interviewee E. It makes you feel like you are always the burden in the room that needs this vegetarian or vegan dish (interviewees E and H).

Eating meat is also addressed as a habit for five interviewees. Interviewee A addresses this because meat in a dish is typical for people. Interviewee B thinks that habit is one of the most influential on consuming meat. Eating meat is also seen as a tradition according to interviewee G. The idea of interviewee H connects to habit with the fact that a meal needs meat to be sufficient, especially in the potatoes, vegetables and meat society of the Netherlands. Finally, according to interviewee J, eating meat is seen as a habit that is learned at a young and continue to do when older.

The next topic is culture, which is close to habit since they interact. Look, for example, at the potatoes, vegetables and meat society of the Netherlands. This is a cultural thing, but it also becomes a habit for people. Interviewees A, B and F refer to having meat in a dish as a cultural thing. For interviewee C, eating meat and culture is more referred to as the fact that eating meat gives a social status in his/her home country (Indonesia). The fact that meat consumption is still used in films or that meat is a dominant element in restaurants is how interviewee E refers to the fact that meat is cultural. The fact that people need to eat meat to be part of society is seen as cultural by interviewee H. For interviewee J, meat is such an essential part of the culture in Istanbul that when you do not eat meat, this is associated with problems at home.

The interviews show that the interviewees sometimes find it hard to follow their diet because other people need to adapt to them because they feel they do not belong entirely in society, based on the social norms from which cooperation is built. Combining the information of all the interviews and the insights of the literature review gives the following updated decision tree represented in Figure 16 below.

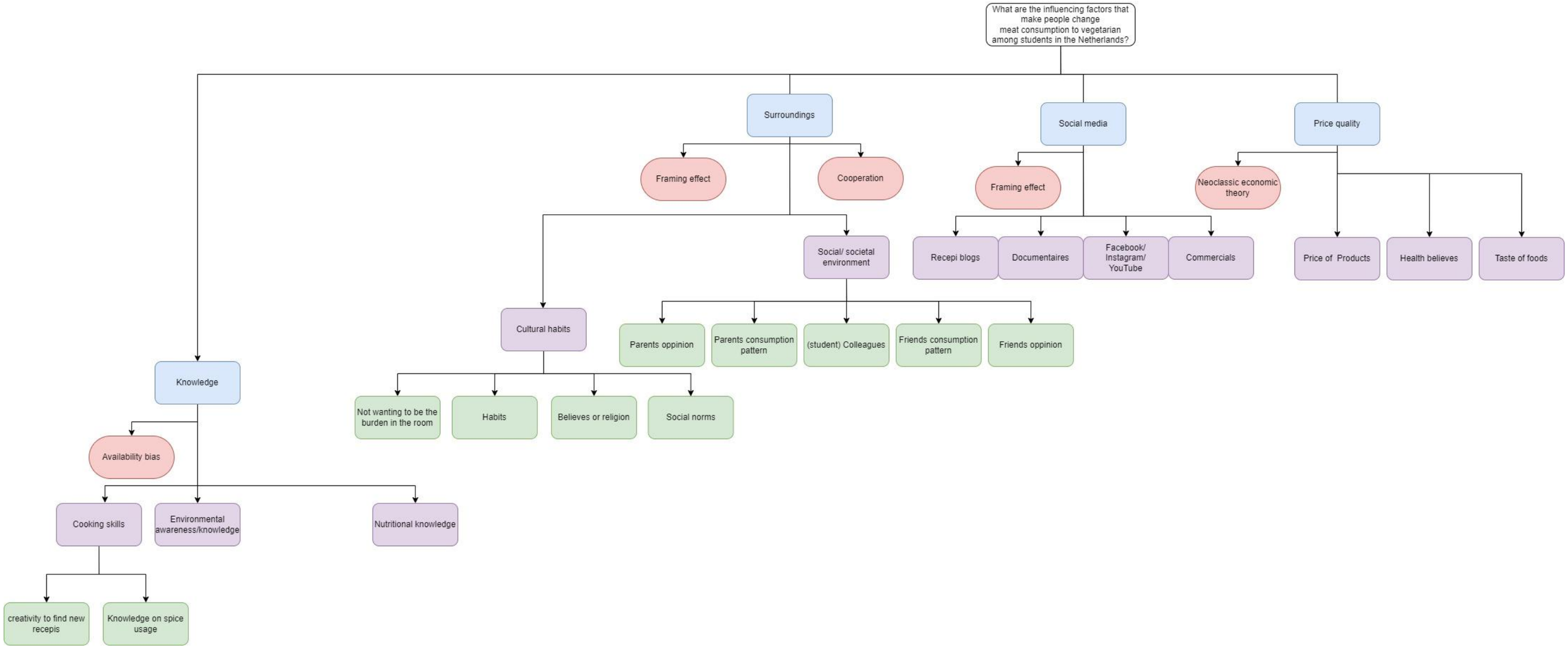

Figure 16 Decision tree final version

4.3. Survey and meat consumption

To answer the question "What are the relatively more influencing factors for students at WUR to change their meat consumption based on the theme's knowledge, price-quality, surroundings, and social media?" a five-point weighing scale pairwise comparisons survey is sent out to 2858 students at the WUR. To answer which theme is more influential, the results of 200 students are compared and is shown per general question.

A general overview of the percentage of influence of the different themes is shown in Figure 17 below. The percentages of the different themes shown and the consistency ratio (CR) for each theme are underneath the figure. The consistency ratio shows how consistent the answers of the respondence are since people can not always make consistent choices (Saaty, 1990). When the consistency is below 15%, this is sufficient (Apostolou & Hassell, 1993).

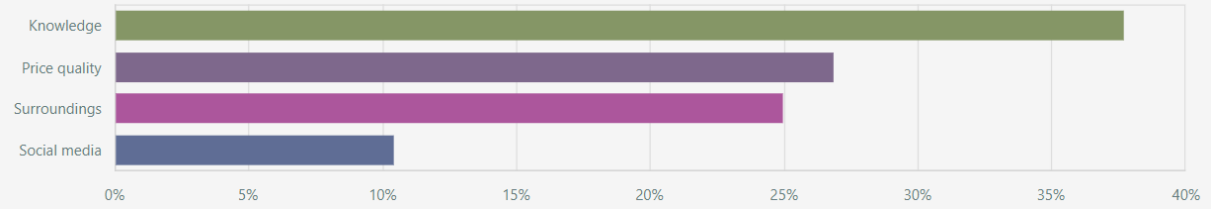

Figure 17 Overall most influencing theme

Figure 17 shows that knowledge with 37.7% (CR 8.2%) is seen as the most influential, followed by price-quality with 26.9% (CR 9.9%), then surroundings with 25.0% (CR 6.3%) and lastly, social media with 10.4% (CR 5.1%).

4.3.1. Survey question about meat consumption and the themes

The first general question is "What is your current way of meat consumption?" where flexitarians account for 42.5%, meat-consumers for 30.0%, vegans for 8.0% and vegetarians for 19.5%. The results per group are shown in Figure 18 below and is explained further underneath the figure.

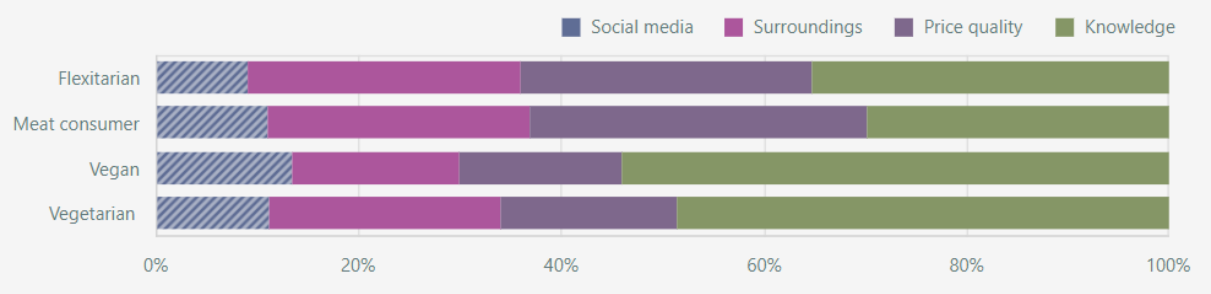

Figure 18 Consumption pattern and overall influencing themes

As sown in Figure 18 above, flexitarians are most influenced by knowledge (36%), followed by price-quality factors (28%) and closely followed by surroundings (27%), and last is social media with 9%. Price-quality is 33% of the influence for meat consumers, followed by knowledge with 30%. Surroundings with 26% and last are social media with 11%Vegans are most influenced by knowledge (54%), the next most influential is surroundings (17%), followed by price-quality (16%) and lastly social media (13%). Finally, vegetarians are 49% most influenced by knowledge, then with 23% influenced by their surroundings, price-quality factors influence 17%, and lastly, social media has 11% influences.

The (sub)sublevels are also compared for the current way of meat consumption per theme. In some cases, the sublevels and sub-sub levels are shown. In other cases, only the sublevels since

they only have sub levels. Since the figures of the (sub) sublevels are made in Excel, the scores can slightly change from the scores form VARI because of rounding errors. When there are sub-sub levels, the same sub-sub levels are presented in the same colour. For example, two different colours of green means that there is a sublevel with the colour green with two sub-sub levels that both have a different shade of green. Another important note is that there are some differences in rounding which means that the (sub) sublevels might differ a bit. These overviews are made for all general questions and is done in the same way for this part of the thesis.

The first theme with (sub) sublevels is knowledge, shown in Figure 19 below. As shown, there are three sublevels and there are two sub-sublevels; nutritional knowledge (blue), meat knowledge (yellow) and cooking skills (green), with sub-sublevels of new recipes (light green) and spices usage (darker green).

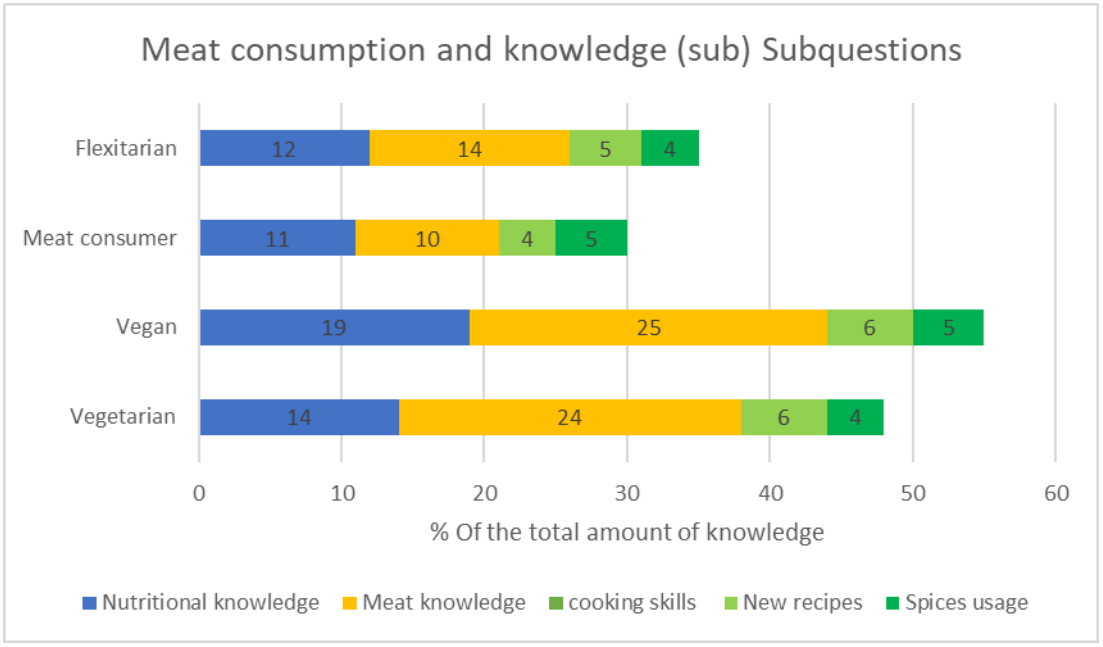

Figure 19 Consumption pattern and knowledge (sub) sublevels

Figure 19 shows that meat knowledge is the decisive factor in how influential knowledge is on students. For meat knowledge, the difference between meat consumers & flexitarians and vegetarians & vegans is the highest. The smallest differences are cooking skills with the sub-sub levels new recipes and spices usage. For all participating students, these numbers are between 4% and 6% on the sub-sublevel and between 9% and 11% on the sublevel (light green with dark green).

The second theme with sublevels is price-quality, as shown in Figure 20. Since this level does not have sub-sub levels, there are three different colours for the sublevels price, taste and health, and there is no division into a lighter or darker colours.

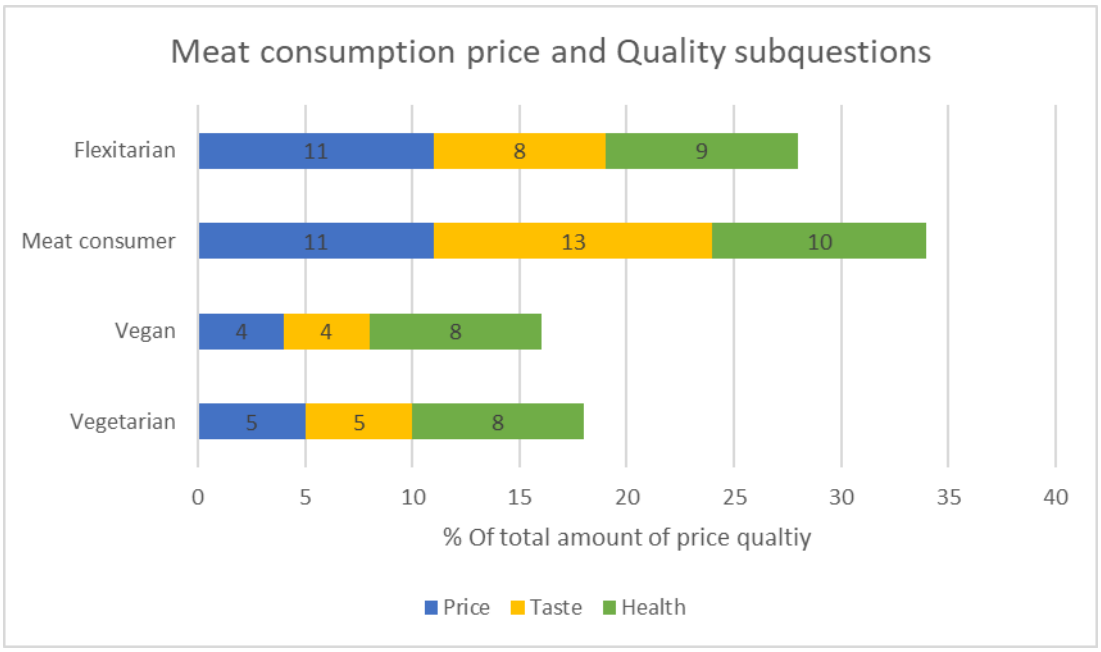

Figure 20 Consumption pattern and price-quality sublevels

Figure 20 shows that price and taste are important factors that are more influential for meat consumers & flexitarians than vegans & vegetarians. Furthermore, health is almost equally important for all categories and is, therefore, less influential. This shows that meat consumers and flexitarians attach more value to a reasonable price and the right taste than vegetarians and vegans.

The third theme is surroundings, and this theme has two sublevels, and they have both sub-sublevels; social/societal environment (blue) with five sub-sublevels (parents opinion, parents consumption pattern, colleagues, friends opinion and friends consumption pattern) and cultural habits (yellow)with four sub-sublevels (social norms, religion, habits and burden). This theme is displayed in Figure 21 below.

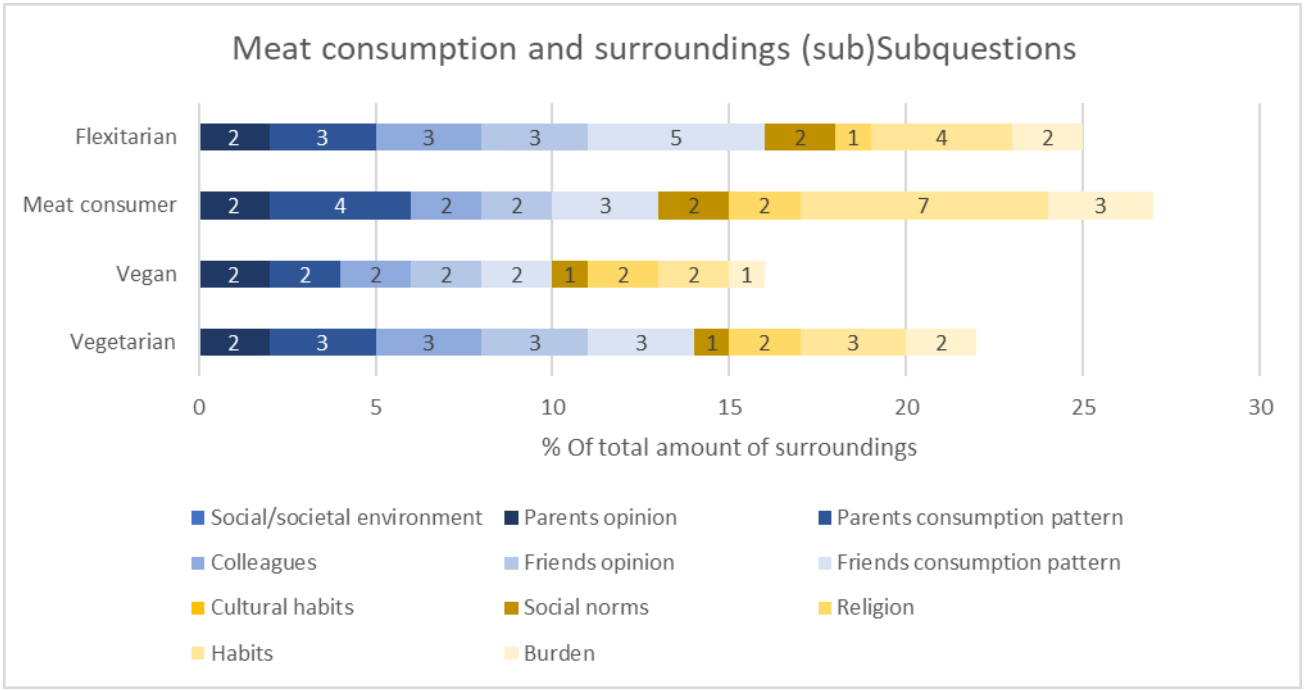

Figure 21 Consumption pattern and surroundings (sub) sublevels

Figure 21 shows small differences between the sub-sub levels, but when these small differences are combined, this makes a big difference in the final influence of a sublevel. Furthermore, meat consumers are more influenced by their parents consumption patterns, and flexitarians are more influenced by their friends consumption patterns. Looking at the cultural habits, the most differences are in habits. Especially the meat consumers but also the flexitarians are more influenced by habits than the vegans & vegetarians.

The final theme is social media, and this theme has four sublevels and no sub-sub levels. The different sublevels are documentaries, FB-Insta-YouTube, commercials & advertisements and recipe blogs. All the sublevels have different colours and are shown in Figure 22 below.

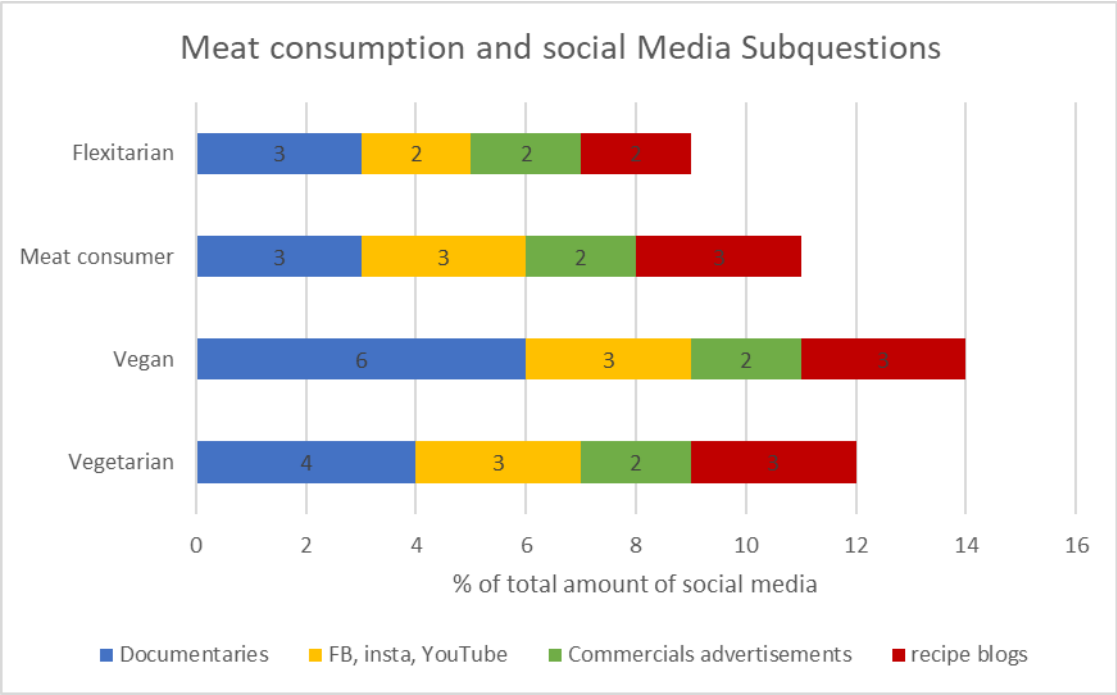

Figure 22 Consumption pattern and social media sublevels

As shown in Figure 22 above, the primary minor differences lead to a more considerable change. However, for vegan's documentaries have more influence than the other categories.

As shown in the figures 19-22 above, the participants are influenced by different things based on their meat consumption. Furthermore, knowledge is for flexitarians, vegans and vegetarians seen as the most important factor in changing their meat consumption. Where the subcategory meat knowledge is the decisive factor. For meat consumers, price-quality factors are the most influencing, and taste and price are the most influencing subcategories.

4.3.2. Survey question about gender and the themes

The second general question is "What is your gender?" where females with 63.0% have the most prominent response, then the man with 35.5%, following "other" 1.0% and last "rather not tell" 0.5%. Taking a closer look "other" and "father not tell" account for just 1.5% of the total. Since the number is too small to make accurate results, the results of these groups will only be shown in the overview and not be further addressed. The results per group are shown in Figure 23 below and is explained further underneath the figure.

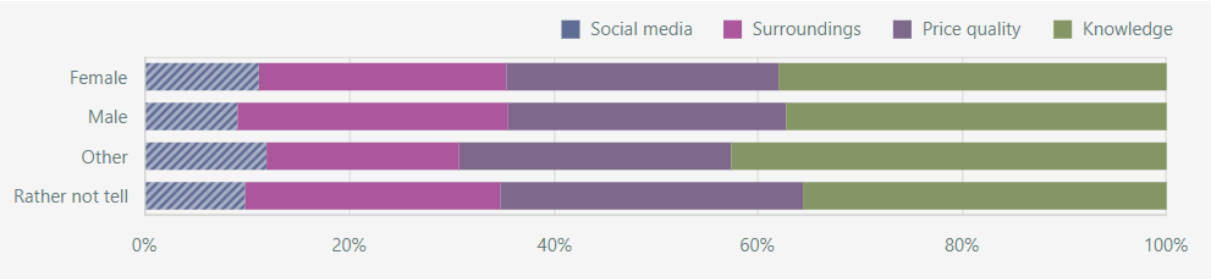

Figure 23 Gender overall overview per theme

Females are most influenced by knowledge (38%), the next most influential is price-quality (27%), followed by surroundings (24%) and lastly, social media (11%). Males see knowledge with 37% as most influential, followed by price-quality factors with 27%. Surroundings are with 26% the next most influential factor, and lastly, social media with 9%. Students that are "other" are most influenced by knowledge with 43%, and price-quality is with 27% the following. The influence of surroundings is 19%, and social media is with 12% seen as least influential. Finally, students that are "rather not tell" are most influenced by knowledge (43%), the next most influential is price-quality (27%), followed by surroundings (19%) and lastly, social media (12%).

For this general question, the (sub) sublevels will also be addressed in the same way as shown in the first general question. However, an important note is that the groups other and rather not tell only account for 1.5% and are not a good representative. Therefore they will not be shown or discussed further. Starting with knowledge, with the sublevels nutritional knowledge, meat knowledge and cooling skills. The sub-sub levels are "new recipes" and "spice usage", shown in Figure 24 below.

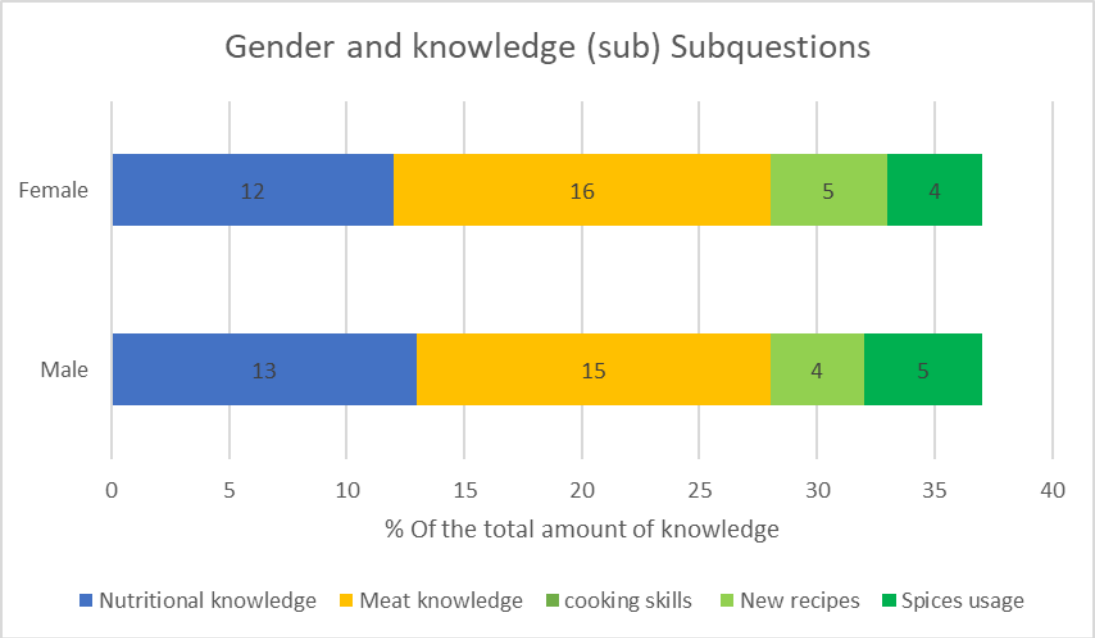

Figure 24 Gender and knowledge (sub) sublevels

Looking at the difference between females and males, Figure 24 shows that the differences are so small that they are almost negligible for knowledge. This seems logical since the overall differences between knowledge between females and males are also negligible. `

The next theme with sublevels that is presented is price-quality. The sublevels are price, taste, and health, shown in Figure 25 below.

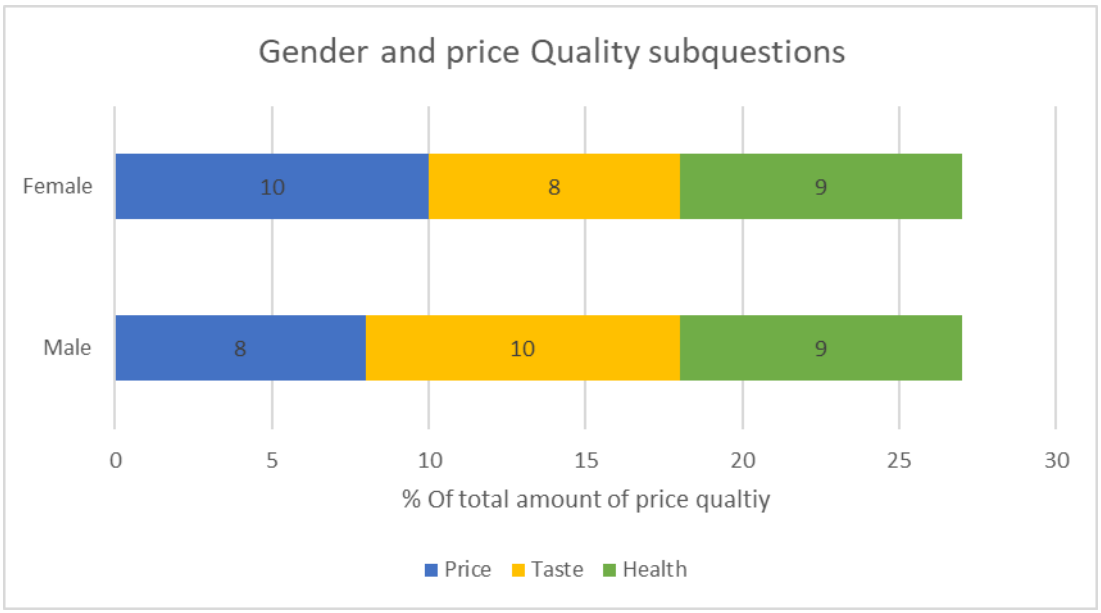

Figure 25 Gender and price-quality sublevels

For females and males, the differences are again minor, however, females find the price a bit more essential, and males find taste a bit more essential. They both look the same at health which is for both equally important.

The (sub) sublevels for surroundings are shown in Figure 26 below. The sublevels are "social/societal environment" and "cultural habits" for surroundings. The sub-sublevels are parents opinion, parents consumption pattern, colleagues, friends opinion and friends consumption pattern (social/societal environment) and social norms, religion, habits and burden (cultural habits).

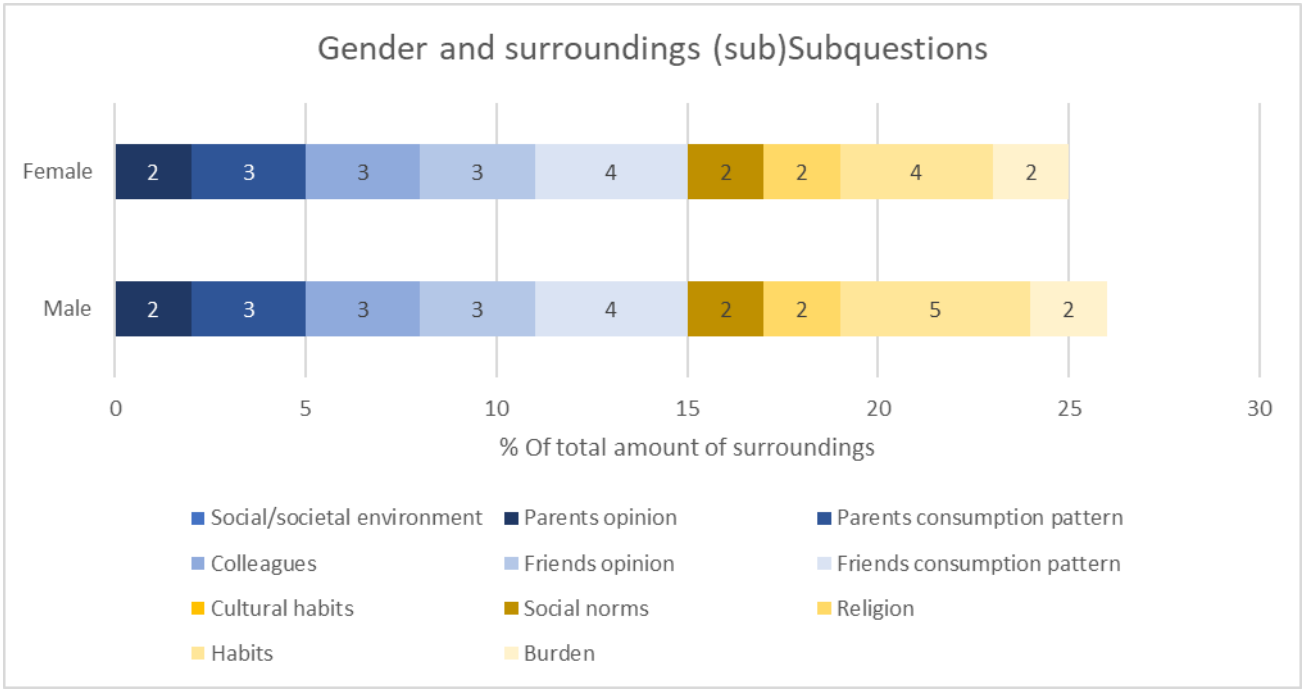

Figure 26 Gender and surroundings (sub) sublevels

Figure 26 shows that females and males are much alike in the surrounding theme. The only minor difference is that men are more influenced by habits than females. This is surprising since Bogueva

et al. (2020) and Hielkema & Lund (2021) Concluded that men should be more influenced by friends than females.

There are only the sublevels documentaries, FB-Insta-YouTube, commercials & advertisements, and recipe blogs for social media. The results of these sublevels are shown in Figure 27 below and is interpreted underneath the figure.

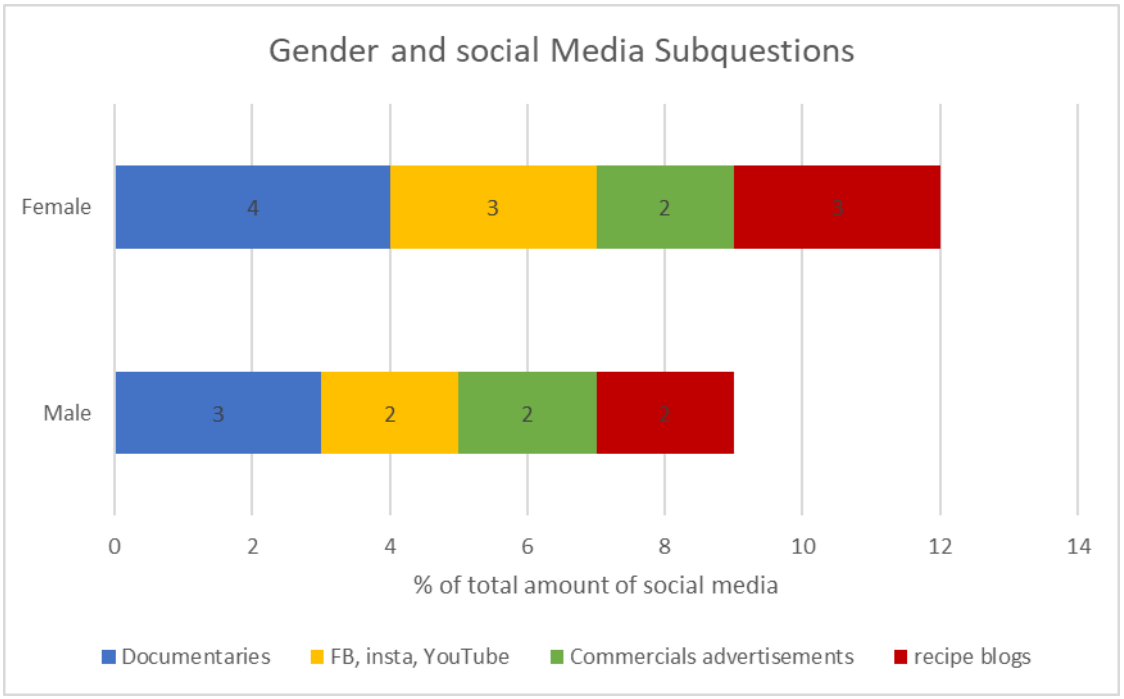

Figure 27 Gender and social media sublevels

The differences between females and males are a bit higher than for the other themes of social media. For example, as shown in Figure 27, females are more influenced by documentaries, Facebook, Instagram, YouTube and recipe blogs. However, the difference is still minor.
Looking at the overall difference between males and females, it is shown that the differences are minor. It is often a 1% difference and a remarkable difference of 2%, which is also the highest difference between female and men.

4.3.3. Survey question about study department and the themes

The third general question is, "What is your current chair group/study department?". Here the biggest response group is environmental science (30.5%), then agrotechnology and food (26.0%), plant sciences (19.0%), next is animal sciences (13.0%), and the smallest is social sciences (11.5%). The results per group are shown in Figure 28 below and is explained further underneath the figure.

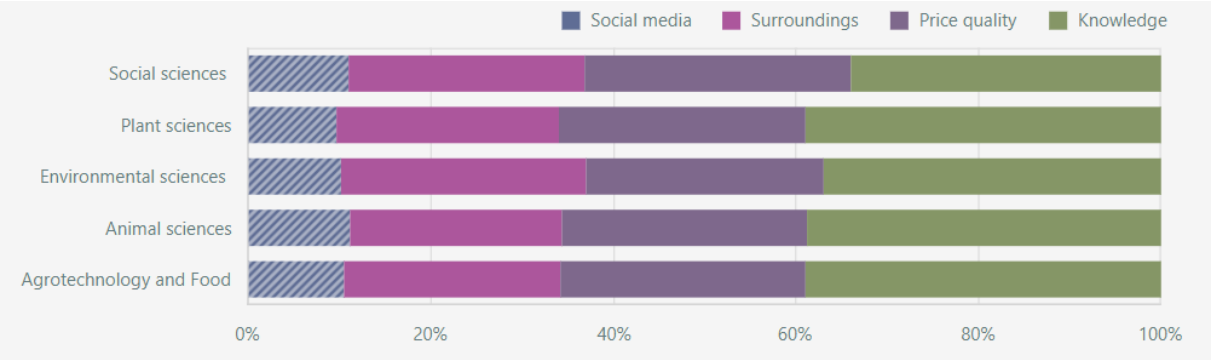

Figure 28 Study department overview per theme

Knowledge is with 34% most influential to social science students, and price-quality factors are with 29% the second most influential. With 26%, surroundings are the third most significant influence and lastly is social media with 11%. Plant science students are most influenced by knowledge (39%), the next most influential is price-quality (27%), followed by surroundings (24%) and lastly, social media (10%). For environmental science students, knowledge is with 37% the most influential. The next most influential is surroundings with 27%, price-quality factors are with 26% the next in line and lastly with 10% is social media. Animal science students are most influenced by knowledge (39%), the next most influential is price-quality (27%), followed by surroundings (23%) and lastly, social media (11%). Knowledge with 39% is for agrotechnology and food students the most influential. Price-quality factors are with 27% the second in line, followed by surroundings with 24%, and social media has 11%.

The (sub) sublevels are shown in the figures below and will show for the study departments what the differences are. The first theme is knowledge, where the (sub) sublevels are shown in Figure 29 below.

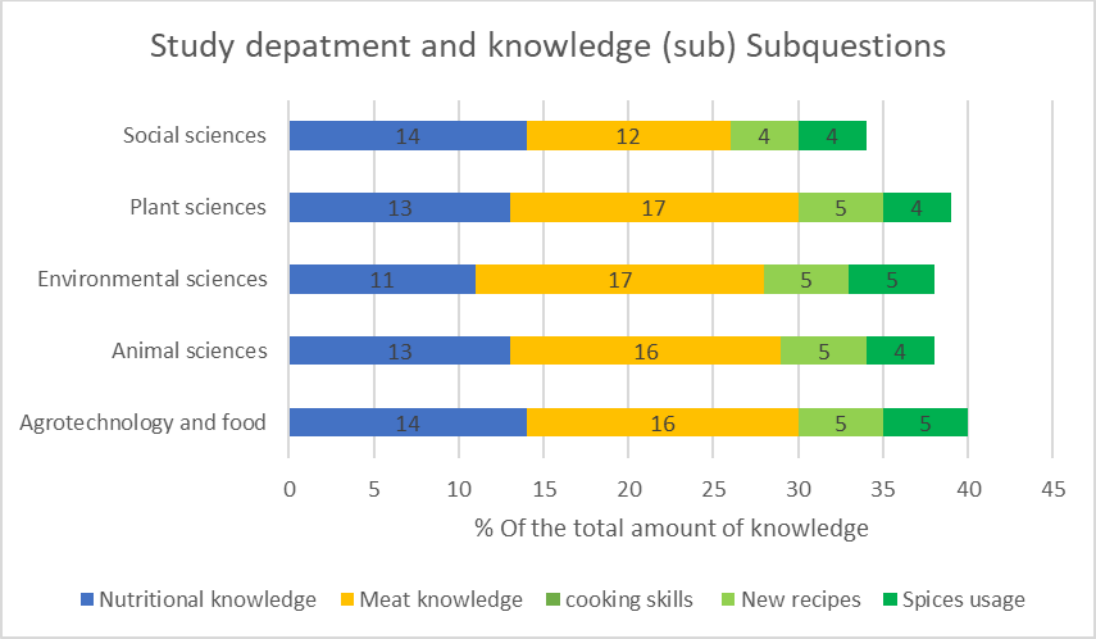

Figure 29 Study department and knowledge (sub) sublevels

Looking at Figure 29 above, the most significant differences are in the nutritional- and meat knowledge. Looking at nutritional knowledge, especially environmental scientists seem to lack compared to the other students. For the other study department, the difference is just 1% which is a slight difference. For the meat knowledge, there is a similar pattern where one of the

departments lacks information -in this case, social scientists- and the rest of the departments are almost the same or have a slight difference of 1%.

Price-quality factors are shown in Figure 30 and give an overview of the differences between the sublevels and the study departments.

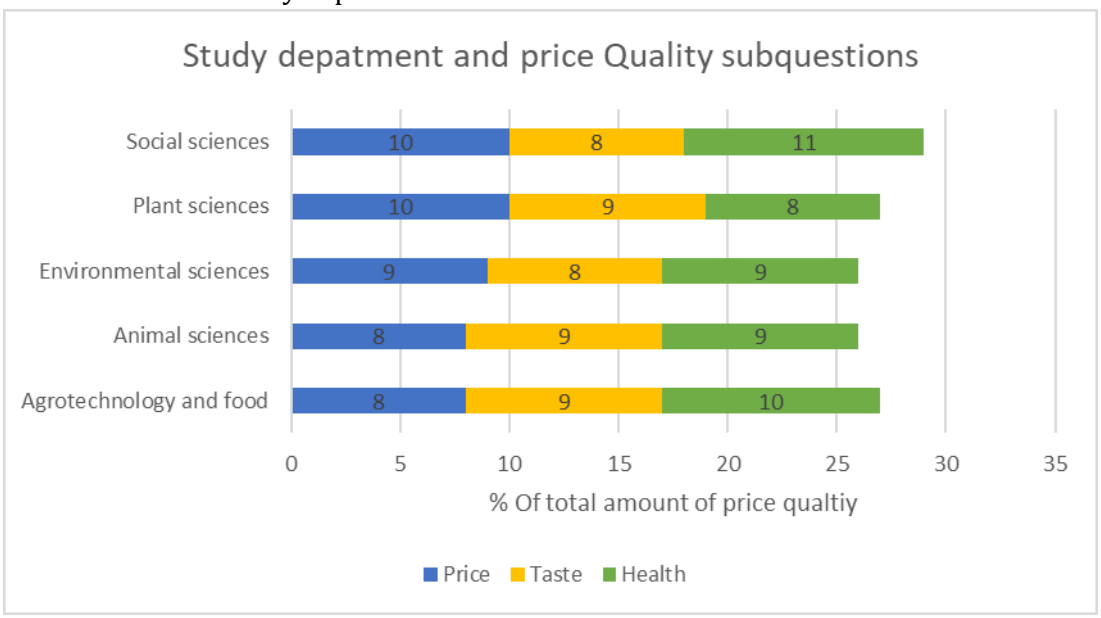

Figure 30 Study department and price-quality sublevels

For the price-quality, there are just small changes. The sublevel "price" shows that animal science and agrotechnology and food put less value on price than social- and plant sciences. For taste, the differences are 1% which is minor. For health, it is shown that especially social scientists are more influenced by this and plant scientists are the least influenced by this.

The following theme is surroundings whit the (sub) sublevels incorporated in this theme. The results from the (sub) sublevels and the different study departments are shown in Figure 31 below.

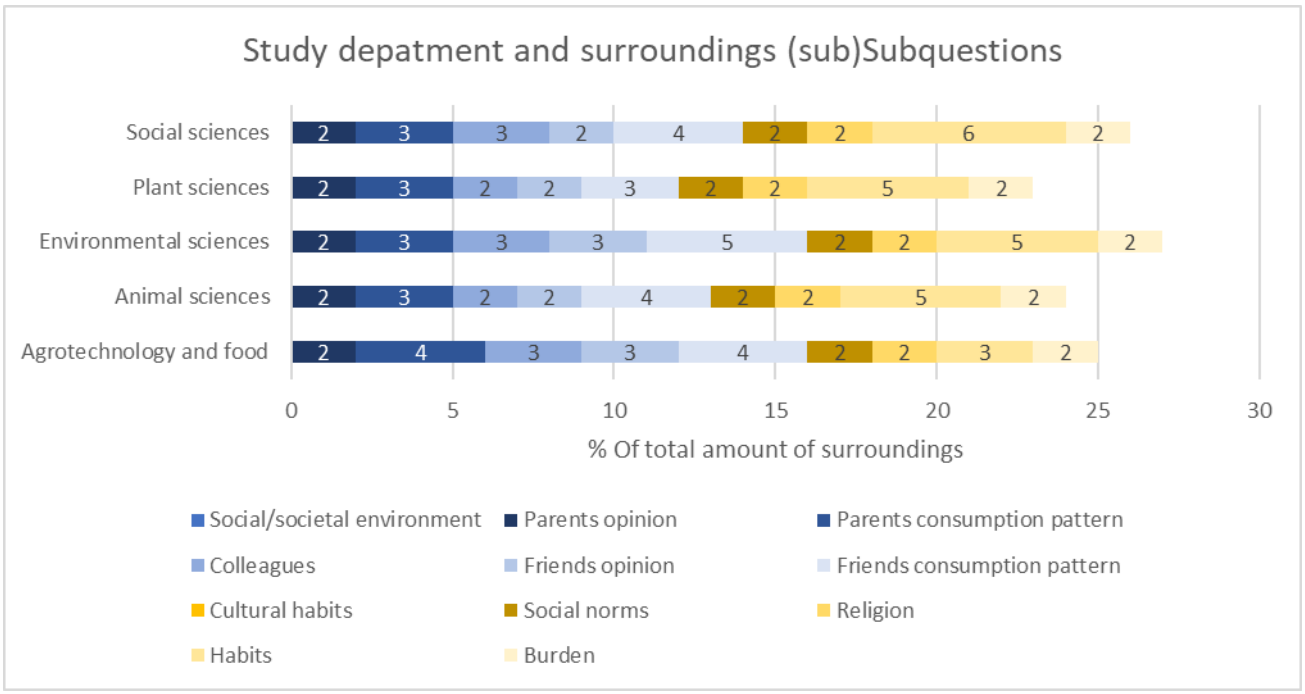

Figure 31 Study department and surroundings (sub) sublevels

Figure 31 shows that the most significant differences in influencing sublevels between different study departments are "friends consumption pattern" and "habits". For "friends consumption pattern", environmental scientists are more influenced by this factor. On the other hand, plant scientists are less influenced by their friends consumption patterns. The most striking for habit is that agrotechnology and food students are 2 or 3% less influenced by their habits than the other study departments. The other sub-sublevels are almost the same or have a difference of 1%, which is minor.

The last theme with sublevel that are compared with the study department is social media. The results are shown in Figure 32 below.

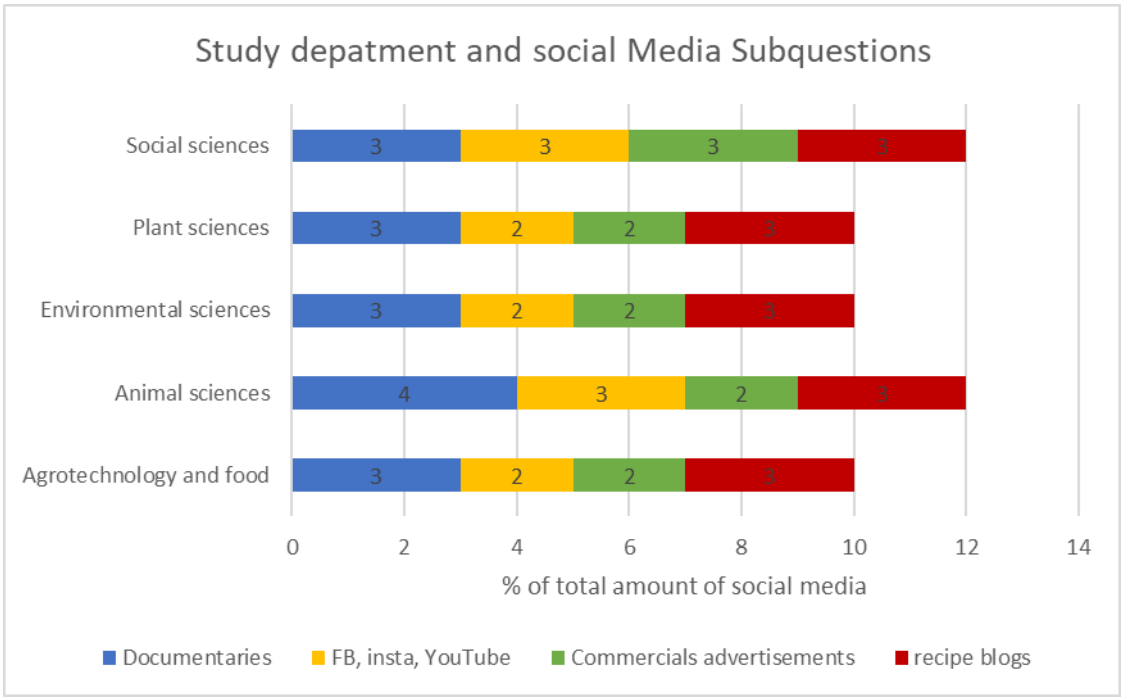

Figure 32 Study department and social media sublevels

As shown in Figure 32 above, the differences between the sublevels are 1%, and for recipe blogs, there are not even differences. This means that the social media influence on the different study departments is minor, looking at the sublevels. Looking at the overall differences between the study departments and what influences them, these differences are between 1 and 3%, which are minor differences but do give a different outcome.

4.3.4. Survey question about living situation and the themes

The fourth general question is, "What is your current living situation?". Where "Having my own house or room in my own country" is the largest response group and accounts for 55.0%. The next group is "Having my own house or room in a foreign country", accounting for 34,0%. The smallest group is "Living with your parents", accounting for 11.0%. The results per group are shown in Figure 33 below and is explained further underneath the figure.

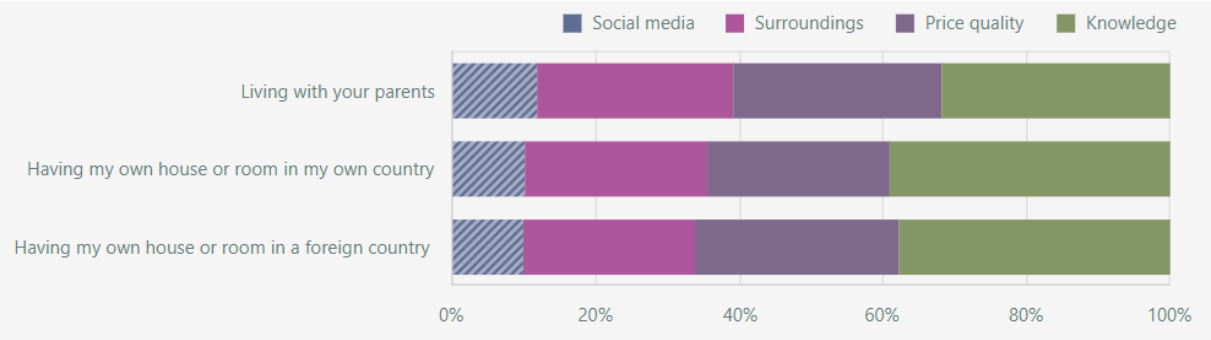

Figure 33 Living situation overview per theme

Students that live with their parents are most influenced by knowledge (32%), the next most influential is price-quality (29%), followed by surroundings (27%) and lastly, social media (12%). Knowledge is the most influential for 39% of the students who have their own house or room in their own country. Price-quality factors are with 26% the second most influential for the students that have a room or house in their own country. Followed by surroundings with 25%, the smallest is social media with 10%. Students who have their own house or room but live in a foreign country are most influenced by knowledge with 38%. The second most influential is price-quality with 28%, followed by surroundings with 24%. A minor influence is social media with 10%.

The differences between the different themes and the corresponding (sub) sublevels for living situations are shown and explained in the figures below. Starting with knowledge and its (sub) sublevels in Figure 34.

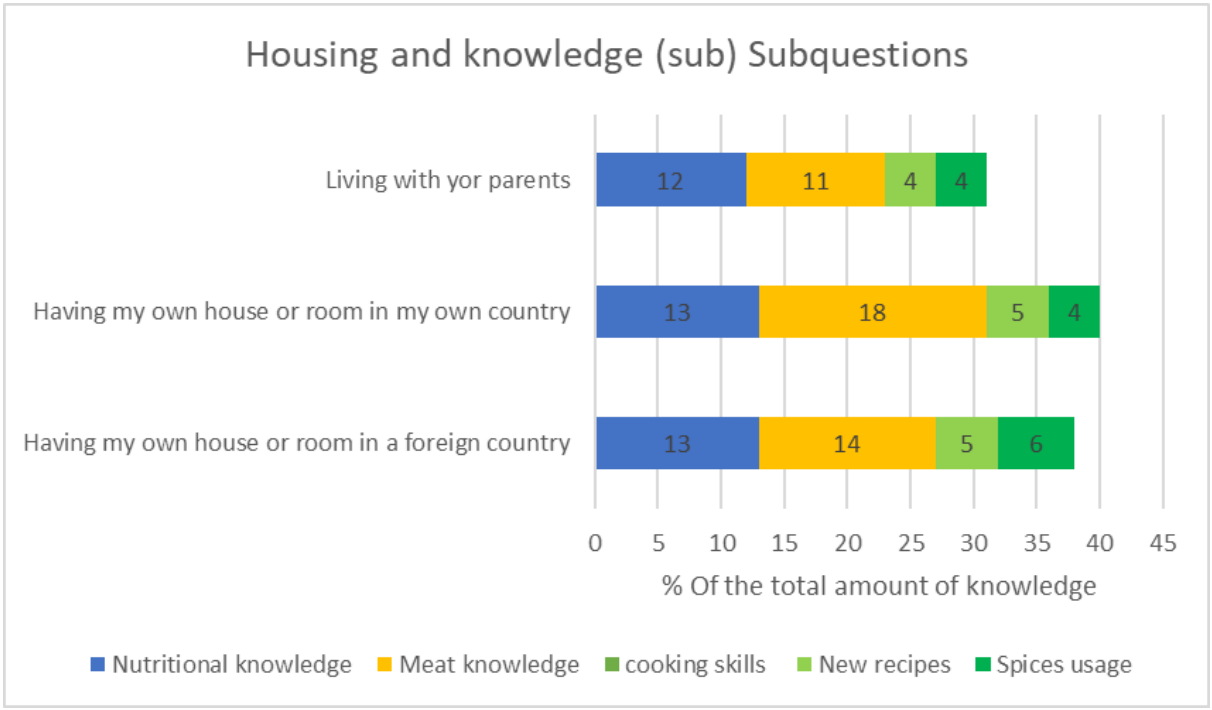

Figure 34 Living situation and knowledge (sub) sublevels

For the sublevels of knowledge, especially meat knowledge is the influencing factor that defines the knowledge regarding meat consumption within a living situation. Especially students that live in their own country in their own room or house have the strongest influence from meat knowledge. Living on your own and living in a foreign country has 4% less influence of meat knowledge but is still higher than for students that live with their parents. Compared to students who live independently, students who live with their parents are the least influenced by meat knowledge.

The next theme is price-quality with only sub-questions. Again, the results are shown per living situation in Figure 35 below.

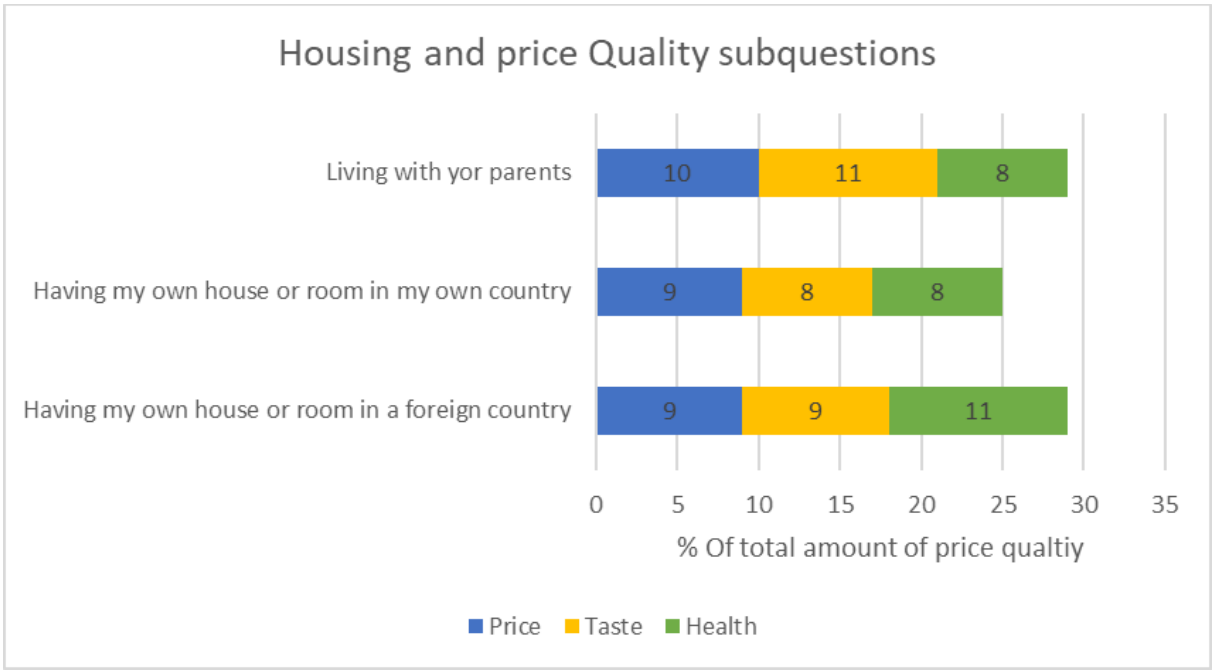

Figure 35 Living situation and price-quality sublevels

Figure 35 shows minor differences that are between 1 and 2%. Students who live with their parents are more influenced by taste than those living independently. Especially students that live in their own room or house in their own country see taste as the least influential factor compared to the other living situations. Students that live in a foreign country are 3% more influenced by health than those in other living situations.

Surroundings is the following theme with (sub) sublevels that define how influential surroundings are to the students. The comparison between the different living situations and the (sub)sublevels is shown in Figure 36 below.

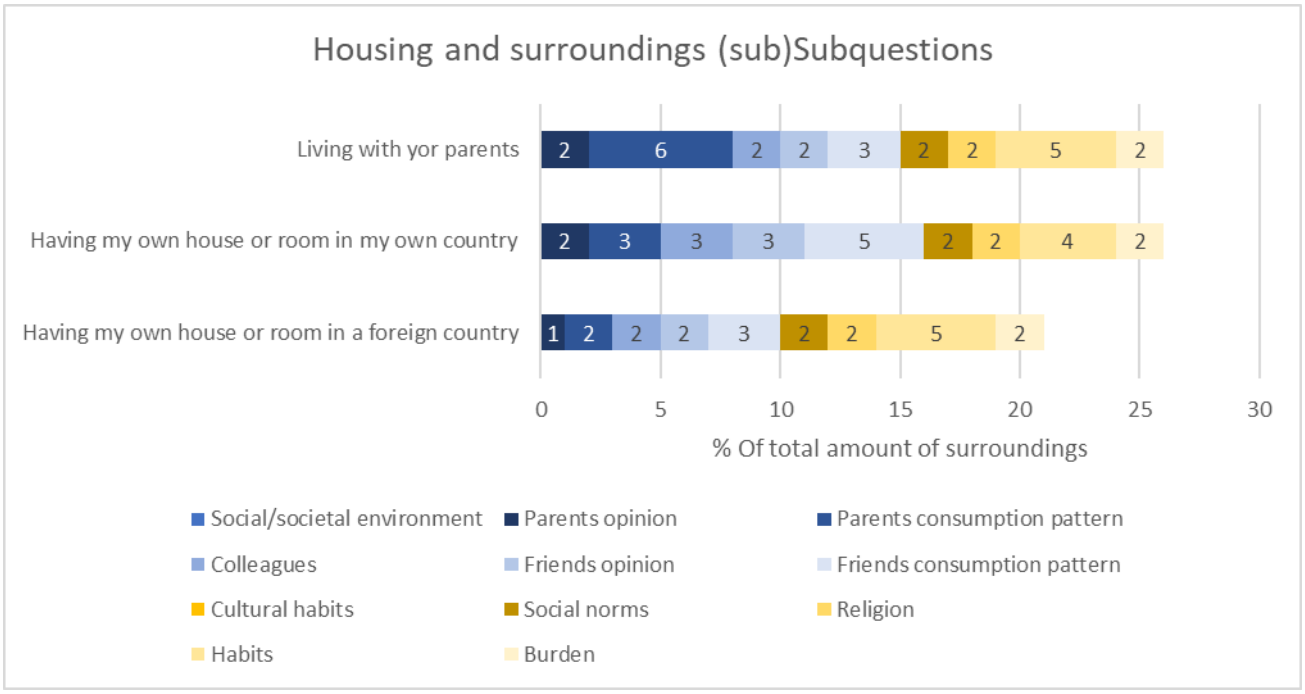

Figure 36 Living situation and surroundings (sub) sublevels

Figure 36 shows that for the sublevel social/societal environment, the differences between living situations are more prominent than for cultural habits, which only have a 1% difference for students that have their own room or house in their own country. Looking at the difference in the social/societal environment, the most influencing factor is parents consumption patterns and then, especially for students that still live with their parents. This is not surprising, assuming that the students need to adapt to the consumption pattern of their parents when they are still at home. The difference between students living in their own house or room in a foreign country and students that live with their parents is 3%. Also, the influence of the consumption pattern of friends is different per living situation. Students that live in their own country in their own room or house are 2% more influenced by their friends consumption patterns compared to the other living situations. The other sub-sublevels of surroundings only have a difference of 1%, which is minor.

Social media is the last theme and only has sublevels. The comparison between living situation and the sublevels documentaries, FB-Insta-YouTube, commercials & advertisements, and recipe blogs are shown in Figure 37 below.

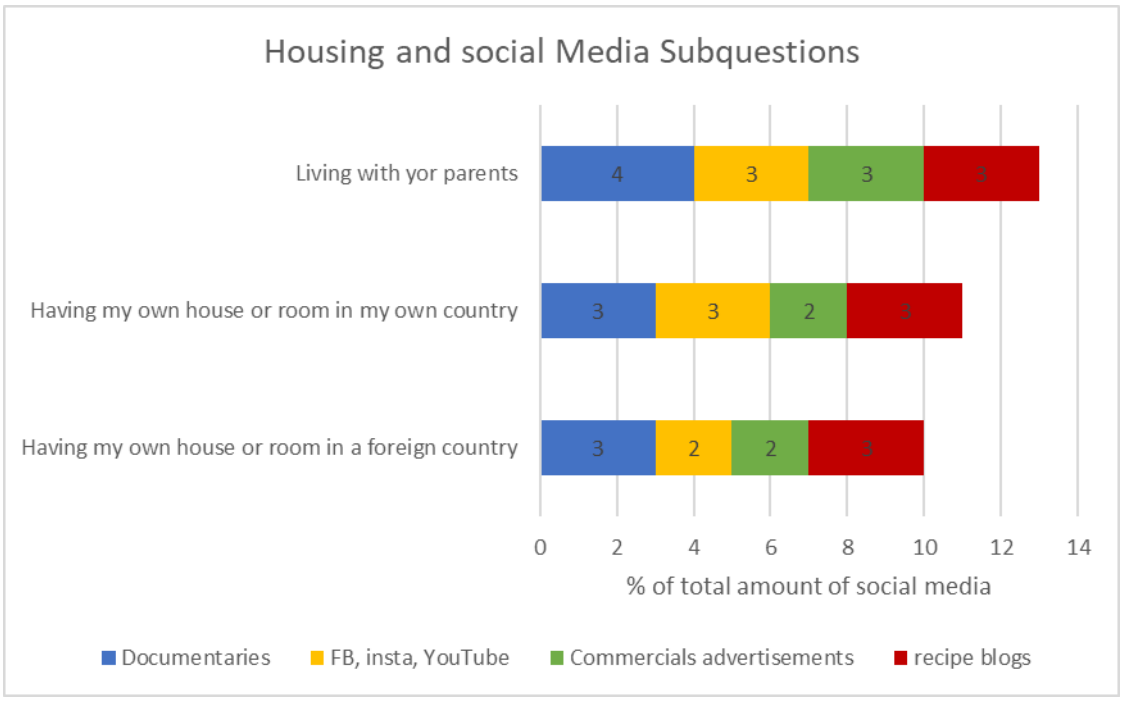

Figure 37 Living situation and social media sublevels

The differences between the sublevels are for each living situation 1%, which is small. Nevertheless, students who still live with their parents are more influenced by documentaries, commercials, and advertisements. On the other hand, students that live in their own room or house in a foreign country on the other side are a bit less influenced by Facebook, Instagram, and YouTube compared to other living situations.

The differences between the influences are a bit higher for living situations since the biggest difference is 7% for the meat knowledge sublevel. However, looking at the other (sub) sublevels, the differences are often between 1 and 3 %.

4.3.5. Survey question about age and the themes

The fifth and final question is, "What is your current age?". The ages between 23-26 years old are the largest group and account for 44.0%. The second largest group is between 18-22 years old and accounts for 38.5%. The next group is between 27-30 years old and has 12.0%. A bit older is the group between 31-34 years old and follows as fourth, they account for 1.5%. The following group is older than 34 and accounts for 4%. Because the age group for students between 31and 34 is only 1.5% and the age group above 34 years old is only 4%, these groups will only be shown in the overall overview and not be discussed or shown further. There are no participants younger than <18 years old and are therefore not included in the results. The results per group are shown in Figure 38 below and is explained further underneath the figure.

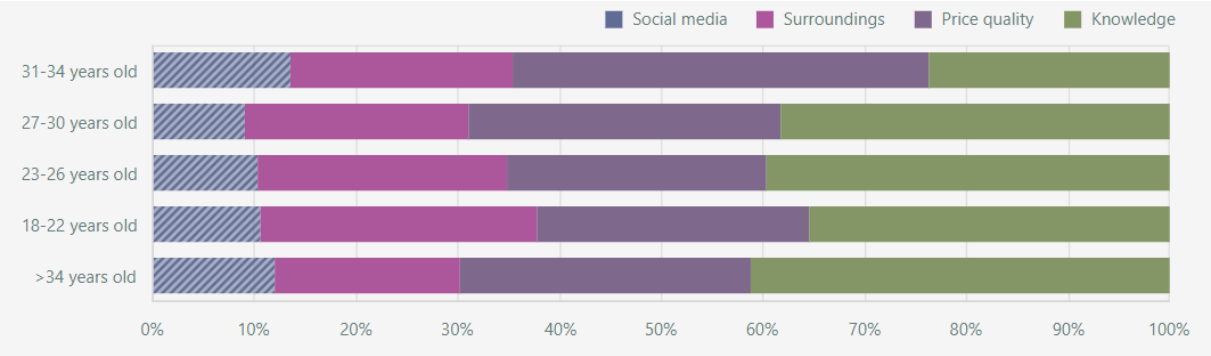

Figure 38 Age overview per theme

The ages between 31 and 34 find price-quality factors the most important and account for 41%. The second-largest influence is knowledge with 24%, followed by surroundings with 22%. The slightest influence is social media, which accounts for 14%. For ages between 27 and 30, knowledge (38%) is seen as most influential, then price-quality factors (31%) and surroundings (22%). The slightest influence is social media, according to the 27 until 30 years old students. For ages between 23 and 26, knowledge with 40% is seen as the most influential factor. The next influential are surroundings and price-quality factors, both with 25%. The least influential is also social media with 10%. The students between 18 and 22 see knowledge as most influential, with 35%. They also see surroundings and price-quality factors as both 27% influencing. Social media is the slightest influence and accounts for 11%. The oldest group is older than 34 and sees knowledge (41%) as the most influential, followed by price-quality factors (29%). Surroundings (18%) are the next one that is most influential, and social media (12%) is the least influential.

The differences between the (sub) sublevels and the different themes are also compared between the different ages. The first theme is knowledge with the corresponding sublevels and the different age groups, shown in Figure 39 below.

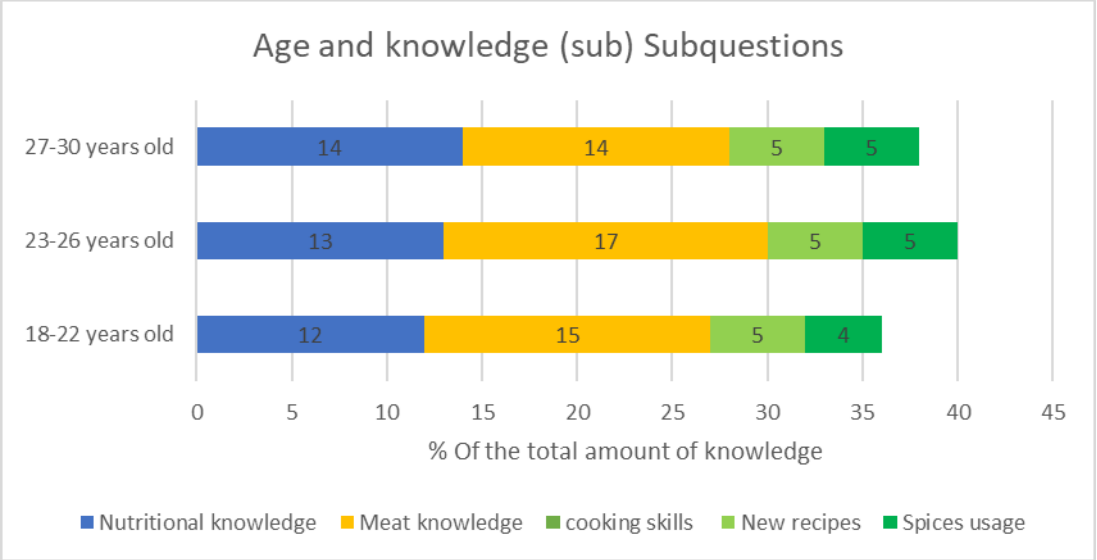

Figure 39 Age and knowledge (sub) sublevels

Figure 39 shows that the differences between nutritional knowledge are 2%, where the older students are more influenced by their nutritional knowledge than the younger students. For meat knowledge, the oldest students are least influenced by this compared to the younger students. The age group between 23 and 26 years old is most influenced by their meat knowledge, which is even

3% higher than those between 27 and 30 years old. The differences for the sub-sublevels from cooking skills are just 1% and therefore not big enough to notice.

The following theme comparing sublevels and age is price-quality. The results are shown in Figure 40 below, and again the ages between 31 and 34 and students older than 34 will not be discussed.

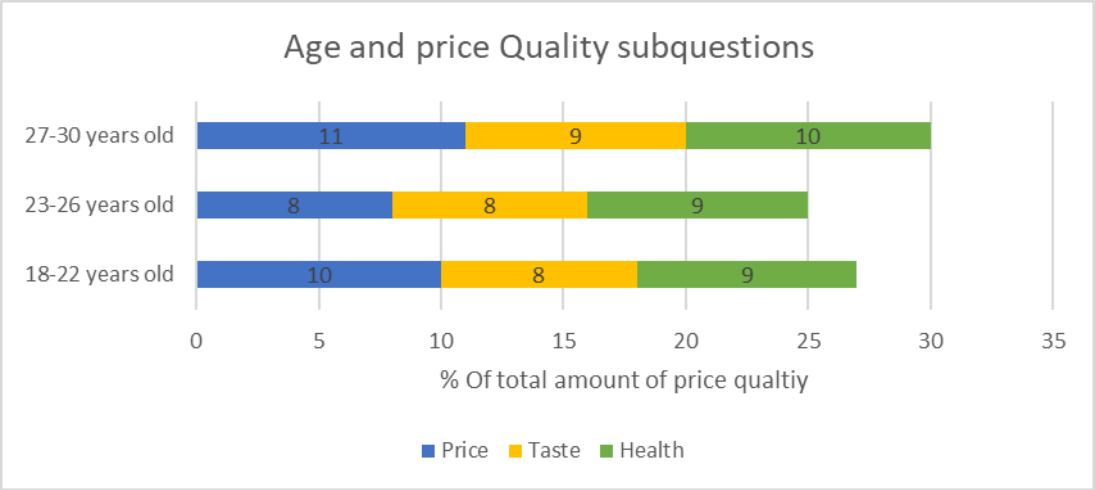

Figure 40 Age and price-quality sublevels

Price is seen as an influence with the most significant differences between the ages. The ages between 23-26 see this as least influencing compared to those between 27 and 30, who see this with a raise of 3% as an essential part. There are only small changes of 1% between the different ages for health and taste.

The next theme is surroundings, with the sublevels social/societal environment and cultural habits. The different sub-sublevels with different ages are shown in Figure 41 below. As said before, the two oldest age groups will not be discussed.

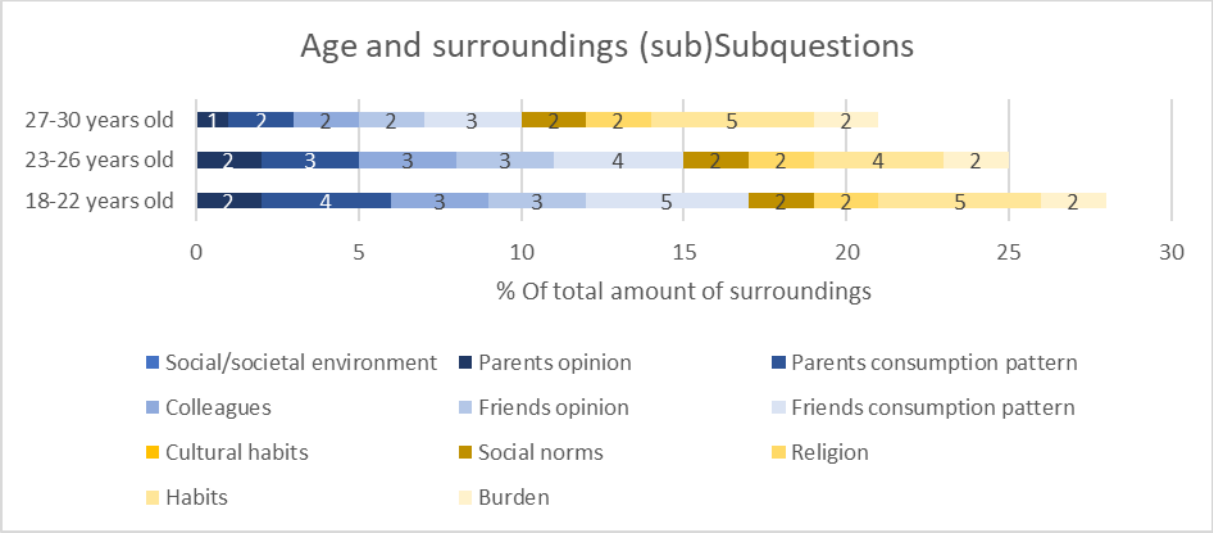

Figure 41 Age and surroundings (sub) sublevels

The most significant differences for the different age groups are between the parents consumption pattern and the friends consumption pattern. Especially the younger students between 18 and 22 are more influenced by both their parents and friends consumption patterns. The oldest group, on the other hand (27-30 years old), is least influenced by these factors. However, the difference is for the parents consumption pattern 2% and the consumption of the friends also 2%. This shows

that the older you get, the less you are influenced by the consumption patterns of your social/societal environment. Looking at the cultural habits, the differences are 1% smaller for the habits of the 23 until 26 years old. This means that the social/societal factors are more influencing factors in age.

The last theme is social media with the corresponding sublevels. The results are shown in Figure 42 below and are discussed underneath. Again, the oldest two age groups will not be discussed.

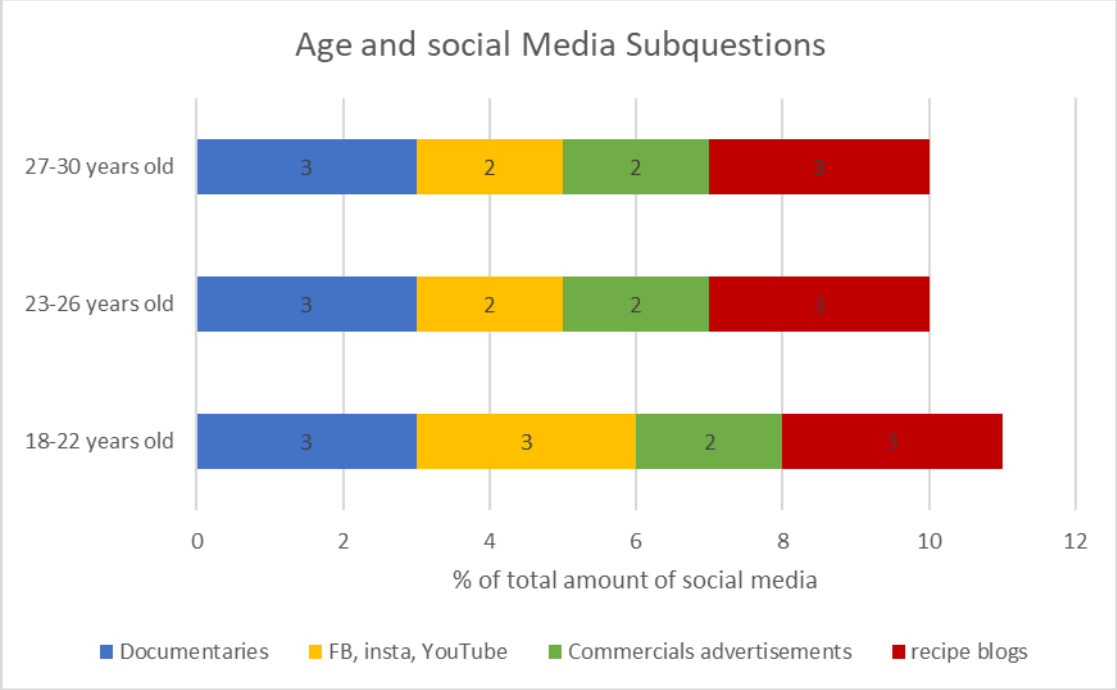

Figure 42 Age and social media sublevels

As shown in Figure 42, there is only one difference in the sublevels from social media, and that is that Facebook, Instagram and YouTube are 1% more influencing the youngest age group (18-22 years old). The rest of the results are the same. The differences between the ages are overall minor and between 1 and 3%, which is not a big influencer regarding influencing students on the (sub) sublevels.

The results from the survey show that the meat consumption pattern of students has the most significant impact on what influences students the most to change their behaviour. However, the rest of the general questions in the survey show minor differences and sometimes even no differences.

4.4. Robustness of survey results

Now that the results of the survey are shown the results need to be interoperated based on the sample size and the consistency ratio. The sample size is addressed first an later the consistency ratio is addressed.

4.4.1. Sample size and the survey results

In the first general survey question the following sample sizes are gathered. Flexitarians account for 42.5%, meat-consumers for 30.0%, vegans for 8.0% and vegetarians for 19.5%. This means that especially the results for vegans result from a small sample size.

The second general question has a sample size where females account for 63.0% and have the most prominent response, man account for 35.5%, following “other” 1.0% and last “rather not tell” 0.5%. since the sample sizes of “other” and “rather not tell” are so small these results are not taken into account because they do not give bias results.

For the study department the biggest response group is environmental science (30.5%), then agrotechnology and food (26.0%), plant sciences (19.0%), next is animal sciences (13.0%), and the smallest is social sciences (11.5%). Especially animal sciences and social sciences are small sample sizes which needs to be considered.

For “living situation” the fourth general question, “Having my own house or room in my own country” is the largest response group and accounts for 55.0%. The next group is “Having my own house or room in a foreign country”, accounting for 34,0%. The smallest group is “Living with your parents", accounting for 11.0%. Here only the group that is still living with their parents is a smaller group that gives a less accurate overview of the results.

The final question about age has the following responses; 23-26 years old are account for 44.0%. the group of 18-22 years old accounts for 38.5%. Followed by 27-30 years old with 12.0%. Next are the 31-34 years old accounting for 1.5%. The group older than 34 accounts for 4%. Here the groups 31-34 years old and older than 34 are so small that they are not even used in the results since these groups are under 5%. For the group between 27-30 years old it is good to note that this 12% is not a representative number.

4.4.2. Consistency within the survey

The VARI app does not only show which factors are more influencing than another ones, it also shows how consistent a student choses a factor over another factor. How consistent this choice is, is determined by the consistency ratio. In Table 4 below an overview of the different consistency ratios with the different factors is given. The figure contains of two different rows. In the first row the “responses” are shown, the responses are the selected group of students that have a consistency ratio under 15%. These are the survey answers where the results of this question are based on since a consistency ratio of 15% is seen as sufficient within this thesis (Apostolou & Hassell, 1993). In the row “grand total” a total overview of the results is given with the students that had a consistency ratio above 15% and the students that filled in the survey after a week. Which

Table 4 Survey consistency ratios and scores

Survey Scores

	Responses		Grand Total	
	Score	Consistency Ratio	Score	Consistency Ratio
Knowledge Total	37,7 %	8,2 %	37,8 %	10,9 %
Meat knowledge	15,7 %		15,5 %	
Nutritional knowledge	12,7 %		12,8 %	
Cooking skills Total	9,3 %	%0,0	9,5 %	%0,0
New recipes	4,8 %		4,9 %	
Spice usage	4,5 %		4,6 %	
Price quality Total	26,9 %	9,9 %	26,6 %	13,5 %
Price	9,3 %		9,0 %	
Health	9,1 %		8,9 %	
Taste	8,5 %		8,7 %	
Surroundings Total	25,0 %	6,3 %	25,2 %	7,9 %
Social/societal environment Total	14,4 %	6,4 %	14,4 %	7,6 %
Friends consumption	4,1 %		4,1 %	
Parents consumption	3,4 %		3,3 %	
Friends opinion	2,6 %		2,7 %	
Colleagues	2,6 %		2,5 %	
Parents opinion	1,8 %		1,8 %	
Cultural habits Total	10,5 %	6,2 %	10,8 %	8,4 %
Habits	4,7 %		4,6 %	
Burden	2,1 %		2,2 %	
Social norms	2,0 %		2,1 %	
Religion	1,8 %		1,9 %	
Social media Total	10,4 %	5,1 %	10,3 %	5,9 %
Documentaires	3,3 %		3,2 %	
Recipe blogs	2,7 %		2,7 %	
FB, insta, YouTube	2,5 %		2,5 %	
Commercials advertisements	2,0 %		1,9 %	
Grand Total	100,0 %	7,1 %	100,0 %	9,2 %

First taking a look at the table and the difference between the “responses” and the “grand total”. The consistency ratio shows that removing the inconsistent answers and the answers that are too late improved the consistency of the results. Because the percentages of the consistency ratio of the responses are smaller than those of the grand total.

Now zooming in to the consistency ratios for the different themes, sublevels and sub-sublevels there are minor differences. For knowledge, the sublevel cooking skills is represented as 0.0%, this is zero because only two values are compared which means that respondents say only one-time which factor is more influencing than the other one. Meaning that since they only make this choice one time the result is always consistent. Furthermore, looking at the rest of the results it is shown that the consistency of the results is overall underneath 10% which means that the results

are highly consistent (Apostolou & Hassell, 1993). The fact that for the sublevels the consistency ratios are not show is because they do not have sub-sublevel. To be clearer, the sublevels form the consistency ratio of the themes, therefore they do not have a consistency ratio on themselves. the sub-sublevels form the consistency ratios of the sublevels which is why in case of sub-sublevels the sublevels do have a consistency ratio.

5. Discussion

The main aim is to investigate the influencing factors that can make consumers change to a less meat-intensive diet, by analysing whether students change their meat consumption because of behavioural economics incentives. While there is a plenty of research on food choice behaviour, there is a lack of research on the interacting factors that influence behaviour (Köster, 2009). Therefore, this discussion takes a deeper look into fragile topics that are identified during the research, which need more explanation, including conscious and unconscious behaviour.

5.1. Conscious and unconscious

Within this research, conscious behavioural economics is used since students and experts are asked questions about what they think is influencing them into a less meat intensive diet in an interview and survey. A point of discussion is that the unconscious decisions, in the end, define the actual consumer behaviour and not the conscious behaviour (Simonson, 2005). This thesis, especially the themes and theories surrounding; social media, framing, availability bias and cooperation, can alternatively be seen as unconscious influencing factors on top of what is conscious. The theories are connected to the different themes to overcome the fact that most behavioural economic theories are not always conscious influences. Furthermore, the results are based on literature, interviews, and a survey that also gives a broader overview of the influencing factors. Take, for example, the influence of social media and framing, where it might be harder to notice the influence of social media through framing. This is because social media is formed to let people receive a lot of information but do this unconsciously. Therefore, recognising this as an influencing factor might be more complicated. However, looking at the theory, it is indeed an influencing factor. Another way of eliminating recognition of influences is to use a pairwise comparison in the survey. In this survey, the participants need to choose which statements are more influential, by making a conscious choice in how they are influenced and the impact of this choice.

According to Martin and Morich (2011), a fully conscious consumer needs to assess their needs before making a decision, comparing prices, food labels, alternatives, etc. In practice, this would mean that shopping would take a lot of time, which is not the case in practice, which means that most of these purchases are made unaware (Martin & Morich, 2011). Looking only at a switch in meat consumption, if consumers take more time considering their needs and comparing factors like taste and price, this looks more like conscious consumer behaviour. Szmigin et al. (2009) researched conscious consumers, who make choices based on attitudes, inclinations and lifestyle goals. Conscious consumers make choices based on ethical issues, which makes them aware of what they are buying and acknowledge the issues of a product. However, these etical issues do not always overcome the taste, convenience, price, or others close to them. Szmigin et al. (2009) also implied that when consumers are more aware of a problem, they change their attitude and make more conscious choices.

Simonson (2005) notes that unconscious automatic influences may impact psychological influences. However, it does not directly describe choice based on consciously considered inputs. The report also states that, in order to make a choice, consumers need consciously considered inputs. However, unconscious influences often make “noise” in this choice and might give another outcome. Looking at the conscious purchase process, consumers gather information and process this information in order to form attitudes which turn into decisions (Martin & Morich, 2011).

Since consumers often make the deliberate decision to eat less meat, they need information and the right attitudes to make this decision. An important point to address is that based on the results, knowledge is the main influencing factor for the students who are consuming less meat. This means that the decisions that the students make to consume less meat are based on conscious decisions since they are thinking about what they are purchasing. In addition to this, Baumeister et al. (2017) state that self-reported conscious research should still be prominent in consumer research. Furthermore, the report also states that consumers are fully conscious of their information regarding why they purchase a good, even though the reason might be incomplete because of unconscious influences. For example, if someone is purchasing a vegetarian burger because this consumer stands for better animal conditions, this information is based on their knowledge and choice and therefore correct. However, there might be more unknown influences for the consumer that lead to this decision. Comparing this with the survey, in which students had to choose between what they think is more influencing their current meat consumption. This means that the information that they have given is true based on what they think is influencing them most.

Another essential point of criticism in finding unconscious behaviour is listed in the report by Lusk (2014). When people are placed in a lab to test particular behaviour, they tend to behave like they are in a lab. Lusk compares this to the behaviour of animals, when an animal is in a lab, it also does not behave in the same way as in the wild.

5.2. Incorporation into the society

Looking at the results, knowledge is ranked as the most influencing factor in eating less meat. To make people consume less meat, they need to gain knowledge. If this is possible and people would reduce their meat consumption, this will eventually reduce the demand for meat. This will reduce the meat industry, and therefore, the CH_4 emissions will reduce, which will reduce global warming. Furthermore, there are different ways to increase the knowledge of people.

Nowadays, children are often “protected” from the truth about the meat industry because mothers want to keep their children “pure” (Cairns & Johnston, 2018). To verify this, the research from Hahn et al. (2021) found that children are limited in knowing the origin of their foods. This is referred to as a “gap in children’s food knowledge", where the link between animals and food is not always presented correctly. The study also shows that meat is a dietary preference, making it harder to change meat consumption at a later age. Therefore, it is vital to start educating children on the proper knowledge at a young age so that they can still change their meat consumption pattern at an older age when they are more self-sustained.

Another good option to increase consumers' knowledge is already happening on a smaller scale, namely, adding the CO_2 emissions of a dish on the menu (Figure 43). With adding the emissions on the menu, consumers are confronted with meat's impact on the environment. Nevertheless, at the same time, they also gain more knowledge about the differences between emissions in meatless and meat dishes.

Figure 43 Menu with CO_2 emissions (Cathasaigh, 2022)

This is seen as a way of labelling, which positively influences purchasing decisions, according to Lutfie et al. (2017). However, when the CO_2 emissions are shown on menus, this does not help educate the consumers in the supermarkets. Which means that, labelling in supermarkets is also a good way of gaining more knowledge (Apostolidis & McLeay, 2016). However, it is vital to get the correct information and design on the label that makes it noticeable (Carrero et al., 2021). Therefore Kwasny et al. (2022) suggest combining environmental and health information when using famed labels. In this case, the consumer sees the societal and personal benefits that functions as a motivator.

A different approach to changing social norms could be promoting vegetarianism in movies. For example, when you see a fragment in a movie where the personages are in a restaurant, they often order a dish based on meat. Looking at the results, framing can significantly influence increasing knowledge to change consumer behaviour (Stea & Pickering, 2019; Vainio et al., 2018). Since framing can be applied in many ways, this could be an excellent method to make a vegetarian dish more accessible and normal in consumers' eyes.

5.3. Analysis with VARI and the consistency ratio

Within this thesis, the results from the survey are based on pairwise comparisons and calculated with eigenvalue matrixes. These results are validated with the consistency ratio to show how consistent participants make their choices. This consistency ratio is incorporated in the VARI app, to give a weighing overview to map out the differences and similarities in the influencing factors that determine meat consumption. Since this thesis aims “to investigate what the influencing factors are that can make consumers change to a less meat-intensive diet by analysing whether students change their meat consumption because of behavioural economics incentives" the influencing factors are sought, and the weight of a decision is quantified. Instead, pairwise comparison is often used to rank the individual’s preferences (influences in this case) and understand why certain factors are preferred over others. This provides numerical values that indicate a preference based on the subjective expression between two attributes (Grošelj & Zadnik Stirn, 2012).

There are different reasons why VARI, where the AHT method is incorporated, is so suitable within this thesis. Starting with the fact that VARI uses a pairwise comparison to map out which

is more important to whom and how much more important. Which is exactly the aim of this thesis. There is sought to what influences consumers to change their meat consumption. Furthermore, VARI is able to show on sub and sub-sublevel which factors determine which theme is more influencing. This gives more depth and understanding to the themes. This is preferred because of the problem statement where there is a lack of behavioural economic research and change in meat consumption. Furthermore, because VARI gives such extensive results the results can be incorporated into the society to change consumer behaviour to less meat intensive. This, in time, helps to reduce the GHG emissions and climate change.

Another reason for using VARI is the fact that it shows the consistency ratio. This consistency ratio is also adding to the problem statement. Because the consistency ratio shows how consistent the choices of a consumer are, if this is under 10% it is a highly consistent result (Apostolou & Hassell, 1993). In this survey a participant needs to choose which criteria is more influential. The consistency ratio shows if a consumer in consistent in choosing this criterion. Therefore, if the consumers where to be inconsistent this would mean that changing behaviour based on behavioural economic incentives would get complicated. Because if consumers sometimes see, for example, knowledge as most influential and sometimes surroundings as most influencing them is harder to incorporate this into society. Meaning that more methods need to be used to get a change in consumer behaviour. To get this a bit clearer for this report it is shown that flexitarians are most influenced by knowledge, where the consistency ratio is 8.8%. Therefore, to make them change into a consuming les meat knowledge needs to increase. For meat consumers on the other hand see price quality (CR 11%) as most influencing but knowledge (CR 9.4%) is closely followed. Therefore, in order to make them change to a less meat intensive diet, the focus should be on improving the price quality factors of meat (substitutes) and increasing knowledge. However, if a consumer is inconsistent the focus needs to be on all of the four themes, not being sure which one is in the end the changing factor since this is inconsistent. So, the consistency ratio shows how consistent consumers are of the factors that influence them.

5.4. Student and expert interview strengths and limitations

For the interviews, it is vital to gain enough and accurate information. Therefore, the interviews are framed so that there is a clear direction in the interview questions, but also room for interpretation. This method is chosen to ensure that the interviewee could give their thoughts without quoting out of context. Looking back at the interviews, this is the proper method. The interviewees all gave their idea about meat consumption which is the goal and made the interviews' information stronger. However, because the questions are formulated this way, the interviews could gather fewer insights into the different theories (framing, availability bias and cooperation). Nevertheless, the interviews are connecting the different themes and theories without quoting out of context. Moreover, the interviews result in an unbiased opinion of the students and experts.

Another discussion point for the interviews is that there are no meat-eaters interviewed, and there are six flexitarians. However, the idea was to get an almost even number of interviewees for each of the groups (vegetarian, vegan, meat-eater, flexitarian). But there is no influence on how many people responded on what their meat consumption pattern is. To get the groups more even, a new message could have been sent out. Once the results were there, it showed that flexitarians could give a good insight into their thoughts. The consideration of not searching for meat eaters is that flexitarians are the best of both worlds. They have reasons for not consuming meat and

keep consuming meat which is the goal of these interviews. Therefore, the choice is made to keep this selection and not look further for other participants.

5.5. Student survey strengths and limitations

The survey is an essential part of this thesis which gives a good overview of the perceived behaviour of students and their meat consumption. It is good to notice that the strength of using VARI in processing the analytical data. The available data is so extensive that it gives a complete overview of the participants' results. Take, for example, the consistency ratio, this shows which participants are biased and which are unbiased. Furthermore, it also gives the option to eliminate these biases to increase the accuracy of the results. In addition to this, the results per question are shown and not only the overall results. This means that on each level, the results can be explained based on the other results in the first and second research question, this gives the outcomes more depth.

Taking a closer look at the survey, a few notes should be addressed. Starting with the email, the email description is "What defines your meat consumption". This email description is less accessible for vegetarians and vegans since they do not consume meat. Looking at the responses the flexitarians account for 42.5%, meat-consumers for 30.0%, vegans for 8.0% and vegetarians for 19.5%. This shows that there are more meat eaters and flexitarians, but there are more meat eaters and flexitarians than vegans and vegetarians since eating meat is seen as the norm. This assumes that even though the email description might not have been that accessible, students still understood the email description and filled out the survey.

Sample size is something that needs to be addressed as well. Even though there are 200 sufficient results, when this is divided into smaller groups the representativeness of the results decreases. Therefor a larger sample size would give more reliable answers and would be preferred. Unfortunately, the number of respondents is hard to influence and within this time and budget. However, looking at the results is was most important to gather enough flexitarians (42.5%), vegetarians (19.5%) and meat eaters (30%) since they can show why they change their meat consumption. For these groups the sample sizes are bigger and therefore more representative. For vegans, the sample size is 8% of the 200 respondents and therefor too small to give representative results. Furthermore, the results give an indication of the influencing factors of vegans.

Taking a closer look at the other groups, flexitarians are biggest group with 42.5% of the responses. The fact that this is the biggest response group has advantages. Flexitarians have both reasons for not consuming meat as for continuing consuming meat. This means that they have well-considered reasons for their choices. Also, looking at the problem statement, flexitarians can be the group that is more willing to change their behaviour. The reason for this is that they have might have higher intentions into lowering meat consumption which is a factor to change behaviour (Sniehotta, 2009). Meat consumers is also one of the bigger groups with 30% of the responses. This is also preferred since they need to show the reasons for not changing to a less meat intensive society. The vegetarians contain of 19.5% of the responses. It would have been preferred if this group would be bigger to get a better understanding of consumers completely stopping their meat consumption. However, because of the fact that the flexitarians are such a big group the influencing factors are still representative for consuming less meat.

Another critical point is bias, it is a long survey where students might forget their former answers. The length of the survey makes students quite or not take it seriously. As seen in the results, 200 participants started the survey but did not finish it, which might be because of the number of questions. However, these participants are not used in the results. Also, students losing focus are eliminated within this survey with the consistency ratio. As explained, the consistency ratio shows how consistent the choices are that the participants make. So, if the participant loses focus, the consistency ratio is higher, and when this is above 0.15, this result is excluded. Therefore, the valuable results are the only results used.

Since students are used to fill out this survey the representativeness is limited. Since WUR students are just a small and specific group it might not be representative for everyone. However, these results make a good indication and base for a follow up research with another and bigger research unit.

6. Conclusion

This thesis aims to investigate the influencing factors that can make consumers change to a less meat-intensive diet by analysing whether students change their meat consumption because of behavioural economics incentives. The results and the discussion show that, behavioural economic incentives are indeed influencing factors to change consumers into a less meat intensive diet. The different themes (knowledge, surroundings and social media) and theories (framing, availability bias and cooperation) addressed in this thesis influence consumers to change to a less meat intensive diet. Nevertheless, there is no "one size fits all" approach making consumers change into a less meat intensive society. Taking a closer look, it can be concluded that, for the students and experts at the WUR the influences of surroundings are the easiest to address. However, knowledge is ranked as the most influencing factor in reducing meat consumption. In contrast, price-quality factors are ranked as the most influencing factors to keep consuming meat. Furthermore, the information to gain more knowledge, with meat knowledge as the most crucial influence, can be obtained from social media and surroundings, which are also influencing on themself. This means that consumers need to gain more knowledge about the meat consumption and some knowledge regarding nutrients to reduce the emissions produced during the meat consumption process. This can reduce global warming and, with that, climate change. While the general answer regarding the aim is given in this part, the following parts will address the conclusion for each research question.

6.1. Literature and the different themes and theories

The following conclusion can be made for the first research question "Why do people change their meat consumption according to the behavioural economics literature focussing on the theme's knowledge, social media and surroundings?". The different themes, theories and the literature review show that, these factors influence people to change their meat consumption. Social media promotes vegetarianism and gives consumers new recipe ideas to make consuming less meat more accessible. At the same time, campaigns and television programmes about the influences of meat consumption help increase consumer awareness and knowledge. For surroundings, many social influences play a part in people's behaviour. People will try to behave like the social norm that they think is acceptable and follow the examples of others. Typically, family, friends and peers play a big part in meat consuming behaviour. When their surroundings consume less meat, they are a driver for following this example. The lack of (nutritional) knowledge and awareness is a significant barrier to changing food consumption behaviour. Therefore, to make more sustainable choices, consumers' knowledge needs to increase.

Framing is especially in transferring knowledge and information a critical point. Where multiple frames, labels and combining messages with environment and health are seen as most effective in changing meat consumer behaviour. Availability bias is mainly placed in cooking skills where consumers need to "imagine" how to make a meatless meal. When people do not know how to make a meatless meal, they are not likely to prepare this meal. Therefore, insufficient cooking skills or a lack of imagination are barriers to not eating a meatless meal. Consumers' cooperation is mainly defined by the social norms that they live by within their social group. These social

norms help consume less meat, especially in social networks that already consume less meat. A way to boost social norms is to use framing to encourage social behaviour.

6.2. Thoughts of students and experts

"What do students and experts at the Wageningen University and Research (WUR) recommend as influencing factors that change their meat consumption?" can be answered with the following conclusion. Looking at the interviews, it is remarkable that the interviewees mostly talked about the influences of their surroundings. Especially family and friends are seen as highly influential surroundings. Also, social media is a topic that is easy to talk about and seen as an influencing part of changing meat consumption. Knowledge is less talked about but still seen as an influencing factor that helps people change their meat consumption patterns.

Furthermore, price-quality factors like price, tase and heatlh are still significant influences for consumers that define their meat consumption. It is harder to address the theories used within this thesis since they are not always consciously recognized. However, availability bias is quickly seen as an influence. It is harder to notice this influence directly for framing effect since information is often collected unconsciously. Also, cooperation is harder to address, but the topics, burden and being seen as weird or strange, are noticed, which are important factors for consumers since they can make them feel like they do not follow the social norms.

6.3. Student influences and the survey

With the survey results, the third research question "What are the relatively more influencing factors for students at WUR to change their meat consumption based on the theme's knowledge, price-quality, surroundings, and social media?" is as follows. Overall, the themes knowledge, social media, price-quality and surrounding, together with the connected behavioural economics theories framing effect, availability bias, and cooperation, influence students/consumers to change their meat consumption behaviour. Knowledge is overall seen as most influential. The next one is price-quality factors, closely followed by surroundings. The least influential factor is social media. It is striking that the differences within the general questions and the selected answers are minor within a theme. However, the "current consumption pattern" of the students showed more significant differences within the influencing themes. Knowledge is the most influencing factor for people already consuming less meat (flexitarians, vegans and vegetarians), whereas price-quality factors are still the most crucial for meat consumers. However, surroundings follow closely as an influencing factor where social media is seen as the least influential. The fact that social media is seen as the least influential is logical since the information from social media is often processed unconsciously. Because many choices are based on conscious and unconscious decisions, only conscious decisions are addressed here.

6.4. Further research

Taking a more general view on this thesis, it is recommended to follow up this research by studying how influential these themes and topics are within the unconscious decision-making process of consumers. Also, it is essential to take a closer look at the different themes and theories on themselves, where there are bigger sample sizes that have more representative results. Here, the main goal was to find which themes are influencing and how much, but to get a better understanding of the reason for the influence, the themes and theories can use more depth. Also,

ways to incorporate these different outcomes into society to reduce meat consumption requires more research.

Bibliography

Apostolidis, C., & McLeay, F. (2016). Should we stop meating like this? Reducing meat consumption through substitution. *Food Policy*, *65*, 74–89. https://doi.org/10.1016/j.foodpol.2016.11.002

Apostolou, B., & Hassell, J. M. (1993). An empirical examination of the sensitivity of the analytic hierarchy process to departures from recommended consistency ratios. *Mathematical and Computer Modelling*, *17*(4–5), 163–170. https://doi.org/10.1016/0895-7177(93)90184-Z

Arcury, T. (1990). Environmental Attitude and Environmental Knowledge. *Human Organization*, *49*(4), 300–304. https://doi.org/10.17730/humo.49.4.y6135676n433r880

Arnaudova, M., Brunner, T. A., & Götze, F. (2022). Examination of students' willingness to change behaviour regarding meat consumption. *Meat Science*, *184*, 108695. https://doi.org/10.1016/j.meatsci.2021.108695

Baddeley, M. (2017). Economics and Behaviour. In *Behavioural Economics: A Very Short Introduction* (pp. 1–7). Oxford University Press.

Baumeister, R. F., Clark, C. J., Kim, J., & Lau, S. (2017). Consumers (and consumer researchers) need conscious thinking in addition to unconscious processes: A call for integrative models, a commentary on Williams and Poehlman. *Journal of Consumer Research*, *44*(2), 252–257. https://doi.org/10.1093/jcr/ucx042

Boerger, L. (2016). *Neoclassical Economics*. Exploring Economics. https://www.exploring-economics.org/en/orientation/neoclassical-economics/

Bogueva, D., Marinova, D., & Gordon, R. (2020). Who needs to solve the vegetarian men dilemma? *Journal of Human Behavior in the Social Environment*, *30*(1), 28–53. https://doi.org/10.1080/10911359.2019.1664966

Bonnet, C., Bouamra-Mechemache, Z., Réquillart, V., & Treich, N. (2020). Viewpoint: Regulating meat consumption to improve health, the environment and animal welfare. *Food Policy*, *97*(February), 101847. https://doi.org/10.1016/j.foodpol.2020.101847

Bray, J. P. (2008). *Consumer Behaviour Theory: Approaches and Models*. 1–33. http://eprints.bournemouth.ac.uk/10107/4/licence.txt

Brekke, K. A., & Johansson-Stenman, O. (2008). The behavioural economics of climate change. *Oxford Review of Economic Policy*, *24*(2), 280–297. https://doi.org/10.1093/oxrep/grn012

Brunneli, M. (2015). Introduction to the Analytic Hierarchy Process. In *Learning from Failures*.

Burney, J. A., Davis, S. J., & Lobell, D. B. (2010). Greenhouse gas mitigation by agricultural intensification. *Proceedings of the National Academy of Sciences of the United States of America*, *107*(26), 12052–12057. https://doi.org/10.1073/pnas.0914216107

Cairns, K., & Johnston, J. (2018). On (not) knowing where your food comes from: meat, mothering and ethical eating. *Agriculture and Human Values*, *35*(3), 569–580. https://doi.org/10.1007/s10460-018-9849-5

Carmerer, C. F., & Loewenstein, G. (2014). Behavioral Economics : Past , Present , Future. *Advanced in Behavioral Economics*.

Carrero, I., Valor, C., Díaz, E., & Labajo, V. (2021). Designed to be noticed: A reconceptualization of carbon food labels as warning labels. *Sustainability (Switzerland)*, *13*(3), 1–14. https://doi.org/10.3390/su13031581

Cathasaigh, M. (2022). *Twitter*. https://twitter.com/MarcKC_Green/status/1513967649738440706

Cesareo, M., Sorgente, A., Labra, M., Palestini, P., Sarcinelli, B., Rossetti, M., Lanz, M., & Moderato, P. (2022). The effectiveness of nudging interventions to promote healthy eating choices: A systematic review and an intervention among Italian university students. *Appetite*, *168*(July 2021), 105662. https://doi.org/10.1016/j.appet.2021.105662

Cho, I., & Bates, D. W. (2018). Behavioral Economics Interventions in Clinical Decision Support Systems. *Yearbook of Medical Informatics*, *27*(1), 114–121. https://doi.org/10.1055/s-0038-1641221

Chung, A., Vieira, D., Donley, T., Tan, N., Jean-Louis, G., Kiely Gouley, K., & Seixas, A. (2021). Adolescent Peer Influence on Eating Behaviors via Social Media: Scoping Review. *Journal of*

Medical Internet Research, *23*(6), e19697. https://doi.org/10.2196/19697
Cohen, J. L., & Dickens, W. T. (2002). A Foundation for Behavioral Economics. *NATURE VS. NURTURE IN DETERMINING ECONOMIC OUTCOMES*, *92*(2), 335–338.
Çoker, E. N., Pechey, R., Frie, K., Jebb, S. A., Stewart, C., Higgs, S., & Cook, B. (2022). A dynamic social norm messaging intervention to reduce meat consumption: A randomized cross-over trial in retail store restaurants. *Appetite*, *169*(September 2021). https://doi.org/10.1016/j.appet.2021.105824
Contento, I. R., Williams, S. S., Michela, J. L., & Franklin, A. B. (2006). Understanding the food choice process of adolescents in the context of family and friends. *Journal of Adolescent Health*, *38*(5), 575–582. https://doi.org/10.1016/j.jadohealth.2005.05.025
Creswell, J. W. (1999). Chapter 18-Mixed-Method Research: Introduction and Application. In G. J. Cizek (Ed.), *Handbook of Educational Policy* (pp. 455–560). Academic Press. http://cachescan.bcub.ro/e-book/V/580599_6.pdf
Ekelund, L., & Spendrup, S. (2016). Climate labelling and the importance of increased vegetable consumption. *Acta Horticulturae*, *1132*, 191–197. https://doi.org/10.17660/ActaHortic.2016.1132.26
Elliott, M. A. (2010). Selecting numerical scales for pairwise comparisons. *Reliability Engineering and System Safety*, *95*(7), 750–763. https://doi.org/10.1016/j.ress.2010.02.013
Erev, I., & Roth, A. E. (2014). *Maximization, learning, and economic behavior*. *111*(3). https://doi.org/10.1073/pnas.1402846111
Fehr, E., & Fischbacher, U. (2004). *Social norms and human cooperation*. *8*(4). https://doi.org/10.1016/j.tics.2004.02.007
Fehr, E., & Schmidt, K. M. (2000). Fairness, incentives, and contractual choices. *European Economic Review*, *44*(4–6), 1057–1068. https://doi.org/10.1016/S0014-2921(99)00046-X
Frick, J., Kaiser, F. G., & Wilson, M. (2004). Environmental knowledge and conservation behavior: Exploring prevalence and structure in a representative sample. *Personality and Individual Differences*, *37*(8), 1597–1613. https://doi.org/10.1016/j.paid.2004.02.015
García-González, Á., Achón, M., Krug, A. C., Varela-Moreiras, G., & Alonso-Aperte, E. (2020). Food sustainability knowledge and attitudes in the Spanish adult population: A cross-sectional study. *Nutrients*, *12*(10), 1–21. https://doi.org/10.3390/nu12103154
Gerber, P. J., Steinfeld, H., Henderson, B., Mottet, A., Opio, C., Dijkman, J., Falcucci, A., & Tempio, G. (2013). TACKLING CLIMATE CHANGE THROUGH LIVESTOCK– A global assessment of emissions and mitigation opportunities. In *Food and Agriculture Organization of the United Nations (FAO)*.
Gintis, H., Bowles, S., Boyd, R., & Fehr, E. (2003). Explaining altruistic behavior in humans. *Evolution and Human Behavior*, *24*(3), 153–172. https://doi.org/10.1016/S1090-5138(02)00157-5
Grošelj, P., & Zadnik Stirn, L. (2012). Acceptable consistency of aggregated comparison matrices in analytic hierarchy process. *European Journal of Operational Research*, *223*(2), 417–420. https://doi.org/10.1016/j.ejor.2012.06.016
Habib, R., White, K., Hardisty, D. J., & Zhao, J. (2021). Shifting consumer behavior to address climate change. *Current Opinion in Psychology*, *42*, 108–113. https://doi.org/10.1016/j.copsyc.2021.04.007
Harguess, J. M., Crespo, N. C., & Hong, M. Y. (2020). Strategies to reduce meat consumption: A systematic literature review of experimental studies. *Appetite*, *144*(September 2019). https://doi.org/10.1016/j.appet.2019.104478
Hartmann, C., & Siegrist, M. (2017). Consumer perception and behaviour regarding sustainable protein consumption: A systematic review. *Trends in Food Science and Technology*, *61*, 11–25. https://doi.org/10.1016/j.tifs.2016.12.006
Hedenus, F., Wirsenius, S., & Johansson, D. J. A. (2014). The importance of reduced meat and dairy consumption for meeting stringent climate change targets. *Climatic Change*, *124*, 79–91. https://doi.org/10.1007/s10584-014-1104-5
Hielkema, M. H., & Lund, T. B. (2021). Reducing meat consumption in meat-loving Denmark: Exploring willingness, behavior, barriers and drivers. *Food Quality and Preference*,

93(March). https://doi.org/10.1016/j.foodqual.2021.104257
Kahneman, D. (2011). *Thinking fast and slow*. Farrar, Straus, Giroux.
Kaljonen, M., Salo, M., Lyytimäki, J., & Furman, E. (2020). From isolated labels and nudges to sustained tinkering: assessing long-term changes in sustainable eating at a lunch restaurant. *British Food Journal*, *122*(11), 3313–3329. https://doi.org/10.1108/BFJ-10-2019-0816
Klöckner, C. A. (2017). A stage model as an analysis framework for studying voluntary change in food choices – The case of beef consumption reduction in Norway. *Appetite*, *108*, 434–449. https://doi.org/10.1016/j.appet.2016.11.002
Kloosterman, R., Akkermans, M., Reep, C., & Wingen, M. (2021). *Klimaatverandering en energietransitie: opvattingen en gedrag van Nederlanders in 2020*.
Kostagiolas, P. (2012). Measuring libraries' intellectual capital. In P. Kostagiolas (Ed.), *Managing Intellectual Capital in Libraries- Beyond the Balance Sheet* (pp. 87–127). Woodhead Publishing Limited.
Köster, E. P. (2009). Diversity in the determinants of food choice: A psychological perspective. *Food Quality and Preference*, *20*(2), 70–82. https://doi.org/10.1016/j.foodqual.2007.11.002
Kwasnicka, D., Dombrowski, S. U., White, M., & Sniehotta, F. (2016). Theoretical explanations for maintenance of behaviour change: a systematic review of behaviour theories. *Health Psychology Review*, *10*(3), 277–296. https://doi.org/10.1080/17437199.2016.1151372
Kwasny, T., Dobernig, K., & Riefler, P. (2022). Towards reduced meat consumption: A systematic literature review of intervention effectiveness, 2001–2019. *Appetite*, *168*(July 2021). https://doi.org/10.1016/j.appet.2021.105739
Lentz, G., Connelly, S., Mirosa, M., & Jowett, T. (2018). Gauging attitudes and behaviours: Meat consumption and potential reduction. *Appetite*, *127*(May), 230–241. https://doi.org/10.1016/j.appet.2018.04.015
Lusk, J. L. (2014). Are you smart enough to know what to eat? A critique of behavioural economics as justification for regulation. *European Review of Agricultural Economics*, *41*(3), 355–373. https://doi.org/10.1093/erae/jbu019
Lusk, J. L., & Norwood, F. B. (2016). Some vegetarians spend less money on food, others don't | Elsevier Enhanced Reader. *Ecological Economics*, *130*, 232–242. https://reader.elsevier.com/reader/sd/pii/S0921800915301488?token=5CD59EFBD932031B9D6B85203A7AFCADD8014CC6F155695F7D5949E3DCC48CECC82EE88DA9E8F78321C3E60D44892F1E&originRegion=eu-west-1&originCreation=20210916122321
Lutfie, H., Syafrina, I., & Hidayat, R. (2017). The impact of green product through labeling, packaging and product perception for purchasing decision: A review. *International Journal of Economic Perspectives*, *11*(3), 368–373.
Macdiarmid, J. I., Douglas, F., & Campbell, J. (2016). Eating like there's no tomorrow: Public awareness of the environmental impact of food and reluctance to eat less meat as part of a sustainable diet. *Appetite*, *96*, 487–493. https://doi.org/10.1016/j.appet.2015.10.011
Malina, M. A., Nrreklit, H. S. O., & Selto, F. H. (2010). Lessons learned: Advantages and disadvantages of mixed method research. *Qualitative Research in Accounting and Management*, *8*(1), 59–71. https://doi.org/10.1108/11766091111124702
Martin, N., & Morich, K. (2011). Unconscious mental processes in consumer choice: Toward a new model of consumer behavior. *Journal of Brand Management*, *18*(7), 483–505. https://doi.org/10.1057/bm.2011.10
Mathis, K., & Steffen, A. D. (2015). From Rational Choice to Behavioural Economics. *European Perspectives on Behavioural Law and Economics*, 1–271. https://doi.org/10.1007/978-3-319-11635-8
Mohamed, Z., Terano, R., Yeoh, S. J., & Iliyasu, A. (2017). Opinions of Non-Vegetarian Consumers Among the Chinese Community in Malaysia Toward Vegetarian Food and Diets. *Journal of Food Products Marketing*, *23*(1), 80–98. https://doi.org/10.1080/10454446.2017.1244795
Morgan, J. (2016). The meaning and significance of neaclassical enconomics. In *What is Neoclassical Economics?* (pp. 1–29). Routledge. https://doi.org/10.4324/9781315659596
Mullee, A., Vermeire, L., Vanaelst, B., Mullie, P., Deriemaeker, P., Leenaert, T., De Henauw, S., Dunne, A., Gunter, M. J., Clarys, P., & Huybrechts, I. (2017). Vegetarianism and meat consumption: A

comparison of attitudes and beliefs between vegetarian, semi-vegetarian, and omnivorous subjects in Belgium. *Appetite*, *114*, 299–305. https://doi.org/10.1016/j.appet.2017.03.052

n.n. (n.d.). *AHP Calculation software by CGI*. Retrieved May 16, 2022, from http://www.isc.senshu-u.ac.jp/~thc0456/EAHP/AHPweb.html

Niemiec, R., Jones, M. S., Mertens, A., & Dillard, C. (2021). The effectiveness of COVID-related message framing on public beliefs and behaviors related to plant-based diets. *Appetite*, *165*(January). https://doi.org/10.1016/j.appet.2021.105293

Oke, A., Ladas, J., & Bailey, M. (2020). Ethical consumers: an exploratory investigation of the ethical food consumption behaviour of young adults in the North East of Scotland. *British Food Journal*, *122*(11), 3623–3638. https://doi.org/10.1108/BFJ-10-2019-0801

Ostrom, E. (1998). A Behavioral Approach to the Rational Choice Theory of Collective Action : Presidential Address , American Political Science Association , 1997 Author (s): Elinor Ostrom Source : The American Political Science Review , Vol . 92 , No . 1 (Mar ., 1998),. *American Political Science Review*, *92*(1), 1–22.

Patel, V., & Buckland, N. J. (2021). Perceptions about meat reducers: Results from two UK studies exploring personality impressions and perceived group membership. *Food Quality and Preference*, *93*(March). https://doi.org/10.1016/j.foodqual.2021.104289

Piester, H. E., DeRieux, C. M., Tucker, J., Buttrick, N. R., Galloway, J. N., & Wilson, T. D. (2020). "I'll try the veggie burger": Increasing purchases of sustainable foods with information about sustainability and taste. *Appetite*, *155*(August). https://doi.org/10.1016/j.appet.2020.104842

Pohjolainen, P., Vinnari, M., & Jokinen, P. (2015). Consumers' perceived barriers to following a plant-based diet. *British Food Journal*, *117*(3), 1150–1167. https://doi.org/10.1108/BFJ-09-2013-0252

Rosenfeld, D. L., & Burrow, A. L. (2017). Vegetarian on purpose: Understanding the motivations of plant-based dieters. *Appetite*, *116*, 456–463. https://doi.org/10.1016/j.appet.2017.05.039

Roy, R., de Castro, T. G., Haszard, J., Egli, V., Te Morenga, L., Teunissen, L., Decorte, P., Cuykx, I., De Backer, C., & Gerritsen, S. (2021). Who we seek and what we eat? Sources of food choice inspirations and their associations with adult dietary patterns before and during the covid-19 lockdown in New Zealand. *Nutrients*, *13*(11), 1–17. https://doi.org/10.3390/nu13113917

Saaty, R. W. (1987). The analytic hierarchy process-what it is and how it is used. *Mathematical Modelling*, *9*(3–5), 161–176. https://doi.org/10.1016/0270-0255(87)90473-8

Saaty, T. L. (1990). How to make a decision: The analytic hierarchy process. *European Journal of Operational Research*, *48*(1), 9–26. https://doi.org/10.1016/0377-2217(90)90057-I

Sanne, I., & Bjørke-Monsen, A. L. (2022). Lack of nutritional knowledge among Norwegian medical students concerning vegetarian diets. *Journal of Public Health (Germany)*, *30*(2), 495–501. https://doi.org/10.1007/s10389-020-01327-7

Shepherd, H. R. (2017). The Structure of Perception: How Networks Shape Ideas of Norms. *Sociological Forum*, *32*(1), 72–93. https://doi.org/10.1111/socf.12317

Shogren, J. (2012). Behavioural Economics and Environmental Incentives. *OECD Environment Working Papers*, *49*, 9–26.

Siegrist, M., & Hartmann, C. (2019). Impact of sustainability perception on consumption of organic meat and meat substitutes. *Appetite*, *132*(September 2018), 196–202. https://doi.org/10.1016/j.appet.2018.09.016

Simonson, I. (2005). In defense of consciousness: The role of conscious and unconscious inputs in consumer choice. *Journal of Consumer Psychology*, *15*(3), 211–217. https://doi.org/10.1207/s15327663jcp1503_5

Sniehotta, F. F. (2009). Towards a theory of intentional behaviour change: Plans, planning, and self-regulation. *British Journal of Health Psychology*, *14*(2), 261–273. https://doi.org/10.1348/135910708X389042

Solomon, M. R., Russell-Bennett, R., & Previte, J. (2013). *Consumer Behaviour: Buying, having, being* (3rd ed.). Pearson Australia.

Soma, K., Termeer, C. J. A. M., & Opdam, P. (2016). Informational governance - A systematic

literature review of governance for sustainability in the Information Age. *Environmental Science and Policy*, *56*, 89–99. https://doi.org/10.1016/j.envsci.2015.11.006

Sparkman, G., & Walton, G. M. (2017). Dynamic Norms Promote Sustainable Behavior, Even if It Is Counternormative. *Psychological Science*, *28*(11), 1663–1674. https://doi.org/10.1177/0956797617719950

Stea, S., & Pickering, G. J. (2019). Optimizing Messaging to Reduce Red Meat Consumption. *Environmental Communication*, *13*(5), 633–648. https://doi.org/10.1080/17524032.2017.1412994

Story, M., Neumark-Szrainer, D., & French, S. (2002). Individual and Environmental Influences on Adolescent Eating Behaviors. *Journal of the American Dietetic Association*, *102*(3), s40–s51. https://doi.org/10.1111/j.1753-4887.1989.tb02862.x

Suner, A., Çelikoğlu, C. C., Dicle, O., & Sökmen, S. (2012). Sequential decision tree using the analytic hierarchy process for decision support in rectal cancer. *Artificial Intelligence in Medicine*, *56*(1), 59–68. https://doi.org/10.1016/j.artmed.2012.05.003

Szmigin, I., Carrigan, M., & McEachern, M. G. (2009). The conscious consumer: Taking a flexible approach to ethical behaviour. In *International Journal of Consumer Studies* (Vol. 33, Issue 2, pp. 224–231). https://doi.org/10.1111/j.1470-6431.2009.00750.x

Thaler, R. H. (2017). Behavioral economics. In *Journal of Political Economy* (Vol. 125, Issue 6). https://doi.org/10.1086/694640

Tversky, A., & Kahneman, D. (1973). Availability: A heuristic for judging frequency and probability. *Cognitive Psychology*, *5*(2), 207–232. https://doi.org/10.1016/0010-0285(73)90033-9

Vainio, A., Irz, X., & Hartikainen, H. (2018). How effective are messages and their characteristics in changing behavioural intentions to substitute plant-based foods for red meat? The mediating role of prior beliefs. *Appetite*, *125*, 217–224. https://doi.org/10.1016/j.appet.2018.02.002

Vainio, A., Niva, M., Jallinoja, P., & Latvala, T. (2016). From beef to beans: Eating motives and the replacement of animal proteins with plant proteins among Finnish consumers. *Appetite*, *106*, 92–100. https://doi.org/10.1016/j.appet.2016.03.002

Varela, P., Arvisenet, G., Gonera, A., Myhrer, K. S., Fifi, V., & Valentin, D. (2022). Meat replacer? No thanks! The clash between naturalness and processing: An explorative study of the perception of plant-based foods. *Appetite*, *169*(July 2021), 1–10. https://doi.org/10.1016/j.appet.2021.105793

Vogelaar, A., & Priante, A. (2021). The role of social media normative interventions and environmental awareness in intentions to change pro-environmental behaviors. *Proceedings of the Annual Hawaii International Conference on System Sciences*, *2020-Janua*, 2728–2737. https://doi.org/10.24251/hicss.2021.333

Vukmirovic, M. (2015). The effects of food advertising on food-related behaviours and perceptions in adults: A review. *Food Research International*, *75*, 13–19. https://doi.org/10.1016/j.foodres.2015.05.011

Wageningen University & Research. (2019). *Chair Plan*.

Waters, J. (2018). A model of the dynamics of household vegetarian and vegan rates in the U.K. *Appetite*, *127*(February), 364–372. https://doi.org/10.1016/j.appet.2018.05.017

Xiao, Y., & Watson, M. (2019). Guidance on Conducting a Systematic Literature Review. *Journal of Planning Education and Research*, *39*(1), 93–112. https://doi.org/10.1177/0739456X17723971

Appendix 1. Scopus term table

Table 5 Scopes overview of all the search terms

Search terms	Hits	date	Full search term with include/exclude	Hits
(meat AND consumption) AND (behavioral OR behavioural AND economics)	21	26-okt-21		
(behavior OR consumer) AND (vegetarian OR meat OR vegan) AND economics)	613	26-okt-21		
(behavior OR consumer) AND (vegetarian OR meat OR vegan) AND economics AND students	18	26-okt-21		
(behavior) AND (vegetarian OR meat OR vegan) AND economics AND students	10	26-okt-21		
(behavior) AND (vegetarian OR meat OR vegan) AND students	542	26-okt-21		
(behavior) AND (vegetarian OR meat) AND economics AND students	10	26-okt-21		
(behavior) AND (vegetarian OR meat) AND economics	327	28-okt-21		
(behavior OR behavioural) AND (vegetarian OR meat) AND economics	352	28-okt-21		
(behavior OR behavioural) AND (vegetarian OR meat) AND economics AND students	12	28-okt-21		
(behavioral AND economics OR behavioural AND economics) AND (vegetarian OR meat) AND economics	51	28-okt-21		

(behavioural AND economics OR behavioral AND economics) AND (vegetarian OR meat) AND students	6	28-okt-21		
(behavioural OR behavioral) AND (vegetarian OR meat) AND economics	51	28-okt-21		
(behaviour OR behavior) AND (vegetarian OR meat) AND students AND (knowledge OR surroundings OR media	118	1-nov-21		
(behaviour OR behavior) AND (vegetarian OR meat) AND students AND NOT health	218	1-nov-21		
(behaviour OR behavior) AND (vegetarian OR meat) AND students AND NOT health AND NOT safety	211	2-nov-21		
(behaviour OR behavior) AND (vegetarian OR meat) AND students AND NOT health AND NOT safety) AND economics	31	2-nov-21		
(behaviour OR behavior OR consumer) AND (vegetarian OR meat) AND students AND NOT health AND NOT safety) AND economics	43	2-nov-21		
(behaviour OR behavior) AND (vegetarian OR meat) AND students AND "environmental knowledge" OR "environmental awareness" OR "sustainable awareness"	2	2-nov-21		
behaviour OR behavior AND vegetarian OR meat AND "environmental knowledge" OR "environmental awareness"	8	3-nov-21		

OR "sustainable awareness"				
behaviour OR behavior AND vegetarian OR meat AND "social Media"	56	3-nov-21		
behaviour OR behavior AND vegetarian OR meat AND "social Media" OR advertisement OR com mercial AND environment	70	3-nov-21		
behaviour OR behavior AND vegetarian OR meat AND surroundings OR friends OR family AND environment	98	3-nov-21		
behaviour OR behavior AND vegetarian OR meat AND surroundings OR friends OR family AND environment AND students	15	3-nov-21		
behaviour OR behavior AND vegetarian OR meat AND "prospect theory" OR "framing effect" OR Nudge OR "availability bias" OR cooperation AND environment	20	3-nov-21		
behaviour OR behavior AND vegetarian AND meat AND "social media" OR advertisement OR commercial AND environment	2	3-nov-21		
behaviour OR behavior AND economic* AND vegetarian OR meat AND "social media" OR advertisement OR commercial AND environment	11	3-nov-21		
(meat AND vegetarian AND climat e-change)	57	31-aug-21		
(behaviour OR behavior AND vegatarian OR meat	6	9-nov-21		

AND "environmental knowledge" OR "environmental awareness" OR "sustainable awareness")				
behaviour OR behavior AND economic* AND vegetarian OR meat AND "social media" OR advertisement OR commercial AND environment)	11	10-nov-21		
(behaviour OR behavior AND vegetarian OR meat AND surroundings OR friends OR family AND environment AND students)	15	10-nov-21		
(behaviour OR behavior AND vegetarian OR meat AND "prospect theory" OR "framing effect" OR nudge OR "availability bias" OR cooperation AND environment)	20	11-nov-21		
(behaviour OR behavior AND environment AND vegetarian OR meat AND environment OR climate OR sustainable OR sustainability AND information OR data OR knowledge)	443	22-nov-21		
(behaviour OR behavior AND environment AND vegetarian OR meat AND "climate impact" OR "climate change" OR "sustainable development" AND "environmental information" OR "environmental data" OR "environmental knowledge" OR "environmental awareness" AND consumption)	1	22-nov-21		

(behaviour OR behavior AND environment OR environmental AND vegetarian OR meat AND "climate impact" OR "climate change" OR "sustainable development" OR sustainability AND information OR data OR knowledge OR awareness AND consumption)	96	22-nov-21		
behaviour OR behavior AND environment OR environmental AND vegetarian OR meat AND "climate impact" OR "climate change" OR "sustainable development" OR sustainability AND information OR data OR knowledge OR awareness AND consumption)	106	13-jan-22	behaviour OR behavior AND environment OR environmental AND vegetarian OR meat AND "climate impact" OR "climate change" OR "sustainable development" OR sustainability AND information OR data OR knowledge OR awareness AND consumption) AND (EXCLUDE (PUBYEAR , 2014) OR EXCLUDE (PUBYEAR , 2013) OR EXCLUDE (PUBYEAR , 2012) OR EXCLUDE (PUBYEAR , 2011) OR EXCLUDE (PUBYEAR , 2009) OR EXCLUDE (PUBYEAR , 2008) OR EXCLUDE (PUBYEAR , 2005)) AND (EXCLUDE (SUBJAREA , "NURS") OR EXCLUDE (SUBJAREA , "MEDI") OR EXCLUDE (SUBJAREA , "ENGI") OR EXCLUDE (SUBJAREA , "VETE") OR EXCLUDE (SUBJAREA , "BIOC"))	46
(behaviour OR behavior AND environment OR environmental AND vegetarian OR meat AND "framing effect" OR "availability bias" OR "availability heuristics" OR cooperation)	26	25-nov-21	(behaviour OR behavior AND environment OR environmental AND vegetarian OR meat AND "framing effect" OR "availability bias" OR "availability heuristics" OR cooperation) AND (EXCLUDE (PUBYEAR , 2014) OR EXCLUDE (PUBYEAR , 2013) OR EXCLUDE (PUBYEAR , 2012) OR EXCLUDE (PUBYEAR , 2010) OR EXCLUDE (PUBYEAR , 2005) OR EXCLUDE (PUBYEAR , 2004) OR EXCLUDE (PUBYEAR , 2003) OR EXCLUDE (PUBYEAR , 1989)) AND (EXCLUDE (SUBJAREA , "BIOC") OR EXCLUDE (SUBJAREA , "CHEM") OR	9

			EXCLUDE (SUBJAREA , "MEDI") OR EXCLUDE (SUBJAREA , "PHYS") OR EXCLUDE (SUBJAREA , "ARTS") OR EXCLUDE (SUBJAREA , "CENG") OR EXCLUDE (SUBJAREA , "ENGI") OR EXCLUDE (SUBJAREA , "MATE") OR EXCLUDE (SUBJAREA , "NURS") OR EXCLUDE (SUBJAREA , "PHAR"))	
(behaviour OR behavior AND environment OR environmental AND vegetarian OR meat AND surroundings OR social OR community OR society OR association OR family OR friends OR mother OR father OR siblings AND students OR adolesence AND habitat)	1	22-nov-21		
(behaviour OR behavior OR habit AND environment OR environmental AND vegetarian OR meat AND surroundings OR social OR community OR society OR association OR family OR friends OR mother OR father OR siblings AND students OR adolesence)	51	22-nov-21		
(behaviour OR behavior OR habit AND environment OR environmental AND vegetarian OR meat AND surroundings OR social OR community OR society OR association OR family OR friends OR mother OR father OR siblings AND students OR adolescence AND consumption)	34	22-nov-21	(behaviour OR behavior OR habit AND environment OR environmental AND vegetarian OR meat AND surroundings OR social OR community OR society OR association OR family OR friends OR mother OR father OR siblings AND students OR adolescence AND consumption) AND (EXCLUDE (PUBYEAR , 2014) OR EXCLUDE (PUBYEAR , 2013) OR EXCLUDE (PUBYEAR , 2012) OR EXCLUDE (PUBYEAR , 2011) OR	7

			EXCLUDE (PUBYEAR , 2008) OR EXCLUDE (PUBYEAR , 2007) OR EXCLUDE (PUBYEAR , 2002) OR EXCLUDE (PUBYEAR , 1974)) AND (EXCLUDE (SUBJAREA , "MEDI") OR EXCLUDE (SUBJAREA , "BIOC") OR EXCLUDE (SUBJAREA , "NURS") OR EXCLUDE (SUBJAREA , "HEAL") OR EXCLUDE (SUBJAREA , "IMMU") OR EXCLUDE (SUBJAREA , "NEUR") OR EXCLUDE (SUBJAREA , "PHAR") OR EXCLUDE (SUBJAREA , "VETE"))	
behaviour OR behavior OR habit AND environment OR environmental AND vegetarian OR meat AND surroundings OR social OR community OR society OR association OR family OR friends OR mother OR father OR siblings AND consumption	575	22-nov-21	(behaviour OR behavior OR habit AND environment OR environmental AND vegetarian OR meat AND surroundings OR social OR community OR society OR association OR family OR friends OR mother OR father OR siblings AND consumption) AND (EXCLUDE (PUBYEAR , 2014) OR EXCLUDE (PUBYEAR , 2013) OR EXCLUDE (PUBYEAR , 2012) OR EXCLUDE (PUBYEAR , 2011) OR EXCLUDE (PUBYEAR , 2010) OR EXCLUDE (PUBYEAR , 2009) OR EXCLUDE (PUBYEAR , 2008) OR EXCLUDE (PUBYEAR , 2007) OR EXCLUDE (PUBYEAR , 2006) OR EXCLUDE (PUBYEAR , 2005) OR EXCLUDE (PUBYEAR , 2004) OR EXCLUDE (PUBYEAR , 2003) OR EXCLUDE (PUBYEAR , 2002) OR EXCLUDE (PUBYEAR , 2001) OR EXCLUDE (PUBYEAR , 2000) OR EXCLUDE (PUBYEAR , 1999) OR EXCLUDE (PUBYEAR , 1998) OR EXCLUDE (PUBYEAR , 1997) OR EXCLUDE (PUBYEAR , 1995) OR EXCLUDE (PUBYEAR , 1994) OR EXCLUDE (PUBYEAR , 1992) OR EXCLUDE (PUBYEAR , 1991) OR EXCLUDE (PUBYEAR , 1990) OR EXCLUDE (PUBYEAR , 1989) OR EXCLUDE (PUBYEAR , 1988) OR EXCLUDE (PUBYEAR , 1987) OR	98

			EXCLUDE (PUBYEAR , 1983) OR EXCLUDE (PUBYEAR , 1981) OR EXCLUDE (PUBYEAR , 1980) OR EXCLUDE (PUBYEAR , 1978) OR EXCLUDE (PUBYEAR , 1974) OR EXCLUDE (PUBYEAR , 1973)) AND (EXCLUDE (SUBJAREA , "MEDI") OR EXCLUDE (SUBJAREA , "NURS") OR EXCLUDE (SUBJAREA , "BIOC") OR EXCLUDE (SUBJAREA , "ENGI") OR EXCLUDE (SUBJAREA , "IMMU") OR EXCLUDE (SUBJAREA , "PHAR") OR EXCLUDE (SUBJAREA , "ARTS") OR EXCLUDE (SUBJAREA , "VETE") OR EXCLUDE (SUBJAREA , "HEAL") OR EXCLUDE (SUBJAREA , "NEUR") OR EXCLUDE (SUBJAREA , "COMP") OR EXCLUDE (SUBJAREA , "CENG") OR EXCLUDE (SUBJAREA , "CHEM") OR EXCLUDE (SUBJAREA , "DENT") OR EXCLUDE (SUBJAREA , "MATH")) AND (LIMIT-TO (LANGUAGE , "English"))	

(behaviour OR behavior AND environment OR environmental AND vegetarian OR meat AND surroundings OR social OR community OR society OR association OR family OR friends OR siblings AND consumption)	401	23-nov-21	(behaviour OR behavior AND environment OR environmental AND vegetarian OR meat AND surroundings OR social OR community OR society OR association OR family OR friends OR mother OR father OR siblings AND consumption) AND (EXCLUDE (PUBYEAR , 2014) OR EXCLUDE (PUBYEAR , 2013) OR EXCLUDE (PUBYEAR , 2012) OR EXCLUDE (PUBYEAR , 2011) OR EXCLUDE (PUBYEAR , 2010) OR EXCLUDE (PUBYEAR , 2009) OR EXCLUDE (PUBYEAR , 2008) OR EXCLUDE (PUBYEAR , 2007) OR EXCLUDE (PUBYEAR , 2006) OR EXCLUDE (PUBYEAR , 2005) OR EXCLUDE (PUBYEAR , 2004) OR EXCLUDE (PUBYEAR , 2003) OR EXCLUDE (PUBYEAR , 2002) OR EXCLUDE (PUBYEAR , 2001) OR EXCLUDE (PUBYEAR , 2000) OR EXCLUDE (PUBYEAR , 1999) OR EXCLUDE (PUBYEAR , 1998) OR EXCLUDE (PUBYEAR , 1997) OR EXCLUDE (PUBYEAR , 1995) OR EXCLUDE (PUBYEAR , 1994) OR EXCLUDE (PUBYEAR , 1992) OR EXCLUDE (PUBYEAR , 1991) OR EXCLUDE (PUBYEAR , 1987) OR EXCLUDE (PUBYEAR , 1983) OR EXCLUDE (PUBYEAR , 1981) OR EXCLUDE (PUBYEAR , 1973)) AND (EXCLUDE (SUBJAREA , "MEDI") OR EXCLUDE (SUBJAREA , "NURS") OR EXCLUDE (SUBJAREA , "BIOC") OR EXCLUDE (SUBJAREA , "ENGI") OR EXCLUDE (SUBJAREA , "PHAR") OR EXCLUDE (SUBJAREA , "IMMU") OR EXCLUDE (SUBJAREA , "HEAL") OR EXCLUDE (SUBJAREA , "ARTS") OR EXCLUDE (SUBJAREA , "VETE") OR EXCLUDE (SUBJAREA , "NEUR") OR EXCLUDE (SUBJAREA , "CENG") OR EXCLUDE (SUBJAREA , "CHEM") OR EXCLUDE (SUBJAREA , "COMP")	83

			OR EXCLUDE (SUBJAREA , "DENT")) AND (LIMIT-TO (LANGUAGE , "English"))	
(behaviour OR behavior AND environment OR environmental AND vegetarian OR meat AND surroundings OR social OR community OR society OR association OR family OR parents OR friends OR siblings AND consumption)	409	23-nov-21		
(behaviour OR behavior AND environment OR environmental AND vegetarian OR meat AND surroundings OR social OR community OR society OR association AND family OR parents OR friends OR siblings AND consumption)	49	23-nov-21	behaviour OR behavior AND environment OR environmental AND vegetarian OR meat AND surroundings OR social OR community OR society OR association AND family OR parents OR friends OR siblings AND consumption) AND (EXCLUDE (PUBYEAR , 2014) OR EXCLUDE (PUBYEAR , 2013) OR EXCLUDE (PUBYEAR , 2012) OR EXCLUDE (PUBYEAR , 2011) OR	5

			EXCLUDE (PUBYEAR , 2010) OR EXCLUDE (PUBYEAR , 2009) OR EXCLUDE (PUBYEAR , 2008) OR EXCLUDE (PUBYEAR , 2007) OR EXCLUDE (PUBYEAR , 2006) OR EXCLUDE (PUBYEAR , 2003) OR EXCLUDE (PUBYEAR , 2002) OR EXCLUDE (PUBYEAR , 2001) OR EXCLUDE (PUBYEAR , 1995) OR EXCLUDE (PUBYEAR , 1992)) AND (EXCLUDE (SUBJAREA , "MEDI") OR EXCLUDE (SUBJAREA , "NURS") OR EXCLUDE (SUBJAREA , "BIOC") OR EXCLUDE (SUBJAREA , "PHAR"))	
(behaviour OR behavior OR habit AND environment OR environmental AND vegetarian OR meat AND surroundings OR social OR community OR society OR association AND family OR parents OR friends OR siblings OR mother OR father AND consumption)	78	23-nov-21	(behaviour OR behavior OR habit AND environment OR environmental AND vegetarian OR meat AND surroundings OR social OR community OR society OR association AND family OR parents OR friends OR siblings OR mother OR father AND consumption) AND (EXCLUDE (PUBYEAR , 2014) OR EXCLUDE (PUBYEAR , 2013) OR EXCLUDE (PUBYEAR , 2012) OR EXCLUDE (PUBYEAR , 2011) OR EXCLUDE (PUBYEAR , 2010) OR EXCLUDE (PUBYEAR , 2009) OR EXCLUDE (PUBYEAR , 2008) OR EXCLUDE (PUBYEAR , 2007) OR EXCLUDE (PUBYEAR , 2006) OR EXCLUDE (PUBYEAR , 2003) OR EXCLUDE (PUBYEAR , 2002) OR EXCLUDE (PUBYEAR , 2001) OR EXCLUDE (PUBYEAR , 1998) OR EXCLUDE (PUBYEAR , 1995) OR EXCLUDE (PUBYEAR , 1992) OR EXCLUDE (PUBYEAR , 1989) OR EXCLUDE (PUBYEAR , 1978)) AND (EXCLUDE (SUBJAREA , "MEDI") OR EXCLUDE (SUBJAREA , "NURS") OR EXCLUDE (SUBJAREA , "BIOC") OR EXCLUDE (SUBJAREA , "PHAR"))	9

(behaviour OR behavior OR habit AND environment OR environmental AND vegetarian OR meat AND surroundings OR social OR community OR society OR association AND family OR parents OR friends OR siblings OR mother OR father AND consumption OR "eating habit" OR diet)	128	23-nov-21	(behaviour OR behavior OR habit AND environment OR environmental AND vegetarian OR meat AND surroundings OR social OR community OR society OR association AND family OR parents OR friends OR siblings OR mother OR father AND consumption OR "eating habit" OR diet) AND (EXCLUDE (SUBJAREA , "MEDI") OR EXCLUDE (SUBJAREA , "NURS") OR EXCLUDE (SUBJAREA , "BIOC") OR EXCLUDE (SUBJAREA , "ARTS") OR EXCLUDE (SUBJAREA , "CHEM") OR EXCLUDE (SUBJAREA , "PHAR") OR EXCLUDE (SUBJAREA , "IMMU")) AND (EXCLUDE (PUBYEAR , 2010) OR EXCLUDE (PUBYEAR , 2007) OR EXCLUDE (PUBYEAR , 2006) OR EXCLUDE (PUBYEAR , 1992))	10
behaviour OR behavior OR habit AND environment OR environmental AND vegetarian OR meat AND surroundings OR social OR community OR society OR association AND family OR parents OR friends OR siblings OR peers OR mother OR father AND consumption OR "eating habit" OR diet	134	23-nov-21	(behaviour OR behavior OR habit AND environment OR environmental AND vegetarian OR meat AND surroundings OR social OR community OR society OR association AND family OR parents OR friends OR siblings OR peers OR mother OR father AND consumption OR "eating habit" OR diet) AND (EXCLUDE (SUBJAREA , "MEDI") OR EXCLUDE (SUBJAREA , "NURS") OR EXCLUDE (SUBJAREA , "BIOC") OR EXCLUDE (SUBJAREA , "ARTS") OR EXCLUDE (SUBJAREA , "CHEM") OR EXCLUDE (SUBJAREA , "PHAR") OR EXCLUDE (SUBJAREA , "COMP") OR EXCLUDE (SUBJAREA , "IMMU")) AND (EXCLUDE (PUBYEAR , 2013) OR EXCLUDE (PUBYEAR , 2010) OR EXCLUDE (PUBYEAR , 2007) OR EXCLUDE (PUBYEAR , 2006) OR EXCLUDE (PUBYEAR , 1992))	11

behaviour OR behavior OR habit AND environment OR environmental AND vegetarian OR meat AND surroundings OR social OR community OR society OR association OR family OR parents OR friends OR siblings OR peers AND consumption AND "eating habit" OR diet	348	23-nov-21	(behaviour OR behavior OR habit AND environment OR environmental AND vegetarian OR meat AND surroundings OR social OR community OR society OR association OR family OR parents OR friends OR siblings OR peers AND consumption AND "eating habit" OR diet) AND (EXCLUDE (PUBYEAR , 2014) OR EXCLUDE (PUBYEAR , 2013) OR EXCLUDE (PUBYEAR , 2012) OR EXCLUDE (PUBYEAR , 2011) OR EXCLUDE (PUBYEAR , 2010) OR EXCLUDE (PUBYEAR , 2009) OR EXCLUDE (PUBYEAR , 2008) OR EXCLUDE (PUBYEAR , 2007) OR EXCLUDE (PUBYEAR , 2006) OR EXCLUDE (PUBYEAR , 2005) OR EXCLUDE (PUBYEAR , 2004) OR EXCLUDE (PUBYEAR , 2003) OR EXCLUDE (PUBYEAR , 2002) OR EXCLUDE (PUBYEAR , 2001) OR EXCLUDE (PUBYEAR , 2000) OR EXCLUDE (PUBYEAR , 1999) OR EXCLUDE (PUBYEAR , 1998) OR EXCLUDE (PUBYEAR , 1997) OR EXCLUDE (PUBYEAR , 1995) OR EXCLUDE (PUBYEAR , 1994) OR EXCLUDE (PUBYEAR , 1992) OR EXCLUDE (PUBYEAR , 1991) OR EXCLUDE (PUBYEAR , 1990) OR EXCLUDE (PUBYEAR , 1988) OR EXCLUDE (PUBYEAR , 1987) OR EXCLUDE (PUBYEAR , 1983) OR EXCLUDE (PUBYEAR , 1981) OR EXCLUDE (PUBYEAR , 1973)) AND (EXCLUDE (SUBJAREA , "MEDI") OR EXCLUDE (SUBJAREA , "NURS") OR EXCLUDE (SUBJAREA , "BIOC") OR EXCLUDE (SUBJAREA , "IMMU") OR EXCLUDE (SUBJAREA , "ENGI") OR EXCLUDE (SUBJAREA , "PHAR") OR EXCLUDE (SUBJAREA , "ARTS") OR EXCLUDE (SUBJAREA , "HEAL") OR EXCLUDE (SUBJAREA , "CENG") OR EXCLUDE (SUBJAREA , "COMP")	48

			OR EXCLUDE (SUBJAREA , "MATH") OR EXCLUDE (SUBJAREA , "NEUR") OR EXCLUDE (SUBJAREA , "VETE"))	
(behaviour OR behavior OR habit OR "social practice" AND environment OR environmental AND vegetarian OR meat AND surroundings OR social OR community OR family OR parents OR friends OR siblings OR peers AND consumption AND "eating habit" OR diet	348	12-jan-22	(behaviour OR behavior OR habit OR "social practice" AND environment OR environmental AND vegetarian OR meat AND surroundings OR social OR community OR family OR parents OR friends OR siblings OR peers AND consumption AND "eating habit" OR diet) AND (EXCLUDE (SUBJAREA , "MEDI") OR EXCLUDE (SUBJAREA , "NURS") OR EXCLUDE (SUBJAREA , "BIOC") OR EXCLUDE (SUBJAREA , "ENER") OR EXCLUDE (SUBJAREA , "IMMU") OR EXCLUDE (SUBJAREA , "ARTS") OR EXCLUDE (SUBJAREA , "PHAR") OR EXCLUDE (SUBJAREA , "ENGI") OR EXCLUDE (SUBJAREA , "HEAL") OR EXCLUDE (SUBJAREA , "CHEM") OR EXCLUDE (SUBJAREA , "COMP")) AND (EXCLUDE (PUBYEAR , 2014) OR EXCLUDE (PUBYEAR , 2013) OR	32

			EXCLUDE (PUBYEAR , 2011) OR EXCLUDE (PUBYEAR , 2010) OR EXCLUDE (PUBYEAR , 2003))	
behaviour OR behavior AND environment OR environmental AND vegetarian OR meat AND "social media" OR commercial OR advertisement OR newspaper OR television OR tv AND influence	25	23-nov-21	(behaviour OR behavior AND environment OR environmental AND vegetarian OR meat AND "social media" OR commercial OR advertisement OR newspaper OR television OR tv AND influence) AND (EXCLUDE (SUBJAREA , "MEDI") OR EXCLUDE (SUBJAREA , "NURS") OR EXCLUDE (SUBJAREA , "VETE") OR EXCLUDE (SUBJAREA , "ARTS") OR EXCLUDE (SUBJAREA , "BIOC") OR EXCLUDE (SUBJAREA , "DECI") OR EXCLUDE (SUBJAREA , "ENER") OR EXCLUDE (SUBJAREA , "ENGI") OR EXCLUDE (SUBJAREA , "IMMU")) AND (EXCLUDE (PUBYEAR , 2008) OR EXCLUDE (PUBYEAR , 2006) OR EXCLUDE (PUBYEAR , 2005))	2

behaviour OR behavior AND environment OR environmental AND vegetarian OR meat AND "social media" OR commercial OR advertisement OR newspaper OR television OR tv	145	25-nov-21	(behaviour OR behavior AND environment OR environmental AND vegetarian OR meat AND "social media" OR commercial OR advertisement OR newspaper OR television OR tv) AND (EXCLUDE (PUBYEAR , 2014) OR EXCLUDE (PUBYEAR , 2013) OR EXCLUDE (PUBYEAR , 2012) OR EXCLUDE (PUBYEAR , 2011) OR EXCLUDE (PUBYEAR , 2010) OR EXCLUDE (PUBYEAR , 2009) OR EXCLUDE (PUBYEAR , 2008) OR EXCLUDE (PUBYEAR , 2007) OR EXCLUDE (PUBYEAR , 2006) OR EXCLUDE (PUBYEAR , 2005) OR EXCLUDE (PUBYEAR , 2004) OR EXCLUDE (PUBYEAR , 2003) OR EXCLUDE (PUBYEAR , 2002) OR EXCLUDE (PUBYEAR , 1999) OR EXCLUDE (PUBYEAR , 1998) OR EXCLUDE (PUBYEAR , 1997) OR EXCLUDE (PUBYEAR , 1990) OR EXCLUDE (PUBYEAR , 1986) OR EXCLUDE (PUBYEAR , 1947)) AND (EXCLUDE (SUBJAREA , "MEDI") OR EXCLUDE (SUBJAREA , "NURS") OR EXCLUDE (SUBJAREA , "VETE") OR EXCLUDE (SUBJAREA , "BIOC") OR EXCLUDE (SUBJAREA , "IMMU") OR EXCLUDE (SUBJAREA , "ENGI") OR EXCLUDE (SUBJAREA , "ENER") OR EXCLUDE (SUBJAREA , "DECI") OR EXCLUDE (SUBJAREA , "ARTS") OR EXCLUDE (SUBJAREA , "COMP") OR EXCLUDE (SUBJAREA , "NEUR"))	17

behaviour OR behavior AND environment OR environmental AND vegetarian OR meat AND "social media" OR media OR commercial OR advertisement OR newspaper OR television OR tv	240	12-jan-22	(behaviour OR behavior AND environment OR environmental AND vegetarian OR meat AND "social media" OR media OR commercial OR advertisement OR newspaper OR television OR tv) AND (EXCLUDE (PUBYEAR , 2014) OR EXCLUDE (PUBYEAR , 2013) OR EXCLUDE (PUBYEAR , 2012) OR EXCLUDE (PUBYEAR , 2011) OR EXCLUDE (PUBYEAR , 2010) OR EXCLUDE (PUBYEAR , 2009) OR EXCLUDE (PUBYEAR , 2008) OR EXCLUDE (PUBYEAR , 2007) OR EXCLUDE (PUBYEAR , 2006) OR EXCLUDE (PUBYEAR , 2005) OR EXCLUDE (PUBYEAR , 2004) OR EXCLUDE (PUBYEAR , 2003) OR EXCLUDE (PUBYEAR , 2002) OR EXCLUDE (PUBYEAR , 2001) OR EXCLUDE (PUBYEAR , 1999) OR EXCLUDE (PUBYEAR , 1998) OR EXCLUDE (PUBYEAR , 1997) OR EXCLUDE (PUBYEAR , 1993) OR EXCLUDE (PUBYEAR , 1990) OR EXCLUDE (PUBYEAR , 1986) OR EXCLUDE (PUBYEAR , 1980) OR EXCLUDE (PUBYEAR , 1947)) AND (EXCLUDE (SUBJAREA , "MEDI") OR EXCLUDE (SUBJAREA , "NURS") OR EXCLUDE (SUBJAREA , "VETE") OR EXCLUDE (SUBJAREA , "IMMU") OR EXCLUDE (SUBJAREA , "BIOC") OR EXCLUDE (SUBJAREA , "ENER") OR EXCLUDE (SUBJAREA , "ENGI") OR EXCLUDE (SUBJAREA , "DECI") OR EXCLUDE (SUBJAREA , "HEAL") OR EXCLUDE (SUBJAREA , "ARTS") OR EXCLUDE (SUBJAREA , "CHEM") OR EXCLUDE (SUBJAREA , "COMP") OR EXCLUDE (SUBJAREA , "MATE") OR EXCLUDE (SUBJAREA , "NEUR") OR EXCLUDE (SUBJAREA , "PHAR"))	30
(vegetarian OR meat AND "framing effect")	8	25-nov-21	(vegetarian OR meat AND "framing effect") AND (EXCLUDE (PUBYEAR , 2014) OR	5

			EXCLUDE (PUBYEAR , 1999)) AND (EXCLUDE (SUBJAREA , "ARTS"))	
behaviour OR behavior AND environment OR environmental AND vegetarian OR meat AND cooperation	25	18-feb-22	(behaviour OR behavior AND environment OR environmental AND vegetarian OR meat AND cooperation) AND (EXCLUDE (PUBYEAR , 2013) OR EXCLUDE (PUBYEAR , 2012) OR EXCLUDE (PUBYEAR , 2010) OR EXCLUDE (PUBYEAR , 2005) OR EXCLUDE (PUBYEAR , 2004) OR EXCLUDE (PUBYEAR , 2003) OR EXCLUDE (PUBYEAR , 1989)) AND (EXCLUDE (SUBJAREA , "BIOC") OR EXCLUDE (SUBJAREA , "CHEM") OR EXCLUDE (SUBJAREA , "ENER") OR EXCLUDE (SUBJAREA , "MEDI") OR EXCLUDE (SUBJAREA , "PHYS") OR EXCLUDE (SUBJAREA , "ARTS") OR EXCLUDE (SUBJAREA , "CENG") OR EXCLUDE (SUBJAREA , "ENGI") OR EXCLUDE (SUBJAREA , "MATE") OR EXCLUDE (SUBJAREA , "NURS") OR EXCLUDE (SUBJAREA , "PHAR"))	6
behaviour OR behavior AND environment OR environmental AND vegetarian OR meat AND "framing effect" OR labeling	45	2-dec-21	(behaviour OR behavior AND environment OR environmental AND vegetarian OR meat AND "framing effect" OR labeling) AND (EXCLUDE (PUBYEAR , 2014) OR EXCLUDE (PUBYEAR , 2013) OR EXCLUDE (PUBYEAR , 2010) OR EXCLUDE (PUBYEAR , 2008) OR EXCLUDE (PUBYEAR , 2005) OR EXCLUDE (PUBYEAR , 2002) OR EXCLUDE (PUBYEAR , 2001) OR EXCLUDE (PUBYEAR , 1967)) AND (EXCLUDE (SUBJAREA , "NURS") OR EXCLUDE (SUBJAREA , "MEDI") OR EXCLUDE (SUBJAREA , "ENER") OR EXCLUDE (SUBJAREA , "ENGI") OR EXCLUDE (SUBJAREA , "HEAL"))	12

behaviour OR behavior AND vegetarian OR meat AND cooperation	94	18-feb-22	(behaviour OR behavior AND vegetarian OR meat AND cooperation) AND (EXCLUDE (PUBYEAR , 2014) OR EXCLUDE (PUBYEAR , 2013) OR EXCLUDE (PUBYEAR , 2012) OR EXCLUDE (PUBYEAR , 2011) OR EXCLUDE (PUBYEAR , 2010) OR EXCLUDE (PUBYEAR , 2009) OR EXCLUDE (PUBYEAR , 2008) OR EXCLUDE (PUBYEAR , 2006) OR EXCLUDE (PUBYEAR , 2005) OR EXCLUDE (PUBYEAR , 2004) OR EXCLUDE (PUBYEAR , 2003) OR EXCLUDE (PUBYEAR , 2002) OR EXCLUDE (PUBYEAR , 1999) OR EXCLUDE (PUBYEAR , 1996) OR EXCLUDE (PUBYEAR , 1994) OR EXCLUDE (PUBYEAR , 1992) OR EXCLUDE (PUBYEAR , 1989) OR EXCLUDE (PUBYEAR , 1985) OR EXCLUDE (PUBYEAR , 1984) OR EXCLUDE (PUBYEAR , 1976) OR EXCLUDE (PUBYEAR , 1973)) AND (EXCLUDE (SUBJAREA , "MEDI") OR EXCLUDE (SUBJAREA , "BIOC") OR EXCLUDE (SUBJAREA , "ARTS") OR EXCLUDE (SUBJAREA , "NURS") OR EXCLUDE (SUBJAREA , "CHEM") OR EXCLUDE (SUBJAREA , "ENER") OR EXCLUDE (SUBJAREA , "IMMU") OR EXCLUDE (SUBJAREA , "NEUR") OR EXCLUDE (SUBJAREA , "PHYS") OR EXCLUDE (SUBJAREA , "VETE") OR EXCLUDE (SUBJAREA , "CENG") OR EXCLUDE (SUBJAREA , "ENGI") OR EXCLUDE (SUBJAREA , "MATE") OR EXCLUDE (SUBJAREA , "PHAR"))	14
((behaviour AND consumer AND change OR economics AND data OR information OR definition OR explanation AND meat OR "meat reduction" OR vegetarian OR "meat consumprion" OR	130	6-jan-22		

"vegetarian diet" AND NOT health OR nutrition OR "food waste"))				
((behaviour AND consumer AND change OR economics AND data OR information OR definition OR explanation AND meat OR "meat reduction" OR vegetarian OR "meat consumption" OR "vegetarian diet" AND NOT health OR disease OR sick OR nutrition OR "food waste" AND "framing effect"))	253	6-jan-22		
((behaviour AND consumer AND change OR economics OR environment AND data OR information OR definition OR explanation OR survey AND meat OR "meat reduction" OR "meat consumption" AND vegetarian OR "vegetarian diet" OR flexitariër AND NOT health OR disease OR sick OR nutrition OR "food waste" AND "framing effect"))	33	16-feb-22	((behaviour AND consumer AND change OR economics OR environment AND data OR information OR definition OR explanation OR survey AND meat OR "meat reduction" OR "meat consumption" AND vegetarian OR "vegetarian diet" OR flexitariër AND NOT health OR disease OR sick OR nutrition OR "food waste" AND "framing effect")) AND (EXCLUDE (PUBYEAR , 2014) OR EXCLUDE (PUBYEAR , 2013) OR EXCLUDE (PUBYEAR , 2012) OR EXCLUDE (PUBYEAR , 2007)) AND (EXCLUDE (SUBJAREA , "NURS") OR EXCLUDE (SUBJAREA , "MEDI") OR EXCLUDE (SUBJAREA , "ENER") OR EXCLUDE (SUBJAREA , "ENGI") OR EXCLUDE (SUBJAREA , "HEAL"))	9
((behaviour AND consumer AND change OR economics OR environment AND data OR information OR definition OR explanation OR survey AND meat OR "meat reduction" OR "meat consumption" OR	43	10-jan-22		

vegetarian OR "vegetarian diet" AND "framing effect" OR labeling))				
((behaviour AND consumer AND change OR economics OR environment AND cooperation OR "social norms" AND data OR information OR definition OR explanation OR survey AND meat OR "meat reduction" OR "meat consumption" OR vegetarian OR "vegetarian diet"))	10	10-jan-22		
(behaviour OR consumer AND cooperation OR "social norms" AND change OR economics OR environment AND meat OR "meat reduction" OR "meat consumption" OR vegetarian OR "vegetarian diet" AND NOT health OR nutrition OR "food waste" OR disease OR chemical)	41	26-jan-22	((behaviour OR consumer AND cooperation OR "social norms" AND change OR economics OR environment AND meat OR "meat reduction" OR "meat consumption" OR vegetarian OR "vegetarian diet" AND NOT health OR nutrition OR "food waste" OR disease OR chemical)) AND (EXCLUDE (PUBYEAR , 2014) OR EXCLUDE (PUBYEAR , 2010) OR EXCLUDE (PUBYEAR , 2005) OR EXCLUDE (PUBYEAR , 1997) OR EXCLUDE (PUBYEAR , 1992) OR EXCLUDE (PUBYEAR , 1989) OR EXCLUDE (PUBYEAR , 1977)) AND (EXCLUDE (SUBJAREA , "NURS") OR EXCLUDE (SUBJAREA , "ARTS") OR EXCLUDE (SUBJAREA , "BIOC") OR EXCLUDE (SUBJAREA , "CHEM") OR EXCLUDE (SUBJAREA , "ENER") OR EXCLUDE (SUBJAREA , "ENGI") OR EXCLUDE (SUBJAREA , "IMMU") OR EXCLUDE (SUBJAREA , "MEDI") OR EXCLUDE (SUBJAREA , "PHYS") OR EXCLUDE (SUBJAREA , "VETE"))	15

((behaviour OR consumer AND cooperation OR "social norms" AND meat OR "meat reduction" OR "meat consumption" OR vegetarian OR "vegetarian diet" AND NOT health OR nutrition OR "food waste" OR disease OR chemical))	117	10-jan-22	((behaviour OR consumer AND cooperation OR "social norms" AND meat OR "meat reduction" OR "meat consumption" OR vegetarian OR "vegetarian diet" AND NOT health OR nutrition OR "food waste" OR disease OR chemical)) AND (EXCLUDE (PUBYEAR , 2014) OR EXCLUDE (PUBYEAR , 2013) OR EXCLUDE (PUBYEAR , 2012) OR EXCLUDE (PUBYEAR , 2011) OR EXCLUDE (PUBYEAR , 2010) OR EXCLUDE (PUBYEAR , 2009) OR EXCLUDE (PUBYEAR , 2008) OR EXCLUDE (PUBYEAR , 2005) OR EXCLUDE (PUBYEAR , 2002) OR EXCLUDE (PUBYEAR , 1999) OR EXCLUDE (PUBYEAR , 1997) OR EXCLUDE (PUBYEAR , 1996) OR EXCLUDE (PUBYEAR , 1994) OR EXCLUDE (PUBYEAR , 1992) OR EXCLUDE (PUBYEAR , 1989) OR EXCLUDE (PUBYEAR , 1984) OR EXCLUDE (PUBYEAR , 1977) OR EXCLUDE (PUBYEAR , 1931)) AND (EXCLUDE (SUBJAREA , "NURS") OR EXCLUDE (SUBJAREA , "ARTS") OR EXCLUDE (SUBJAREA , "BIOC") OR EXCLUDE (SUBJAREA , "ENER") OR EXCLUDE (SUBJAREA , "ENGI") OR EXCLUDE (SUBJAREA , "MEDI") OR EXCLUDE (SUBJAREA , "VETE") OR EXCLUDE (SUBJAREA , "IMMU") OR EXCLUDE (SUBJAREA , "CHEM") OR EXCLUDE (SUBJAREA , "NEUR") OR EXCLUDE (SUBJAREA , "PHYS"))	36
((imagination AND meat OR "meat reduction" OR "meat consumption" OR vegetarian OR "vegetarian diet"))	25	11-jan-22		
((behaviour OR consumer AND imagine OR imagining AND change OR economics OR environment AND meat OR "meat reduction" OR	4	13-jan-22		

"meat consumption" OR vegetarian OR "vegetarian diet" AND NOT health OR nutrition OR "food waste" OR disease OR chemical))				
((imagine OR imagination AND meat OR "meat reduction" OR "meat consumption" OR vegetarian OR "vegetarian diet"))	62	13-jan-22		
((vegetarian OR "vegetarian diet" AND behaviour AND "cooking skills"))	2	12-jan-22		
((vegetarian OR "vegetarian diet" AND behaviour OR consumption AND choice AND "cooking skills" OR "consumption pattern" OR "product familiarity" OR "meal formats"))	12	17-feb-22	((vegetarian OR "vegetarian diet" AND behaviour OR consumption AND choice AND "cooking skills" OR "consumption pattern" OR "product familiarity" OR "meal formats")) AND (EXCLUDE (PUBYEAR , 2012) OR EXCLUDE (PUBYEAR , 2008) OR EXCLUDE (PUBYEAR , 2004) OR EXCLUDE (PUBYEAR , 1985)) AND (EXCLUDE (SUBJAREA , "NURS") OR EXCLUDE (SUBJAREA , "MEDI"))	6
(meat OR "meat consumption" AND vegetarian OR "vegetarian diet" AND behaviour OR consumption AND change AND "cooking skills" OR "consumption pattern" OR "product familiarity" OR "meal formats")	14	17-feb-22	((meat OR "meat consumption" AND vegetarian OR "vegetarian diet" AND behaviour OR consumption AND change AND "cooking skills" OR "consumption pattern" OR "product familiarity" OR "meal formats")) AND (EXCLUDE (PUBYEAR , 2014) OR EXCLUDE (PUBYEAR , 2012) OR EXCLUDE (PUBYEAR , 2009) OR EXCLUDE (PUBYEAR , 2007) OR EXCLUDE (PUBYEAR , 2004) OR EXCLUDE (PUBYEAR , 2001))	8
(behaviour OR consumer AND change OR "eat habits" AND "social media" OR "social influences" OR "food influence" AND television OR advertisement OR influence AND meat OR	13	26-jan-22		

"meat reduction" OR "meat consumption" OR vegetarian OR "vegetarian diet" OR "food messages")				
(behaviour OR consumer AND environment OR change OR "eat habits" AND surroundings OR "social influences" OR "food influence" AND family OR friends OR peers AND meat OR "meat reduction" OR "meat consumption" OR vegetarian OR "vegetarian diet" OR "food messages")	9	13-jan-22		
(behaviour OR behavior OR consumer OR habit OR "social practice" OR "food influence" AND environment OR environmental AND meat OR "meat reduction" OR "meat consumption" OR vegetarian OR "vegetarian diet" OR "food messages" AND surroundings OR "social influences" OR "food decisions" AND social OR community OR family OR parents OR friends OR siblings OR peers AND consumption AND "eating habit" OR diet)	11	13-jan-22		
(behaviour OR behavior OR consumer OR habit OR "social practice" OR "food influence" AND environment OR environmental AND meat OR "meat reduction" OR "meat consumption" OR vegetarian OR "vegetarian diet" OR "food messages" AND surroundings OR "social influences" OR "food	15	28-jan-22		

decisions" OR "social network" AND social OR community OR family OR parents OR friends OR siblings OR peers AND consumption AND "eating habit" OR diet)				
((behaviour OR behavior AND environment OR environmental AND meat OR "meat reduction" OR "meat consumption" OR vegetarian OR "vegetarian diet" OR "food messages" AND "climate impact" OR "climate change" OR "sustainable development" OR sustainability AND information OR data AND knowledge OR awareness AND consumption))	16	13-jan-22		
(behaviour OR consumer AND change OR "eat habits" AND "social media" OR "social influences" OR "food influence" AND television OR advertisement OR influence AND meat OR "meat reduction" OR "meat consumption" OR vegetarian OR "vegetarian diet" OR "food messages")	14	26-jan-22	(behaviour OR consumer AND change OR "eat habits" AND "social media" OR "social influences" OR "food influence" AND television OR advertisement OR influence AND meat OR "meat reduction" OR "meat consumption" OR vegetarian OR "vegetarian diet" OR "food messages") AND (EXCLUDE (SUBJAREA , "MEDI") OR EXCLUDE (SUBJAREA , "BIOC") OR EXCLUDE (SUBJAREA , "NEUR")) AND (EXCLUDE (PUBYEAR , 2004))	9
(behaviour OR behavior AND environment OR environmental AND meat OR "meat reduction" OR "meat consumption" OR vegetarian OR "vegetarian diet" OR "food messages" AND "climate impact" OR "climate change" OR	18	16-feb-22	((behaviour OR behavior AND environment OR environmental AND meat OR "meat reduction" OR "meat consumption" OR vegetarian OR "vegetarian diet" OR "food messages" AND "climate impact" OR "climate change" OR "sustainable development" OR sustainability AND information OR data AND knowledge	9

"sustainable development" OR sustainability AND information OR data AND knowledge OR awareness AND consumption)			OR awareness AND consumption)) AND (EXCLUDE (PUBYEAR , 2014)) AND (EXCLUDE (SUBJAREA , "MEDI") OR EXCLUDE (SUBJAREA , "ENER"))	
(behaviour OR behavior OR consumer OR habit OR "social practice" OR "food influence" AND environment OR environmental AND meat OR "meat reduction" OR "meat consumption" OR vegetarian OR "vegetarian diet" OR "food messages" AND surroundings OR "social influences" OR "food decisions" OR "social network" AND social OR community OR family OR parents OR friends OR siblings OR peers AND consumption AND "eating habit" OR diet)	16	8-feb-22	(behaviour OR behavior OR consumer OR habit OR "social practice" OR "food influence" AND environment OR environmental AND meat OR "meat reduction" OR "meat consumption" OR vegetarian OR "vegetarian diet" OR "food messages" AND surroundings OR "social influences" OR "food decisions" OR "social network" AND social OR community OR family OR parents OR friends OR siblings OR peers AND consumption AND "eating habit" OR diet) AND (EXCLUDE (PUBYEAR , 2007) OR EXCLUDE (PUBYEAR , 2001)) AND (EXCLUDE (SUBJAREA , "MEDI") OR EXCLUDE (SUBJAREA , "ENER"))	9
(meat AND vegetarian AND behaviour AND change OR environment OR economics AND framing OR framed OR labeling)	10	17-feb-22	(meat AND vegetarian AND behaviour AND change OR environment OR economics AND framing OR framed OR labeling) AND (EXCLUDE (SUBJAREA , "HEAL") OR EXCLUDE (SUBJAREA , "MEDI"))	7
(meat OR "meat consumption" AND vegetarian OR "vegetarian diet" AND behaviour OR consumption AND choice AND "cooking skills" OR "consumption pattern" OR "product familiarity" OR "meal formats")	10	17-feb-22	((meat OR "meat consumption" AND vegetarian OR "vegetarian diet" AND behaviour OR consumption AND choice AND "cooking skills" OR "consumption pattern" OR "product familiarity" OR "meal formats")) AND (EXCLUDE (PUBYEAR , 2014) OR EXCLUDE (PUBYEAR , 2012) OR EXCLUDE (PUBYEAR , 2009) OR EXCLUDE (PUBYEAR , 2007) OR EXCLUDE (PUBYEAR , 2004) OR EXCLUDE (PUBYEAR , 2001))	8

("availability bias" OR "cooking skills" OR "consumption pattern" OR "product familiarity" OR "meal formats" AND meat AND vegetarian AND behaviour OR change OR consummer)	23	17-feb-22		
("availability bias" AND meat OR vegetarian AND behaviour OR change OR consummer)	0	17-feb-22		
("cooking skills" OR "consumption pattern" OR "product familiarity" OR "meal formats" AND meat AND vegetarian AND behaviour OR change OR consummer)	23	17-feb-22	("cooking skills" OR "consumption pattern" OR "product familiarity" OR "meal formats" AND meat AND vegetarian AND behaviour OR change OR consummer) AND (EXCLUDE (PUBYEAR , 2014) OR EXCLUDE (PUBYEAR , 2013) OR EXCLUDE (PUBYEAR , 2012) OR EXCLUDE (PUBYEAR , 2009) OR EXCLUDE (PUBYEAR , 2007) OR EXCLUDE (PUBYEAR , 2005) OR EXCLUDE (PUBYEAR , 2004) OR EXCLUDE (PUBYEAR , 2001)) AND (EXCLUDE (SUBJAREA , "MEDI"))	9
(cooperation OR "social norms" AND meat OR vegetarian AND behaviour AND consumer OR change OR environment)	78	18-feb-22		
(cooperation OR "social norms" AND meat AND vegetarian AND behaviour AND consumer OR change OR environment)	12	18-feb-22		
(cooperation AND meat AND vegetarian AND behaviour AND consumer OR change OR environment)	0	18-feb-22		

(cooperation AND meat OR vegetarian AND behaviour AND consumer OR change OR environment)	33	18-feb-22	(cooperation AND meat OR vegetarian AND behaviour AND consumer OR change OR environment) AND (EXCLUDE (PUBYEAR , 2014) OR EXCLUDE (PUBYEAR , 2012) OR EXCLUDE (PUBYEAR , 2010) OR EXCLUDE (PUBYEAR , 2008) OR EXCLUDE (PUBYEAR , 2006) OR EXCLUDE (PUBYEAR , 2005) OR EXCLUDE (PUBYEAR , 2004) OR EXCLUDE (PUBYEAR , 2002) OR EXCLUDE (PUBYEAR , 1999) OR EXCLUDE (PUBYEAR , 1992) OR EXCLUDE (PUBYEAR , 1989)) AND (EXCLUDE (SUBJAREA , "MEDI") OR EXCLUDE (SUBJAREA , "ARTS") OR EXCLUDE (SUBJAREA , "PHYS") OR EXCLUDE (SUBJAREA , "CENG") OR EXCLUDE (SUBJAREA , "CHEM") OR EXCLUDE (SUBJAREA , "IMMU") OR EXCLUDE (SUBJAREA , "MATE") OR EXCLUDE (SUBJAREA , "NEUR"))	10
(cooperation AND vegetarian AND behaviour AND consumer OR change OR environment)	3	18-feb-22		
(cooperation OR "social norms" AND "meat reduction" OR vegetarian AND behaviour AND consumer OR change OR environment)	18	18-feb-22	(cooperation OR "social norms" AND "meat reduction" OR vegetarian AND behaviour AND consumer OR change OR environment) AND (EXCLUDE (PUBYEAR , 2013) OR EXCLUDE (PUBYEAR , 2008) OR EXCLUDE (PUBYEAR , 1992)) AND (EXCLUDE (SUBJAREA , "MEDI") OR EXCLUDE (SUBJAREA , "ENER") OR EXCLUDE (SUBJAREA , "ARTS"))	9

Appendix 2. Interview questions

Interview questions:

1. Can you describe your current preference for meat?
2. Can you explain your main reasons for your current meat consumption?
3. Can you explain the factors that have influenced your current meat consumption?
4. What in your near surroundings has influenced you regarding your meat consumption?
5. What societal context factors (knowledge, school, education, parents, cooperation) have influenced you regarding your meat consumption?
6. Can you describe how the media is influencing your meat consumption?
7. Can you describe what you would see as main barriers for not reducing meat consumption in the society today?

Appendix 3. Interviews

Interviewee A

1. Can you describe your current preference for meat?
   I am currently a flexitarian and I eat meat 4/5 times a week.
2. Can you explain your main reasons for your current meat consumption?
   In some dishes, I forget to add meat because I am used to making them that way, but the most important reason is my budget. I do think that sometimes it does not matter if there is meat in the dish to make it a good dish. The secondary degree reasons are that consuming less meat is better for the environment, but that is just a "nice side effect" or a long term reason.
3. Can you explain the factors that have influenced your current meat consumption?
   I still eat meat because I like the taste of it. Nevertheless, price is also an influencing factor for not constantly consuming meat. I get food ideas from other people's dishes, but that is not the main reason I eat vegetarian sometimes. I do think that eating meat is part of the regular diet. Als in recipes there are always meat things, it also is a cultural thing which is a barrier for people. For me it is also a major factor that there are no gluten free substitutes. I also see that supermarkets influence consumers and the availability of meat. In restaurants the main dishes are mostly based on meat. From home I was used to eat meat everyday but we started to eat less meat when I was in high school. Probably because of health reasons. I believe that you need some meat in your diet, but I do not the right knowledge to fully know how it worked, but of course it is educatable.
4. What in your near surroundings have influenced you regarding your meat consumption?
   Within my volleyball team we often go BBQing as a social event end one of the main things is to get a find piece of meat and not some vegetables on the BBQ. Again, it is about taste which is what it is supposed to be about on the BBQ. It is also about the social event itself and of course about the meat, which plays a big part. From what my parents learned me about eating a bit less meat, I started to do it ass well. So, when you see someone make a dish without meat you think ahh well I can do it as well, as long as it does not have a negative influence on the taste. Another example is I was not used to eat filet American but since my girl started eating it I added it as well. In the end it is still about taste rather then if it is vegetarian or not.
5. What societal context factors (knowledge, school, education parents, cooperation) have influenced you regarding your meat consumption?
   You take over what you see form someone else. However, in Wageningen for example I do not have the feeling that I need to be vegetarian. Because my father is a cook, I have higher standards but it does not really influence me regarding eating meat.
   If I am eating with a big group with vegetarians, I would try to make meat on the side. But this depends on how many people eat meat. If I cook for myself with a few vegetarian friends than I would make a vegetarian dish.
6. Can you describe how the media is influencing your meat consumption?
   If I look at recopies to get inspirations, I would be keen to try vegetarian if they look nice to me. If I look at commercials addressing the impact of meat on the environment, I see it and I am already aware of it but I just like the taste meat too much to stop completely. I try to make a balance between my own gluten allergies, my preferences, and the environment. I do think that advertisements have influences on the long term but on the

moment that you see them. Campaigns are ways to let me acknowledge about the impacts of meat.

7. Can you describe what you would see as main barriers for not reducing meat consumption in the society today?

   My Gluten allergies is an important barrier for me. But in general, I think that the bad taste of meat substitutes are a big barrier. Also, the preparation of complex dishes without meat substitutes is a barrier for consumers. For restaurants I would say that it is hard to substitute the taste of meat. People might not be creative enough to know what they need to use to replace meat without substitutes. You try to make the same recopies without meat with the same taste which in practice is not what is happening and what disappoints people. In this culture you know every dish with meat so you would not be happy with the taste that you try to create without meat, since it is not the same.

Interviewee B

1. Can you describe your current preference for meat?

   I eat no meat or fish and I have never eaten it

2. Can you explain your main reasons for your current meat consumption?

   My parents raised me as a vegetarian, I did get the choice to eat meat but then I would need to cook my own dinner. My mom is vegetarian for health reasons and because of the animal rights. My father on the other hand is vegetarian for spiritual reasons, for hem eating meat does not feel good. If I look at myself, I think a big reason is the impact on the environment.

3. Can you explain the factors that have influenced your current meat consumption?

   Besides the influence that my parents already had on me regarding vegetarian, I watched documentaries about the meat sector as a kid. The things that I saw in there on how meat is produced made the arguments of my parents oven stronger, and convinced me even more to stay vegetarian. Furthermore, I have the feeling that we need to have more respect for the nature and see the value of a life, not only the value of a human life. But the main reason is the impact on the environment. However, as a kid people thought I was the weird kid that did not eat meat. So that was somethimes hard, but it did not change my perspective on being vegetarian.

4. What in your near surroundings have influenced you regarding your meat consumption?

   I did experience some pressure from my uncle and some cousins to eat meat. This was because they were in the meat sector and find it strange if their family did not eat meat. However, I did not do anything with this pressure, I kept believing in how my parents raised me and what they taught me about meat. On the other hand, I do have the feeling that I am the one who influences people to be vegetarian or to eat vegetarian. My friends support me in being vegetarian but strangers somethimes see me as someone who is different. I am also not curious about how meat tastes, I could even say that I am afraid to eat it. It makes me feel like I am some kind of cannibal, like I am eating my own flesh. This because meat is almost the same as my own flesh which gives me a feeling of being afraid to eat meat.

5. What societal context factors (knowledge, school, education parents, cooperation) have influenced you regarding your meat consumption?

   If I look at my school, they did not educate my about meat consumption at all. However, since my parents where higher educated and had interest in the topic they did gave me more insight. Especially my mom who is working in health and nutrition and explained that I can get the nutrients that I need without meat. I do think that knowledge can be an

influencing factor, especially when you are older and get more of your own opinion. So being smart does help you to get a better understanding of the meat industry. But still, I think habit or culture have more influence on your meat consumption. If you for example look at other disciplines in higher education, students are not educated on the impact of the meat industry. Therefore, I also think that for people to change I think it is important that they are influenced by the societal groups that they have around them.

6. Can you describe how the media is influencing your meat consumption?
   At first, I would say it does not influence me because I am still a vegetarian and I have my own ideas about meat. But the commercials, documentaries, and YouTube movies that I watched only contribute to the idea about meat that I already had. I also did my own research about the meat industry during a school project which also gave me more insight in the topic.
7. Can you describe what you would see as main barriers for not reducing meat consumption in the society today?
   I would say that it depends on what you learn from your parents, if they let you believe that meat is good for you than you will believe that until you get older. It is also a cultural thing, people can consume meat because it is part of their traditions or cultural influences. It is also a sign of status showing, if you eat meat you have a certain status that you want to uphold. But I would say that habit is one of the most important factors. If you are used to eating meat it is harder to change into different recipes that do not have meat in them. It might not be the willingness of people that does not makes them change but it is the change itself that is hard for the people.

Interviewee C

1. Can you describe your current preference for meat?
   Currently I am Flexitarian, I thought meat eater was a weird term because I do not need to eat meat every day. I used to eat meat 7 days a week and now I do it around 3 times a week
2. Can you explain your main reasons for your current meat consumption?
   I am from Indonesia, and I am Muslim, so I need to eat halal meat. In Indonesia it is easy to find halal meat but here in non-Muslim countries it is way harder to find halal meat. Therefore, it is more accessible for me to eat less meat than to find halal meat. Also, in Indonesia the thing is that when you eat meat you have a higher social status. Therefore, people try to eat more meat. We often use coconut milk since this is often the base of our recipes. However, we do use milk but this is often used in western influenced recipes. For proteins we can use tempeh or soya, but we also use meat in our traditional recipes and diet. Tempeh is just a normal protein for us, but meat is seen as more prestigious, so therefor tempeh is not seen as a protein product. I do however see vegetables as protein. Also, because halal meat is not that available it is easier to find vegetables or other proteins. In social settings the safest foods are vegetarian or vegan because everyone is able to eat it. Vegetarian food is more acceptable when you are in a social setting because people with different diets are more able to eat it. In my research group about 80% of the people are vegetarian so it was easier to follow them into this diet.
3. Can you explain the factors that have influenced your current meat consumption?
   My faith, culture and my research group are my main influences. Also it is healthier and produces less co2, so it is better for the environment. Furthermore, my PhD findings make me more aware of how much influence the meat consumption has on the environment.
4. What in your near surroundings have influenced you regarding your meat consumption?

The influence to start consuming less meat is coming from my mother, she started with a plant-based diet. She was always complaining that the rest of the family was not committing to this diet. Now we try to support her more when she cooks plant based. The other reason is really my research group. I think it is time to make the switch to flexitarian.

5. What societal context factors (knowledge, school, education parents, cooperation) have influenced you regarding your meat consumption?

   There are more and more options for a plant-based diet, so it is easier to make the switch. I was changing my diet when I was in France, now that I am self-sustained it is easier for me to decide my own diet and be flexitarian. But when I am in Indonesia I do eat meat to add to the status quo.

6. Can you describe how the media is influencing your meat consumption?

   In social media there are more and more people who share plant-based recipes. When I was in France, and I was getting more and more into cooking. I saw all these new vegetarian recipes and I really liked them, so I started to do it more and more.

7. Can you describe what you would see as main barriers for not reducing meat consumption in the society today?

   I would say that the main barrier is the status thing that meat has. If I would eat with meat eaters, I would still eat meat, you want to adjust to the people that you are around. If I was in Indonesia today, I would still be flexitarian, however. The mindset that proteins must come from meat is also still a major factor for people to eat meat. For feasts of holidays meat is seen as a must, if there is no meat it is not festive. When I have a fest, I would say I am allowed to eat meat. Meat is the marker that it is a holiday or fest.

Interviewee D

1. Can you describe your current preference for meat?

   I eat fish and sea food but no meat at all.

2. Can you explain your main reasons for your current meat consumption?

   In 2018 I became a complete vegetarian, the reason for this is a mix between environment and health. It just does not sound nice to eat meat. However, I sometimes ate it until a point where I completely stopped consuming meat. I find it hard to explain but eating meat gives me a hard feeling, I even feel bad after I eat meat. However, I do like sea food and it does not give me the heavy feeling and therefore I do still consume it. Now that I do not eat meat anymore I feel lighter.

3. Can you explain the factors that have influenced your current meat consumption?

   My mother has always been a flexitarian, so I kind of grow up with it. For example, I already knew that there were good dishes that did not contain meat. I had a reference in how it was easy and doable to cook without meat.

4. What in your near surroundings have influenced you regarding your meat consumption?

   I have been in a couple of environments, like meditation, where eating less meat sounds lighter for your mind and body. Some of my friends are also vegetarian which made it easier to adapt, you do not feel weird. They also bring dishes sometimes which gives new ideas.

5. What societal context factors (knowledge, school, education parents, cooperation) have influenced you regarding your meat consumption?

   I visited my grandfather and he said I was being brainwashed into all of this environmentally friendly and eating less meat stuff. I could say that social environments influenced me, I have been in environments where eating less meat was supported. At my old school in Brazil I already changed and I could say that that brain washed me already.

Coming to Wageningen however did not changed me, it was just another environment that was "one of that places" where they were already adapted to eating less meat.

6. Can you describe how the media is influencing your meat consumption?
   I don't really think I am influenced by the media to much, I even find it annoying you keep seeing all that stuff about being green. I never watched to many documentaries myself, but the arguments about it where there when I was for example sitting with my friends. So I would say it is not a major factor that influenced me. I did look at recipe blogs about vegetarian or vegan dishes, which gave me new ideas on what to cook.
7. Can you describe what you would see as main barriers for not reducing meat consumption in the society today?
   I think people find it hard to stop consuming meat because of the good taste. Also there is this conception of a meal needing meat to be tasteful. Being vegetarian is thinking outside the box, you have to craft a new box which is challenging. I liked the fact that I had to be creative about what new kinds of meal I can make. I like the way of inventing new ideas but this might be a barrier for other people.

Interviewee E

1. Can you describe your current preference for meat?
   Vegan, I started reducing meat 5 years ago which was a big process. I started as flexitarian then became vegetarian and this year I started as a vegan. I started Veganuary this year and tried it or a month, after this process I started to look for reasons why I should not be eating milk and eggs and they convinced me to continue.
2. Can you explain your main reasons for your current meat consumption?
   Animal welfare is my main reason to be vegan, I do not want to exploit animals and I am able to be plant based and in this way I do not have to exploit animals. Also, for the environment, so I would say my main reason is ethical. I think it is wrong to kill animals for consumption which made me switch to a plant-based diet.
3. Can you explain the factors that have influenced your current meat consumption?
   I saw a meat truck as a child which made a lot of impact on me that time. You do not want to know how meat is produced and how these animals are used and therefore u use strategic ignorance, which I recognize. U use reasons like the farm animals are not that smart or something like that to make it easier for them to eat meat. I started Veganuary and I looked at YouTube videos about veganism form earthling ed. There you get confronted with what is going on and I felt guilty and then I stopped eating dairy and eggs as well. I looked at what I needed to give up and stopped step by step with less cheese, milk and eggs. When I completely stopped, I finally do not feel conflicted anymore about the choices that I made regarding animal based products.
4. What in your near surroundings have influenced you regarding your meat consumption?
   My work influenced me because I am researching how to reduce animal meat consumption. The more I learned about meat consumption the more I wanted to eat less meat. My surroundings do are open to it, but not all of them. For being vegan, I often need to explain myself, which makes me feels like I am a burden to them. My partner is helpful he is open to my changes and joins me when we are at home. I don't think I would make different choices if my partner would not support me, but it makes it easier for me. He supports me in the ethical choices that I make. As a child my neighbours where Hindu and did not eat meat and eggs, so I already knew some ways of not eating with meat and eggs. I would say that this made it easier to eat vegan because I already knew some ways of making it. I even tried to be a vegetarian in elementary school, but I only did it a few

months. The main reason that I stopped was because my family also ate meat which made it harder for me to be vegetarian.

5. What societal context factors (knowledge, school, education parents, cooperation) have influenced you regarding your meat consumption?
   It is becoming more evident that meat consumption is a problem. It however is still happening in films or stuff which still gives another impression. But people are more aware of the effects of meat consumption. But I also have this impression because of the friends that I have. Also, you do see more plant-based meat in the supermarket which makes it easier to change to a plant-based diet. Which helps me to continue with my diet. Restaurants are more and more trying to have vegan options which makes it more accessible. I also think that with the climate issue it is getting more evident that meat is bad for the environment. But still meat consumption is not talked about too much. A reason for this can be that a lot of people have benefit of it, and it is a sensitive topic to talk about. People need to be informed in the right way.
6. Can you describe how the media is influencing your meat consumption?
   I looked at YouTube, and the earthling ed channel gave me the insights in the fact that I could not look away anymore. It is good that there are more alternatives coming, to make the choice to change easier. Because people talk about meat consumption industry I got more confronted with it and it helped me over the edge. Influencers do have big influence since vegans or vegetarian are small part of the community, so people find it easier to go with the meat eater because everyone does it, which it makes it look normal to eat meat.
7. Can you describe what you would see as main barriers for not reducing meat consumption in the society today?
   My barrier was that I find it hard that the people around you or being at places that are not vegan can give you the feeling that you are a burden. Like my partner saying, "where it is going to end". Or for example being somewhere where someone made a cake and not being able to eat it because there is egg in it gives you a heavy feeling. You are always seen as the person who is always the burden in the room. Vegan is seen as something complicated and find it hard to see it in the society, they say that vegans are kind of show-offs that always need something different than the "regular" people, I would say that there is a stigma around it.

Interviewee F

1. Can you describe your current preference for meat?
   I like meat but at the moment I don't eat beef and avoid salmon, mostly eat chicken.
2. Can you explain your main reasons for your current meat consumption?
   I consume less meat for my values for the environment, when I got enough evidence for how bad beef was I completely stopped. I want to stop with the rest in the future. I use the 20-80% kind of type you can achieve 80% of the effect with reducing 20% of my meat.
3. Can you explain the factors that have influenced your current meat consumption?
   My mother has been vegetarian my whole life so when I am there I do not eat meat, so I am used to not needing it so much. Also meat is quite expensive here in the Netherlands.
4. What in your near surroundings have influenced you regarding your meat consumption?
   I don't think that besides my mom someone influenced me. I do think that vegetarian and vegan is for everyone. I don't say it is natural, but I would say meat consumption is not specifically bad. I would say that somewhere in between would be the best way. So, people have different reasons for why they change their meat consumption. I did already eat some recipes without meat. At the moment my girlfriend is the same as me and she supports

me, we did not eat it too much beef, so it is not a huge change for us. The next step is to reduce pork. I don't think I influenced my friends, but I told them about my change. Nobody was negative about it.

5. What societal context factors (knowledge, school, education parents, cooperation) have influenced you regarding your meat consumption?
   I think that my personal journey on getting more info and regarding meat consumption influenced me. I also watched some documentaries where I did some research afterwards to check if the facts where right.
6. Can you describe how the media is influencing your meat consumption?
   I try not to be influenced by the media. It is hard to be not influenced by documentaries that only show one side of the story. Therefore, I filter my own information, I fact check stuff. I don't think Facebook and stuff influenced me regarding my meat consumption but I do think that it influenced into being more healthy and environmental friendly. This could have influenced me subconsciously.
7. Can you describe what you would see as main barriers for not reducing meat consumption in the society today?
   I would say cultural and social influences are most defining for your meat consumption depending on your family and friends. Some people see that a meal without meat is not a dish. They also can not imagine how to make a dish without meat. You need to have some surroundings that are vegetarian to make it more accessible. Also, in some sports or cultures it is supported to eat meat. You might not see that reducing meat is an option based on your surroundings.

Interviewee G

1. Can you describe your current preference for meat?
   Flexitarian, if I have the option to eat meat I will, but this is also depending on the price of meat. I am more influenced by what I still have left in the fridge and what kind of dish I can make with that an if it would need meat. I eat meat 2 times a week and it is mostly chicken.
2. Can you explain your main reasons for your current meat consumption?
   I started eating less meat because it is cheaper and then I found out how to make nice meals without meat. I started to just replace meat with other stuff like chickpeas. Later I realized that I do not need my old meat consumption in order to eat good and nice meals and still be healthy.
3. Can you explain the factors that have influenced your current meat consumption?
   The most influencing is price of course, but also my social environment, most of my friends are vegetarian or vegan which makes it easier to step into this world. We even made challenges with each other of being vegan twice week and see if we could do it. I also see that it is more and more a trend and meat substitutes are more available which makes it more accessible. Also, the quality of meat substitutes became better which makes the difference in taste a smaller issue.
4. What in your near surroundings have influenced you regarding your meat consumption?
   My parents are really the potatoes, vegetables and meat kind of type so that is also how I grew up. My grandfather even did not accept when I replaced meat in a dish, he was really not amused with it and did not understand why I would do such thing. When I started here in Wageningen, I had the mind set that it was normal to eat so much meat. Now I learned through Social media and the news that eating a little less meat can really have an influence on the environment, which motivates me.

5. What societal context factors (knowledge, school, education parents, cooperation) have influenced you regarding your meat consumption?
   I don't really have a feeling that Wageningen is focussed too much on the vegetarian life, I feel like they do their own thing. I do feel like the news gave me more insight in that you don't need to eat meat to be healthy. I also looked at documentaries which gave me more insights. Eating less meat also became more acceptable over time, it feels more normal. When I am back home it is easier to eat vegetarian then when I was younger because it is more accepted by my family.
6. Can you describe how the media is influencing your meat consumption?
   I don't think that I purchase something because I see it in the commercials. I do see more info about the fact that you can eat less meat, but I also see the other side where meat consumption is promoted. I do agree that less meat is better, but I have a feeling that I do it more because of price and not really because I am influenced by the media. For example, I don't believe in meatless Monday I want to do my own thing.
7. Can you describe what you would see as main barriers for not reducing meat consumption in the society today?
   I would say because wanting meat is seen as a tradition, when I go to a restaurant you often eat meat. It has this level of fanciness to eat meat which vegetables do not have, so it has some kind of status. I also think the taste of meat is a big influence and the fact that meat substitutes are not that tasteful or that they are really expensive. I do have the feeling that people are used to eat meat even when dishes could be made without meat. Meat is now more seen as an issue and less as something to promote. In the Netherlands it is normal to eat potatoes, vegetables and meat, and it is hard to imagine that without meat. I do think that globalization is a good thing for meat reduction, in the west we are so used to eat meat and in not western cultures they are already more used to eat with less meat.

Interviewee H

1. Can you describe your current preference for meat?
   If I have meat it needs to be spicy or BBQ, it needs to feel like it adds value to my meal. I am flexitarian so I only eat meat when it is valuable. I do have this "Wageningen virus" where I eat less meat and it is cheaper for me. But when I go home or when I have a BBQ, I will eat meat. I do not by it myself anymore. I like to experiment in the kitchen but I like the taste of meat to much to stop so I do not buy it myself but I still eat it.
2. Can you explain your main reasons for your current meat consumption?
   For me price is still an important factor. If I look at my parents, they still try to convince me that you do need meat to get a heathy diet. I know now that I can get nutrients out of other products but I want to keep the balance and keep eating meat. It is also because of the animal wealth that I started to eat less meat, but I like the tase of meat to much to fully quite. It is hypocritical of me and I know that but I will keep consuming it. I sometimes feel kind of forced to eat meat, for example when I cook at home people think a meal is not complete because it does not have meat in it. It sometimes even feels like I am a burden to others when I want to eat vegetarian.
3. Can you explain the factors that have influenced your current meat consumption?
   I think it is socially orientated, as soon as I go outside meat is there. You need to find certain places where it is more normal to eat vegetarian. You just don't want to be the burden who needs a vegetarian dish.
4. What in your near surroundings have influenced you regarding your meat consumption?

I would say that the changing influence was Wageningen itself. I did a minor that was more social orientated and that minor that was the first point in my life where I get in contact with more socially conscious options. Also here I met more people who are vegetarian or vegan. This made me think more about the choices that I made regarding my consumption, and I started to stop purchasing meat except for chicken. I do think that the chicken substitutes are really good so I also started purchasing less chicken.

5. What societal context factors (knowledge, school, education parents, cooperation) have influenced you regarding your meat consumption?
   It started with my minor at HBO where I got all this information and social factors, I finally got the chance to dive into sustainability and meat consumption. Also, the people around me really inspired me. It is more accessible like on websites or social media, and it started to look more into the knowledge. Even my teacher gave me the advice to subscribe myself to a newsletter regarding vegetarianism. Also, meat replacers where more and more on discount so that was also a nice add. I found on Instagram the "what without meat" which influenced me to eat less meat. Also, I saw a video about the fact that you can make a difference on your own and that also inspired me, I can make a change. Since I got the tools to be able to eat less meat.
6. Can you describe how the media is influencing your meat consumption?
   I got informative emails about meat consumption that gave me more insight. The "zondag met lubach" movie about the meat industry really had an influence on my meat consumption. It was so heavy that I really wanted to change. I wanted to feel better about my meat consumption. Also, Instagram channels where they keep you updated about meat and vegetarianism. Also the newsletter from "Wakker dier" helps me to consume less meat.
7. Can you describe what you would see as main barriers for not reducing meat consumption in the society today?
   Meat is supper accessible, there is more meat that substitutes which is a barrier for people. They do not really give you ideas of how to make dished with meat substitutes or without meat, which makes it less accessible. You need to learn yourself what you like and how to make it. Also, it is a stigma that you need meat to call it a full meal. Without meat it is not a sufficient dinner. Even without a substitute it can still be a meal which is hard to accept for some people. My mom is more open to it, but because she is allergic to soya and in all substitutes is soya so it is still not accessible for her. We feel like we need meat to be part of the society, in the potatoes, vegetables and meat society of the Netherlands, meat is even 1/3 of the meal.

Interviewee I

1. Can you describe your current preference for meat?
   At the moment I am flexitarian, I eat meat 3 times a week and only during dinner.
2. Can you explain your main reasons for your current meat consumption?
   I often get this question from journalists and you can never give the right answer. When I do not eat meat people would think I might be bias. On the other hand when I say I do eat meat people are more like "you know so much about the meat industry, why would you still consume meat?". But if I would look at the main reasons these are of course the fact that it is not good for the environment and animal welfare. Also, variety on the dishes that we consume is an important factor for me and my family.
3. Can you explain the factors that have influenced your current meat consumption?

Of course, my knowledge and research regarding meat consumption is what influences me the most. But besides this, the meat substitutes that are on the market right now are also an important factor. There are more options, and they are tasty. I would say that it is a more accessible product now. Also, in restaurants a vegetarian dish is more available and there are more recipes with meat substitutes or not meat in it. Eating less meat is more accessible and more practical, I see it as opportunities offered by the environment.

4. What in your near surroundings have influenced you regarding your meat consumption?
   I guess the most influencing are my colleagues on the other hand my family is more of a barrier, I have teenagers and they are quite conservative. We do not have someone in the family that is involved in vegetarian or vegan. So, it is not a trigger to eat vegetarian in our family. Opportunities in other food environments also inspire me, there are so much good dishes in out of home conditions.
5. What societal context factors (knowledge, school, education parents, cooperation) have influenced you regarding your meat consumption?
   In general, the flexitarian -age or -nature influences the decisions you make which also accounts for me. In Dutch society it is much more common to be flexitarian vegetarian or vegan. In some social cercles it is strange to eat less meat but in my cercles it is quite normal to consume less meat. It is the normalization process of eating less meat. I think it has something to do with Wageningen and you see that there is much tolerance for vegetarian or flexitarian, because it is Wageningen.
6. Can you describe how the media is influencing your meat consumption?
   I would say the media is influencing me much, I also contribute to this myself. I try to follow these kinds of messages, I think it is important to cover these topics about meat consumption. Especially on the level of awareness and information it is verry influential, on the behaviour aspects it is a bit less influential. However, meat consumption is a topic that is influencing both on the traditional media and on the new media shelves like Facebook and Instagram. Meat consumption has become an important topic of discussion and conversation.
7. Can you describe what you would see as main barriers for not reducing meat consumption in the society today?
   One barrier is my children, they only like a few meat substitutes, but they do like dishes with no meat in it at all. It is still hard to really have good substitutes, that they find tasty and then they prefer meat. I like meat but I could miss it. In general I would say that taste is quite a barrier, taste is always verry important when it comes to food. Price is not a barrier, for me at least, since meat substitutes can be more expensive. I also don't have the idea that a BBQ or a party needs to serve meat but this could be the case for other people. I would even say that when the kids are out of the house, we might become vegetarian.

Interviewee J

1. Can you describe your current preference for meat?
   At the moment I do not eat meat, and in 2012 I became vegetarian
2. Can you explain your main reasons for your current meat consumption?
   If another specie (alien) would want to eat human it would not be fair, this is what we are doing to these animals. So, it is not fair. I am not comfortable with eating animals it does not feel fair.
3. Can you explain the factors that have influenced your current meat consumption?
   I am an agricultural engineer and I worked in several companies, one of my internships was in a chicken farm where I saw how the animals were treated. Once I saw what happens

in the business I was so choked that I stopped working after 2 weeks. The animals are seen as numbers and not as living animals, which does not feel civil.

4. What in your near surroundings have influenced you regarding your meat consumption?
   My job influenced me into this decision. I am the only vegetarian in my family. I am from Istanbul and it is not verry common there to be vegetarian. My family did not really accept my choice in the beginning but in the end, they had to accept it. Now when I am there no one eats meat. After my decision to become vegetarian I ate some meat a couple of times but I felt regret afterwards. That is when I completely stopped and never looked back. Some of my friends are vegetarian and some even supported me but most of them are not vegetarian.
5. What societal context factors (knowledge, school, education parents, cooperation) have influenced you regarding your meat consumption?
   My internship is one of the biggest influences, after this I watched some documentaries and YouTube videos. Which helped me more and more to get into this new lifestyle.
6. Can you describe how the media is influencing your meat consumption?
   A few years ago, it was not that common to be vegetarian, now a days my decision gets supported more and more. It helps that there is more and more available and the taste of substitutes is often good. Also there are for example programs or movies about meat consumption on Netflix which makes it seems like vegetarianism is more supported. Also food blogs help me to stay creative and get new recipes.
7. Can you describe what you would see as main barriers for not reducing meat consumption in the society today?
   I would say probably the taste of meat is the biggest barrier, sometimes you smell the BBQ and you miss it. I would say meat is a part of our evolution. Eating meat is kind of a habit, people learned to eat meat as a kid. Our parents let us eat meat as a kid. “If you do not eat meat you have problems at home” is a saying in Istanbul. So, eating meat is quite simple and it hard to change peoples look at meat.