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*Meeting meat values:
the influence of a
persuasive message
on evaluation and the
moderating role of
meat attachment*

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Abstract

A reduction in meat consumption is paramount in decreasing the impact on the environment, on health and animal welfare. However, in Western society, meat is seen as an important part of a meal and it has been difficult to achieve a change in this behavior. Information campaigns have shown to have little impact on behavior and could even backfire. A between-subjects experimental questionnaire (n=181) was conducted to analyze the effect of a persuasive message on attitude, reactance and willingness to reduce meat intake. It was also tested whether the effect was moderated by the level of meat attachment. Meat attachment which refers to the bond towards meat has been suggested to be a construct that could determine the effectiveness of a persuasive message. The results indicated that the persuasive message led to significantly higher attitudes and lower reactance than the control message. Moreover, irrespective of the message, meat attachment was found as a determinant of a low attitude, high reactance and low willingness to reduce meat consumption. No evidence was found that the effect of the message was moderated by meat attachment. Still, providing arguments of high quality has shown to result in a more positive evaluation which could potentially result in a change towards the proposed behavior. The current research is of relevance for future campaigns persuading to eat less meat as this study demonstrated that persuasive messages led to a more positive attitude towards meat consumption behavior. And a more positive attitude predicted a higher willingness to eat less meat. The use of arguments and considering the target audience might in turn be successful in achieving a reduction in meat intake.

Content

1. Introduction	3
2. Theoretical background	6
2.1 The effect of a persuasive message	6
2.2 Attitude and reactance	7
2.3 Meat attachment	8
2.4 Hypotheses	9
3. Method	11
3.1 Procedure and design	11
3.1.1 Message design	11
3.2 Measures	12
3.2.1 Willingness to reduce meat intake	12
3.2.2 Attitude	12
3.2.3 Reactance	12
3.2.4 Meat attachment	13
3.2.5 Control variables	13
3.3 Data analysis	13
4. Results	15
4.1 Respondents and randomization check	15
4.2 Hypotheses testing	15
5. Discussion and conclusion	17
6. References	20
Appendix 1	23

1. Introduction

The current world population is growing drastically. 7.6 billion people live on the world today and by 2050, the count is expected to be 9.8 billion (United Nations Department of Economic and Social Affairs, Population Division 2017). Huge transitions in our diet are needed to keep providing men with enough food. With the continuing growth of the population, the amount of people will outgrow the available food and resources in the future (Davis, Gephart, Emery, Leach, & Galloway, 2015). Unfortunately, the current diet in Western countries is characterized by high levels of processed foods, sugar, fat and red meat which has strong impacts on the environment and human health. Pursuing these nutritional habits would contribute to an increase of 80 per cent in greenhouse gas emissions in 2050 (Tilman & Clark, 2014). A shift in diet is needed to reduce its impact on the environment as well as on health.

There is mounting evidence that this impact could be reduced significantly through decreasing the consumption of meat. It has been demonstrated that vegetarian diets generate less emissions, require less land and reduce hunger in developing countries (Leitzmann, 2003; Baroni, Cenci, Tettamanti, & Berati, 2007). In addition, a link is found between high consumption of red meat and higher risks of chronic diseases like type 2 diabetes, coronary heart disease and cancer (Larsson & Orsini, 2013). Cutting meat production by 50 per cent would result in a reduction of approximately 30% in greenhouse gas emissions (Westhoek, Lesschen, Rood, Wagner, De Marco, & Murphy-Bokern, 2014). There are thus increasing signs of the negative effects of eating meat in terms of health and sustainability. Moreover, more evidence is available than ever of the difference that one could make by adapting a vegetarian diet. Still, the amount of meat consumed has almost doubled in the past century and is rapidly growing (FAO, 2003). Just a reduction of meat intake could already have enormous positive sustainable consequences and health benefits.

Despite the recommendations to substitute meat more often for plant-based products, change has been difficult to achieve. People show to be concerned about the environment, but consumers seem to be unaware of the environmental and health impacts associated with meat consumption (Lea & Worsley, 2008; Stubbs, Scott, & Duarte, 2018). In Western countries, meat represents an important component of a course. Meat has been associated with concepts like strength and power while a vegetarian diet is seen as weak and poor (Jensen & Holm, 1999). According to Power (2010), changing food habits is difficult, because food is an emotional issue which consists of cultural and personal perceptions of what is a normal diet (Power, 2010). Shifting towards a meal consisting of only vegetables would change the whole meal composition, while eating meat for dinner has become a customary habit and is an important component of the Western identity (Jensen & Holm, 1999). Since lowering meat consumption is difficult, denying its environmental benefit might excuse the unwillingness to reduce meat consumption (Tobler, Visschers, & Siegrist, 2011).

Multiple campaigns have been designed to change this unsustainable behavior. Mass media information campaigns have been widely used to provide information in order to educate populations and change people's attitudes (Verplanken, 2016). Information campaigns are the most used programs to achieve a sustainable behavior. It is assumed that by enhancing knowledge, behavior will change (McKenzie-Mohr, 2000). In the Netherlands, the Voedingscentrum launched a campaign targeting the male meat eater using shirts with funny quotes including vegetables like "Never Bean So Happy", but received critique and limited attention (Voedingscentrum, 2018; Volkskrant, 2018). Another information campaign in the Netherlands aimed at increasing awareness in terms of the greenhouse effect (Staats, Wit, & Midden, 1996). Information about the causes of global warming and how to deal with it were provided for more than two months by the means of television, newspapers and billboards. The results revealed that knowledge had increased slightly, but problem awareness did not change. Still, there is some progress in the raise of awareness of the impacts of meat eating. In the Netherlands, total meat use in 2012-2016 has dropped on average by 1.4 kilo per person per year in comparison with 2007-2010 (Dagevos & Temme, 2018).

Unfortunately, trying to increase knowledge has been showed to have little impact on behavior (McKenzie-Mohr, 2000). Mass media campaigns tend to lead to a small increase in knowledge, but no clear evidence exists that it results in the recommended behavior (Abrahamse, Steg, Vlek, & Rothengatter, 2005). As information campaigns are the most used campaigns to foster sustainable behavior, individuals are loaded with arguments to alter their behavior. However, more information is not always better. Providing more information to perform a certain behavior can overwhelm and create difficulties to make decisions (Peters, Klein, Kaufman, & Meilleur, 2013). Eventually, information could even backfire leading to a boomerang effect which refers to a behavior opposite to what is called for (Wolburg, 2006). This effect may be moderated by one's beliefs. For example, when one's beliefs and values are in line with the given arguments, the information is more easily accepted and the behavior is more likely to be performed (Vainio, Irz, & Hartikainen, 2018). On the contrary, if individuals receive information that challenges their self-beliefs, they feel threatened and react negatively towards this information (Piazza, Ruby, Loughnan, Luong, Kulik, Watkins, & Seigerman, 2015). This reaction is defined as reactance which frequently is the reason that a persuasive message was unsuccessful. The message threatens one's freedom which in turn motivates someone to recuperate their freedom by adopting the view opposite to what is mentioned in the message: a boomerang effect (Rains, 2013).

In order to bridge the intention-behavior gap and prevent unintended consequences from happening, the focus needs to lie on how someone is informed instead of just providing the same kind of information to each individual (Kennedy, Beckley, McFarlane, & Nadeau, 2009). The use of a message frame in combination with a specific target audience could enhance the success of campaigns promoting sustainable behavior. For example, framing a message in terms of gains has shown to be more effective for high salience issues while loss frames are more effective for a target group low in engagement (Cheng, Woon, & Lynes, 2011). Providing individuals with information without understanding the knowledge and values of the target group is not efficient in changing behavior and could even backfire. Well-timed and positioned information can be an effective mechanism for achieving a reduction in meat intake (Kennedy et al., 2009). Some studies have suggested that it is paramount to create subgroups based on different characteristics such as beliefs, knowledge and problem awareness before designing effective messages (Cheng et al., 2011; Verplanken, 2017; Pelletier & Sharp, 2008; Lea, Crawford, & Worsley, 2006). Messages tailored towards the needs of specific consumer segments could thus help to reduce meat consumption. Therefore, mass-media campaigns should be substituted by tailored interventions that take into account the characteristics of a group (Weibel, Ohnmacht, Schaffner, & Kossmann, 2019).

As far as meat is concerned, beliefs and values regarding meat consumption are very strongly embedded in one's personality (Graça, Calheiros, & Oliveira, 2015). These beliefs are likely to lead to a negative reaction when beliefs are challenged which may hinder willingness to change behavior (Piazza et al., 2015). It has been argued that each individual has an affective connection towards meat which may influence their willingness to alter behavior (Graça et al., 2015). This presence of a positive bond towards meat is defined as meat attachment. As high levels of meat attachment may hinder choosing for a vegetarian diet, it is crucial to take this construct into account when creating segments to prevent backfiring when providing information. In line with the theories found in previous studies, the research of Wolburg (2006) has shown that information to quit smoking among teens was supported by nonsmokers, but smokers responded with anger, defiance or denial (Wolburg, 2006). Besides, even a boomerang effect including smokers to defy and desire revenge appeared. This research shows that information that threatens one's beliefs is likely to trigger a negative reaction. When information promoting to reduce meat intake is offered to individuals with higher levels of meat attachment the same could occur, as this conflicts their beliefs and values.

Research in the past has made use of persuasive messages concerning meat consumption, but not yet of visuals in combination with a message. So for this study, the effect of an image with different arguments on one's attitude, reactance and willingness to reduce meat intake when taking into account specific target audiences will be examined. Does using short but confronting arguments to reduce meat in a visual representation lead to a more negative attitude towards meat reduction? And how differs this attitude per group based on different values? Multiple studies have recommended to segment an audience and design campaigns specified to their needs (Weibel et al., 2019; Cheng et al., 2011; Verplanken, 2017, Pelletier & Sharp, 2008; Lea et al., 2006). However, it has never been actually demonstrated how groups differ in their response towards a message. Therefore, more research is needed to investigate whether individuals with different characteristics indeed react differently to a message. More specifically, what could be the reasons behind a different reaction? For that reason, the main research question is: *What is the effect of a message containing multiple persuasive arguments promoting a reduction in meat consumption on evaluation?* And how is this effect moderated by meat attachment? By conducting an online questionnaire, it is shown how individuals evaluate a persuasive message and how respondents with different levels of meat attachment react to a persuasive message. Collectively, these findings provide some new and important insights into the existing differences in attitudes and reactance between consumers based on what kind of message is read and the level of meat attachment. And more importantly, how these factors contribute to one's willingness to alter behavior and in turn behavior itself. This study can aid policy makers to create campaigns that are more successful in reducing meat intake.

2. Theoretical background

2.1 *The effect of a persuasive message*

Informing people to change habits is an often used method to persuade them to alter their behavior. In general, persuasive messages about the effects of meat consumption on the environment have been limited in their effectiveness (Vainio et al., 2018). In a review concerning interventions targeting to reduce meat intake, informational interventions including different arguments were evaluated (Bianchi, Dorsel, Garnett, Aveyard, & Jebb, 2018). A one-time only message to reduce meat consumption based on health, environmental or animal welfare arguments was associated with the intention to cut meat consumption. However, there was no evidence that these interventions influenced actual behavior. Information including more than one different consequence of eating meat led in four of the 14 cases to a significant reduction in meat consumption (Bianchi et al., 2018). Possible reasons for this could be a lack of awareness of the negative impacts of meat consumption on the environment or on health. This in turn could create confusion in the mind of the consumers about these effects (Vainio et al., 2018).

Consumers vary in their beliefs, values and behavior towards meat consumption which leads to different reactions towards a persuasive message. It is crucial to dig deeper into these concepts as individuals evaluate new information based on how it is in line with what they already know or do (Thompson, 2013). As stated before, the use of messages tailored towards the needs of the target audience could enhance the success of a campaign. Research has found that messages are more effective in changing one's behaviors and attitudes when they are tailored to an individual as this information is liked, accepted and trusted more (Kennedy et al., 2009; Weibel et al., 2019). A message can be tailored towards, for example, someone's personality, values or behaviors. For instance, Campbell, DeVellis, Strecher, Ammerman, DeVellis, and Sandler (1994) performed a study in which a message to improve dietary behavior was tailored or non-tailored to the behavior, motivations and beliefs of American respondents. Text messages were developed to target each survey response choice. In the tailored condition, the one-time message was tailored to a participant's stage of change, dietary intake and psychosocial characteristics. Results showed that the tailored messages were more than twice as likely to be remembered. Significant decreases in total fat intake were found among respondents receiving a tailored message (Campbell et al., 1994) It is thus important that tailored instead of standard informational messages are used as they have shown to be effective in changing one's behavior. Messages that are keeping in mind the specific values of a consumer are expected to be more persuasive than non-tailored messages at increasing the willingness to reduce meat intake.

The transtheoretical model or stages of change model (Prochaska & Velicer, 1997) which determines the processes of behavior change an individual is in, is an useful means to segment an audience in whether they are ready to reduce their meat intake or already performing this behavior. With the help of the TTM, it can be hypothesized which respondents would react negatively or positively towards information. As a consequence, this determines to what kind of message an individual is susceptible. The model consists of five behavioral change stages: precontemplation (not intending to take action), contemplation (change action in next 6 months), preparation (take action in immediate future), action (modifications are made in one's life-style in the past 6 months) and maintenance (behavior is adopted for six months or more) (Prochaska & Velicer, 1997). People in the precontemplation phase are often uninformed about the consequences of their behavior and prefer to avoid reading about their risky behavior. They are found resistant to persuasive messages, but still awareness needs to be raised in this stage (Ferron & Massa, 2013). Individuals in all other stages, are expected to be more open to a information about the behavior.

Blissmer and McAuley (2002) used interventions to increase physical activity that were matched or mismatched towards the stages of change. Results indicated that the stage matched interventions increased physical activity levels compared with the mismatched

interventions (Blissmer & McAuley, 2002). Another study of Lea and colleagues (2006) investigated consumers' readiness to eat a plant-based diet using the TTM. They showed that there were strong differences across stages in terms of perceived pros and cons. Individuals in action or maintenance acknowledge more benefits of eating vegetarian whereas those in precontemplation did not recognize these benefits. Those in contemplation and preparation phase were more sensitive to information on environmental and health benefits than those not considering eating less meat. People in precontemplation phase were found to have lots of barriers to overcome before reducing their meat intake such as health barriers (Lea et al., 2006). Both studies show to be in line with the expectations that reactions toward a message differ per behavior. In addition, Blissmer and Mcauley (2002) demonstrated that matching an intervention towards the stage of change successfully altered behavior. Based on the TTM, we can again assume that a reaction will be more positive towards a tailored message than a non-tailored message based on whether the message is in line with one's values and behavior.

2.2 Attitudes & reactance towards messages

High consumption of meat and a positive attitude towards eating meat is dominant in most people (Jensen & Holm, 1999). Several messages can be used to influence someone's attitudes towards meat and consequently, increase willingness to reduce meat intake. In a study among American respondents, exposing individuals towards information concerning the impacts of meat has been proved to affect attitudes (Palomo-Vélez, Tybur, & van Vugt, 2018). Arguments regarding animal treatment or health impacts for example changed attitudes towards meat. Although findings stated that attitudes can be changed with the use of persuasive messages, the effects were small on behavior (Palomo-Vélez et al., 2018). Still, attitudes have shown to be a predictor of intentions to consume meat and therefore are important to take into account when investigating the effect of a persuasive message. However, as many people have a positive attitude towards meat, informing has struggled to achieve a change in behavior. These information campaigns are even likely to trigger defensive reactions (Piazza et al., 2015).

Consumers thus vary in their beliefs with respect to meat consumption. And differences in this concept is accompanied by various behaviors even though a specific behavior is recommended. A concept that explains the fact that individuals look for justifications of the behavior they perform is rationalization. Rationalization is defined as providing reasonable justifications to convince oneself that their behavior is right when it comes under criticism (Tsang, 2002; Piazza et al., 2015). People often rationalize their behavior when they are motivated to continue in a belief that they otherwise would feel guilty about. As a consequence, arguments are sought that support one's beliefs. Conflicting arguments are ignored. The same holds as far as meat consumption is concerned. Meat eaters are facing lots of information telling them that their consumption behavior is immoral. This information is in conflict with their beliefs, behavior and identity. One way to translate this information in non-threatening messages is to come up with arguments that justify one's meat consumption. Piazza and colleagues (2015) have showed that meat eaters rationalize that meat consumption is normal, natural, necessary and nice to defend their choice of eating meat when asked in a survey to give reasons why it is okay to eat meat (Piazza et al., 2015).

When rationalization results in counterarguments and anger, it is called reactance. Reactance theory describes how individuals respond to information that threatens their freedom (Rains, 2013). A freedom threat can occur by a persuasive message. For example, when telling someone to eat more vegetables and less meat, the receiver might see this as a threat to the freedom of choice. As a result, this person is likely to engage in the behavior opposite of what is recommended: consuming more meat, a so called boomerang effect. Reactant behavior is the attempt to reestablish freedom against the threat (Ehrenbrink & Möller, 2018). When reading a persuasive message, individuals create thoughts that are in agreement or disagreement with the provided arguments. Individuals thus mostly respond unfavorably to a message that they disagree with. Also, a freedom threatening message can provoke anger

and anger motivates behaviors such as attacking and rejecting (Rains, 2013). Therefore, it is expected that a persuasive message will be seen as a threat which will trigger negative attitudes and high reactance.

The concept of ego threat explains why processes like rationalization and reactance occur. The definitions assigned to ego threat vary widely across studies, but the most used definition is a threat to one's self esteem (Leary, Terry, Batts Allen, & Tate, 2009). The ego protects the self from unacceptable impulses, therefore people avoid information that they find threatening. The most common way of evoking a threat to the ego is by providing individuals with negative information about themselves or their behavior that challenges their positive self-view (Leary et al., 2009). Individuals are very sensitive to how they are perceived by others and if they are provided with information telling that they are incompetent of performing a particular behavior, it causes strong negative reactions (Leary et al., 2009). In terms of meat consumption, when highly meat attached individuals receive messages that their behavior is unacceptable, their positive self-image is threatened as they are convinced that their behavior and beliefs are right. This would probably result in a negative reaction.

On the one hand, the concepts rationalization, reactance and ego threat explain that individuals thus react negatively towards information that is in conflict with their beliefs and behavior. Consequently, individuals avoid situations in which there is a conflict between information, beliefs and behavior (Vainio et al., 2018). On the other hand, individuals that read information that is in line with their knowledge are expected to form a more positive attitude to such information. When attempting to evaluate new information, individuals tend to rely on prior knowledge and consider how this information fits the knowledge and the beliefs of an individual (Thompson, 2013). If this information is inconsistent with their beliefs, doubt is expressed. While if the information is familiar and consistent with their beliefs, it is more likely to be accepted and used in decision making (Thompson, 2013). This concept is referred to as the confirmation bias which states that an individual is looking for information consistent with their beliefs and is more likely to be persuaded by a message that confirms their prior beliefs (Vainio et al., 2018).

2.3 Meat attachment

Even though there is increasing evidence on the health and environmental benefits associated with reducing meat consumption, high meat consumption and unwillingness to shift towards a vegetarian diet are dominant (Boer et al., 2017). The meaning of meat seems to be socially established and goes beyond its nutritional role so the special status of meat should not be overlooked when investigating the willingness to cut meat intake. Recent findings have confirmed the suggestion that the affective connection towards meat plays a role in this relationship (Graça et al., 2015). Individuals may feel a more negative affect towards meat, as others feel a positive bond. Negative or positive affects towards meat are associated with variables such as attitudes, intentions and reported meat consumption (Berndsen & van der Pligt, 2004). This bond is referred to as meat attachment. A positive bond towards meat for example comes along with a feeling of dependence towards meat and feelings of sadness when thinking about abandoning meat. Meat attachment looks beyond the basic biological role of meat and takes into account that food preferences are embedded in one's values. The question is not why we eat meat, but why we are so committed, eat specific quantities and evoke certain emotions (Graça et al., 2015).

Being attached towards meat is likely to hinder a shift towards a more plant-based diet. Graça and colleagues (2015) developed and tested the meat attachment questionnaire to measure whether respondents have a positive or negative bond towards meat consumption (Graça et al., 2015). To extent to which someone is attached to meat is measured using items based on hedonism, affinity, entitlement and dependence. People that are highly attached to meat on average see meat as a source of pleasure, have higher affinity towards meat, see eating meat as their right and feel dependent of their meat consumption. They are likely to consume more

meat than individuals with a low level of meat attachment. It is suggested that consumers with a low score on the meat attachment scale are more open to messages with information of the impacts of meat and benefits of changing habits. Persuasive messages that encourage to reduce meat intake may trigger aversion among respondents with higher levels of meat attachment. Informing strongly attached meat eaters could even increase one's determination to remain consuming meat and be more committed to eat meat (Graça et al., 2015). These hypotheses need experimental testing, but if true, campaigns would be at great risk of creating more aversion towards a reduction in meat consumption which is reinforced by the importance of meat in Western countries.

Meat attachment captures a large part of the constructs that determine one's "meat identity", as meat consumers vary in their values, knowledge and beliefs. Vegetarians or semi-vegetarians, for example, are shown to be more familiar with the benefits of eating more plant-based foods and are more aware of the environmental and health impacts than dedicated meat eaters (Lea & Worsley, 2003). Minorities acknowledge the environmental impacts of meat eating, but acknowledgement was positively associated with a lower level of meat consumption (de Boer, De Witt, & Aiking, 2017). Frequent meat consumers are more reluctant to acknowledge the impacts of meat consumption than other consumers. And if a certain awareness exists in this group, it is not high enough to foster behavior (de Boer et al., 2017). Based on the above mentioned findings, it could be suggested that respondents that are aware of the impacts of meat consumption are more likely to engage in pro environmental behavior. In addition, we may assume that these individuals are probably less attached to meat than consumers with little knowledge with regard to the consequences of meat consumption. Which in turn makes these individuals more open to a message including the impacts of meat consumption as these fit their values. On the contrary, such messages could feel threatening and activate reactance among highly attached individuals.

2.4. Hypotheses

For the purpose of identifying how respondents react towards a persuasive message, the elements of the models and approaches described above are used to build a conceptual framework for this study. By drawing on previous research, this study wants to test the effect of a persuasive message promoting a reduction in meat consumption on evaluation. In general, it is assumed that a persuasive message will lead to a more negative evaluation. However, the expectation is that the effect of a message with persuasive arguments is moderated by the level of meat attachment. The more a respondent's behavior or values are in line with the message, the more positive the attitudes, the lower the reactance and the higher the willingness to reduce meat intake. All kinds of respondents are taken into account, from low till highly attached meat eaters as differences in attitudes and reactance are expected between all these different types of individuals. By including all levels of meat attachment, these differences can be further investigated. It is thus expected that a persuasive message will lead to a more negative attitude than no message (H1). In addition, a message is assumed to result in more reactance than no message (H2). The higher the level of meat attachment, the more a persuasive message will lead to a negative attitude (H3a) and the higher the reactance (H3b). A high level of meat attachment will probably lead to a lower attitude (H4a), higher reactance (H4b) and lower willingness (H4c). The more positive the attitude (H5) and the lower reactance (H6), the higher the willingness to reduce meat consumption (figure 1).

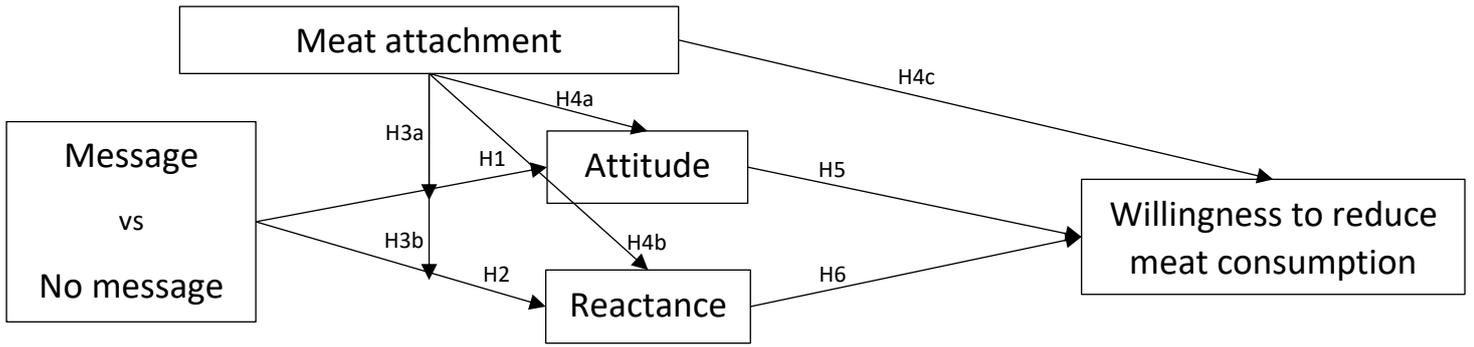


Figure 1 – Conceptual framework

3. Method

3.1 Procedure and design

A between-subjects experimental questionnaire including two conditions was constructed in order to measure the effect of a persuasive message on attitude, reactance and willingness to reduce meat consumption (Appendix 1). The recruitment took place via Facebook, Whatsapp and E-mail with the use of convenience and snowball sampling. At the start of the questionnaire, an informed consent was presented where it was explained that the answers of the participants would remain anonymous and that participation was voluntary. The message group had to read a message (Figure 2, 3 & 4) that tried to persuade them to eat less meat. The same message was showed in three images, but each image contained different arguments either in terms of environment, health or animal welfare. The three images were showed separately. The control group did not read the persuasive messages including the arguments. Respondents were randomly assigned to either the control group or the experimental group. In the pre-test, meat attachment and meat consumption frequency were measured. After the message, attitude towards the message, reactance, willingness to reduce meat consumption and demographics were asked. At the end of the survey, respondents got the chance to fill in their mail address, if they liked to receive more information about the research.

3.1.1. Message design

The manipulation was stimulated through the same short persuasive text in three images, but each image contained different arguments to reduce meat intake either based on the environment, health or animal welfare (Figure 2, 3 & 4). The message in all three images was: "What we save by eating no meat for a week. You should eat no meat for a week". The arguments were based on the campaign flyer of "Een week zonder vlees" (2019) and literature concerning the health consequences of meat consumption (Larsson & Orsini, 2013). All respondents read the following text: "Nowadays, it is increasingly recommended to reduce one's meat consumption". For the control group, this was the end of the text while respondents in the experimental group were showed the three images which were all showed separately. The arguments contained information that a reduction in meat intake is needed as this reduces impact on the environment, increases health and is better for animal welfare. Respondents are confronted with what they would save if they would not eat meat for a week. The arguments were showed successively to increase the attention of the respondents. They were asked to read the message carefully before proceeding to the next question. After the three arguments, it was asked to describe what one had just read to make sure that the message was processed in the mind of the respondents.



Figure 2 - Message with arguments concerning the environment



Figure 3 – Message with arguments concerning health



Figure 4 – Message with arguments concerning animal welfare

3.2 Measures

3.2.1. Willingness to reduce meat consumption

Participants were either presented with a persuasive message or no message and reported their willingness to reduce meat intake: “To what extent are you willing in the next six months to...” (1) reduce meat consumption, (2) eat more plant-based products ($\alpha = .80$). A 5-point Likert scale was used ranging from 1 – very likely to 5 – very unlikely. The items used for this concept were retrieved from the research of Graça et al. (2015).

3.2.2. Attitude

The attitude towards the message was measured using 5 points. The five items used were “positive-negative”, “good-bad”, “pleasant-unpleasant”, “favorable-unfavorable” and “for-against” (Berndsen & Van der Pligt, 2004). Internal consistency for this concept was .95.

3.2.3. Reactance

The extent to which respondents experienced a kind of threat of freedom as a result of the message was measured with the use of the reactance scale developed by Ehrenbrink & Möller

(2018). They developed a reactance scale for human-computer interaction, but in such a way that it could be adapted to any kind of stimuli. The items that were expected to be the most fitting to this research were retrieved from the existing scale. The items used in this scale were then adjusted in such a way that reactance towards the message was measured. The reactance scale makes a distinction between anger, antipathy and autonomy. For antipathy and autonomy 3 items were retrieved from the scale developed by Ehrenbrink & Möller (2018), while anger only consisted of two items. An example of an item measuring anger is "I want to be in control, not what the message wants me to". Antipathy was measured by for example "I feel uncomfortable when I read the message". Autonomy was measured by for example "I don't want the message to tell me what to do". Cronbach's alpha for the concept of reactance was .84.

3.2.4. Meat attachment

The items used to measure this concept were retrieved from the meat attachment questionnaire (MAQ) (Graça et al., 2015). All items were measured with the use of a Likert scale. Meat attachment was based on four underlying concepts: hedonism, affinity, entitlement and dependence. Hedonism was measured with four items, for example "I love meals with meat". Affinity was measured with four items too, for example "Meat reminds me of diseases". All the items of affinity had to be reverse scored before calculating the Cronbach's alpha of meat attachment. Entitlement was measured with three items, for example "Eating meat is a natural and undisputable practice". Four items were used to measure dependence. "Meat is irreplaceable in my diet" is an example of an item measuring dependence. The item "I would have no problem not to eat meat" had to be reverse scored. All four together formed the concept meat attachment. Cronbach's alpha for this concept was .93. The respondents were divided into two groups based on the median of mean meat attachment: either being low in meat attachment (<3.13) or high in meat attachment (>3.14).

3.2.5. Control variables

To control for the equal division of different levels of meat consumers in both groups, the weekly consumption of meat for dinner was measured with a single item "How often do you eat meat for dinner" with the following answering categories: never, once or twice a week, three or four times per week, five or six times a week, daily. Meat consumption frequency was taken into account to make sure that the quantity of meat consumed per group would not influence attitude in one group more than in the other group. Age was also used as a control variable to check if age was equally divided in both conditions.

3.3 Data analysis

The analyses were conducted with IBM SPSS Statistics version 25. Firstly, the data was analyzed with the use of descriptive measures to get an overview of the data. Then, the data was screened on missing values, but there were none. Also, all respondents were checked on having the correct age (16 years or older). Cronbach's alpha for all the constructs was calculated after which the means and standard deviations were calculated for the concepts of meat attachment, attitude, reactance and willingness to reduce meat intake (table 1). Using descriptive statistics it was examined whether the data was normally distributed. Assumptions of homogeneity of variance and normal distribution were met. To test the relation between reactance, attitude and willingness to reduce meat intake, a Pearson correlation was performed. Respondents were divided based on either being low or high in meat attachment by means of a median split. The median for meat attachment was 3.13 so a low (<3.13) and high (>3.14) meat attachment group was created. Using an 2x2 (Message vs No message, Low in Meat attachment vs High in Meat attachment) Univariate ANOVA, it was tested whether main effects existed of the persuasive message or meat attachment on attitude, reactance and willingness to reduce meat consumption. Next to that, it was tested whether an interaction effect occurred between the variables message yes/no and meat attachment yes/no and thus if the effect of the persuasive message on evaluation was moderated by meat attachment.

Table 1 – Cronbach's alpha, means and SD's of scale items

Item description	M	SD
Meat attachment (16 items) $\alpha = .93$	3.09	0.78
Eating meat is one of the pleasures in life	3.13	1.11
I like meals with meat	3.66	1.05
I am a huge fan of meat	3.19	1.17
You can compare nothing with a good piece of steak	2.65	1.20
To eat meat is an unquestionable right of every person	2.61	1.07
According to our position in the food chain, we have the right to eat meat	2.80	1.20
Eating meat is a natural and undisputable practice.	2.93	1.10
I do not picture myself without eating meat regularly	2.73	1.27
If I could not eat meat I would feel weak	2.18	0.95
I would feel fine with a meatless diet	2.78	1.27
If I was forced to stop eating meat I would feel sad	2.63	1.21
Meat is irreplaceable in my diet	2.44	1.14
By eating meat I am reminded of the death and suffering of animals	3.78	1.13
To eat meat is disrespectful towards life and the environment	3.69	1.09
I feel bad when I think of eating meat	3.99	0.94
Meat reminds me of diseases	4.28	0.80
Attitude (5 items) $\alpha = .95$	3.75	1.01
Negative – positive	3.88	1.06
Bad - good	3.90	1.07
Unpleasant - pleasant	3.50	1.24
Against - for	3.76	1.12
Unfavorable - favorable	3.72	1.14
Reactance (6 items) $\alpha = .84$	2.26	0.68
I do not want to do what the message tells me to do	2.86	1.07
The message frustrates me	2.34	0.91
I become angry when I read this message	2.03	0.89
Preferably, I would never want to hear or see anything about this message	1.99	0.89
The arguments in this message are wrong	2.19	0.90
I feel uncomfortable when reading this message	2.15	0.84
Willingness to reduce meat intake (2 items) $\alpha = .80$	3.62	1.00
Willingness to eat less meat	3.50	1.17
Willingness to eat more plant-based products	3.73	1.03

4. Results

4.1 Respondents and randomization check

The sample of this research consisted of Dutch men and women aged 16 years or older ($M=40.70$, $SD=17.78$). In total, 185 respondents completed the questionnaire, but four respondents had to be deleted as their age was below 16 years so the final sample consisted of 181 respondents. The sample consisted of 102 female respondents and 79 were male. Most respondents had followed a higher vocational education (table 1). The largest share of the respondents (38%) indicated to eat meat for five or six times a week followed by 29% of the respondents eating meat for three or four times a week. Only 12 respondents indicated to never eat meat and 27 respondents eat meat every day. 14 respondents considered themselves as being a vegetarian. Respondents were randomly assigned to the control group or message group. To check whether the randomization was successful, a randomization check for meat consumption frequency ($F(1,177)=.02$, $p=.88$) and age ($F(1,177)=.48$, $p=.49$) was performed. No significant differences were found between the two groups on both variables.

Table 2 – Demographics sample

	N	%
Gender		
Men	79	43.6
Women	102	56.4
Age		
16-24	57	31.5
25-40	31	17.1
41-65	86	47.5
>66	7	3.9
Education level		
Primary	3	1.7
Secondary	6	3.3
Higher general secondary or pre-university education	41	22.7
Intermediate vocational	19	10.5
Higher vocational	65	35.9
University education	47	26

4.2 Hypothesis testing

In general, attitude towards any kind of message was relatively high with a mean of 3.75 and reactance was low (2.26). Willingness to reduce meat intake was relatively high (table 1).

A 2x2 factorial analysis of variance tested the effect of a message yes/no and meat attachment yes/no on attitude, reactance and willingness to reduce meat intake of the respondent. Significant main effects were found of the message and meat attachment. A significant difference was found in attitude and reactance between the control group and the message group (figure 5 & 6). Attitude was significantly higher in the message group ($M=3.85$, $SD=.92$) than in the control group ($M=3.66$, $SD=1.08$), ($F(1,177)=4.28$, $p=.04$) while reactance was significantly lower in the message group ($M=2.17$, $SD=.63$) than in the control group ($M=2.34$, $SD=.71$), ($F(1,177)=5.37$, $p=.02$) which contradicts the hypothesis that receiving a persuasive message would lead to a lower attitude and more reactance. The message thus led to a significantly higher attitude and significantly less reactance than no message so hypothesis 1 and 2 are rejected.

Significant main effects were found of meat attachment. Meat attached individuals had a significantly lower attitude ($M=3.24$, $SD=.93$) than low attached meat eaters ($M=4.24$, $SD=.83$), ($F(1,177)=59.85$, $p<.001$) and the meat attached group reported a higher reactance ($M=2.53$, $SD=.66$) than the not meat attached group ($M=2.00$, $SD=.60$), ($F(177)=34.32$, $p<.001$). Next to that, willingness to reduce meat intake was significantly lower among high ($M=3.12$, $SD=.95$) than low ($M=4.09$, $SD=.81$) meat attached individuals ($F(1,177)=55.26$, $p<.001$). Meat attached individuals thus have a significantly lower attitude, higher reactance and lower willingness to

cut meat intake regardless of receiving a persuasive message or not. Hypotheses 4a, b and c are thus accepted. However, the interaction effect between the message yes/no and meat attachment yes/no was not significant, so the effect of showing a persuasive message on the three dependent variables was not moderated by the level of meat attachment (table 3). Hypotheses 3a and 3b are thus rejected.

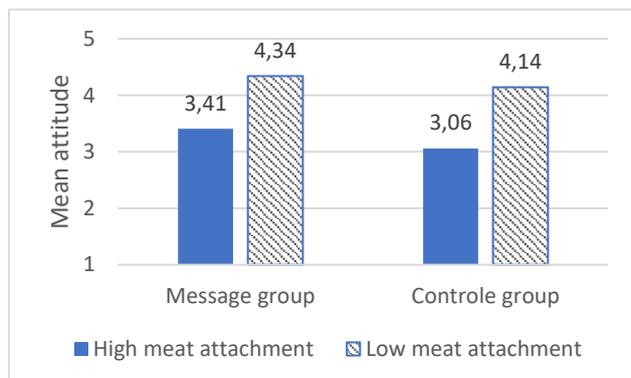


Figure 5 – Mean attitude per group

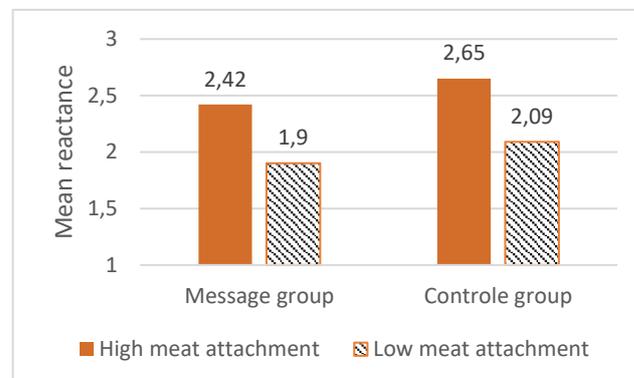


Figure 6 – Mean reactance per group

Based on the performed Pearson Correlation, a significant negative correlation was found between attitude and reactance ($r=-.65$, $p<.001$). This means that individuals with a more negative attitude also experienced more reactance. Next to that, there was a significant positive correlation between attitude and willingness to reduce meat intake ($r=.56$, $p<.001$) which indicates that the more positive the message was evaluated, the more willing the respondent was in engaging in a diet with less meat. Someone who had a high level of reactance was significantly less willing to cut meat intake ($r=-.50$, $p<.001$). Hypotheses 5 and 6 are thus accepted.

Table 3 – Attitude, reactance and willingness to reduce meat intake as a function of a message yes/no and meat attachment yes/no ($n=181$) aged >16 years, March 2019

	Meat attached (N=88)				Not Meat attached (N=93)				Main effect Message (p-value)	Main effect Meat attachment	P-value interaction effect
	Control group (N=42)		Message group (N=46)		Control group (N=51)		Message group (N=42)				
	Mean	SD	Mean	SD	Mean	SD	Mean	SD			
Randomisation checks											
Meat consumption	4.12	.74	3.96	.63	2.80	1.02	2.95	1.17	.96	.00**	.26
Age	39.93	19.14	42.24	19.17	39.55	16.53	41.17	16.75	.46	.79	.90
Attitude	3.06	.94	3.41	.93	4.15	.94	4.34	.68	.04*	.00**	.56
Reactance	2.65	.67	2.42	.66	2.09	.66	1.90	.52	.02*	.00**	.80
Willingness to reduce	3.05	.97	3.18	.94	4.01	.86	4.18	.73	.25	.00**	.90

*Significant at the p-value of .05 **Significant at the p-value of .01

5. Discussion and conclusion

Our current diet needs to be drastically changed in order to keep supplying men with enough, healthy and sustainable food in the future (Davis et al., 2015). Primarily, the consumption of large amounts of meat has strong impacts on the environment and human health. Reducing the high levels of meat consumption would reduce both of these impacts (Leitzmann, 2003; Larsson & Orsini, 2013). Information campaigns are frequently used to change this unsustainable behavior, but unfortunately without successful consequences. On the contrary, information that contradicts one's beliefs could even lead to a negative attitude towards the message and the proposed behavior. This effect may however be moderated by the values one holds. Meat values are strongly embedded in one's personality. Individuals even have a certain connection towards meat which is defined as meat attachment (Graça et al., 2015). Different levels of meat attachment could explain the different reactions individuals have towards informational campaigns concerning meat.

This study has tried to gain insights into the different responses to persuasive arguments encouraging to consume less meat. By means of a between-subject questionnaire experiment, the differences in attitudes, reactance and willingness to reduce meat intake were compared based on reading the persuasive message and the level of meat attachment. Attitude was found to have a direct influence on reactance which in turn determined one's willingness to reduce meat intake: the higher the attitude, the lower the reactance which consequently led to a higher willingness to cut meat intake. Once a message leads to a positive attitude, chances are higher of increasing one's willingness to change the behavior which may influence the actual behavior. It is thus important for future campaigns to test the effect of a message on attitude before spreading it in order to be more successful.

In contrast to the expectations, the analysis indicated that reading the control message led to a significantly lower attitude and a higher reactance than the persuasive message. These findings differ from that of Peters and colleagues (2013) that investigated that providing individuals with more information could lead to negative reactions (Peters et al., 2013). Three potential explanations may clarify these findings. Firstly, part of the explanation for these differences could be found in an American study in which the efficacy of messages in campaigns were assessed. Utilizing interviews, participants recommended using brighter colors and graphic images instead of plain messages which could enhance motivation, likability and understanding of the message (Domigan, Glassman, Miller, Hug, & Diehr, 2015). In the current study, the control group received a rather plain message while the message group received the messages in color with small images. These differences in appearance could explain why the control group reacted more negatively.

Secondly, the study that might explain the higher attitude for the message group is that of Langer, Blank and Chanowitz (1978). They found that individuals were more likely to let someone skip the line at a busy copy machine when they provided a reason for it. Just asking without justification led to the lowest success rate of 60% while the provision of a reason was successful in 94% of the cases (Langer et al., 1978). Once complying with a request requires effort, individuals thoughtfully respond and the reason of the request matters. An explanation thus motivates to comply, but the larger the request, the more the quality of arguments are important. In the same study where the request shifted from having to make 20 copies instead of five, a high quality reason was more successful in achieving compliance. This proven success of providing high quality arguments to achieve compliance explains that the persuasive message led to a higher attitude than the message in the control group. The request in the control group was a message on its own, while the message in the message group came along with multiple scientifically proven and thus high quality arguments.

In terms of reactance, Petty and Cacioppo (1984) offer a third explanation why providing 10 versus no arguments did not lead to the expected reactance. They indicated that the more arguments in a message, the more successful the persuasion. However, this only holds for

individuals low in involvement. As the subject of meat consumption is so embedded in one's identity, the respondents of this study are expected to be highly involved. Under high involvement, not only the number of arguments matters, but also the quality of the arguments (Petty & Cacioppo, 1984). As the message in the message group offered a lot of high quality arguments to high involved individuals this might have led to a lower reactance and probably higher acceptance. Although possible explanations are found for the difference in evaluation between both groups, future research should be performed to discover which characteristics of the message really led to this higher attitude and lower reactance.

Limited support has been found in this study in terms of the interaction effect between low or high meat attachment and the message or the control group. No evidence was found that the relationship between reading the message and the three dependent variables was affected by meat attachment. This disagrees with a previous article that has suggested that information encouraging to reduce meat intake could trigger a negative reaction and even reactance among individuals high in meat attachment (Graça et al., 2015). The results however stress the importance of meat attachment as a key value that helps to determine the differences in attitudes between individuals. In line with the expectations, it was found that receiving any kind of message was negatively related with attitude towards the message and willingness to reduce meat consumption when the level of meat attachment was taken into account. A high level of meat attachment also led to significantly more reactance. Therefore, it can be concluded that one's level of meat attachment plays a crucial role in the kind of response towards any message concerning the reduction of meat intake.

Inevitably, this research comes along with certain limitations. The first limitation is that willingness to reduce meat intake as an effect of the message was measured rather than the actual behavior. Willingness can be seen as a determinant of behavior. However, with a potential intention-behavior gap, this limitation should be taken into account. It is also possible that the respondents were already familiar with the information presented in the messages as the consumption of less meat was a very popular topic during the period of data collection. The messages used in this study were adapted from the national campaign "A week without meat" which was actively running. The messages could thus have led to a sense of recognition and familiarity which in turn could have influenced the effect on evaluation. Finally, the persuasive effects of the message may be moderated, as a large part of the sample consisted of students of Wageningen university, who are occupied with food and sustainability.

Future research should take into account the mentioned limitations. In addition, more research should be done in terms of the characteristics of a message in order to determine which factors are successful in persuading an individual or which characteristics could lead to reactance. Characteristics like the number of arguments, the appearance of the message and the quality of the arguments could be considered. A comparison between individuals high or low in meat attachment might be interesting when investigating the effect of message characteristics as these groups are shown to differ significantly in their reactions towards information concerning meat consumption. Future research could focus on potential campaigns that tailor a persuasive message towards its audience with the knowledge that individuals differ in their reaction based on levels of meat attachment and that messages leading to a more positive attitude are shown to be more successful in affecting the willingness to change behavior.

Another aspect that future research should take into account when determining the effectiveness of persuasive message in terms of meat consumption is the role of the media. The role of media sources and entertainment is increasingly important and both are also believed to impact the opinions and attitudes of individuals (Belloti & Panzone, 2016). A message could not only be evaluated based on its arguments and appearance, but also on its familiarity. There are more and more sources of information that expose individuals to information on a daily base which could create a sense of familiarity towards certain messages, also in terms of meat consumption. A study of Sampei & Aoyagi-Usui (2008) showed that the

more the mass-media published information via newspapers about a sustainable problem in Japan, the more individuals declare to be aware. In addition, information spread via television about food consumption showed to affect consumption behavior (Belitz & Frank, 2010). Another media source that should not be ignored is social media. The amount of social media users has increased from 1.22 billion users worldwide in 2011 to 2.77 billion in 2019 (Statista, 2019). As social media can reach a wide audience with its information, understanding how social media messages in terms of meat could influence people's attitudes and behavior is important for the creation of effective interventions.

In conclusion, this research demonstrated that a message with many arguments is evaluated more positively than a message with no arguments. The provision of arguments has shown to lead to a more positive evaluation of the message which could consequently lead to the recommended reduction in meat intake. However, the exact message characteristics that resulted in this positive evaluation are still unclear and need to be investigated. In addition, these are the first findings to underline the importance of taking into account to what extent an individual is attached to meat. Meat attachment has shown to be an important determinant of one's attitude towards a message. The provision of information about meat among highly attached individuals even leads to a high reactance and a low willingness to perform the proposed behavior. Even though this group of individuals is hard to persuade on this subject, they still form the part of the population that needs to be targeted in order to reach a large reduction in meat consumption. However in order to achieve this reduction, more research is needed to understand which factors of a message determine how individuals evaluate persuasive messages and primarily, which message characteristics influence the group with a higher level of meat attachment. Understanding of the targeted groups is crucial before communicating information which is of relevance for the development of successful campaigns which should tailor their message towards the values of the target audience. This is an important step towards creating successful messages and achieving the needed reduction in meat consumption.

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Appendix 1 - Questionnaire

Start of Block: Informed consent

Q1 Hallo! Fijn dat je mee wilt doen aan dit onderzoek. Mijn naam is Tess Wijnen en voor mijn bachelor scriptie doe ik onderzoek naar het effect van verschillende berichten over vleesconsumptie. Er zijn geen goede of foute antwoorden, wil je invullen wat als eerste bij je opkomt? Als deelnemer aan dit onderzoek blijf je geheel anoniem. Je antwoorden worden alleen gebruikt voor dit onderzoek. Er zijn geen risico's of voordelen verbonden aan het invullen van de vragenlijst. Je kan op ieder moment beslissen om te stoppen met het invullen. Voor eventuele vragen kan je contact opnemen met Tess Wijnen (tess.wijnen@wur.nl). Het invullen van de vragenlijst duurt ongeveer 5 minuten.

Win! Na het invullen van de vragenlijst heb je de mogelijkheid om mee te doen met een loting om een VVV-bon te winnen. Hierover wordt later meer verteld. Door op 'ja' te klikken geef je aan dat je bovenstaande hebt gelezen en ermee instemt:

Ja (1)

End of Block: Informed consent

Start of Block: Vlees consumptie frequentie

Q2 Hoe vaak eet je vlees per week bij de hoofdmaaltijd? (Onder vlees valt onbewerkt en bewerkt rood- en wit vlees (bijvoorbeeld rund, kip, gehakt, schnitzel). Vis en eieren vallen voor dit onderzoek niet onder vlees)

Nooit (1)

Een of twee keer per week (2)

Drie of vier keer per week (3)

Vijf of zes keer per week (4)

Elke dag (5)

End of Block: Vlees consumptie frequentie

Start of Block: Meat attachment

Q3 Geef aan in hoeverre je het eens bent met de volgende stellingen:

	Helemaal mee oneens (1)	Oneens (2)	Neutraal (3)	Eens (4)	Helemaal mee eens (5)
Het eten van vlees is een van de plezierige dingen in het leven (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik houd van maaltijden met vlees (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik ben een groot fan van vlees (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Niets is te vergelijken met een goede biefstuk (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q4 Geef aan in hoeverre je het eens bent met de volgende stellingen:

	Helemaal mee oneens (1)	Oneens (2)	Neutraal (3)	Eens (4)	Helemaal mee eens (5)
Het eten van vlees is het onvoorwaardelijke recht van ieder mens (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gebaseerd op onze positie in de voedselketen, hebben we het recht om vlees te eten (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Het eten van vlees is natuurlijk en staat vast (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Page Break

Q5 Geef aan in hoeverre je het eens bent met de volgende stellingen:

	Helemaal mee oneens (1)	Oneens (2)	Neutraal (3)	Eens (4)	Helemaal mee eens (5)
Ik kan me zelf niet voorstellen geen vlees te eten (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Als ik geen vlees zou eten, zou ik me zwak voelen (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik zou het prima vinden om geen vlees te eten (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Als ik gedwongen zou worden om te stoppen met vlees eten, dan zou ik me verdrietig voelen (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vlees is onvervangbaar in mijn voedingspatroon (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q6 Geef aan in hoeverre je het eens bent met de volgende stellingen:

	Helemaal mee oneens (1)	Oneens (2)	Neutraal (3)	Eens (4)	Helemaal mee eens (5)
Door vlees te eten word ik herinnerd aan het sterven en lijden van dieren (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Het eten van vlees is respectloos ten opzichte van het leven en de omgeving (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik voel me slecht als ik denk aan het eten van vlees (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vlees doet me denken aan ziekten (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Meat attachment

Start of Block: Manipulatie boodschap

Page Break

Q7 Er wordt steeds vaker aangeraden om minder vlees te eten.

Q8 Bekijk onderstaande campagne die consumenten aanmoedigt om minder vlees te eten.

Lees de argumenten aandachtig.



Page Break

Q9 Lees onderstaande boodschap met de argumenten aandachtig.



Page Break

Q10 Lees onderstaande boodschap met argumenten aandachtig.

ONZE BESPARING DANKZIJ 1 WEEK ZONDER VLEES
Je zou een week géén vlees moeten eten!

Wanneer je als volwassene een week geen vlees eet, bespaar je 770 gram vlees,
 14 kilo vleesvoer en heb je 1 blijde kip



14
kilo voer



1
blijde kip



770
gram vlees

Q11 Je hebt nu drie boodschappen van dezelfde campagne gezien. Elke boodschap moedigt aan om minder vlees te eten, maar telkens met andere argumenten. Noem kort een aantal redenen die genoemd zijn om minder vlees te eten:

End of Block: Manipulatie boodschap

Start of Block: Controle groep

Q12

Er wordt steeds vaker aangeraden om minder vlees te eten.

End of Block: Controle groep

Start of Block: Attitude

Q13 Hoe is je houding tegenover deze boodschap dat mensen minder vlees zouden moeten eten?

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	
Negatief	<input type="radio"/>	Positief				
Slecht	<input type="radio"/>	Goed				
Onprettig	<input type="radio"/>	Prettig				
Ik ben tegen	<input type="radio"/>	Ik ben voor				
Ongunstig	<input type="radio"/>	Gunstig				

End of Block: Attitude

Start of Block: Reactance

Q14 In hoeverre ben je het eens met de volgende stellingen?

	Helemaal mee oneens (1)	Oneens (2)	Neutraal (3)	Eens (4)	Helemaal mee eens (5)
Ik wil niet doen wat de boodschap me opdraagt (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
De boodschap frustreert me (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik word boos als ik deze boodschap lees (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Het liefst zou ik nooit meer iets zien of horen over deze boodschap (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
De argumenten in deze boodschap zijn fout (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik voel me ongemakkelijk na het lezen van de boodschap (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Reactance

Start of Block: Willingness to reduce

Q15 In hoeverre ben je bereid om in de komende zes maanden...

	Zeer onwaarschijnlijk (1)	Onwaarschijnlijk (2)	Neutraal (3)	Waarschijnlijk (4)	Zeer waarschijnlijk (5)
... minder vlees te eten (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... meer plantaardige producten te eten (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Willingness to reduce

Start of Block: Demographics

Q16 Wat is je geslacht?

- Man (1)
- Vrouw (2)
- Anders / wil ik niet zeggen (3)
-

Q17 Wat is je leeftijd in jaren (getal)? _____

Q18 Wat is je hoogst genoten voltooide opleiding?

- basisonderwijs (BO) (1)
- voorbereidend middelbaar beroepsonderwijs (VMBO, MAVO, LBO, LTS) (2)
- hoger algemeen voortgezet onderwijs (HAVO) of voorbereidend wetenschappelijk onderwijs (VWO) (3)
- middelbaar beroepsonderwijs (MBO) (4)
- hoger beroepsonderwijs (HBO) (5)
- wetenschappelijk onderwijs (WO) (6)
-

Q19 Beschouw je jezelf als vegetariër?

- Ja (1)
- Nee (2)
-

Page Break _____

Q20 Vul hier je emailadres in als je kans wilt maken op een VVV-bon

Q21 Ben je benieuwd naar het achterliggende doel van dit onderzoek? Vul dan hieronder je emailadres in

Q22 Aan Wageningen Universiteit worden vaker studies verricht waarvoor wij op zoek zijn naar deelnemers. Mogen wij je hiervoor af en toe (maximaal 1 keer per maand) benaderen per e-mail? Zo ja, schrijf hieronder je e-mailadres (niet nodig als je al op deze lijst staat): _____

Q23 **Bedankt voor je bijdrage aan het onderzoek!** Klik op het pijltje naar rechts om de vragenlijst in te sturen.

End of Block: Demographics