A Story About Intentions

Investigating children's intentions towards decreased meat consumption

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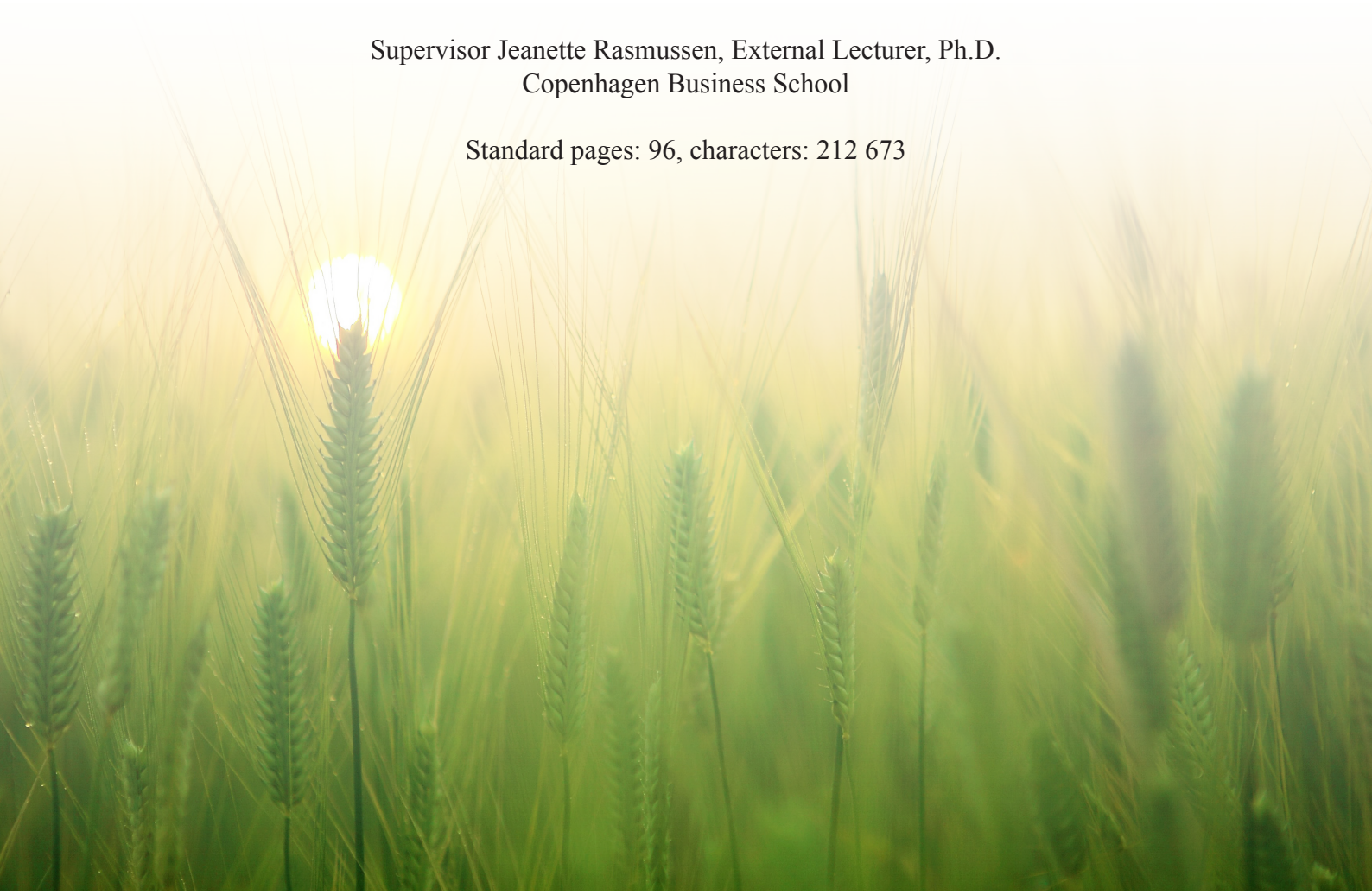


Abstract

The meat industry and meat consumption is an essential (often forgotten) contributor to emission and in turn climate change and its negative impacts. Denmark is a front runner when it comes to pro-environmental initiatives on a national level, however in order for climate change to slow down it can be argued that responsibility needs to come down to an individual level as well. Pro-environmental behaviours are complex and climate change is often perceived as psychologically distant to individuals. Consequently, both engagement and encouraging communication can be challenging in relation to pro-environmental behaviour. This study takes a communication perspective to gain insight in how to effectively communicate pro-environmental behaviours to increase children's intention towards decreased meat consumption. More specifically, the study investigates the effect of framing climate change impact as either local or global within the communications form of storytelling. The research takes a quantitative approach using a sample of Danish children aged 10-12.

The result indicates a higher intention towards decreased meat consumption among the respondents that had read a story with a global framing. However, the result is relatively weak and additional findings underline the assumption that psychological distance is merely one out of many aspects influencing an individual's behavioural intention. Hence, insight has been gained regarding the importance of incorporating aspects of personal relevance, increased self-efficacy and facilitated understanding of the specific pro-environmental behaviour in communicating towards the specific age group. The findings can be used to improve the communication and creation of educational materials with the aim to encourage pro-environmental behavior among children.

Keywords: Behavioural intention, climate change, pro-environmental behaviour, psychological distance, storytelling

Table of Contents

1. Introduction

"Clean air, water and liveable climate are inalienable human rights.
And solving this crisis is not a question of politics it is a question of our own survival"

Leonardo DiCaprio, U.N. Messenger of Peace of the Climate, 2016

In October 2016 a new documentary on climate change was released. In *Before the Flood*, from which the initial citation is from, the message is clear: something needs to be done before it is too late (https://www.beforetheflood.com/). It has been argued that the environmental change occurs faster than previously documented (European Environment Agency, 2017). In a recently published report by European Environmental Agency (2017), it is once again stated that some variables related to climate change have reached new records in the last few years. For instance, the global temperature peaked in both 2014 and 2015 (ibid). The European Environment Agency (2017) also forecasts the climate change to proceed many years ahead. Hence, there will be a continuous negative impact on societies and ecosystems with for instance increasing occurrence of extremes such as heat waves, droughts and storms (ibid). Consequently, the topic of climate change is as relevant as ever and gained additional attention after the last Intergovernmental Panel on Climate Change (IPCC) meeting in 2016. IPCC is the world body for assessing science related to climate change and at the last meeting, all participating countries agreed on working for the common goal to keep the global warming below 2°C (http://www.ipcc.ch/).

Climate change affects every single being on the planet and currently mainly countries in the global south (Milfont 2010). It is also known that most of the negative impact is caused by emission produced by only a few richer countries (Kollmuss & Agyeman, 2000). Among the industries having a negative impact on the climate, the meat industry is conspicuous due to its high levels of emission (Gerber et al, 2013). Taking the discussion to a national level, Denmark is one of the largest meat exporters in the world (Danish Agriculture & Food Council, 2017). On the other hand, Denmark has also been ranked as a top performer in climate change mitigation on the

environmental organisation Germanwatch's Climate Change Index for the last few years (Burck et al, 2017). The country has for several years been a leading nation on the global arena advocating green, sustainable agreements and has an extensive development of green technology to achieve lower levels of industrial emissions (ibid).

It can be argued that in order to slow down climate change, responsibility needs to come down to an individual level (Milfont, 2010). As human behaviour causes climate change, human behaviour must also change in order to slow down climate change (Milfont, 2010). Global studies have shown that consumption of meat and diary account for 14.5% of the emissions in a household (Gerber et. al, 2013). Furthermore, the meat consumption is continuously increasing and if the trend continues, the emissions from the food production might increase up to 80% by 2050 (Tilman & Clark, 2014). On the other hand, it has also been predicted that emissions could be cut with up to 50% by 2050 if a vegetarian diet was introduced globally (Stehfest et al 2009; Tilman & Clark 2014).

In regard to Denmark, the country is in top of the list for emission calculated by consumption per capita (WWF, 2016) and the meat consumption takes up a great share of the emissions per capita (Det Etiske Råd, 2016; Gerber et al, 2013). Based on a long history of pig farms and the importance of the meat industry and export for the country (Danish Agriculture & Food Council, 2017), it is no wonder meat is an essential part of the Danish culture. However, the meat consumption can be argued to contradict other aspects of the Danish culture in regard to pro-environmental behaviours, thus making it an interesting topic. For instance, according to recent studies, many Danes prefer to buy ecological products (Landbrug & Fødevarer, 2014a) and especially ecological and locally produced meat (Landbrug & Fødevarer, 2014b). Such findings indicate that the Danish people are aware and have intentions to be environmentally friendly, but to what extent does the intention transfer to pro-environmental behaviour?

Generally, most people would *agree* that it is morally right to behave pro-environmentally, but not as many actually behave accordingly (Hopper & Nielsen, 1991). Consequently, people do not need to be persuaded that it is good to care for our environment, however they need to be persuaded to actually *engage* in these behaviours (Hopper & Nielsen, 1991). The concept of intentions is often discussed as the variable most closely related to actual behaviour and should therefore also be studied as the outcome in research about pro-environmental behaviour (Kollmuss & Agyeman, 2002; Nigbur et al, 2010). Behavioural intention can be argued to be influenced by several different

determinants, such as an individual's attitude towards the behaviour and the final outcome, perceived social norm regarding the behaviour, and perceived obstacles or facilitators to perform the behaviour (Ajzen, 1991). Moreover, some pro-environmental behaviours can be perceived as inconvenient and time-consuming through a short-term perspective, while simultaneously positive for the environment through a long-term perspective (White et al, 2011). Consequently, the gap between intention and actual behaviour can also be difficult to bridge due to an individual trade-off between habits and core values (White et al, 2011).

Adding to the complexity of the issue, several researchers have argued that people perceive climate change as psychologically distant (Milfont, 2010; Spence et al, 2011a). For example, people perceive it most likely for other nations and future generations to be affected by climate change risks (Lorenzoni & Pidgeon, 2006; Milfont, 2010). In regard to communication, it has been argued that when an event is perceived as psychologically distant, communication should be framed abstractly to be persuasive (Milfont, 2010). On the other hand, there has been research arguing that an effort to reduce the psychological distance would make the issue more relevant to people and thereby increase the intentions towards pro-environmental behaviours (Lorenzoni et al, 2007; Spence et al, 2011b). However, some researchers have questioned this relationship and argue that both the distant and close aspects of psychological distance are important when motivating people to engage in pro-environmental behaviours (Rabinovich et al, 2009; Spence et al, 2011a). Due to the complexity and ambiguity in regard to the topic, we find it highly interesting to investigate how climate change should be communicated and framed to increase intentions towards pro-environmental behaviour.

As values and eating habits are shaped at an early age and becomes relatively stable as we mature into adults (Maccoby, 2007; Stern & Dietz, 1994), we argue it is of high importance to communicate pro-environmental behaviours to children. In order to do so effectively, it is essential to have an understanding of how children perceive climate change and whether pro-environmental behaviours are based on the same principles as for adults. For instance, can a child perceive the same individual trade-off as an adult? In other words, can children understand long-term and greater perspectives of consumption and its consequences? As children are not as socially and cognitively mature as adults (John, 1999), we assume there is a difference between how children and adults perceive climate change as well as how they respond to communication about such a phenomenon.

Hence, we find it valuable to gain insight in how climate change should be communicated towards children to be effective.

In educational purposes, materials and messages often take the form of informational nonfiction texts (Hall & Sabey, 2007). However, there are other ways to deliver messages with an educational purpose. Within the field of communication, it can be argued that narrative messages can be a highly persuasive form of communication (Green & Brock, 2000). Storytelling has been argued to be persuasive due to the relationships between the reader and the characters, which can build on for example identification, role modelling, norms or emotional responses (Green, 2006). For instance, what makes *Before the Flood* different to many other documentaries and communication about climate change is the storyline. The new documentary features the celebrity Leonardo DiCaprio as the main character and the story is built around DiCaprio's life and journey as a climate activist and UN's Messenger of peace on climate change (https://www.beforetheflood.com/). Accordingly, the documentary is not only informational, but the communication is also formed by storytelling. This new initiative indicates that aspects of storytelling are also used in climate change communication today. We predict storytelling to have positive effects in communication towards children due to their social and cognitive level of development. Incorporating the topic of climate change and assumptions about psychological distance, we argue there is a need to investigate how storytelling should be framed in order to increase children's intentions towards pro-environmental behaviour.

1.1. Objective and Research Question

Applying different aspects of psychological distance in combination with storytelling to promote pro-environmental behaviour is an area that has not been previously researched. In addition, there has been limited research regarding the effects of different framings on messages targeting younger people in general (Corner et al, 2015). Hence, we argue it is of interest to research how children respond to a local (close) versus global (distant) framing of climate change impacts.

The aim of this study is to contribute to a particular field within communication, namely how information about climate change can be communicated to influence the receiver into changing behaviours. More specifically, the study aims to give insight in whether different framings of a story can be effective in increasing children's behavioural intention towards eating less meat. We anticipate that the results of the study can be used to improve the communication and creation of educational materials with the aim to promote pro-environmental behaviour. Producing effective

communication is important both to environmental organisations, educational institutions as well as governmental and local authorities trying to make a positive change for the environment.

To meet this objective, the following research question has been formulated:

To what extent can framing of geographical (local vs. global) psychological distance within storytelling increase children's intention to behave pro-environmentally in regard to meat consumption?

In order to facilitate the research and guide the study towards an answer to the research question, a set of sub-questions have been derived from the introductory discussion:

1. Does psychological distance have an effect on children?
2. Does storytelling have an effect on children's intentions?
3. What determinants of behavioural intention can be influential on children?

1.2. Research Approach

After this introduction to the issue and outline of the research, the second chapter *Theoretical Framework* (2.) begins with an introductory discussion about pro-environmental behaviour (2.1.). The section presents why we have chosen decreased meat consumption as our indicator of pro-environmental behaviour and why people might act (or not act) the way they do in relation to pro-environmental behaviours. Subsequently, section (2.2.) presents Theory of Planned Behaviour, which is used as the main framework to address behavioural intention. Section 2.3 presents theory about children's socialisation in order to gain a greater understanding of the social and cognitive developmental level of children. Further, the section goes into children's relation to pro-environmental behaviour as well as environmental education. The third part of the chapter addresses psychological distance (2.4.). This section presents Construal Level Theory to explain the concept of psychological distance, as well as the issue of climate change in terms of perceived psychological distance. The discussion about abstract and concrete framings aims to further present the complexity of the issue, but also to apply the theory of psychological distance to children. Next, section 2.5. presents storytelling and the benefits of narrative messages in relation to children as storytelling is further used in the method for our experiment. Finally, we incorporate all theory and previous research to formulate our hypotheses of the research in section (2.6.).

A field experiment has been conducted on 10-12 year old Danish children in order to answer the research question. The method used for the study consisted of a story and a subsequent questionnaire. The methodology chapter (3.) presents the method for our research in detail. From the underlying research strategy (3.1.) and experimental design (3.2.), through measurements (3.3.) and the experimental procedure (3.4.), to analysis of data (3.5.) and quality criteria (3.6.). Ending the chapter, section (3.7.) discusses the methodology and presents potential limitations.

In chapter 4, *Data Findings*, our main findings from the data collection and analysis are presented concisely. The presentation follows the structure of psychological distance (4.1.), direct behavioural intention (4.2.), indirect behavioural intention (4.3.), manipulated versus control group (4.4.), and finally a summary of the findings and a hypotheses review (4.5.). In close relation to the data findings, the fifth chapter *Discussion* (5.) elaborates on the data findings and discusses the important findings in relation to the presented theory. The first section (5.1.) presents the main findings. Thereafter, the discussion is divided into 4 main areas, namely children's perception of climate change as psychologically distant (5.2.), the social and cognitive level of children (5.3.), the effectiveness of storytelling towards children (5.4.) and the influential determinants of behavioural intention (5.5.). Ending the chapter, section (5.6.) sums up the main points of the discussion.

The final chapter of the paper, *6. Conclusion*, binds the parts together in a concluding discussion on a higher level, referring back to the discussion in the introduction. After the conclusion, a section for managerial implications and suggestions for future research are presented in *6.1. Perspectives.*

2. Theoretical Framework

The theoretical framework is structured in five main parts. The first part (2.1.) introduces the reader to the fields of pro-environmental behaviour, climate change and meat consumption. The second part (2.2.) presents the dependent variable of the study, behavioural intention, through Theory of Planned Behaviour. Subsequently, the third part addresses the field of children's social and cognitive development (2.3.). The fourth part addresses the concept of psychological distance with help of Construal Level Theory (2.4.). Lastly, the communications form of storytelling is presented as this field further serve as a base for the methodology of the study (2.5.). The chapter ends with a section where the presented theory is used to form the hypotheses creating the foundation for the study (2.6.).

2.1. Decreased meat consumption as pro-environmental behaviour

Pro-environmental behaviour can be defined as *"behaviour that consciously seeks to minimize the negative impacts of one's actions on the natural and built world"* (Kollmuss & Agyeman, 2002, p. 240). Examples of pro-environmental behaviour include reducing waste production, recycling, and decreasing energy consumption (Kollmuss & Agyeman 2002). Based on the definition, we argue that previous research within the field using different indicators (often recycling) for measuring intentions to pro-environmental behaviour also can be applied to other types of pro-environmental behaviours. Consequently, this paper will use the term pro-environmental behaviour as a general term when discussing previous research, independent of research indicator of pro-environmental behaviour. In this specific study, meat consumption will be used as the indicator to measure individuals' intentions to pro-environmental behaviours. Moreover, as meat consumption affects the environment primarily through climate change, we incorporate the concept of climate change and individual efforts for climate change mitigation under pro-environmental behaviours. Hence, the term *pro-environmental behaviour* will be used throughout the study for any action or effort regarding climate change or the environment.

The production of meat and dairy products require high levels of resources and generate a high level of emissions in comparison to plant-based products (Gerber, 2013; Hertwich et al, 2010). Thus, by changing behaviour patterns people can reduce their environmental impacts (Jungbluth et al, 2000), for instance by revising one's food consumption (Det Etiske Råd, 2016; Stehfest, 2009; Zur & Klöckner, 2014). A diet change in eating less meat and more plant-based products would reduce the impact on the environment (Hertwich et al, 2010; Stehfest, 2009). Even if decreased meat consumption has proven benefits (Westhoek et al, 2014), many people still eat a lot of meat. It has been shown that the worldwide consumption per-capita has doubled during the last four decades (Stoll-Kleemann & O'Riordan, 2015).

The barriers to pro-environmental behaviour and individuals' underlying reasons for behaving a certain way are highly complex (Kollmuss & Agyeman, 2002). Beside the environmental aspects, we argue there are several other reasons for an individual to engage in pro-environmental behaviour. For instance, in relation to the behaviour of reduced meat consumption, animal welfare or personal health can be influential factors as well (e.g. Zur & Klöckner, 2014, Westhoek et al, 2014). Moreover, pro-environmental behaviours can be explored through several different theoretical perspectives, such as communication, environmental psychology or social psychology. Consequently, the specific behaviour can be interpreted and understood differently. Due to the complexity of this type of behaviour, it is impossible to understand it from merely one perspective or theoretical framework (Kollmuss & Agyeman, 2002). Demographic factors such as gender and education; external factors such as institutional, economic, social and cultural; and internal factors such as motivation, knowledge, values, attitudes, and priorities all influence pro-environmental behaviour (Kollmuss & Agyeman, 2002).

2.1.1. Pro-environmental behaviour from a communications perspective

Our study takes a communication perspective. Hence, this perspective permeates the entire study. Within the field of marketing communication, it has been argued that people's needs and wants are affected by three dimensions interacting, namely *individual characteristics, social groups* and *culture* (Kotler et al, 2016). The individual characteristics such as age, stage in life cycle and self-concept influence the individual's behavioural decisions (Kotler et al, 2016). The individual characteristics are particular interesting in our study as it addresses children in a specific age group. Hence, a more detailed review of the social and cognitive level of children in different ages is

presented in section *2.3. Children as Subject for Research*. Moreover, the section does also touch upon social groups, as these are highly essential in a child's socialisation process. The third dimension influencing an individual's needs and wants, culture (Kotler et al, 2016), is presented in the following section.

The culture forms values and norms, guiding people in their behaviour (Kotler et al, 2016). It has been proven that adolescents' pro-environmental behaviour is strongly influenced by family norms and their parents' behaviours (Grønhøj & Thøgersen, 2009; 2012). In addition, food has a great cultural role in many societies as meals have a crucial role in creating family relationships (Buckingham, 2011; Stoll-Kleemann & O'Riordan, 2015). Furthermore, culture is related to habits, which is an important predictor of meat consumption (Zur & Klöckner, 2014). As cultural factors can influence pro-environmental behaviour (Kollmuss & Agyeman, 2002), we assume the cultural aspect of food and meat might to some people serve as a barrier to changed meat consumption.

Moreover, values have an important role when it comes to guiding behaviour (Kotler et al, 2016). It has been argued that pro-environmental behaviour can evoke a trade-off that might pressure an individual's self-control (White et al, 2011). Through a short-term perspective, it is often more convenient and less time-consuming for an individual not to engage in pro-environmental behaviours (White et al, 2011). However, making the effort is positive for the environment and collective welfare through a long-term perspective (Milfont, 2010; White et al, 2011). In regard to the individual trade-off, it has further been argued that even if people might hold the right attitudes and intentions towards pro-environmental behaviour, there can be other factors preventing them from acting accordingly (Blake, 1999). For instance, lack of information, money or time, are other factors that have been mentioned as possible constraints that can prevent individuals from acting pro-environmentally (Blake, 1999). As consumer decisions and behaviours are not always aligned with the individual's concerns for the environment (Graça et al, 2014), a challenge with pro-environmental behaviour can be discussed in relation to people's *locus of control* (Kollmuss & Agyeman, 2002). Locus of control can be defined as a feeling that individual actions will not make any difference and not have an impact on the environment (Kollmuss & Agyeman, 2002). However, the impact of every individual will only be significant in aggregate, when many people take responsibility and undertake the same behaviours (Stern, 2000). Consequently, pro-environmental communication faces an additional challenge of encouraging engagement even if it seems hopeless to the individual.

Seen through another perspective, several researchers have argued that pro-environmental behaviours can be compared to *altruistic behaviours* (Hopper & Nielsen, 1991; Stern, 2000; Kollmuss & Agyeman, 2002). Altruism can be defined as a personal characteristic of valuing outcomes that benefit other people's welfare and thereby motivate the individual to prevent other people from getting harmed (Stern et al, 1993). Stern et al (1993) argue that in regard to environmental concern, altruism can be explained by a combination of the three value orientations. The first orientation emphasizes the welfare of other human beings, the second focuses on the welfare of the biosphere (e.g. nonhuman species), and the last orientation relates to the individual's own interests (Stern et al, 1993). What makes altruistic behaviour particularly interesting in regard to pro-environmental behaviour is that even if most people support the norm and moral behaviour, many people do not act according to the norm (Hopper & Nielsen, 1991). Hence, people generally do not need to be convinced that pro-environmental behaviour is good, instead they need to be persuaded to act accordingly (Hopper & Nielsen, 1991).

Further, it has been discussed whether there is a relationship between age and environmental concern (Diamantopoulos et al, 2003). Even if young people often are highly concerned about climate change and the environment, it has been argued that older people engage in pro-environmental behaviours to a greater extent (Diamantopoulos et al, 2003). However, a study in Denmark has shown that young Danes in general are not as concerned about the environment as their parents' generation (Grønhøj & Thøgersen, 2009). This finding makes research on Danish children and pro-environmental behaviour even more interesting and relevant. Furthermore, it has been argued that an individual's basic values are acquired through the socialisation process (Schwartz, 1994) and that consumers' value priorities can be linked to their pro-environmental behaviour (Thøgersen & Ölander, 2002; 2006; Verplanken & Holland, 2002). Hence, children's socialisation process is of high value for pro-environmental intention formation. Moreover, it has been argued that when trying to engage adolescents in pro-environmental activities, the method and communication should align with the adolescents' value priorities (Grønhøj & Thøgersen, 2009). It has been shown that adolescents do not rate environmental values or universalism as high as adults (ibid). Instead, young people value self-enhancement and the welfare of their in-group to a higher degree (ibid). Hence, when promoting pro-environmental activities towards adolescents, the message should personalise the issue and focus on relevance for their own situation (ibid).

Finally, Kollmuss and Agyeman (2002) argue that most people have a positive attitude towards pro-environmental behaviours, however do not behave accordingly as the specific behaviour itself not always relates to the individual's attitude towards climate change. Hence, attitude does not directly determine behaviour but influences the intention towards behaviour, which in turn forms the actual behaviour (Kollmuss & Agyeman, 2002). Accordingly, intention is the variable most closely related to actual behaviour and should therefore be studied as the outcome in research about pro-environmental behaviour (Nigbur et al, 2010; Kollmuss & Agyeman, 2002). Moreover, it has been shown that in relation to the specific behaviour of decreased meat consumption, there is a significant relationship between individuals' intentions to reduce their meat consumption and their actual behaviour (Berndsen & van der Pligt, 2005; Saba & Di Natale, 1998). Based on this argumentation, intention is selected as the independent variable for our study and will be presented in the following section.

2.2. Theory of Planned Behaviour

Within the field of consumer behaviour, Theory of Planned Behaviour (TPB) is applicable when consumers are motivated to make a deeper evaluation of potential outcomes of behaviour (Kotler et al, 2016). We argue this applies well to behaviour in regard to decreased meat consumption due to the many aspects and complexity of the issue that have been discussed throughout the previous section. We therefore take a deeper look into Theory of Planned Behaviour in order to understand what determinants of behavioural intention might influence an individual.

2.2.1. Behavioural Intention

According to TPB, behaviour is determined by behavioural intention (see Figure 1) (Ajzen, 1991). Intention include the motivational factors that influence behaviour, which implies the individual's willingness to try and level of effort in relation to a specific behaviour (ibid). In general, if an individual holds strong intention towards a specific behaviour, there is a greater likelihood for actual behaviour (ibid).

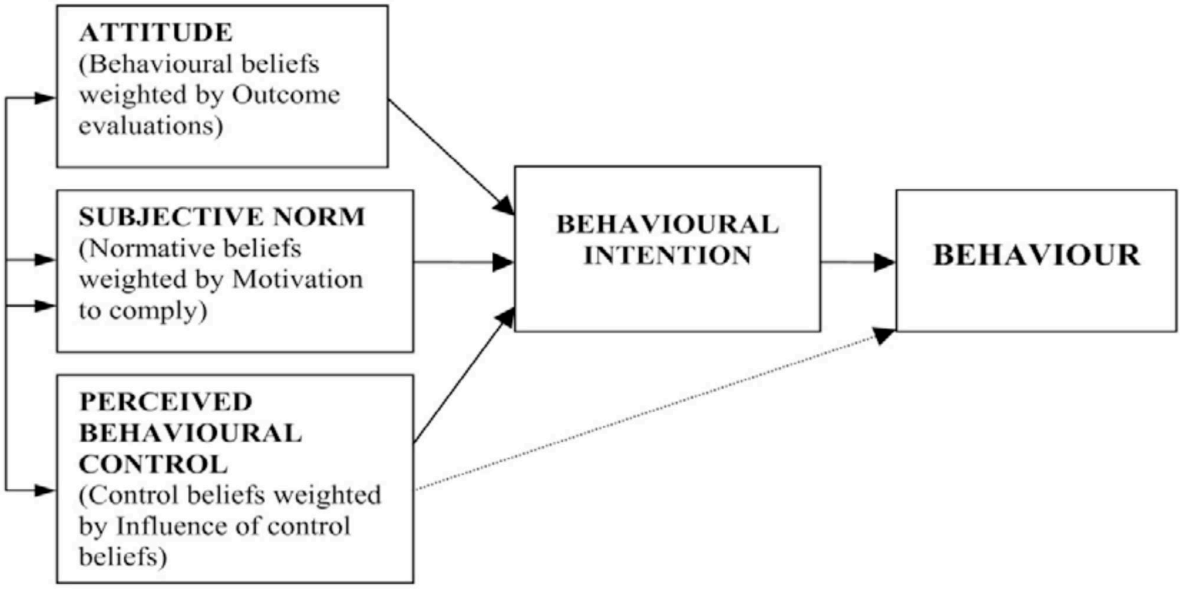


Figure 1, Theory of Planned Behaviour (Ajzen, 1991).

Theory of Planned Behaviour claims there are three independent determinants of intention, namely *attitude, subjective norm* and *perceived behavioural control* (Ajzen, 1991). The first determinant, attitude, refers to the extent of which the individual evaluates the specific behaviour as favourable or unfavourable (ibid). The second determinant, which is the social factor, deals with the individual's perception of social pressure of performing (or not performing) the specific behaviour (ibid). The last determinant, perceived behavioural control, refers to an individual's perception of how easy or difficult the specific behaviour will be to perform (ibid). The perceived behavioural control is argued to reflect the individual's past experiences as well as anticipated obstacles (ibid). In other words, if an individual holds a higher level of behavioural control, it is likely that he or she will have a stronger intention towards the specific behaviour (ibid). The same applies to the other determinants (ibid). Having a more positive attitude and perceiving a higher level of social pressure should lead to a higher intention towards the behaviour (ibid). However, depending on the nature of the specific behaviour or situation, the relative importance of the three determinants can vary (ibid).

In regard to perceived behavioural control, the determinant is also closely related to the concept of *locus of control,* previously defined by Kollmuss and Agyeman (2002). An individual's locus of control is argued to be generally stable across situations and actions, whereas perceived behavioural control is more likely to vary (Ajzen, 1991). Consequently, perceived behavioural control is more

compatible with the concept of *self-efficacy* (Ajzen, 1991). Self-efficacy determine the individual's judgment of to what extent it will be possible to perform the behaviour and how well it can be performed (Bandura, 1982). It has been shown that an individual's confidence in the ability to perform behaviour is highly influential on their actual behaviour (Ajzen, 1991).

The three determinants of behavioural intention are in turn based on salient beliefs (Ajzen, 1991). At a basic level, Theory of Planned Behaviour predicts that behaviour is a function of beliefs (ibid). Ajzen (1991) argues that these beliefs are the fundamental antecedents of an individual's intention and makes a distinction between three different kinds of beliefs. *Behavioural beliefs* are argued to have an impact on the attitudes towards the behaviour, *normative beliefs* provides the basis for subjective norm, and lastly, *control beliefs* constitute the underlying determinant of perception of behavioural control (ibid).

2.2.2. Behavioural, Normative and Control Beliefs

An individual's behavioural beliefs and attitudes towards a specific behaviour are developed from the individual's beliefs about the object or event related to the behaviour (Ajzen, 1991). The behavioural beliefs are all connected to different attributes or outcomes of the behaviour, such as for instance cost or convenience (ibid). In some cases, the individual has already valued these attributes or outcomes as positive or negative by prior experience (ibid). If so, an attitude towards the specific behaviour will be obtained automatically (ibid). When an attitude is formed, the individual's perceived value of the specific outcome relates in direct proportion to the strength of the belief (ibid). In other words, the perceived value of an outcome is related to the probability that the behaviour will result in the specific outcome (ibid).

Normative beliefs create individual perceived norms and involve beliefs about other people's expectations, as well as the individual's motivation to comply with the expectations (Ajzen, 2002). In other words, the normative beliefs are based on the importance of other people's consent of the behaviour (Ajzen, 1991).

Lastly, control beliefs refer to beliefs regarding the presence of factors that might hinder or facilitate the performance of the behaviour, as well as the perceived power of these factors (Ajzen, 2002). In general, an individual perceives a higher control of behaviour the more opportunities and resources he or she possesses and the fewer obstacles the individual perceives to be present (Ajzen,

1991). Opportunities and resources can include for example time, money, skills or cooperation of others, and a lack of the mentioned might on the other hand be perceived as an obstacle (ibid). Further, Theory of Planned Behaviour claims that in some cases, perceived behavioural control can predict behaviour directly and not only indirectly through intention (ibid).

2.3. Children as Subject for Research

Children have an important role in society as both consumers and citizens (Scott, 2000), which make several reasons for the relevance of targeting children in research such as our study. First of all, children are consumers that spend their own money even if their choice in how to spend the money is influenced by for instance parents and peers (Ekström, 2010). Secondly, it is not only children being socialised as consumers by their parents, there is also a reverse relationship where parents are socialised by their children (Ekström, 2010). Moreover, studies have shown that children often bring what they have learned in school home for discussion (Ballantyne et al, 2001a; 2001b; Grodzinska-Jurczak et al, 2003). It has also been shown that children and adolescents influence their families in purchase decisions, especially in regard to food (Buckingham, 2011). Lastly, children can be important to target also through a long-term perspective as it has been argued that taste preferences and eating habits are formed during a child's early years (Maccoby, 2007). Consequently, we argue that it is important to target children with pro-environmental communication both as their habits and values might not be as fixed as for adults, as well as the influence they have on family purchases. Attempts to communicate decreased meat consumption towards a young age might have positive consequences not only for the children's own behaviour, but also for other people in their surrounding. However, the existing knowledge and research on the topic is often based on adults and can therefore not be directly applied to children as they are at a different social and cognitive level. Hence, in the following section we take a deeper look into the developmental stages a child goes through in the socialisation process.

2.3.1. The Socialisation Process

Consumer socialisation can be defined as the process when young individuals gain knowledge and skills and form attitudes that will be linked to their behaviours as consumers (Ward, 1974). Further, socialisation can be defined as the process of making a child learn to adapt specific behavioural habits (Maccoby, 2007). Moreover, it is argued that for a socialisation attempt to have a lasting effect, it is important that the values, attitudes and norms become internalised by the child (Grønhøj

& Thøgersen, 2009). As eating habits is a strong predictor of meat consumption (Zur & Klöckner, 2014), the socialisation process becomes highly relevant in our study. Moreover, as our study researches children in the specific years between 10 and 12, it is vital to look into the different stages of the socialisation process.

Children go through different stages of the socialisation as they develop cognitively and socially (John, 1999). John (1999) has partially based her socialisation framework on Piaget's recognized theory of *cognitive* development (for more information see Ginsburg & Opper, 1988). However, several areas of *social* development are discussed in John's (1999) framework as well. For instance, the ability of social perspective taking is an essential concept in the framework (John, 1999). Social perspective taking involves the ability to take other perspectives beside the individual's own perspective, which in turn links to the individual's purchase influence and negotiation skills as a consumer (ibid). As children mature through the stages of socialisation their knowledge develop in terms of mental representations moving from concrete and simple to abstract and complex, as well as moving from an egocentric perspective to becoming socially aware (ibid).

Children at the first stage, the *perceptual stage* (3-7 years), have a perceptual line of thought (John, 1999). This means the children's knowledge is based on one dimension or attribute, their own observations and concrete details (ibid). Moreover, the perceptual child does not have the ability to organise information to integrate experiences and objects into general knowledge (ibid). Even if a child in the perceptual stage might be aware of other individuals' views, it is difficult for the child to think about its own and others' perspectives at the same time (ibid).

The following stage, the *analytical stage* (7-11 years), emphasises the child's improvement in terms of approaching situations analytically and with more detailed thought (John, 1999). Important cognitive and social changes involving consumer knowledge and skills occur at this stage (ibid). The child matures from having a perceptual, one-dimensional thought, into developing the ability to think more analytically and take several dimensions into consideration (ibid). The child develops a more abstract way of thinking and reasoning, which implies that the child can understand more abstract concepts (ibid). Moreover, the child begins to understand relationships between different events, for instance *if* certain behaviour is carried out, *then* a certain consequence may follow (i.e. contingencies) (ibid). The children exhibit more thoughtfulness in regard to the choices they make, which is part of forming them as consumers (ibid). Moreover, the children's new ability to go

beyond their own feelings and motives and consider other people's perspectives makes it possible for the child to adapt their own strategy for influence. For example, the child can influence the family's purchases based on the ability to take other people's perspectives (ibid). This ability is particularly important in relation to our study about meat consumption, as this aligns with the finding that children influence food purchases to a high extent (Buckingham, 2011).

In the last stage, the *reflective stage* (11-16 years), there is a focus on the child's ability to understand more complex contexts and social aspects of consumption (John, 1999). When the child matures from the analytical into the reflective stage the child's cognitive and social level is further developed, however the changes are more a question of degree rather than kind (ibid). What characterises the reflective stage is the shift towards more reflective and abstract reasoning (ibid). As the child enters adolescence, it develops a need to shape its own identity and starts paying more attention to social meanings and other people's perspectives (ibid). Hence, group norms become more important as well as compliance of other people's expectations (ibid).

Another concept that is highly important to the socialisation process is the socialisation agents (Ekström, 2010). The agents influence the child's consumption experiences and the learning related to the role of being a consumer (Ekström, 2010). For a child, the parents, siblings, peers, educators and media are important agents (Ekström, 2010), which all can affects a consumer's behaviour (Kotler et al, 2016). However, among the socialisation agents, the family is often considered to be the most important (Ekström, 2010). The reason why the family is often the most important agent to a child is the frequent interactions with family members and their close relationships that are especially evident during the child's early years (ibid). In regard to food, the parents play an important role for younger children as it is often the parents who buy the food that the child consumes (Buckingham, 2011). Moreover, in regard to pro-environmental behaviours, the family's and especially the parents' role is important when it comes to mediating pro-environmental consumer practises to their children (Grønhøj & Thøgersen, 2012). However, as the child grows older and enters adolescence, the peers become a more important socialisation agent and are particularly influential on the child (Ekström, 2010; John, 1999).

2.3.2. Environmental Education and Communication for Children

Environmental education has gained increasingly more attention in relation to childhood education (Kos et al, 2016). A distinction can be made between environmental attitudes focusing on nature itself, and attitudes focusing on human beings and how the environment provides benefits to people (Gagnon Thompson & Barton, 1994). In any case, it can be argued that the environmental attitudes can be related to John's (1999) theory about children's social and cognitive development, and especially the child's ability to take other perspectives. It has been showed that most pre-school children (age 5-6) initially value the nature itself, but at the same time has a stronger attitude towards protection of the environment for the sake of their own lives (Kahriman-Ozturk et al, 2012). In relation to the stages of the socialisation process, this finding could be explained by the children's level of cognitive development (ibid). Children at the age of 5-6 have difficulties understanding other perspectives and thus might not have the ability to fully understand the perspective of the environment without the involvement of human beings and their own lives (ibid). Accordingly, the study argues that the children's stage of cognitive development should be taken to consideration when forming education materials for different age groups (ibid).

Another study has shown that pre-school children (age 5-6) in general have poor knowledge and understanding about the connection between their pro-environmental behaviour and the impacts on the environment (Kos et al, 2016). In contrast to Kahriman-Ozturk et al (2012), the researchers found that pre-school children *do* have the ability to understand the background of pro-environmental behaviours (Kos et al, 2016). Consequently, children can understand the effects of their actions as long as the information is presented the right way and is well adapted to the children (ibid). The finding implies that even younger children (age 5-6) are able to understand other perspectives besides their own (ibid), which further contradicts the argumentation that children in the perceptual stage of the socialisation process only see the world from a egocentric perspective (John, 1999).

Moreover, it should be noted that some concepts and pro-environmental behaviours might be easier for a child to relate to (Kahriman-Ozturk et al, 2012). In some cases it is easier to understand the link between the behaviour and the environmental impact, thus making the information and concepts more tangible (ibid). On the other hand, some pro-environmental behaviour might be harder for the child to link to its environmental impact, which can make the behaviour more intangible, such as for instance living habits and consumption patterns (ibid). Based on this

discussion it can be argued that the impacts of meat consumption might be perceived as relatively intangible for children. This adds to the complexity of the issue, especially in combination with the finding that climate change and its impacts are often perceived as psychologically distant (Milfont, 2010; Spence et al, 2011a; Uzzell, 2010). Hence, in order to get a better understanding of what effect psychological distance has to the issue, the concept is elaborated in further detail in the following section.

2.4. Construal Level Theory and Psychological Distance

Psychological distance is a central concept within Construal Level Theory (CLT), which describes how perceived distance to objects or events is related to the way individuals think about the object or event (Liberman & Trope, 2008). According to CLT, events and objects can be represented at various levels of mental construal in the individual's mind (ibid). High-level construal is more abstract, while lower-level construal is more concrete (ibid) (see Figure 2). An object or event that is perceived as distant will mentally be represented at a higher level of construal and therefore be more abstract (ibid). In accordance with CLT, a greater psychological distance is usually related to actions or behaviour that are closer to an individual's beliefs and core values (ibid).

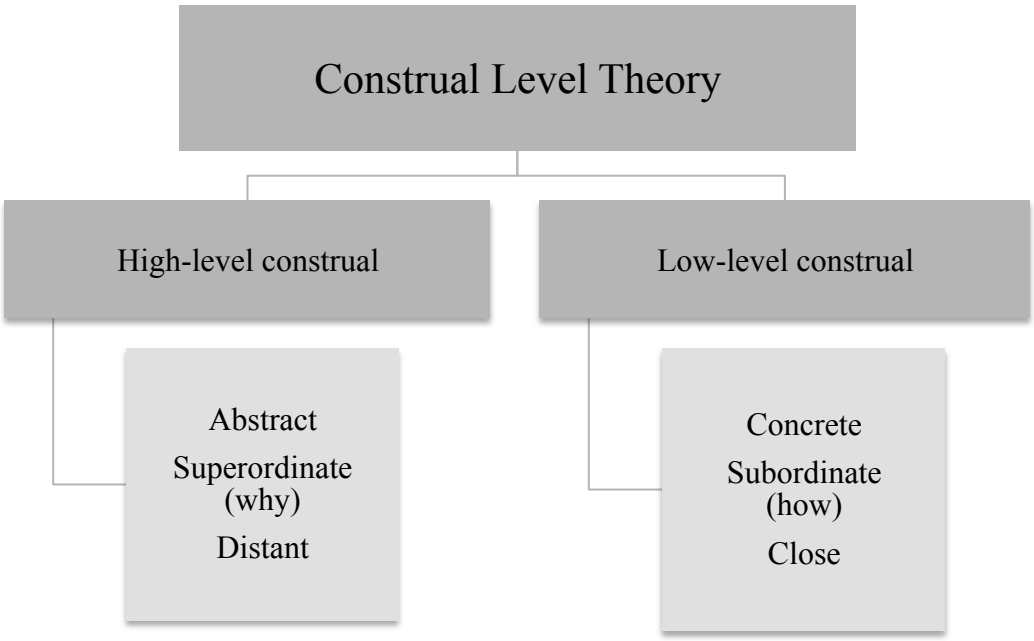


Figure 2, Construal Level Theory.

The relationship between psychological distance and level of construal also takes the reverse route (Liberman & Trope, 2008). In other words, the level of construal can also have an effect on the perceived distance (ibid). When mentally construing information at a high level, the information will be associated with psychologically distant objects or events (ibid). Accordingly, construing information at a low level associates the information with psychologically close objects or events (ibid).

Further, high- and low-level of construal can be related to superordinate and subordinate goals (Liberman & Trope, 2008). Superordinate goals are related to an abstract *why* perspective of an action, while subordinate goal takes a concrete *how* perspective of the action (ibid). According to CLT, the high-level construal for distant events relates to the final goal of the event, whilst the low-level construal for near future events relates to the way towards the goal of the event (Liberman & Trope, 2003). Further, CLT predicts that if an individual is given information about an event that is perceived as distant in the future, he or she will construe the information in superordinate terms (ibid). On the other hand, if the same event is perceived to occur in the near future, subordinate terms of the information will be prominent (ibid).

In real life, an individual's most central and superordinate values and goals might be exposed to other subordinate alternatives that become present, which makes the self-control highly important (Liberman & Trope, 2008). Since superordinate, more distant goals are related to a high-level construal, psychological distance should aid the individual's self-control in such a trade-off (ibid). A trade-off between superordinate values and subordinate alternatives can further be related to the desirability and feasibility towards an action or event (Liberman & Trope, 1998). Liberman and Trope (2003) argue that high-level and low-level construal differs due to an emphasis of either desirability or feasibility of the outcome. Desirability of an event describes the value of the final goal and feasibility describes the convenience or inconvenience of reaching the final goal (ibid). Liberman and Trope (2000) found that individuals prefer desirability to feasibility for distant future events, but prefer feasibility to desirability in regard to near future events. Accordingly, it can be argued that as psychological distance increases to an event, the desirability should weight over the feasibility (Liberman & Trope, 2008)

In contrast to CLT, some research argue that psychological closeness in terms of specific detailed goals can increase behavioural intentions (Locke & Latham, 2002). Locke and Latham (2002) discuss how goal setting can affect performance through different functions. For instance, detailed goal setting can direct attention and effort towards activities that are relevant for the goal, simulate knowledge about the behaviour and increase persistence on current behaviour (ibid). Moreover, self-efficacy is highly important to goal setting (ibid). Individuals with higher self-efficacy set higher goals than individuals with lower self-efficacy (ibid). It has been argued that focusing on increasing individuals self-efficacy can lead to higher goal commitment, which consequently also affects the individual's performance (Seijts & Latham, 2001). Further, higher self-efficacy makes individuals more likely to identify and carry out strategies in relation to the specific behaviour, which in turn affects the performance (ibid).

2.4.1. Psychological Distance of Climate Change

Research often distinguish between four different dimensions of psychological distance; spatial, temporal, social and hypothetical, which all relate to the individual's beliefs about the existence of the object or event (Liberman & Trope, 2008) (see Figure 3). Construal Level Theory theorise that the different psychological distances are closely related and associate to one another due to similar cognitive representations (Spence & Pidgeon, 2010).

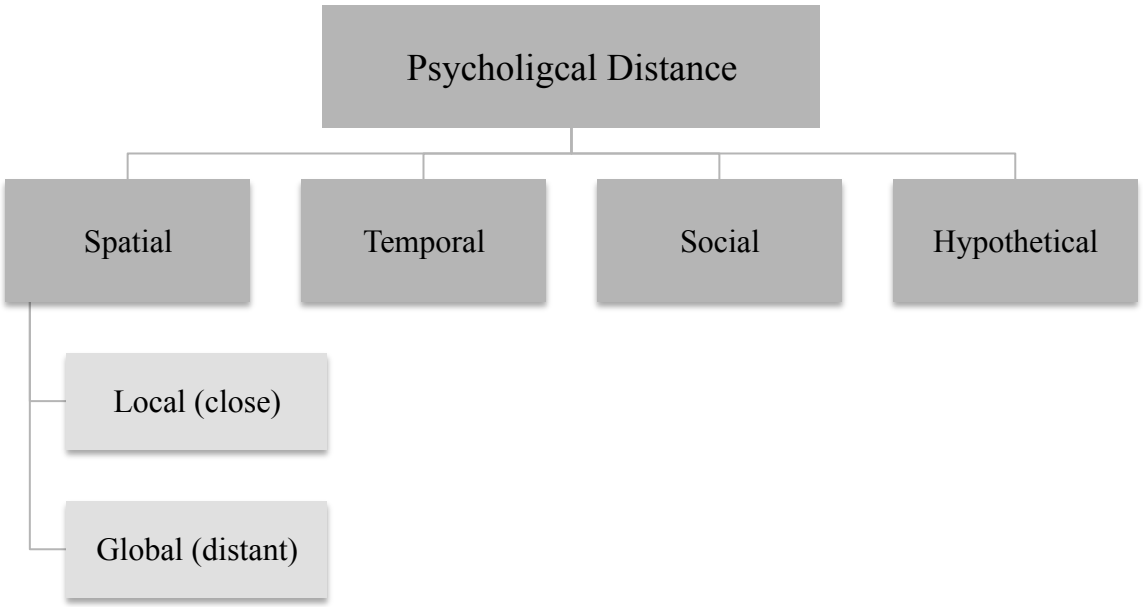


Figure 3, Psychological Distance.

It has been argued that climate change can be viewed as psychologically distant in relation to all of four dimensions (Milfont, 2010). The *hypothetical* dimension touch upon an individual's uncertainty regarding climate change impacts, in other words an individual's perceptions of how likely it is that climate change impacts actually occur (ibid). In regard to the *temporal* aspect, climate change is often perceived as a slow process that will mainly affect future generations (Lorenzoni & Pidgeon, 2006; Milfont, 2010). As there is a temporal gap between the specific action executed by the individual and the effect of the action, acting pro-environmentally may appear as less appealing (Spence et al, 2011a). However, it has also been argued that there might be advantages in framing the issue of climate change as far in the future, as this might make people think there is still time to contribute to make a change (ibid).

In relation to the *social* dimension, climate change impact is often perceived as more likely to affect people that are different to oneself and whom lives in other countries (Lorenzoni & Pidgeon, 2006; Milfont, 2010). This is highly related to the last dimension of psychological distance, the *spatial* dimension, which refers to the common perception that climate change impacts primarily occur at distant locations (Milfont, 2010). As the local (close) versus global (distant) aspect is highly relevant to meat consumption due to the global nature of climate change, the spatial dimension holds the focus of our study.

2.4.2. The Spatial Dimension of Psychological Distance

If climate change is perceived as psychologically distant, it should following the logic of Construal Level Theory be represented abstractly in an individual's mind (Milfont, 2010). Based on such predictions, it has been hypothesised that an effort to reduce the psychological distance would make the issue more relevant to people and thus increase the intentions towards pro-environmental behaviour (Lorenzoni et al, 2007; Spence et al, 2011b). On the other hand, CLT can also be used to argue for the importance of psychological distance to encourage pro-environmental behaviour (Spence et al, 2011a). Spence et al (2011a) argue that if people focus on events or objects in the distance, it can help them make choices aligning with their abstract and core values. This indicates that psychologically distant representations can help an individual's self control, which can be linked to the trade-off that might be perceived in relation to pro-environmental behaviour (White et al, 2011). Moreover, it has been argued that psychological distance can help people to better predict the future and thus make behavioural choices (Liberman & Trope, 2008).

Research has shown that framing climate change impacts as spatially distant resulted in participants perceiving the impacts as more severe than if the impacts were local (Spence & Pidgeon, 2010; Uzzell, 2000). Moreover, Spence et al's (2011a) research showed that individuals perceived climate change to have more negative impacts on developing countries. It was also shown that the greater psychological distance the respondents felt in regard to developing countries, the more prepared they were to take action and behave pro-environmentally (ibid).

Further, Spence et al's (2011a) research showed that some aspects of psychological closeness could also be important when encouraging pro-environmental behaviour. The results showed that individuals also perceived climate change to have some impact on local areas, which indicates that the issue can be seen as psychologically close (ibid). Based on this finding, the authors argue that when communicating climate change, the communication should in addition to the global impacts also be framed as locally relevant to the target group (ibid). Moreover, Spence et al (2011a) argue that psychological closeness can have a stronger relationship to intentions if it is framed with local impacts as this might reduce the uncertainty of how to behave pro-environmentally. Spence and Pidgeon (2010) found that individuals receiving a local framing of climate change impacts perceived the information as more personally relevant than the individuals who were given information about a more geographically distant area. Moreover, it has been argued that a local frame can make pro-environmental behaviours more tangible (Lorenzoni et al, 2007; Spence & Pidgeon, 2010), which aligns with CLT and the argumentation that people find it easier to predict and make decisions about events that are psychologically closer to the individual.

In sum, there are several arguments for both psychologically distant and close framings of climate change in regard to the effects of the communication. Spence et al (2011a) argue that psychological distance affects behaviour in alignment with core values and that psychological closeness to a greater extent encourages the individual to action. Accordingly, Spence et al (2011a) argue that communication regarding climate change should try to reduce the psychological distance and engage the general public, but at the same time use the aspect of serious distant climate change impacts due to its effectiveness to increase intentions. This aligns with Rabinovich et al's (2009) research showing that people are more likely to engage in pro-environmental behaviour if they get exposed to both concrete descriptive information about what actions to take or steps to follow and the abstract concern as a rationale for why the concrete steps are important. Further, Rabinovich et

al (2009) showed that goal-related behaviour was reduced when an abstract mind-set was combined with an abstract goal, which contradicts the general thought of Construal Level Theory.

2.4.3. Children's Perception of Psychological Distance

Research on psychological distance and young children have up to present been limited and have to a greater extent been conducted on older children or young adolescents. Corner et al (2015) discuss psychological distance towards climate change in relation to "young people", defined as people aged between 12-25. Corner et al's (2015) finding shows that young people in Great Britain to some degree perceive climate change impacts to occur in the present, while other research has proven that many young people perceive climate change impacts to primarily affect places far away (Perera & Hewege, 2013). As young people to some extent perceive dimensions of climate change as psychologically distant, it is highly important to consider the psychological distance of climate change when creating effective communication towards young people (Corner et al, 2015). Hence, Cornet et al (2015) argue that it is important to find ways to reduce the psychological distance. However, up to present there has been limited research regarding the effects of different framings on messages targeting younger people (ibid).

Research on young people have shown that a more personalised and local approach will be more persuasive than a theoretical and distant approach in order to increase intentions to pro-environmental behaviour (Thielking & Moore, 2001). Corner et al (2014) argue that effective communication should relate climate change to the target's everyday life and recommend messages that are as specific as possible using a proper language. The message should include what should be done and by whom, as well as when and where (ibid). However, Corner et al (2015) conclude that when targeting young people it is not efficient to only communicate information about the issue in order to increase engagement. The communication should also approach the target group's interests and values that could be affected by climate change (Corner et al, 2015).

It has also been argued that perceived self-efficacy is important when encouraging young people to engage in pro-environmental behaviour (Corner et al, 2015). Studies have shown that many young people feel powerless in relation to the negative impacts of climate change, or that individual action alone has no impact (Thielking & Moore, 2001). It has been argued that young people's perception of psychological distance towards climate change should be reduced to increase their perceived self-efficacy (Corner et al, 2015). As another way of enhancing young people's self-efficacy

through climate change communication, it has been recommended to use narratives that are framed to be relevant to the target group (ibid).

2.5. Storytelling

The chapter has so far presented the theoretical background in relation to intentions, children's social and cognitive level of development, and lastly psychological distance. As the study aims to research the effect of psychological distance in pro-environmental communication towards children, it becomes highly important to choose an effective method of communication. This section will argue for the use of storytelling as an appropriate method when trying to affect children's intentions.

There are several different ways to communicate climate change impacts to an audience. Today, education often consists of textbooks and materials written as informational nonfiction texts (Hall & Sabey, 2007). However, there are other ways to deliver messages with an educational purpose. Within the field of communication, it can be argued that narrative messages can be a highly persuasive way to communicate messages (Green & Brock, 2000). Stories can provide motivation to form behavioural intentions for individuals lacking the intention in question (Green, 2006). Moreover, for individuals that already have formed the specific intention, stories can help to engage in mental simulations and thus help the individual translate its intention into behaviour (ibid). Stories can take the form as either fiction or nonfiction and can be argued to have a different effect on the reader in comparison with more traditional informational texts (Green & Brock, 2000). While informational texts focus on informing the reader about a specific topic (Hall & Sabey, 2007), stories emphasize the characters and their role of delivering a message (Green, 2006).

Throughout history, narratives have been used to share information, change individual beliefs and inspire action (Green, 2006). Moreover, it has been argued that our memory is based on stories (Schank, 1999) and that individuals index, store, and retrieve information in the form of stories (Woodside, 2010). Stories consist of different indices, which can be described as touchpoints linked to the life of the reader (ibid). Different indices, for example decisions, actions, attitudes, conclusions or locations are important when creating good stories (Woodside, 2010). The more touchpoints an individual register when reading a story, the more likely it is for the individual to relate it to other memories and in turn remember the story (Schank, 1999). In addition, it has been argued that a story includes more indices than if the same message had taken another format (e.g.

lecture) (ibid). Moreover, many indices provide more opportunities to compare the story with previous experience, which in turn results in greater learning (ibid). Furthermore, indices can implicitly or explicitly evoke emotions or create awareness in the individual's mind (Woodside, 2010).

The concept of indices can also be compared to self-referencing, which is defined as the cognitive process of associating new information with information already existing in memory in order to make the new information meaningful (Debevec & Romeo, 1992). The process of self-referencing can affect an individual's attitudes and intentions and is therefore important in the creation of persuasive messages (Burnkrant & Unnava 1995; Debevec & Romeo, 1992). Applying self-referencing in the field of advertising, it has been shown that narrative self-referencing through transportation (for definition and elaboration, see section 2.5.1. Transportation) results in a positive evaluation of what have been communicated independent of the argumentation (Escalas, 2007). However, analytical self-referencing through more traditional processing leads to more elaboration on the argumentation and thus only a positive evaluation if the message is strong (ibid).

2.5.1. Transportation

Stories persuade through transportation, which can be defined as immersion into a text (Green & Brock 2000). In other words, transportation reflects the extent to which individuals get lost in a story (ibid). Transportation is a mental process combining attention, mental imagery and emotional reactions (ibid). Thus, transportation differs to other mental processes of cognitive elaboration, which include more rational and logical considerations (ibid). Cognitive elaboration implies that logical consideration and evaluation affects attitudes, while transportation on the other hand might reduce negative cognitive responses (ibid). In other words, when transported, the reader will be less likely to counter argue or disbelieve the story or message, which in turn might have an influence on their attitudes (ibid). Moreover, it has been shown that a higher level of transportation results in real-world beliefs in agreement with the conclusion of the story (ibid).

Another interesting aspect of transportation is how it can affect the reader through the creation of relationships with the story characters (Green, 2006). Transportation can have an effect on the reader's evaluation of the characters in the story and research has shown that a higher level of transportation often lead to more positive evaluations of the characters in the story (Green & Brock, 2000). In turn, evaluation of characters is essential for the story's persuasiveness, as the positive

feelings towards a character can result in more effective attitude or belief changes in line with the characters (ibid). Hence, the characters can serve as internal sources of information and beliefs (ibid). Moreover, if the reader can *identify* with the characters in the story, the transportation can get further facilitated and in turn increase the belief change (Green, 2006). Accordingly, it important that a story is written to match the target audience's key characteristics, for example regarding experiences and values (ibid). In addition to identification, modelling is also an important aspect of stories (Green, 2006) as this can increase the feeling of self-efficacy (Anderson, 2000). Reading about someone else managing a task, whom the reader perceive as similar to self, can make the reader feel more confident (Green, 2006). Moreover, characters that are part of a narrative can influence to change the reader's normative beliefs and evoke emotions towards the narrative that can serve as motivation to change behaviour (ibid).

Transportation can also affect the reader by increasing the realism and making the narrative event seem more similar to real-life experiences due to the mental simulation of the event (Green, 2006). Narratives have the power to provide concrete examples of events or abstract ideas (ibid). In addition, a story can be a powerful tool to affect beliefs as a transporting narrative evokes mental pictures (Green, 2006). Moreover, it has been argued that images evoked by a story are more powerful than images that have been given in isolation (Green & Brock, 2002).

The connection to characters, improved realism of situations and mental imagery makes transportation advantageous as this facilitates mental simulation of new situations (Oatley, 2002). In turn, when it is easier to imagine an event or behaviour, this can facilitate a change of beliefs and behaviours (Gregory et al, 1982). If a story presents a specific guide towards the goal, this can be seen as a behavioural rehearsal, which can motivate the individual and increase their self-efficacy (Green, 2006). Hence, storytelling is a highly relevant type of communications method to use in regard to our study, which is why storytelling also forms the basis for our experimental design (see methodology chapter, 3.2.1. The Story).

2.6. Hypotheses Formulation

Based on the theory presented throughout the chapter, six hypotheses are formulated for the study. H1 and H2 are formulated to confirm two basic assumptions regarding children's perception of climate change and the effectiveness of storytelling. These hypotheses serve as a base for the study and set the departure for formulating the third and main hypothesis of the study. H3 is building on

theory relating to Construal Level Theory, the social and cognitive level of children and storytelling. In addition, as the study applies Theory of Planned Behaviour to address the concept of behavioural intention, the three determinants of behavioural intention will also be included in the hypotheses formulation. Consequently, H3 has been extended to include three supporting hypotheses addressing attitude (H3.1), perceived behavioural control (H3.2) and subjective norm (H3.3) (see Figure 4).

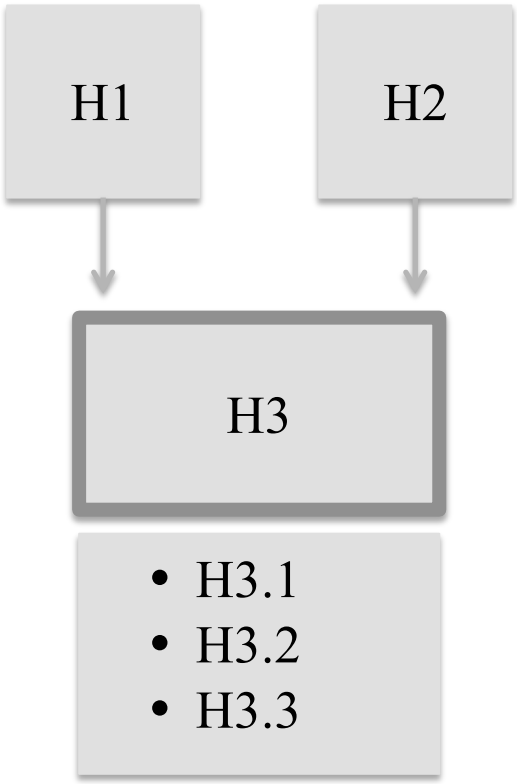


Figure 4, Hypotheses Structure.

Research has shown that young people (aged 12-25) perceive climate change and its impact as psychologically distant (Corner et al, 2015). As younger children have not yet reached the same level of social and cognitive development and recently started to understand more abstract concepts and phenomenon (John, 1999), we assume the same applies to children aged 10-12. Hence, the first hypothesis states:

H1: Children aged 10-12 perceive climate change as psychologically distant.

The second hypothesis addresses the form of communication. Storytelling is argued to be an effective way to persuade children (Green & Brock, 2000) and it is of relevance to test if the same

applies for messages regarding pro-environmental behaviour. Further, it has been argued that young people sometimes feel powerless in their actions in regard to pro-environmental behaviours (Corner et al, 2015). Accordingly, it has been recommended to communicate narratives that are framed to be relevant to the target group in order to increase their feelings of self-efficacy (ibid). Moreover, storytelling holds the benefit of transportation, which for instance facilitates modelling and mental simulation that can enhance feelings of self-efficacy (Anderson, 2000; Green, 2006). Hence, our second hypothesis states:

H2: Reading a story about pro-environmental behaviour (compared to not reading a story) has a positive effect on individuals' intention towards eating less meat.

Recent research have shown that people are more likely to engage in pro-environmental behaviour if they get exposed to both concrete descriptive information about what actions to take and abstract concerns serving as a rationale for why the steps are important (Rabinovich et al, 2009). Even if the combination has been shown to be effective towards adults (Rabinovich et al, 2009; Spence et al, 2011a), we assume the results do not have to be the same for children as they are not as socially and cognitively developed as adults or adolescents. As children aged 10-12 are developing their ability to understand abstract concepts and complex phenomena (John, 1999), it is not certain to what extent climate change and its impacts are understood and responded to. Pro-environmental behaviour is considered a complex issue even among adults due to all the different factors and aspects that can influence the behaviour (Kollmuss & Agyeman, 2002). Hence, it is likely that climate change is perceived as even more complex and abstract for children, who might not be able to fully understand the link between meat consumption and its environmental impact. Therefore, we assume that concreteness might be more advantageous rather than abstractness in the communication towards children.

Further, if climate change is perceived as psychologically distant (based on an acceptance of H1), climate change communication should in accordance with Construal Level Theory use abstract high-level construal to be effective (Liberman & Trope, 2008). Emphasis on the abstract aspect of climate change can be important to support an individual's actions and decisions for future behaviours that are aligned with his or her core values (Liberman & Trope, 2008; Spence et al, 2011a). However, the presented research has been conducted on adults and as our study targets children, we argue that 10-12 year olds might not share the same core values. Consequently, they

might respond to the abstract aspects differently. In other words, strong personal values for the environment and other people might not be as adapted among 10-12 year olds, who recently developed an ability to take other people's perspectives (John, 1999). It has been shown that younger people value the welfare of their in-group higher and that messages towards younger people should focus on personal relevance (Grønhøj & Thøgersen, 2009). Therefore, we argue that a story framing climate change impacts as local might make the communication more personally relevant, and thus more effective compared to a globally framed story.

Moreover, eating less meat illustrates a near future behaviour (psychologically close), which following the predictions of CLT should be represented at a lower level of construal (Liberman & Trope, 2008). However, when it comes to the *outcome* of eating (less) meat, the climate change impacts can relate to either local or global aspects. According to CLT, individuals find it easier to predict and make decisions about events that are psychologically closer to the individual (Spence & Pidgeon, 2010). Hence, framing the outcome as psychologically close using indices the child can associate with his or her own life (Woodside, 2010) might make the issue more tangible and personally relevant. As it has been argued that climate change communication should relate to children's everyday life (Corner et al, 2014), we argue that a focus on local impacts should be more effective than a focus on the global impacts of climate change.

Based on the discussion, the main hypothesis of the study states:

H3: Reading a locally framed story (compared to reading a globally framed story) results in higher intention towards eating less meat.

As behavioural intention can be argued to be a relatively complex concept, H3 will be supported by three subsequent hypotheses. To approach the concept of behavioural intention, this study is based on Ajzen's (1991) Theory of Planned Behaviour (see Figure 1 in 2.2.1. Behavioural Intention). Hence, in order to fully incorporate the theory, we have chosen to break down the concept of behavioural intention and hypothesise in relation to the three different determinants of the model. In other words, in regard to attitude, subjective norm and perceived behavioural control.

First, an individual's attitude is based on the evaluation of whether the specific behaviour is favourable or unfavourable (Ajzen, 1991). According to Ajzen (1991), the behavioural beliefs that determine the attitude are connected to different attributes and outcomes of the behaviour. As it has

been argued that children value personal relevance (Grønhøj & Thøgersen, 2009), we assume that if the attributes and outcomes of the specific behaviour are personally relevant, they might contribute to a more positive attitude. Referring to the argumentation for H3, we assume that personal relevance is to a greater extent gained by the locally framed story. Accordingly, we hypothesise:

H3.1: Reading a locally framed story (compared to a globally framed story) results in a more favourable attitude towards the behaviour.

Secondly, we assume that children in the specific age in general might not have a great knowledge about decreased meat consumption, which based on TPB can be seen as an obstacle for the behavioural intention (Ajzen, 1991). Hence, reading a story where a specific pro-environmental behaviour is performed might make children feel more confident about themselves performing the behaviour, and thus contribute with feelings of self-efficacy (Anderson, 2000; Green, 2006). Referring to previous argumentation for H3, we assume that reading a locally framed story will make the issue of climate change perceived as more tangible for a child. Consequently, this might make the child perceive that he or she possess a higher control of the behaviour, thus increase the perceived behavioural control (Ajzen, 1991). Hence, we hypothesise:

H3.2: Reading a locally framed story (compared to a globally framed a story) results in a higher perceived behavioural control.

Lastly, in regard to the determinant of subjective norm, we assume there will not be a noticeable difference between a local and global frame of the story as the setting is identical in the two versions. However, in regard to the second hypothesis (H2) we argue that reading a story (either local or global) including indices relating to the social context of the child might serve as a reminder of other people and their expectations. Hence, we hypothesise:

H3.3: Reading a story (compared to not reading a story) results in higher perceived subjective norm.

In order to guide the reader through the study, the following table presents how the hypotheses are formed to help answering the research question and sub-questions.

Research Question	Hypotheses
To what extent can framing of geographical (local vs. global) psychological distance within storytelling increase children's intention to behave pro-environmentally in regard to meat consumption?	H3: Reading a locally framed story (compared to reading a globally framed story) results in higher intention towards eating less meat
Sub-questions	
Does psychological distance have an effect on children?	H1: Children aged 10-12 perceive climate change as psychologically distant
Does storytelling have an effect on children's intentions?	H2: Reading a story about pro-environmental behaviour (compared to not reading a story) has a positive effect on individuals' intention towards eating less meat
What determinants of behavioural intention can be influential on children?	H3.1: Reading a locally framed story (compared to a locally framed story) results in a more favourable attitude towards the environment and other people H3.2: Reading a locally framed story (compared to a globally framed story) results in a higher perceived behavioural control H3.3: Reading a story (compared to not reading a story) results in higher perceived subjective norm

Table 1: Questions and hypotheses, Chapter 2 Theory.

3. Methodology

A quantitative method has been used to answer the research question. In this purpose, data has been collected from field experiments in five school classes and analysed in relation to the presented theory. This chapter guides the reader through each and every step of the research. From the predefined decisions regarding research strategy (3.1.) and the experimental design (3.2.), through the specific measurements used for the method (3.3.), to describing the sample selection (3.4.) and actual experimental procedure (3.5.). The chapter further presents how the data was coded and analysed (3.6.) and reflected upon in regard to reliability and validity (3.7.). Lastly, a section about limitations of the methodology of the study is presented (3.8.).

3.1. Research Strategy

Our study departures from the philosophy of positivism. Through an ontological perspective, positivism views the reality as external and independent with one true reality (Saunders et al, 2016). Regarding epistemology and accepted knowledge, positivism advocates a strictly scientific empiricist method with observable and measurable facts (ibid). Moreover, positivist research is value-free (ibid) and accordingly, our study has been objective and independent of what have been researched to prevent the risk of bias. A positivist research typically conducts a deductive method to relate the research to the theory (ibid), which also has been the case for our study. This implies that based on the theoretical background, hypotheses that were subjected to empirical scrutiny were deduced. In close relation to the theory and hypotheses, the data collection was derived based on a quantitative research strategy.

3.2. Experimental Design

The experiment aimed to test if and to what extent the independent variable of psychological distance affects the dependent variable of behavioural intention towards eating less meat. As the research was conducted on children, it was important to adapt the research methods and

experimental procedures after the children's cognitive and social capabilities (Perrachio & Mita, 1991; Scott 2000). Therefore, potential problems such as language use, literacy and stage of cognitive development (Scott, 2000) was taken into consideration throughout the formation of the experimental design.

3.2.1. The Story

To operationalize the independent variable of psychological distance, a one-page story emphasising the pro-environmental behaviour of decreased meat consumption was created as the main stimuli of the experiment. The story was formed with a beginning, middle and end to create the chronology expected of a narrative (Green, 2006) and with relationships between the elements to allow causal inference by the reader (Escalas, 2004; Green, 2006). Stein and Trabasso's (1981) structure for creating simple narratives have been used as the main inspiration for the creation of the story, including the story elements of setting, initiating event, internal response, attempt, consequence and reaction (Stein & Trabasso, 1981) (see Table 1).

Category	Description of category	Example from local version of story
Setting	Introduction of the protagonist; contains information about the social, physical, or temporal context in which the story events occur	Frans wakes up a Monday morning to go to school. Frans lives in a house with his mother, father and sister. They all eat breakfast together in the morning. Frans goes down to the kitchen where his...
Initiating event	An action, an internal event, or a physical event that serves to initiate the storyline or cause the protagonist to respond emotionally and to formulate a goal.	Frans' father says, "I am reading an article about the Danish meat industry and the negative impact it has on our climate in Denmark. We have such a big meat production and export here in Denmark. It might be difficult to imagine, but even the production of food can be bad for the Danish climate."
Internal response	An emotional reaction and a goal, often incorporating the thought of the protagonist that cause him to initiate an action.	Frans feels a bit bad about what his father says. Frans eats meat to almost every meal every single day. Maybe he should try to eat less meat.
Attempt	An overt action or series of actions, carried out in the service of attaining a goal.	Frans is just about to spread his sandwich and views the different alternatives on the table: butter, tomato, sausage and paté. Normally, Frans would choose sausage, but today he wants something else.
Consequence	An event, action, or end state, marking the attainment or nonattainment of the protagonist's goal.	He reaches for the tomato slices and put them on his bread. It tastes good.

Reaction	An internal response expressing the protagonist's feelings about the outcome of his actions or the occurrence of broader, general consequences resulting from the goal attainment or nonattainment of the protagonist.	Frans feels proud, raises his hand and says he chose not to eat meat for breakfast. How easy it can be to change behaviour and do something good for the environment. He is happy to say that he is actually doing something good for the environment and the Danish people.

Table 2, Structure and categorisation of story. Reference Stein and Trabasso (1981) (see Appendix 8.1. Structure and categorisation of story in Danish).

As mentioned in the theoretical background, the reader's relationship with the characters and perceived realism are valuable factors to increase the persuasiveness of transportation in a narrative message (Green, 2006; Green & Brock, 2000). Moreover, it is assumed that the respondents will relate stronger to the protagonist of the story if the character is similar to the reader in regard to demographic factors (Green, 2006). Hence, it can be argued that if the protagonist is similar to the reader, there is more indices for the child can relate to (Woodside, 2010). Based on this argumentation, the protagonist Frans was developed for the story. The character was formed to be likeable by other children as positive feelings towards a character can facilitate changes in attitude or beliefs in line with the character (Green & Brock, 2000). Moreover, when conducting experiments on children it is important to provide the participants with contextual support to increase the their understanding of the information (Perrachio & Mita, 1991). Based on this, our story incorporated familiar objects as this has been argued to facilitate the child's encoding and retrieving of information (ibid). In the story, the reader enters Frans' world on a regular day and the activities Frans undertake and interactions he encounters are formed in an attempt to be familiar to most children. Consequently, as the reader follows Frans through his actions, for example deciding to change his breakfast (see Appendix 8.2. Story) the respondent might experience an increased feeling of self-efficacy (Anderson, 2000; Green, 2006), which have been shown to be important in promoting pro-environmental behaviours to children (Corner et al, 2015).

Moreover, when conducting experiments on children, it is important to use language that corresponds to the children's level of understanding (Perrachio & Mita, 1991). Thus, considering the age of the respondents for our study, the text for the story and questionnaire were adapted in order for the information not to be too complex. For instance, instead of using the term d*ecreased meat consumption*, the story used *eat less meat* as this was considered to better reflect the language used in the child's everyday life (see Appendix 8.2. Story; 8.3. Questionnaire).

Further, when conducting experiments on children, it has been argued that the knowledge domain should be familiar to the children in order for them to process the information (Perrachio & Mita, 1991). As the children's pre-knowledge of climate change and meat consumption was unknown before the study, the information was kept on a basic level. Hence, in regard to the facts about meat consumption and climate change that was used for the story, the information was partially provided from the environmental organisation NOAH - Friends of the Earth (https://noah.dk). NOAH was contacted to discuss the theme of the research and NOAH's current communication materials. The facts that were used in the story were primarily inspired by NOAH's educational online platform *Spisornli*, which is adapted for children in the 4th to 6th grade (http://spisornli.dk). Spisornli is a free teaching portal created for teachers and schools in a learning purpose, focusing on food, environment and climate change (ibid). As the material in the portal is adapted for the same age group as our study, it was advantageous to use the facts and descriptions of concepts for our story. In addition to the information received by NOAH, further facts about climate change and its impacts were gathered from the European Environment Agency's report *Climate change, impacts and vulnerability in Europe 2016* (European Environment Agency, 2017).

The story was used to manipulate the independent variable of psychological distance in order to determine if it would have an effect on the dependent variable, intention to decrease meat consumption. Consequently, two different versions were created from the same story (see Appendix 8.2. Story). Addressing the spatial dimension of psychological distance (Liberman & Trope, 2008), one version was framed with a local focus of climate change impacts in Denmark, while the other version was framed with a global focus on climate change and impacts affecting the whole world. Thus, both versions of the story had a local setting (Denmark), but in terms of the climate change impacts the versions of the two stories differed from each other. For instance, in the psychologically close and local version, respondents read *"Today I will tell you about climate change and its impacts on Denmark"* and in the psychologically distant and global version respondents read *"Today I will tell you about climate change and its impacts on our earth"*. The local story used words relating to Denmark and the Danish people 11 times (global 0 times), while the global story used words relating to the world and the inhabitants of the world 11 times (local 0 times). The two final versions of the story consisted of approximately 550 words each (see Appendix 8.2. Story).

3.2.2. The Questionnaire

Subsequent to the story, the respondents received a self-completion questionnaire (see Appendix 8.3. Questionnaire). Self-completion questionnaires are relatively fast and easy to manage for the researchers (Bryman & Bell, 2015), but are also suitable for the respondents of our study due to their level of development, as presented by John (1999). Children aged 10-12 has developed an ability to think more analytically and exhibit more thoughtfulness in regard to the choices they make (John, 1999). Hence, we assumed that they would be able to understand and make meaning of the information in a questionnaire by themselves. However, even if self-completion questionnaires are argued to be suitable for our specific age group, it is important to adapt the items (i.e. questions) after the respondent's level of understanding (Scott, 2000). Moreover, when conducting research on children, data quality can be considered an issue (ibid). Hence, to facilitate the respondents understanding of the items and to prevent misunderstandings, careful consideration was taken to the creation the items in the questionnaire. The items were created avoiding any complex or ambiguous term, which has been highlighted to be important when conducting research on children (Bryman & Bell, 2015; Scott, 2000). Moreover, efforts were made not to make the items leading or loaded (Bryman & Bell, 2015). As the questionnaire was developed for children, it was challenging to formulate the items in an easy, understandable way but at the same time being as neutral as possible. Even if some of the items of the questionnaire might come across as slightly leading or loaded, this was sometimes necessary in order to create items appropriate to the children and the TPB model (see 3.3. Measurements).

The questionnaire consisted of closed items with fixed alternatives (except from the items about nationality and age). Each alternative had an open circle for the respondent to cross, which was placed close to the text to make sure the respondent did not cross the wrong alternative by mistake (Bryman & Bell, 2015). Even if closed items might hinder the respondents from answering exactly what they think (ibid), closed items was considered suitable for the study due to the limited time that was given for the experiment and the age of the children. Open questions would not only appear as more extensive, but it would also have taken the respondents longer to formulate and write down the answers. Closed items can also be advantageous as they provide guidance for the respondent and can show how to answer a certain item (ibid). Moreover, answers from closed items are easy to process and analyse (ibid). In other words, it is easier to distinguish relationships

between variables and make comparisons between answers and respondents when analysing data collected through closed items (ibid).

To facilitate the process of answering the items, likert scales were used throughout the questionnaire to ensure the answer alternatives did not overlap and were well distinguished from each other (Bryman & Bell, 2015). Two different 5-point likert scales were used, ranging from *very likely* to *very unlikely* or *completely agree* to *completely disagree*. In addition, one 4-point likert scale, ranging from *very important* to *not important* was used. The likert scales had a verbal rather than numerous formats for the alternatives. It was assumed verbal alternatives would be easier for the respondents to understand, as a numerous format would require the child to interpret its value. Further, the likert scales included the alternative of "don't know". Even if such alternative can be considered to open up the possibility for the respondents to not think hard about their answer (Bryman & Bell, 2015), a "don't know" alternative was argued to be necessary for our study not to force the respondents to answer something they were not completely sure about or that did not fit with any of the existing alternatives.

Finally, as long questionnaires often are considered undesirable and there is a risk respondents skip items if they get bored (Bryman & Bell, 2015), an effort were made to limit the number of items and make sure every item was relevant for the specific purpose of the study. Finally, the questionnaire consisted of 29 items. As the questionnaire might come across as extensive to the respondents, the layout was made easy on the eye in order to not make the material appear too long and burdening (Bryman & Bell, 2015). Overall, the structure of the questionnaire was kept simple and clean with some use of colour to make it more appealing to the respondents. Moreover, one of the likert scales included smileys instead of traditional verbal format. This was done in hope of making the scale appear more fun and adapted after the age of the children (Scott, 2000).

3.2.3. Testing of Material

The two versions of the story were initially written in English by one researcher before the other researcher reviewed the text to make sure the story was clear, coherent and consistent. Subsequently, the story, as well as the questionnaire, was translated into Danish with help from a Danish teacher and a native Danish-speaking colleague. The story was further reviewed by two members of NOAH to ensure the message was consistent with other communication about climate change and meat consumption. Both the story and the questionnaire were reviewed by each of the

classes' respective teacher to make sure the material was adapted to the age of the children. In addition, the questionnaire was piloted on a child within the specific age group to make sure the child would comprehend and understand the items as intended (Scott, 2000).

3.3. Measurements

3.3.1. Direct and Indirect Measurements of Behavioural Intention

To measure the respondents' behavioural intention, the behaviour should be specified in regard to its target, action, context and time (TACT) (Ajzen, 2002). The behaviour of our study was identified in terms of eating less (*action*) meat (*target*) within the next two weeks (*time*). The element of context was not specified as the behaviour of eating is argued to occur in several different places and contexts.

The questionnaire was developed to gather data for the different measurements in Theory of Planned behaviour (TPB), namely Behavioural Intention, Attitude (A), Subjective Norm (SN) and Perceived Behavioural Control (PBC) (Ajzen, 1991). The items used to operationalize the measurements were based on TPB (Ajzen, 1991) and Ajzen's (2002) recommendations for constructing a TPB questionnaire. All items in the questionnaire were given the same weight.

Two measurements, Direct Behavioural Intention and Indirect Behavioural Intention, tested the respondents' behavioural intention in relation to the main hypothesis of the study (H3). To measure the Direct Behavioural Intention, only one item was asked, namely *I intend to eat less meat within the following 2 weeks* (see Table 3). To measure the Indirect Behavioural Intention the values of attitude, subjective norm and perceived behavioural control were summed across all three determinants. The three different determinants were each measured by several underlying items relating to either attitude, subjective norm or perceived behavioural control. The measurements for the determinants of Indirect Behavioural Intention will be presented more in detail below.

3.3.2. Measurement of Attitude

Attitude (A) was measured by eight items (see Table 3). First, four items were asked to measure the strength of the elicited behavioural beliefs. The items corresponding to the behavioural beliefs were created based on own assumptions with inspiration from Ajzen's (2002) guideline examples and Øygard and Rise's (1996) study on intention towards healthy food. Thereafter, four items were

asked to measure the evaluation of the outcomes of the specific belief. Each behavioural belief (BB) was then multiplied with the corresponding evaluation of outcome (OE). The resulting products were summed across all the four different outcomes to assess the attitude towards the behaviour (A). Hence, Total Attitude was derived from the following formula:

A = (BB1 x OE1) + (BB2 x OE2) + (BB3 x OE3) + (BB4 x OE4)	
A	Total Attitude score
BB1 → BB4	Scores for each of the four behavioural beliefs (scale: 1-5)
OE1 → OE4	Scores for outcome evaluation relating to each behavioural belief (scale: 1-4)

The measure of *Total Attitude* was used to test the hypothesis relating to the respondent's attitude, namely (H3.1), *Reading a locally framed story (compared to a locally framed story) results in a more favourable attitude towards the environment and other people.*

3.3.3. Measurement of Subjective Norm

Subjective Norm (SN) was measured with eight items (see Table 3). First, four items were asked to measure the beliefs about normative expectations of others. In this study, beliefs about other people's expectations were tested by the extent to which the respondents believe that parents, siblings, friends or teachers think they should eat less meat. In addition, four items were asked to measure the individual's' motivation to comply with these expectations. The strength of each normative belief (NB) was multiplied by the corresponding motivation to comply (MC). The resulting products were summed across the four different sources to constitute the measure of Subjective Norm (SN). As some respondents might not have any siblings, an "I don't have" alternative was added as an alternative to the item (see Appendix 8.3. Questionnaire nr. 12). Total Subjective Norm was derived from following formula:

SN = (NB1 x MC1) + (NB2 x MC2) + (NB3 x MC3) + (NB4 x MC4)	
SN	Total Subjective Norm score
NB1 → NB4	Scores for each of the four normative beliefs (scale: 1-5)
MC1 → MC4	Scores for motivation to comply relating to each source of social pressure (scale: 1-5)

The measure of *Total Subjective Norm* was used to test the hypothesis relating to the individual's perception of subjective norm, namely (H3.3), *Reading a story (compared to not reading a story) results in higher perceived subjective norm*.

3.3.4. Measurement of Perceived Behavioural Control

Perceived Behavioural Control (PBC) was measured by six items (see Table 3). Three items measured the beliefs about the presence of factors that might facilitate or hinder the execution of the specific behaviour. The other three items measured the perceived power of these different factors. Each control belief (CB) was then multiplied with the perceived power (PCB) and the resulting products were summed across all three different control beliefs to produce the perceived behavioural control (PBC). Total Perceived Behavioural Control was derived from the following formula:

PBC = (CB1 x PCB1) + (CB2 x PCB2) + (CB3 x PCB3)	
PBC	Total Perceived Behavioural Control score
CB1 → CB3	Scores for each of the three control beliefs (scale: 1-5)
PCB1 → PCB3	Scores for control belief power relating to each control belief (scale: 1-5)

The measure of Total Perceived Behavioural Control was used to test the hypothesis about the individual's perception of perceived behavioural control, namely (H3.2), *Reading a locally framed story (compared to a globally framed story) results in a higher perceived behavioural control.*

To summarise, a high score in total attitude (A) reflects a positive attitude towards the target behaviour. A high total subjective norm (SN) score reflects greater social pressure to the target behaviour. Lastly, a high total perceived behavioural control score (PCB) reflects greater level of control of the target behaviour. Consequently, the total scores were summed across the three determinants of behavioural intention to assess the Indirect Behavioural Intention towards the behaviour. Hence, Indirect Behavioural Intention was derived from the following formula:

Indirect Behavioural Intention = A + SN + PBC

3.3.5. Measurement of Psychological Distance

To measure the respondents' perceptions of psychological distance towards climate change in relation to the first hypothesis (H1), *Children aged 10-12 perceives climate change as psychologically distant*, five items in the questionnaire related to psychological distance (see Table 3). The five items were linked to the different dimensions of psychological distance, namely temporal, spatial, social and hypothetical (Liberman & Trope, 2008; Spence et al, 2011a).

3.3.6. Demographics and Personal Information

In addition to the items on TPB and psychological distance, the questionnaire also consisted of five items regarding demographics and personal information (see Table 3). Beside age, gender and nationality, one item touched upon the respondents' current mood. This item was asked in order to determine if any respondent were in a bad mood, which could have affected the result. Moreover, as a vegetarian's answers to the questionnaire might bias the results, one item asked the respondents whether they eat meat or not to make it possible to exclude vegetarians from the subsequent analysis. Lastly, the questionnaire also consisted of two items relating to the respondents' favourite dish to get a better understanding of the respondents' food preferences.

Item category	Sub-construct	Items
Direct Behavioural Intention		I intend to eat less meat within the following 2 weeks
Indirect Behavioural Intention		
Attitude	Behavioural Belief	*If I eat less meat within the next 2 weeks, I will…* BB1: Miss to eat meat BB2: Feel good about myself BB3: Have difficulties finding something to eat BB4: Feel that I am doing something good for the environment and other people
	Outcome of Evaluation	*I think it is important to...* OE1: Eat meat OE2: Feel good about myself (e.g. proud) OE3: Easily find something to eat OE4: Feel that I do something good for the environment and other people

Subjective Norm	Normative Belief	NB1: I think my parents expect me to eat less meat within the following 2 weeks NB2: I think my siblings expect me to eat less meat within the following 2 weeks NB3: I think my friends expect me to eat less meat within the following 2 weeks NB4: I think my teacher expect me to eat less meat within the following 2 weeks
	Motivation to Comply	MC1: It is important for me to do what my parents expect MC2: It is important for me to do what my siblings expect MC3: It is important for me to do what my friends expect MC4: It is important for me to do what my teacher expect
Perceived Behavioural Control	Control Belief	CB1: I do not like meat CB2: There is other food beside meat for me to eat in school and at home CB3: My own meat consumption will have an effect on the environment
	Power of Control Belief	PCB1: I will eat less meat within the following 2 weeks as I do not like meat PCB2: I will eat less meat within the next 2 weeks as I will be able to find food without meat PCB3: I will eat less meat within the next 2 weeks as my meat consumption will have an effect on the environment
Psychological Distance	Temporal Spatial Social Hypothetical	PD1: I think climate change will primarily take place in the future PD2: Denmark is affected by climate change PD3: Climate change is primarily affecting places far away PD4: Climate change has an effect on me and my life PD5: I am uncertain about what the consequences of climate change will be
Demographics and Personal Information	Mood Age Gender Nationality Food preference Favourite dish Habit	How is your mood today? I am ... age old I am a girl/boy I am coming from... I eat/do not eat meat My favourite dish contains meat I do not intend to eat my favourite dish within the next 2 weeks

Table 3, Items in the study (For the structure and scaling of the original items, see Appendix 8.3. Questionnaire).

3.4. Sample

A convenient sample was used to select the participants for the study. The only criterion in the sample selection was age, targeting 10-12 year old children, and children living in Denmark. To recruit respondents for the sample, primary schools with 4th and 5th graders in the Copenhagen area were contacted. A recruitment email (see Appendix 8.4. Recruitment Email) introducing ourselves, the focus of our master thesis and a brief description of the experiment, was sent to the schools. Most schools answered that they were too busy or not interested, however a few teachers send us a positive response and wanted to know more about the experiment. In most of the cases the dialogue also led to conduction of the experiment. Unfortunately, one appointment for an experiment was cancelled only a few days on beforehand due to internal problems at the school. Finally, five classes from different schools participated in the study (N= 86). The full experiment was conducted in three of the classes and two classes accounted for the control group.

In order to gather the sample, some ethical aspects had to be considered. Hence, all parents were required to give their approval for their child to participate prior to the conduction of the experiment. The teachers contacted the parents and managed the collection of approvals according to their school's standards for communication with parents. The parents were informed about the purpose of the study and the theme of climate change, but were not told about the hypotheses that were going to be tested. Moreover, the parents were informed about the children's anonymity in the research and were asked not to discuss the experiment with their child before the experiment. This way, potential influence from the parents in regard to the subject was avoided.

3.5. Procedure

The setting is important when conducting research on children as the location might influence the way in which the children respond to the items (Scott, 2000). The experiments were conducted in classrooms as this was considered to be the most effective to provide convenience, comfort and security for the children and the teacher. Moreover, we assumed a classroom would be appropriate for the experiment as this is a setting where the children usually work with different kinds of learning material.

Before the experiment was conducted, the teacher had been informed about the experiment's different parts and content to make sure all the children would be offered the appropriate level of

assistance during the experiment. In the classroom, the children received general information about the experiment and their anonymity, as well as detailed instructions about how the procedure of the experiment would follow. However, the children did not receive any information about the theme of climate change and meat consumption, nor were they informed about any hypotheses or variable that was going to be tested. As there is a risk the children might be influenced by classmates when conducting research in school (Scott, 2000), the respondents were asked not to talk to each other during the experiment and to answer the items individually. Moreover, the respondents were asked to read the story and items carefully but to answer with their first instinct and not deliberate over each item. Lastly, the children were asked to answer all the items and with only one alternative per item. The introduction was given in order to create a relationship with the children and make them feel more motivated to give truthful and careful answers to the questionnaire (Scott, 2000).

After the oral presentation of the experiment the material was handed out in the class. The participants were randomly assigned to one of the two experimental groups. Half of the class received Story 1 (close frame) and the other half received Story 2 (distant frame), without being aware of the separation. Even if the story was framed in two different versions, the sheets of paper appeared almost identical, which prevented any confusion among the children if they would lay eyes on someone else's paper. In regard to the control group, the respondents only received the questionnaire.

The children were observed during the experiment. Noise, concentration and overall mood among the children in the classroom were noted as these factors could come to play a role in the analysis of the results at a later stage.

During the whole experiment, the respondents were able to ask questions. It was valuable to have assistance from the class teacher as he or she knew the children on an individual level and thus was aware of some of the children's difficulties. In addition, it was beneficial to have a teacher present that could speak the children's language fluently as Danish is not our native language. Thus, the assistance limited the risk of not being able to help respondents struggling with literacy or items they did not understand (Scott, 2000). In total, reading the story and answering the questionnaire took the children approximately 30 minutes. When all the respondents had finished and the material had been recollected the experiment was over.

3.6. Data Analysis

All items in the questionnaire were structured with the negatively worded endpoints to the right (e.g. very unlikely, completely disagree, not important). The alternatives of each item had been pre-coded ranging from 1 to 5 (alternatively 1 to 4), where 5 (or 4) was the most positive and 1 was the most negative value in regard to the intention towards the specific behaviour. Hence, for some items in the questionnaire the negative endpoint was given the highest point, while for other items the negative endpoint was given the lowest point (see Appendix 8.3. Questionnaire). If a respondent failed to answer an item, the answer was coded as a zero (0) to make sure the respondent's answer did not bias the data analysis and overall data result (Bryman & Bell, 2015).

3.6.1. Analysis in SPSS

The data was analysed through IBM SPSS (version 24) software for Windows. As the first step in SPSS Statistic, all variables were listed in the same order as they had appeared in the questionnaire and each respondent's scores were entered. In addition, the variable "Frame" was created as a nominal measure giving the locally framed version of the story the value of 1, the globally framed version the value of 2 and the control group the value of 3. For variables that were not numeric, SPSS *Value Labels* were used to facilitate the overview of the data. For instance, for the variable *Sex*, value 1 was given the label *Girl* and 2 the label *Boy*.

Three new variables were created for the weighted score of each behavioural belief (e.g. A1 = BB1 x OE1) and one new variable for the total Attitude score (Tot A = A1 + A2 + A4). Four new variables were created for the weighted score for each normative belief (e.g. SN1 = NB1 x MC1) and consequently one new variable for the total Subjective Norm score (Tot SN = SN1 + SN2 + SN3 + SN4). Moreover, two new variables were created for the weighted control belief (e.g. PBC1 = CB1 x PCB1) and consequently one new variable for the total Perceived Behavioural Control score (Tot PBC = PBC1 + PBC2) (see 3.3 Measurement). Lastly, the total scores for Attitude, Subjective Norm and Perceived Behavioural Control were summed to create a new variable for Indirect Behavioural Intention.

Two paired items, number 9c and 10c (BB3, OE3) and 19 and 20 (CB1, PCB1) (see Appendix 8.3. Questionnaire), were excluded in the data analysis as they were assumed to be misleading or irrelevant for the underlying theoretical structure, which could lead to inaccurate data and a biased

result. Several respondents asked questions about these specific items in the questionnaire, which indicates that the items were not clear enough.

Moreover, since observations falling far below or above the rest of the data can reduce the validity of the results (Agresti & Finlay, 2009), outliers were detected and removed from the data before the analysis. Out of the 86 individuals participating in the experiment, a few of the respondents only answered a part of the questionnaire and were thereby excluded from the analysis. In addition, some of the respondents marked that they did not eat meat and were also excluded from the analysis. From the local and global groups five respondents were excluded and from the control group nine respondents were excluded. Consequently, in total 72 respondents was part of the data analysis (local = 24, global = 22, control = 26). Among these respondents, 38 were girls and 34 were boys.

As a first step of data analysis in SPSS, the three experimental groups' means were calculated in relation to Direct Behavioural Intention, Indirect Behavioural Intention, Attitudes, Subjective Norm and Perceived Behavioural Control. The descriptive data indicated to what extent the groups differed from each other and in regard to which variables.

One-way analysis of variance (ANOVA) was used as method to compare means derived from the data set in regard to the different measures of the study. Based on guidelines from Agresti and Finlay (2009), the ANOVA is used as a test for significance in order to identify differences among the means and follows the steps of the table below.

Element of Test	**One-Way ANOVA**
1. Samples	Independent
2. Hypotheses	*H*0: Identical means *H*a: At least two means not equal
3. Test statistic	*F*= Between-groups estimate of variance/Within-groups estimate of variance *F* distribution: *df*1= g-1 *df*2= N-g
4. *P*-value	Right-tail probability

First, Agresti and Finlay (2009) argue that a basic assumption for an ANOVA is that the samples for the analysis are independent, meaning observations in one group of the experiment are independent of observations in other groups. Moreover, the subjects in the groups are all different respondents and who were assigned to the groups randomly (ibid), which has been argued was the case for our study.

Secondly, in regard to the hypotheses for the ANOVA, the null hypothesis (H0) states that the means are identical, while the alternative hypothesis (Ha) states that at least two of the means are unequal (Agresti & Finlay, 2009). The test investigates whether the differences among means might have occurred by chance if H0 is accepted (ibid).

Thirdly, Agresti and Finlay (2009) present how the ANOVA estimates the variance both *between* and *within* groups. To test the null hypothesis, the F- value is determined by the ratio between the two estimates of variance (named Mean Square in ANOVA table) (ibid). In other words, if the variability between sample means is great and the variability within the groups is small, there is strong evidence against the null hypothesis (ibid). If the null hypothesis is rejected this tends to indicate a F-value above 1 (ibid). The F distribution is determined by two degrees of freedom (df) (ibid). df1 refers to the estimate of variance between groups, calculated by number of groups (g) minus 1. df2 refers to the estimate of variance within groups, calculated by number of respondents (N) minus number of groups (g) (ibid).

Lastly, the P-value is the probability to get a result (for the F-value) that is higher than the F-value that has been observed in the analysis (if the null hypothesis is accepted) (Agresti & Finlay, 2009). Seen from another perspective, a high P-value indicates weak evidence against the null hypothesis (fail to reject H0), while a low value indicates strong evidence against the null hypothesis (reject H0) (Bryman & Bell, 2015). For the present study, the standard level of 0.05 (5 %) as statistical significance was used to determine if the null hypothesis should be rejected or accepted (Bryman & Bell, 2015).

3.6.2. Normalisation of Data

Some of the variables that were added in SPSS were measurements calculated on other variables, and thereby within another range than the original likert scale between 1-5. This was the case for the four calculated measurements of Indirect Behavioural Intention, Total Attitude, Total Subjective Norm and Total Perceived Behavioural Control. Therefore, the values for these variables had to be normalised in order to be able to compare different measurements in the data findings. In our case, it was desired to maintain a range between 1 and 5 for all data measurements. However, the ANOVAs were still calculated with the original values as this provides the same result in regard to statistical significance.

The normalisation was made by rescaling, using the following formula:

$NewValue = \frac{(OldValue - OldMin) \times (NewMax - NewMin)}{OldMax - OldMin} + NewMin$	
NewValue	The new rescaled value on the specific measure (in this case ranging between 1-5)
NewMin	The lowest value on the new scale (1)
NewMax	The highest value on the new scale (5)
OldValue	The respondent's (total) score on specific measure
OldMin	The lowest total value possible for the specific measure
OldMax	The highest total value possible for the specific measure

(See Appendix 8.5. Normalisation of Data for complete calculation).

3.7. Quality Criteria

To facilitate replication of the study and increase the reliability (Bryman & Bell, 2015), the Methodology chapter has explained all parts of the research process in detail. In regard to validity, the measurement concerns to what extent a measure of a specific concept is actually measuring the concept in question (Bryman & Bell, 2015). In regard to the validity of our study, Ajzen's (1991) Theory of Planned Behaviour was applied as a base for measuring the respondents' intentions towards the behaviour. Theory of Planned Behaviour as measurement of behavioural intentions is a well-used model among researchers (e.g. Ajzen, 1991; Øygard & Rise, 1996). Consequently, the

TPB measurement has already been tested to research intentions, which increases the validity of our study. As mentioned in a previous section, Ajzen's (2002) guideline for constructing TPB questionnaires was used as inspiration to develop the TPB items in the questionnaire (see 3.3 Measurements). A great effort was made to translate the different concepts of TPB into appropriate items, which were adapted both to the particular behaviour being studied, as well as the cognitive and social capacity of the respondents.

Regarding *internal* validity (Bryman & Bell, 2015), testing whether there was a causal relationship between the independent variable (psychological distance) and the dependent variable (intention to eat less meat), the independent variable was carefully manipulated in order not to change anything else that could affect the relationship. Hence, the two versions of the story were highly similar (see 3.2. Experimental Design). The two versions only differed in the manipulation of the independent variable concerning the use of words in a few sentences. In addition, the use of a control group made it possible to not only compare the results between the two groups given different versions of the story, but also between the participants that had read a story and a group that was not exposed to a stimuli with the independent variable. Thus, the control group made it possible to eliminate other potential explanations to the findings, which could threaten the study's internal validity (Bryman & Bell, 2015).

The *external* validity concerns whether the result of the study can be generalised beyond the particular context that have been researched (Bryman & Bell, 2015). We argue that the result of our study could be generalised for children in other parts of Denmark. Even if there might be differences between the capital city of Copenhagen and other places in Denmark, we assume the external environmental factors that might influence children are relatively similar within the county. However, there is a possibility that children's knowledge about climate change and pro-environmental behaviour differs between the capital city and other regions, the same way as the specific behaviour might be more or less common or accepted in different areas of Denmark. As the sample was exclusively gathered in the capital region, careful consideration should be taken when generalising the results to other geographical areas in Denmark. However, as the study was conducted on children in a particular age group, the study should not be generalised to other age groups due to the difference in cognitive and social development (John, 1999).

Finally, as the experiment was conducted in the respondents' everyday setting in school, we assume the results can be applied to situations in similar contexts when communicating pro-environmental behaviour. Hence, this supports the study's *ecological* validity (Bryman & Bell, 2015).

3.8. Discussion and Limitations

The following section will reflect upon the choice of method. The discussion will touch upon what could have been done differently and whether the chosen methodology might have limited the data findings.

3.8.1. Participants

It was difficult to recruit classes to participate in the study. Even if five classes finally took part in the study, a larger sample, as well as a random sample, would have been desirable as it would have increased the reliability and validity of the study.

After conducting the experiments and reviewing the results, we noticed a difference in the answer rate between the manipulated and control groups. The respondents who only answered the questionnaire had a higher response rate than the respondents who had read a story. It is difficult to say why this tendency occurred, however it can be assumed that since only one teacher was present for the control group's experiment, the respondents did not access as much assistance. In addition, there is a possibility they might have felt less motivated, compared to when we (i.e. researchers) were present to explain why their help was needed. Moreover, as the control group only answered the questionnaire and did not read a story, it is possible that the experiment might have been perceived as less fun or important, which might have had an negative impact on the children's motivation to fulfil the experiment.

3.8.2. The Questionnaire

The recommended structure for creating a TPB questionnaire (Ajzen, 2002) requires extensive time and resources. As presented previously, the TPB questionnaire should include specific items that relates to an individual's behavioural, normative and control beliefs (Ajzen, 2002). Further, the recommended structure involves several items within each determinant of behavioural intention (ibid). For instance, the final score of Total Attitude was measured by using the formula: A = (BB1 x OE1) + (BB2 x OE2) + (BB4 x OE4) (see 3.3 Measurements). Based on the structure of the

measurements, the final determinant became obsolete in the data analysis if a respondent had not answer all the items that constituted a specific determinant.

Moreover, the specific items of a TPB questionnaire are recommended to be structured in a specific way as every item of the different beliefs also are weighted by the power of the corresponding belief (Ajzen, 2002). Thus, the specific items require high concentration and focus from the child in order to answer the items correctly. For example, during the experiment some respondents asked questions regarding the specific item, *I do not like meat* and how the different response alternatives, ranging from *agree* to *disagree*, should be interpreted (see Appendix 8.3. Questionnaire nr. 19). In other words, the respondents had difficulties knowing if they should choose agree or disagree as the question was framed to ask whether they did *not* like meat. It was further evident from the data analysis that some respondents had misinterpreted this item. As the item for the control belief (CB1) relates to the power of the specific control belief (PCB1), the review of a respondent's answers could indicate whether he or she had understood the items correctly. Hence, if the two items did not correspond with each other, we assumed that the item had been misinterpreted and as mentioned previously, this item was excluded to avoid bias in the data analysis. Consequently, formulating the items according to TPB recommendations (Ajzen, 2002) but at the same time make the items easy enough and adapted for the specific age group was perceived as an obstacle in creating an appropriate questionnaire.

Another item causing problems was, *My favourite dish contains meat* (see Appendix 8.3. Questionnaire nr. 7). Several respondents asked if fish or sushi was a type of meat. This can be seen as an indicator of not being clear enough in regard to some concepts in the questionnaire, which should have been described further.

Finally, the dependent variable of the research, behavioural intention, was measured both in terms of a direct and indirect measure of behavioural intention. The indirect measurement was build up by the determinants of attitude, subjective norm and perceived behavioural control, which consequently made the questionnaire relatively extensive. It is possible that the measurement of indirect behavioural intention might have been too overarching in regard to the limitation of time of the study and particular age group. For instance, if the study had focused exclusively on *one* of the three determinants of behavioural intention, the scope of research could have been narrowed down. Hence, it would have been possible to create a more focused and coherent questionnaire.

3.8.3. Determinants of Behavioural Intention

Due to the limitation of time given for this study, it can be argued the beliefs chosen for the questionnaire were not formed and adapted well enough for the specific study. Hence, this might have limited the effectiveness of the questionnaire. Regarding the determinant of attitude, the four selected behavioural beliefs were not tested on beforehand. Consequently, there is a possibility the chosen behavioural beliefs are not the one's that are most important and appropriate to the target group's attitude towards the specific behaviour of eating less meat. The same reasoning could apply for the determinant of perceived behavioural control. There is a risk there is control beliefs that are perceived important in facilitating or hindering the specific behaviour that have been left out. However, in regard to the normative beliefs, it is assumed the four selected reference groups of parents, siblings, friends and teachers are all relevant to the children at the particular age.

As the indirect measurement of behavioural intention consists of several determinants, it is important to use the right items to be able to get an accurate measure of an individual's intention towards a specific behaviour (Ajzen, 2002). Thus, the potential risk of not having the accurate items for the determinants might have contributed to weaken the link between the items and the individual's behavioural intention. To overcome this risk, a focus group could have been arranged before the creation of the questionnaire to discuss general beliefs about eating less meat, as recommended by Ajzen (1991). In addition, as it has been argued that focus groups are valuable in research on children (Scott, 2000), conducting additional focus groups could have contributed to a better understanding of children's overall perceptions about climate change and the specific behaviour. Moreover, it would have been of value to pilot the questionnaire to a larger sample to make sure the items were understood as intended (Scott, 2000).

3.8.4. Additional Qualitative Research

As several external (e.g. social and cultural) and internal (e.g. motivation, values and attitudes) factors influence pro-environmental behaviour (Kollmuss & Agyeman, 2002), it can be argued that the topic is also strongly related to qualitative research. However, our study is limited to investigate if a message would be more effective in increasing intentions when climate change impacts are framed as local (spatially close) or global (spatially distant). Thus, due to the purpose of the study, only quantitative data was collected to determine how well the manipulations work. However, it

could also have been of relevance and interest to gather qualitative data investigating *why* the specific result occurred and which were the underlying factors. As the questionnaire is based on Theory of Planned Behaviour and the respondents' perception of attitude, subjective norm and perceived behavioural control (Ajzen, 2002), subsequent interviews would have been beneficial to gain further insight to these areas. Moreover, there is a possibility the study lack factors and dimensions that also could have been influential in terms of children's intentions towards eating less meat, which could have been identified by additional qualitative methods.

Further, an additional qualitative method could also have been useful to gain insight in how children in the particular age perceive climate change in terms of abstractness and concreteness. As noticed during the experiment in the school classes, *the future* could be perceived as an abstract term as there was a need to explain the concept more concretely in terms of number of years. Hence, it would have been advantageous both to conduct interviews with children *before* the experiment in order to learn how much knowledge and understanding they have in regard to climate change and other concepts, as well as *after* the experiment in order to get explanations to specific answers and explore the children's thoughts more in detail.

4. Data Findings

In this chapter, the main findings of the analysis of data are presented. The first section, 4.1. Psychological Distance, addresses the respondents overall perception of psychological distance. Sections 4.2. Direct Behavioural Intention and 4.3. Indirect Behavioural Intention (including analysis of the determinants) compares the data findings between the local and global groups. Subsequently, in section 4.4. Manipulated versus Control Group, data findings comparing the total manipulated group (local and global) and the control group are presented. First in regard to the direct measurement, followed by the indirect measurement of behavioural intention and the three determinants. The chapter presents both general data describing the results as well as analyses of variance (ANOVA) to derive the statistical significance of the presented means. Finally, section 4.5. Hypotheses Review summarises the findings in terms of acceptance or rejection of the hypotheses.

To facilitate the understanding of the data findings, the table below illustrates some of the terms that are used throughout the chapter.

Term	**Description**
Item	Refers to a specific question in the questionnaire
Local mean	Mean of the respondents reading a local story
Global mean	Mean of the respondents reading a global story
Control mean	Mean of the respondents not reading a story
Sample mean	Mean of *all* respondents (local, global, control)
Manipulated group	Local and global groups

4.1. Psychological Distance

This first section presents the results in regard to the items of the questionnaire regarding psychological distance. These findings include all the groups; local, global and control group, and address the first hypothesis (H1) *Children aged 10-12 perceive climate change as psychologically distant.*

The average means among the items relating to psychological distance show no distinct difference between the groups (local, 3.00; global, 3.05; control, 3.02) (see Table 4). The result indicates that different aspects of climate change can be perceived as both distant and close. However, when comparing the means between the five different items a small difference is evident. Among all groups, the item whether (PD2) *Denmark is affected by climate change* received the highest sample mean (3.5) (see Table 4). The result indicates that the respondents to some degree perceive climate change as close.

The two items (PD5) *I am uncertain about what the consequences of climate change will be* (3.34) and (PD4) *Climate change has an effect on me and my life* (3.20) also indicate a perceived closeness (see Table 4). In other words, the findings indicate that the respondents are more certain than uncertain about the effects of climate change, and that they believe climate change has an effect on themselves.

Concerning the items (PD1) *I think climate change will primarily take place in the future*, and (PD3) *Climate change is primarily affecting places far away*, the sample mean for all groups shows a tendency of believing that climate change is more likely to take place in the future (2.54) and mostly affects places far away (2.53) (see Table 4). Consequently, these two aspects indicate that climate change is perceived as psychologically distant (see Appendix 8.3. Questionnaire nr. 25-29 for original items relating to psychological distance).

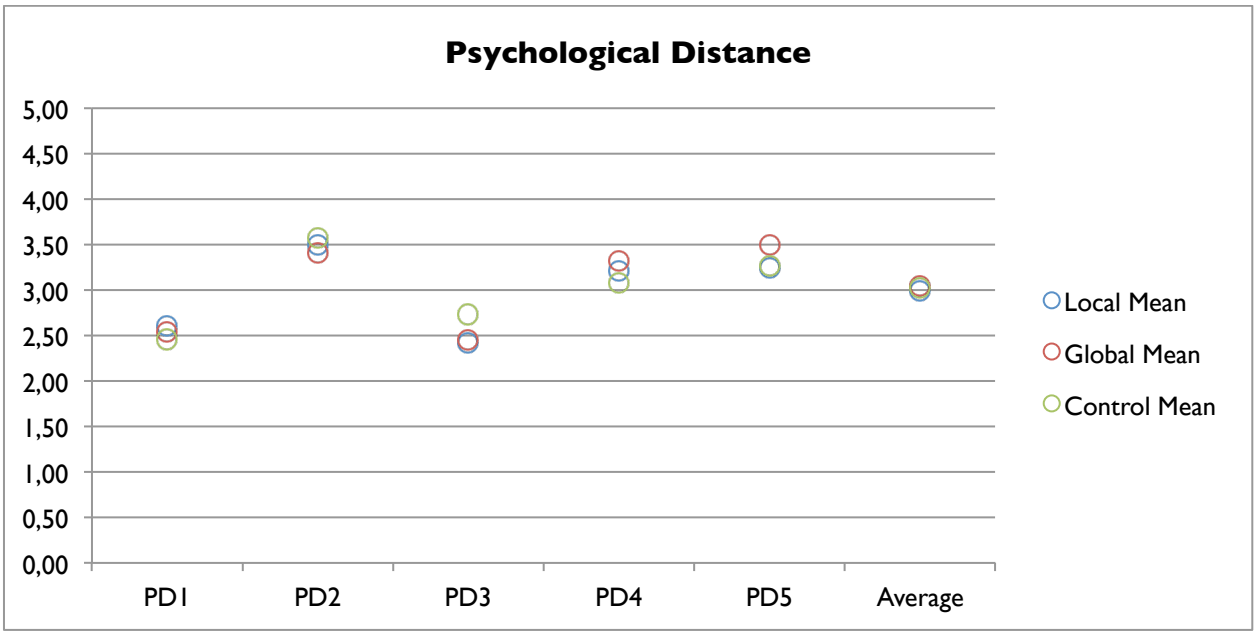


Table 4, Psychological Distance (see Appendix 8.6.1. for exact numbers).

In relation to the first hypothesis,

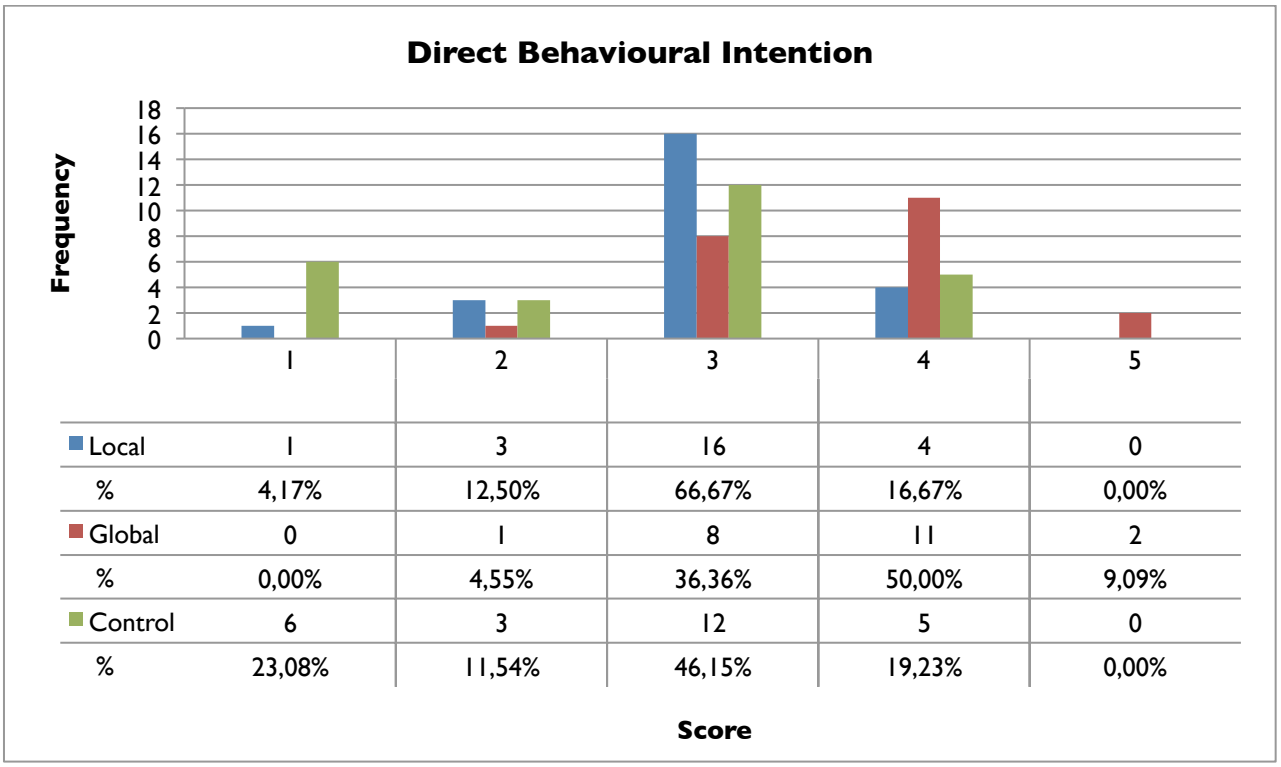
H1: Children aged 10-12 perceive climate change as psychologically distant,

the results regarding psychological distance indicates that different aspects of climate change can be perceived as both close and distant. Hence, based on the results of the study, the hypothesis can neither be rejected nor accepted.

4.2. Direct Behavioural Intention (local vs. global)

The following section addresses the data result in regard to the measurement of Direct Behavioural Intention, for which data has been collected through the item, *I intend to eat less meat within the following 2 weeks* (see Appendix 8.3. Questionnaire nr. 6). Together with the result of the measurement of Indirect Behavioural Intention, these findings address the main hypothesis (H3) *Reading a locally framed story (compared to reading a globally framed story) results in higher intention towards eating less meat.* First, the section presents the results of the data analysis with descriptive data, followed by an analysis of variance (ANOVA). The ANOVA presents whether the analysis of means is statistically significant, in other words if there is a clear difference in the means between of the local and global group.

In regard to the Direct Behavioural Intention, the data shows that 9.09% of the respondents in the global group gave the highest score (*very likely*) and 50 % scored the second highest (*likely*). In comparison with the local group, only 16.67 % of the respondents answered *likely* and none *very likely* (see Table 5). From the data it is also important to acknowledge that 50 % of all the respondents answered "I don't know" (value 3) to the particular item (see Appendix 8.3. Questionnaire nr. 6), which indicates a high uncertainty regarding the intention among the respondents.



	1	2	3	4	5
Local	1	3	16	4	0
%	4,17%	12,50%	66,67%	16,67%	0,00%
Global	0	1	8	11	2
%	0,00%	4,55%	36,36%	50,00%	9,09%
Control	6	3	12	5	0
%	23,08%	11,54%	46,15%	19,23%	0,00%

Table 5, Frequency Direct Behavioural Intention (max value 5, min value 1).

As elaborated in 3.6 Data Analysis, the alternatives to the item concerning behavioural intention had values between 1 and 5, with 5 as the highest score indicating a high intention towards eating less meat. The means shows that the respondent's intention towards eating less meat has a tendency of being weak rather than strong (see Table 6). The mean of Direct Behavioural Intention is higher for the global group (3.64) compared to the local group (2.96) (see Table 6). Thus, the result indicates that the global frame might have influenced the respondents to rate their intentions to eat less meat higher. In order to derive the significance of the difference in means, an ANOVA analysis of Direct Behavioural Intention was conducted between the local and global group.

Direct Behavioural Intention			
	Mean	N	Std. Deviation
Local	2,96	24	0,69
Global	3,64	22	0,73
Control	2,62	26	1,06
Total	3,04	72	0,94

Table 6, Direct Behavioural Intention (max value 5, min value 1).

4.2.1. ANOVA - Direct Behavioural Intention

The analysis of variance for Direct Behavioural Intention presents a df1 of 1, df2 of 44 and a F-value of 10.530, which gives a P-value value of 0.002 (see Table 7). The degrees of freedom (df) means that all 46 respondents that received a story answered the specific item in the questionnaire (see Appendix 8.3. Questionnaire nr. 5). The high F-value implies that the variance of means *between* the local and global group exceeded the variance of means *within* the groups. For instance, a child reading a local story would have more similar mean to the children reading the same story, compared to children reading a global story. As the significant value of 0.2 % is lower than the set significance level of 5 %, the result is statistically significant. In terms of the experiment, this implies that the global and local frames did not have the same effect in influencing the respondents' intention towards eating less meat and that the means differ more than just by chance. For explanation of F-value, statistical significance and degrees of freedom, see *3.6.1. Analysis in SPSS*.

ANOVA Direct Behavioural Intention					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5,277	1	5,277	10,53	0,002
Within Groups	22,049	44	0,501		
Total	27,326	45			

Table 7, ANOVA Direct Behavioural Intention (local vs. global).

4.3. Indirect Behavioural Intention (local vs. global)

This section presents the mean analysis and ANOVA of the Indirect Behavioural Intention measurement, as well as an analysis of the three determinants, namely attitude, subjective norm and perceived behavioural control. Thus, together with the previous findings regarding the Direct Behavioural Intention, the result addresses the main hypothesis (H3). In addition, the findings

relating to attitude address hypothesis H3.1, and the findings regarding perceived behavioural control address hypothesis H3.2.

The result of the data analysis indicates that both the local and global groups' mean are relatively low as they are below 3 on a scale from 1 to 5 (see Table 7). However, in similarity with the result of the Direct Behavioural Intention measure, the global group has a slightly higher mean (2.65) than the local group (2.52). Further, the result indicates that in regard to the indirect measurement, fewer respondents (N) were part of the analysis (local=17, global=17) compared to the direct measurement (local=24, global=22) (see Table 6; Table 8). The lower number is explained by the fact that respondents whom did not answer an item were excluded from the specific measurement (see 3.3 Measurements; 3.6 Data Analysis). In order to test the significance of the difference in means, an ANOVA analysis of Indirect Behavioural Intention was conducted.

Indirect Behavioural Intention			
	Mean	N	Std. Deviation
Local	2,52	17	0,42
Global	2,65	17	0,36
Control	2,45	25	0,34
Total	2,53	59	0,37

Table 8, Indirect Behavioural Intention (max value 5, min value 1).

4.3.1. ANOVA Indirect Behavioural Intention

The analysis of variance for Indirect Behavioural Intention presents a df of 1, df2 of 32 and a F-value of 0.902, which gives a P-value value of 0.349 (see Table 9).

ANOVA Indirect Behavioural Intention					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	368,941	1	368,941	0,902	0,349
Within Groups	13088,941	32	409,029		
Total	13457,882	33			

Table 9, ANOVA Indirect Behavioural Intention (local vs. global).

Due to the way of calculating the Indirect Behavioural Intention measurement, more answers were lost in the analysis (see 3.3 Measurements; 3.6 Data Analysis). Hence, the degrees of freedom are remarkably lower in the ANOVA (Total df = 33) in comparison with the Direct Behavioural

Intention (Total df = 45). As the significance value of 34.9 % is high above the set significance level of 5 %, the analysis show that the result is not significant. In regard to our research this implies that there is no difference in mean between children reading a local story or global story.

Regarding our main hypothesis,

H3: Reading a locally framed story (compared to reading a globally framed story) results in higher intention towards eating less meat,

the result indicates that the global group has higher intentions towards eating less meat compared to the local group. Hence, the hypothesis is rejected in our study. However, even if the data presents a result opposing the hypothesis, the analysis of variance of the Direct Behavioural Intention shows a statistically significant result.

4.3.2. Determinants of Behavioural Intention

As the measure of Indirect Behavioural Intention is calculated by the variables of Total Attitude, Total Subjective Norm and Total Perceived Behavioural Control (PBC), it is also of value to investigate these variables in isolation. It is possible that the result of some of the variables show a greater difference between the local and global group, and thereby also has a greater impact on the indirect measure compared to the other variables. Hence, this could indicate which aspects of the story were more or less important in relation to the different determinants. Moreover, the determinant of attitude has more specifically been analysed in regard to the hypothesis (H3.1) *Reading a locally framed story (compared to a locally framed story) results in a more favourable attitude towards the environment and other people* and perceived behavioural control in regard to the hypothesis (H3.2) *Reading a locally framed story (compared to a globally framed story) results in a higher perceived behavioural control.*

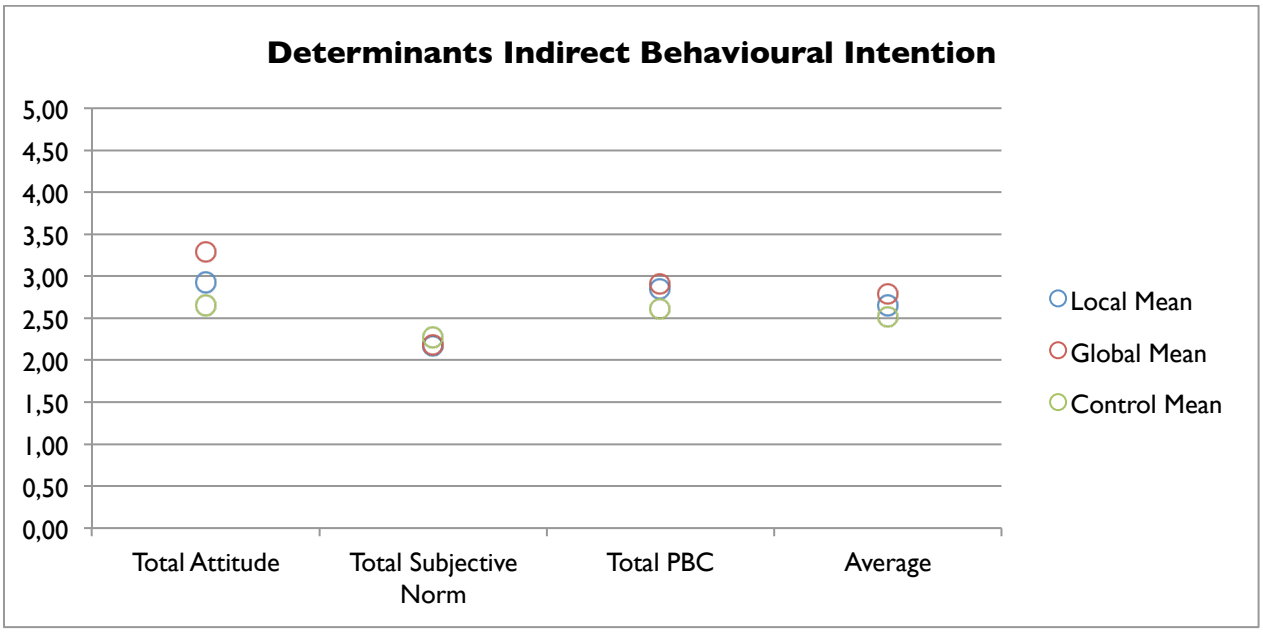


Table 10, Determinants of Indirect Behavioural Intention (see Appendix 8.6.2. for exact numbers).

The result indicates that in terms of Total Subjective Norm, the groups' means are very similar (local, 2.17; global, 2.18) (see Table 10). The same applies to the groups' means in relation to Total Perceived Behavioural Control (PBC) (local, 2.85; global, 2.90) (see Table 10). In terms of Total Attitude, there is a greater difference between the local and global groups. The global group has a higher mean (3.29) compared to the local group (2.93) (see Table 10).

4.3.2.1. Attitude

As Total Attitude is the determinant that differs the most between the local and global group, it is further of interest to investigate the three behavioural beliefs and corresponding outcome evaluations (Attitude 1, 2, 4). The data indicates that in regard to Attitude 1, the results for local (2.44) and global (2.64) are relatively similar, and rated the lowest among the three attitudes (see Table 11). Attitude 1 consists of to the behavioural belief (BB1), *If I eat less meat during the next 2 weeks, I will miss to eat meat* and corresponding outcome evaluation (OE1), *I think it is important to eat meat* (see Appendix 8.3. Questionnaire nr. 9a, 10a).

Moreover, the result indicates that Attitude 4 has a greater difference between the local (3.90) and global (3.53) means in comparison to the other attitudes (see Table 11). Attitude 4 consists of the behavioural belief (BB4) *If I eat less meat within the next 2 weeks, I will feel that I am doing something good for the environment and other people,* and the corresponding outcome evaluation

(OE4) *I think it is important to feel that I do something good for the environment and other people* (see Appendix 8.3. Questionnaire nr. 9d, 10d).

For the global group, Attitude 4 has the highest score among the different attitudes (see Table 11). For the local group on the other hand, Attitude 2 received the highest score (see Table 11). Attitude 2 consists of the behavioural belief (BB2), *If I eat less meat within the next 2 weeks, I will feel good about myself,* and the corresponding outcome evaluation (OE2), *I think it is important to feel good about myself* (see Appendix 8.3. Questionnaire nr. 9b, 10b).

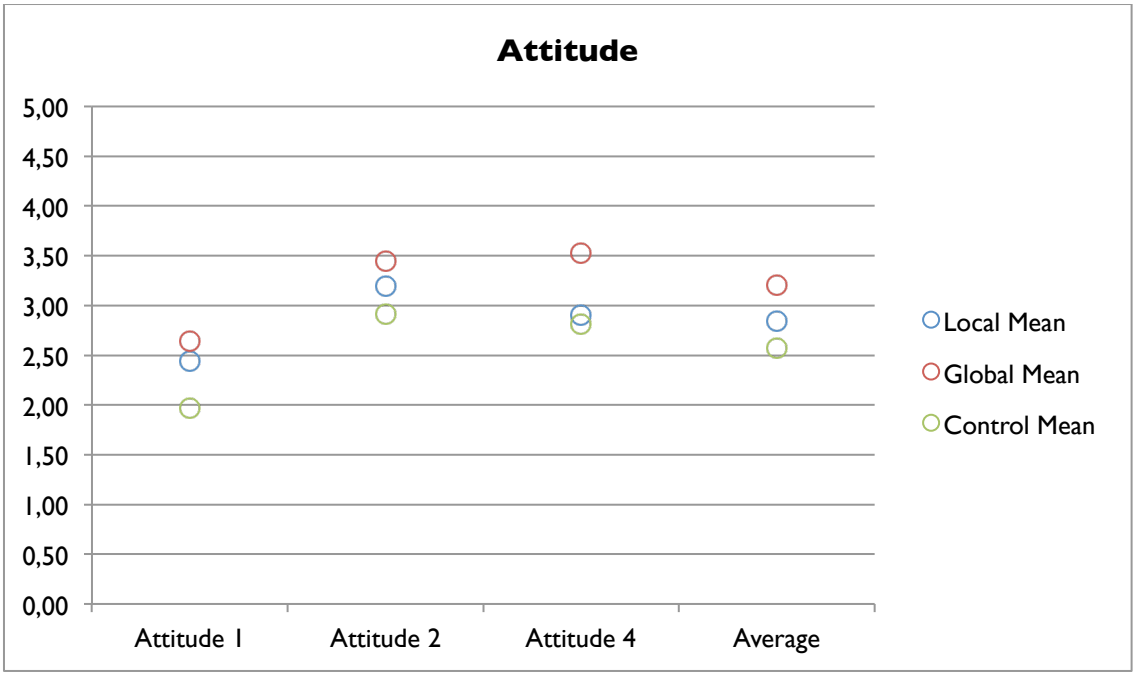


Table 11, Attitude (see Appendix 8.6.3. for exact numbers). Note: Attitude 3 was excluded from the analysis (see 3.6.1. Analysis in SPSS).

As the local and global groups' Total Attitude scores differ, an ANOVA of Total Attitude was conducted in order to test the significance of the mean analysis. The analysis of variance for Total Attitude presents a df1 of 1, df2 of 40 and a F-value of 4.132, which gives a P-value value of 0.049 (see Table 12). The F-value implies that the variance of means *between* the local and global group exceeded the variance of means *within* the groups. As the significant value of 4.9 % is just below the set significance level of 5 %, the result is argued to be statistically significant. Consequently, there is a clear difference in the means between of the local and global group.

ANOVA Total Attitude					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	298,667	1	298,667	4,132	0,049
Within Groups	2890,952	40	72,274		
Total	3189,619	41			

Table 12, ANOVA Total Attitude (local vs. global).

In regard to the hypothesis,

H3.1: Reading a locally framed story (compared to a locally framed story) results in a more favourable attitude towards the environment and other people

the result indicates the opposite, namely that the *global* group has more positive attitudes towards the specific behaviour compared to the local group. Hence, the hypothesis is rejected for the study. However, as the analysis of variance is statistically significant, the result indicates a difference between the groups' means.

4.3.2.2. Perceived Behavioural Control

For the measurement of Perceived behavioural Control (PBC), the results are relatively similar for the local and global group. However, the results show a difference between the two items that are linked to PBC in the questionnaire for both groups. The data indicates that PBC 2 is rated higher than PBC 3 for both the local and global group (see Table 13). However, while the local group rated PBC 3 higher (2.72) than the global group (2.56), the global group rated the PB2 higher (3.17) than the local group (2.93) (see Table 13). PBC 2 consists of the control belief (CB2) *There is other food beside meat for me to eat in school and at home* and the corresponding (PCB2) *I will eat less meat within the next 2 weeks as I will be able to find food without meat* (see Appendix 8.3. Questionnaire nr. 21, 22). PBC 3 corresponds to the control belief (CB3) *My own meat consumption will have an effect on the environment,* and (PCB3) *I will eat less meat within the next 2 weeks as my meat consumption will have an effect on the environment* (see Appendix 8.3. Questionnaire nr. 23, 24).

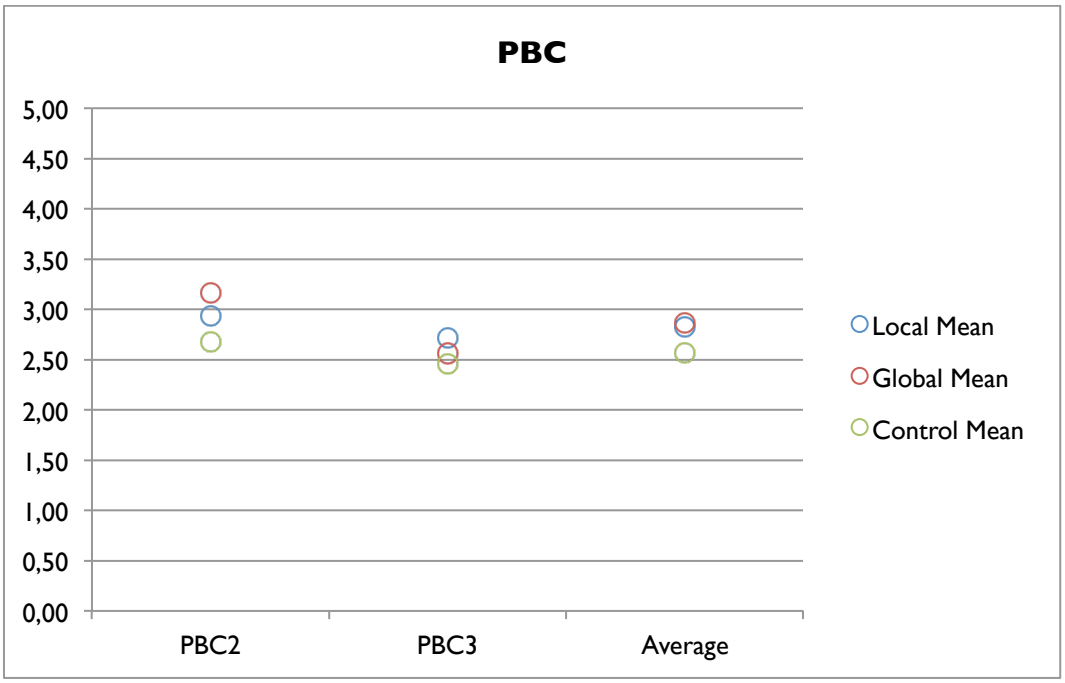


Table 13, PBC (see Appendix 8.6.4. for exact numbers). Note: PBC1 was excluded in the analysis (see 3.6.1 Analysis in SPSS).

The ANOVA of Total Perceived Behavioural Control for the local and global group indicates a low F-value (0.50) and high P-value (0.824) (see Table 14). Hence, there is no statistical significance between the local and global groups' means of Total Perceived Behavioural Control.

ANOVA Total PBC					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3,822	1	3,822	0,05	0,824
Within Groups	3187,155	42	75,885		
Total	3190,977	43			

Table 14, ANOVA Total PBC (local vs. global).

In regard to the corresponding hypothesis,

H3.2: Reading a locally framed story (compared to a globally framed story) results in a higher perceived behavioural control

the result indicates that there is no evident difference between the local and global groups' means, which was indicated by both the descriptive data and analysis of variance. Based on this, the hypothesis is rejected.

4.4. Manipulated versus Control Group

The following section presents the results derived from comparisons between the control group and the manipulated group including both the local and global groups. First, the section discusses the Direct and Indirect Behavioural Intentions to determine the potential effects of the story itself addressing the second hypothesis (H2) *Reading a story about pro-environmental behaviour (compared to not reading a story) has a positive effect on individuals' intention towards eating less meat.* Subsequently, the findings regarding differences within the determinants of Indirect Behavioural Intention between the manipulated group and the control group is presented as they build up the indirect measure. Further, the determinant of Subjective Norm has more specifically been analysed in regard to the last hypothesis (H3.3) *Reading a story (compared to not reading a story) results in higher perceived subjective norm.*

Within the control group, 23.08 % of the respondents answered the lowest score (*very unlikely*) in regard to intention to eat less meat, which is a notably higher compared to the two groups that had been presented a framed story (local 4.17 %, global 0.00 %) (See Table 5). Moreover, the mean of the Direct Behavioural Intention for the control group is lower (2.62) than the mean of the local (2.96) and global groups (3.64) (see Table 6).

In regard to the measurement of Indirect Behavioural Intention, the data result indicates a lower intention for the control group (2.45) compared to the means of the local (2.52) and global groups (2.65) (see Table 8). Overall, the result shows a tendency of generally higher scores for intention among the manipulated group (local, global) compared to the control group. In order to test the significance of the difference in means, an ANOVA analysis of Direct and Indirect behavioural Intention was conducted and is presented next. For this analysis the means of the local and global groups (i.e. manipulated group) were summed and compared to the control group.

4.4.1. ANOVA - Direct and Indirect Behavioural Intention

The analysis of variance for Direct Behavioural Intention (manipulated group vs. control group) presents a df1 of 1, df2 of 70 and a F-value of 9.330, which gives a P-value of 0.003 (see Table 15). The F-value implies that the variance of means *between* the local and global group exceeded the variance of means *within* the groups, namely that there is a difference between the manipulated

group and the control group. As the significant value of 0.3 % is lower than the set significance level of 5 %, the result is statistically significant.

The analysis of variance for Indirect Behavioural Intention (manipulated group vs. control group) presents a df1 of 1, df2 of 57 and a F-value of 2,017, which gives a P-value of 0.161 (see Table 15). Consequently, the result is not significant.

ANOVA Direct and Indirect Behavioural Intention						
		Sum of Squares	df	Mean Square	F	Sig.
Direct Behavioural Intention	Between Groups	7,395	1	7,395	9,33	0,003
	Within Groups	55,48	70	0,793		
	Total	62,875	71			
Indirect Behavioural Intention	Between Groups	734,21	1	734,21	2,017	0,161
	Within Groups	20749,722	57	364,03		
	Total	21483,932	58			

Table 15, ANOVA Direct and Indirect Behavioural Intention (manipulated vs. control). Note, the values of the indirect measure have not been normalised (see more 3.6.2 Normalisation of Data).

Regarding the second hypothesis of the study,

H2: Reading a story about pro-environmental behaviour (compared to not reading a story) has a positive effect on individuals' intention towards eating less meat,

the manipulated group indicated higher intention towards eating less meat compared the control group, which supports the hypothesis. However, it is only the measurement of Direct Behavioural Intention that showed a statistically significant result.

4.4.2. Subjective Norm

The data finding between the local and global groups relating to Total Subjective Norm did not show a distinct difference. However, when including the control group in the analysis, a difference between means can be distinguished. The control group has a slightly higher mean (2.27) compared to the local (2.17) and global groups (2.18) (see Table 10).

The measure of Total Subjective Norm constitutes four social groups, parents (SN1), siblings (SN2), friends (SN3) and teachers (SN4) (see Appendix 8.3. Questionnaire nr. 11-18). Among the groups, parents has the highest sample mean (2.48) (see Table 16). In further detail, the result shows a sample mean of 2.60 for the normative belief for parents (see Appendix 8.6.5.1. Normative Belief), while the sample mean of motivation to comply is 3.80 (see Appendix 8.6.5.2. Motivation to Comply).

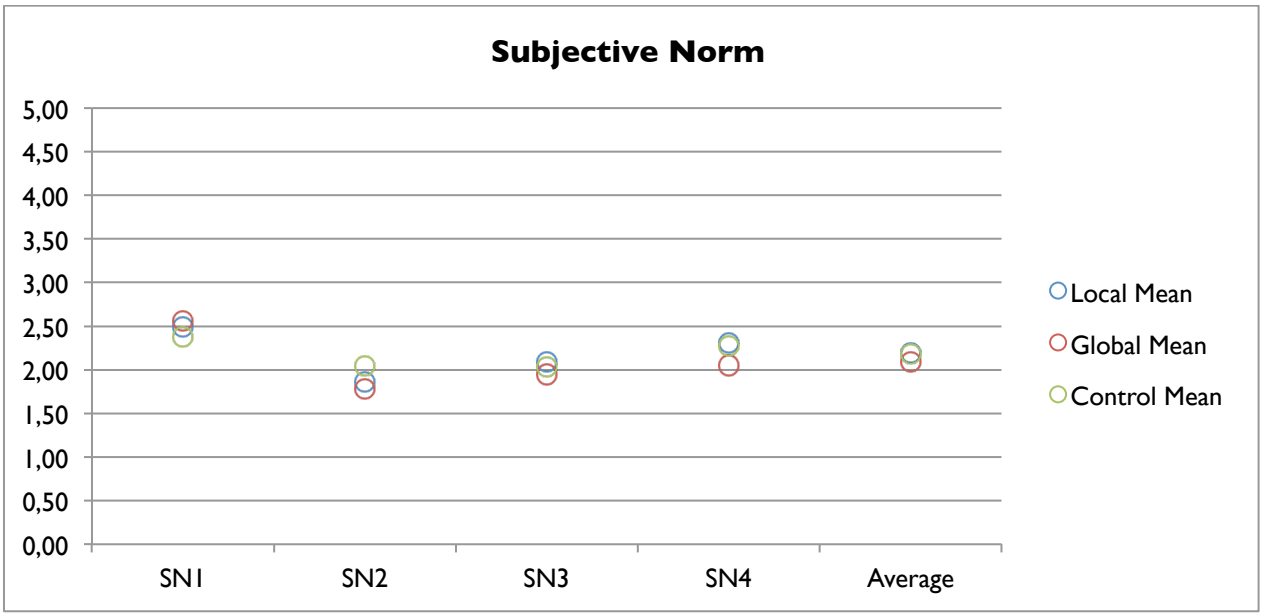


Table 16, Subjective Norm (see Appendix 8.6.5. for exact numbers).

In order to test the significance of the means in relation to the manipulated group and control group, an ANOVA analysis of Total Subjective Norm was conducted. The analysis of variance of Total Subjective Norm for the manipulated group and control group presents a total df 1of 1, a df2 of 62 and a F-value of 0.872, which gives a P-value of 0.354 (see Table 17). As the significance value of 35.4 % is remarkably higher than the set significance level of 5 %, the result is not statistically significant.

In relation to the last hypothesis,

H3.3: Reading a story (compared to not reading a story) results in higher perceived subjective norm,

the control group had a slightly higher score in terms of Total Subjective Norm, compared to the summed manipulated group. However, as the analysis of variance (ANOVA) shows that the effect is not statistically significant, the hypothesis is rejected.

ANOVA Total Subjective Norm					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	90,928	1	90,928	0,872	0,354
Within Groups	6467,009	62	104,307		
Total	6557,938	63			

Table 17, ANOVA Total Subjective Norm (manipulated vs. control).

4.4.3. Attitude

The result indicates that the control group has lower Total Attitude (2.65) compared to the two other groups (local, 2.93; global, 3.29) (see Table 10). Within the Attitude measure, the three weighted means of the behavioural beliefs and corresponding outcomes (Attitude 1, 2 and 4) are all lower for the control group compared to the local and global group (see Table 11). Attitude 2 consisting of the behavioural belief (BB2) *If I eat less meat within the next 2 weeks, I will feel good about myself,* and the corresponding outcome evaluation (OE2) *I think it is important to feel good about myself* was rated the highest for the control group (see Table 11) (see Appendix 8.3. Questionnaire nr. 9b, 10b). In order to test the significance of the difference in means between the manipulated group and control group, an ANOVA analysis of Total Attitude was conducted.

The analysis of variance for Total Attitude for the manipulated groups and control group presents a df1 of 1, df2 of 66 and a F-value of 10.413, which gives a P-value of 0.002 (see Appendix 8.6.6.). The high F-value implies that the variance of means *between* the manipulated and control group exceeded the variance of means *within* the groups. As the significance value of 0.2 % lower than the set significance level of 5 %, the result is statistically significant.

4.4.4. Perceived Behavioural Control

In regard to the last determinant of Indirect Behavioural Intention, Total Perceived Behavioural Control, the control group has a slightly lower mean (2.62) compared to the manipulated group (local, 2.85; global, 2.90) (see Table 10).

The measurement of Total Perceived Behavioural Control consists of the variables PBC2 and PBC3 (see Table 3). The second Perceived Behavioural Control (PBC 2) consists of (CB2) *There is other food beside meat for me to eat in school and at home* and (PCB2) *I will eat less meat within the next 2 weeks as I will be able to find food without meat* (see Appendix 8.3. Questionnaire nr. 21, 22). The other variable, the third Perceived Behavioural Control (PBC 3) consists of (CB3) *My own meat consumption will have an effect on the environment* and (PCB3) *I will eat less meat within the next 2 weeks as my meat consumption will have an effect on the environment* (see Appendix 8.3. Questionnaire nr. 23, 24). The result indicate that PBC 2 has a higher sample mean (2.92) compared to the sample mean of PBC3 (2.58) (see Table 13).

The analysis of variance for Total Perceived Behavioural Control for the manipulated group and control group presents a df1 of 1, df2 of 68 and a F-value of 2.178, which gives a P-value of 0.145 (see Appendix 8.6.7.). As the significance value of 14.5 % is higher than the set significance level of 5 %, the result is not statistically significant.

4.5. Hypotheses Review

To summarise the data findings, we return to the figure presenting the relationships between the hypotheses. This time, we have marked the rejection or acceptance of each hypothesis (see Figure 5). In regard to the first hypothesis (H1), *whether children aged 10-12 perceive climate change as psychologically distant*, our study could not find support to neither reject nor accept the hypothesis. The second hypothesis (H2), *reading a story about pro-environmental behaviour (compared to not reading a story) has a positive effect on individuals' intention towards eating less meat*, is supported by the data findings. The main hypothesis (H3), *reading a locally framed story (compared to reading a globally framed story) results in higher intention towards eating less meat***,** and the underlying hypotheses (H3.1, H3.2, H3.3) are all rejected based on the data findings.

Furthermore, the data findings regarding H3 turned out to support a reversed hypothesis, namely that reading a global story results in higher intention towards eating less meat. The opposing result and potential reasons behind are discussed following, throughout chapter *5. Discussion*.

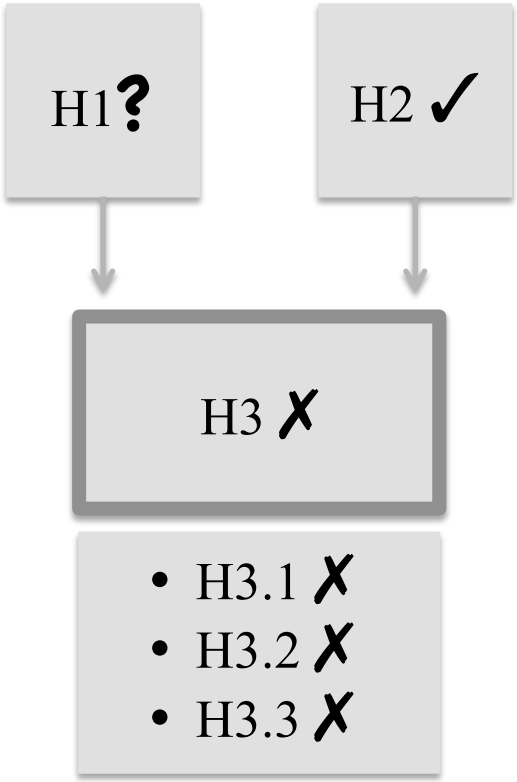


Figure 5, Hypotheses rejection and acceptance.

5. Discussion

Chapter 5 discusses the data findings in relation to the main theory of the study. In the first section 5.1. the main findings are presented. Thereafter, the chapter discusses possible explanations and reflections to the main findings in relation to the hypotheses and different theoretical fields used in the study. Section 5.2. discusses children's perception of climate change in relation to psychological distance, followed by a discussion regarding the social and cognitive level of children in section 5.3. Thereafter, in section 5.4. the communication method of storytelling is discussed in relation to children, and finally, section 5.5. discusses what factors can influence children's intentions.

5.1. Main Findings

In regard to the first hypothesis (H1) of the study, the data indicates that the respondents can perceive climate change as both psychologically distant and close depending on dimension (see Table 4). Hence, the hypothesis can neither be accepted nor rejected. Further, the data findings indicate that among the whole sample of respondents there was a tendency to rate the intention towards eating less meat low rather than high. Even if the respondents' intention towards the behaviour is rated lower than expected, two related interesting main findings can be derived from the data.

First, relating to the second hypothesis (H2), the results indicate that the manipulated group (local, global) rated higher intention towards eating less meat compared to the control group (see Table 6, 8). The analysis of variance of the Direct Behavioural Intention between the manipulated and control groups shows a statistically significant result (see Table 15). Hence, supporting our prediction, the use of storytelling might have been an effective communication form when aiming to form or increase the young respondents' intention to behave pro-environmentally. As it was not measured whether it was the specific communication method or merely the information in general that contributed to the results, it can not be determined to what extent storytelling affected the

results. However, the different factors that could have supported the effect of storytelling are deliberated further at a later stage in the discussion chapter.

Secondly, regarding the main hypothesis (H3), it was predicted that the local group would have higher intention than the global group. However, the data indicates that the global group on average rated higher intentions towards eating less meat both in terms of the Direct and Indirect measurement of Behavioural Intention (see Table 6, 8). Even if the data presents a result opposing the hypothesis, the analysis of variance of the Direct Behavioural Intention shows a statistically significant result (see Table 7). Potential explanations and factors that might have influenced the result are discussed throughout this chapter. Before discussing the results more in detail, it should be noted that due to the small sample and relatively small difference between the three groups (local, global and control), the results are relatively weak.

To guide the reader through the chapter, the table below illustrates how the four sections of the discussion relates to the six hypotheses, which in turn are linked to the research question and sub-questions.

Research Question	**Hypothesis**	**Section**
To what extent can framing of geographical (local vs. global) psychological distance within storytelling increase children's intention to behave pro-environmentally in regard to meat consumption?	H3: Reading a locally framed story (compared to reading a globally framed story) results in higher intention towards eating less meat	5.1. - 5.5. (all sections)
Sub-question		
Does psychological distance have an effect on children?	H1: Children aged 10-12 perceive climate change as psychologically distant	5.2. Do children perceive climate change as psychologically distant? 5.3. The Social and Cognitive Level of Children
Does storytelling have an effect on children's intention?	H2: Reading a story about pro-environmental behaviour (compared to not reading a	5.4. Is storytelling an effective way of communicating to children?

	story) has a positive effect on individuals' intention towards eating less meat	
What determinants of behavioural intention can be influential on children?	H3.1: Reading a locally framed story (compared to a locally framed story) results in a more favourable attitude towards the environment and other people H3.2: Reading a locally framed story (compared to a globally framed story) results in a higher perceived behavioural control H3.3: Reading a story (compared to not reading a story) results in higher perceived subjective norm	5.5. What factors can influence a child's intentions?

Table 18: Questions and hypotheses, Chapter 5 Discussion.

5.2. Do children perceive climate change as psychologically distant?

The first section discusses the role of Construal Level Theory and psychological distance in regard to pro-environmental behaviour and specifically meat consumption. The section discusses some of the potential reasons to why the global group rated higher intentions, namely the respondent's perception of psychological distance in regard to climate change, the potential effect of the structure and framing of the stories (5.2.1.), and the perceived severity and core values in relation to children (5.2.2.).

Previous research has shown that young people (aged 12-25) primarily perceive climate change and its impact as distant (Corner et al, 2015). In our study, we tested the perception of psychological distance of climate change on a younger age group (aged 10-12). Relating to the first hypothesis of the study (H1), the result indicates that it is not clear whether the respondents perceive climate change in general as psychologically distant or close. The result shows a tendency among the respondents to perceive the different dimensions of climate change (i.e. spatial, temporal, social and hypothetical) as both psychologically distant and close (see Table 4). Regarding the item whether (PD2) *Denmark is affected by climate change*, one might have thought children reading the local

story emphasising the climate change impacts on Denmark would rate the question higher than the group reading a globally framed story. However, a distinct difference can not be distinguished between the groups (see Table 4).

In relation to Construal Level Theory and an individual's perceived distance to an event, it is interesting to discuss the concepts of desirability and feasibility. It has been argued that as the distance to an event increases, the desirability (why) of engaging in the behaviour should weight over the feasibility (how) of the behaviour (Liberman & Trope, 2008). Thus, if an individual perceive an event as distant, the reason of why to engage in the behaviour should be emphasised in the communication. Even if the data findings indicate that the respondents perceive the different aspects of climate change as both distant and close, we can not tell to what extent. Hence, it is difficult to determine which aspect (desirability vs. feasibility) should be the most prominent in the communication. In other words, whether the underlying *reason* to engage in pro-environmental behaviour, or if a description of *how* to engage in decreased meat consumption, should be the focus of the communication. As our two versions of the story incorporate aspects of both desirability and feasibility it is of interest to take a closer look into the structure and framing of the story. Hence, the following section discusses whether any specific aspects of desirability or feasibility might have had an effect on the result.

5.2.1. Did the story take advantage of psychological distance?

It has been argued that communication focusing on psychologically close behaviour can contribute to making pro-environmental behaviours more personally relevant, tangible and easier to make decisions about (Lorenzoni et al, 2007; Spence et al, 2011b; Spence & Pidgeon, 2010). We assume this is also the case for our respondents, even if our findings indicate an opposing result, namely that the story framing more distant aspects (i.e. global version) contributed to higher intentions (see Table 6, 8). We argue that our application of psychological distance in the manipulation of the independent variable in the experiment (i.e. story) might explain this opposing result. In other words, that the structure and framing of the two versions of the story might have affected the results.

In both the local and global version of the story the specific *behaviour* of eating less meat was the same, illustrating a near future behaviour. More specifically, the behaviour was illustrated by a boy choosing tomato instead of meat for his sandwich for breakfast, hence relating to the feasibility of

the behaviour (Liberman & Trope, 2008). The specific and detailed information about how to carry out the specific behaviour could have increased the respondents' feelings of self-efficacy (Green, 2006) and thereby their behavioural intention (Locke & Latham, 2002). Even if the two versions of the story incorporate several indices, we predicted the local story to include more indices that the respondents would associate to his or her own life and familiar surroundings. In other words, we predicted that the indices in the local story would increase the personal relevance and thus contribute to higher intentions. However, this was not evident from our findings (see Table 6, 8).

Moreover, even if both versions of the story involve the close aspect of the setting and specific behaviour, it is the framing of the *outcome* of the behaviour that differs between the stories. The outcome relates to the aspect of desirability as it focuses on *why* the respondents should engage in the behaviour (Liberman & Trope, 2008). More specifically, the outcome of the local story addresses impacts in Denmark affecting Danish people, while the global story addresses the whole world and other people in distant places. Based on this discussion, we argue that the global version of the story to some extent uses a combination of both local (close) and global (distant) element in the story. Consequently, it is possible that the global story takes advantage of both the benefits of psychological closeness and psychological distance, which might explain the global group's higher intention (see Table 6, 8). This assumption would then support previous research, namely that communication about climate change should try to reduce the psychological distance, but at the same time use the aspect of serious distant climate change impacts due to its effectiveness to increase intentions (Spence et al, 2011a).

Derived from this discussion, the two versions of the story might not completely have reflected the two "opposites" of a local (close) versus global (distant) dimension of climate change. It could thus have been of further value to research the effect of an exclusively globally framed version, where both the *behaviour* and *outcome* were distant and global. In alignment with Construal Level Theory, framing spatial distance in both the process and outcome of the specific behaviour would potentially activate a higher level of construal (Liberman & Trope, 2008). This would thus make the whole issue of climate change more abstract (Liberman & Trope, 2008). Based on the social and cognitive level of the children and their recently developed understanding of abstract concepts (John, 1999), it is possible that an exclusive focus on the abstract would have made the story less effective. In other words, a story focusing on distant aspects might become too difficult to relate to and hard for a child to take in.

5.2.2. Can perceived severity or core values have affected the results?

Departing from the previous discussion, it is of interest to further discuss how the framing of climate change impacts can be perceived as more or less serious and severe. It should be highlighted that even if climate change affects every single being on the planet it is currently countries in the global south that is being most negatively affected (Milfont, 2010). Thus, with Denmark as a reference point, the impacts on countries at a further distance are more severe compared to the impacts in Denmark. Even if this is the current situation, this discussion deliberates upon the children's *perceptions* of the severity of the issue.

As the global version of the story frames the impacts as more spatially distant from the reader, this could have contributed to making the respondents perceive the impacts as more severe compared to the locally framed impacts (Spence & Pidgeon, 2010; Uzzell, 2000). Consequently, if the respondents perceived the impacts as more serious and severe, this could have affected their emotions in relation to the issue. As emotions can influence pro-environmental behaviours (Kollmuss & Agyeman, 2002), there is a possibility that the emotions triggered by the increased severity of the impacts could explain the global groups' higher intention towards decreased meat consumption (see Table 6, 8). Further, it can be discussed whether the global impacts might be perceived as even more severe and serious for children in the specific age due to their level of understanding and reference points in life.

First, from one perspective it can be argued that children in the analytical stage might perceive the impacts as more severe compared to a younger age group due to their more developed social and cognitive abilities, based on John's (1999) socialisation stages. Based on an ability to take several perspectives into consideration (John, 1999), we assume the older child will understand the consequences of certain impacts to a greater extent, which then might result in perceiving the impacts as more severe. Seen from another perspective, it has been shown that distant framing can make people perceive the impacts as more severe compared to a close framing (Spence & Pidgeon, 2010; Uzzell, 2000). As such, it might be the case that terms such as the *world* and *global* appear as more distant for a child than an adult who is more familiar with the world. Hence, based on Spence and Pidgeon's (2010) and Uzzell (2000) findings, it could be argued that children in the analytical stage might perceive climate change impacts as more severe compared to adults. However, our study has not measured the degree of perceived severity of climate change impacts and thus can not support any of the discussed perspectives.

Another factor that potentially might have had an impact on the result relates to children's value priorities. It has been shown that psychological distance can aid an individual's self-control as it links to the individual's superordinate goals (Liberman & Trope, 2008; Spence et al, 2011a). Hence, an emphasis on the abstract and distant aspect of climate change can be important to support an individual's actions and decisions for future behaviours that align with his or her core values (Liberman & Trope, 2008; Spence et al, 2011a). In regard to our study, the spatially distant dimension of the global version of the story could thus have been more effective in terms of reminding the respondents about their core values. Consequently, this focus could have influenced the global group's intention and explained their higher scores (see Table 6, 8).

In regard to attitude, our findings indicated differences between the local and global groups (see Table 10), which can be linked to a discussion regarding values. The results indicate a small tendency of the global group rating the behavioural belief (BB4) *If I eat less meat within the next 2 weeks, I will feel that I am doing something good for the environment and other people,* and the corresponding outcome evaluation (OE4) *I think it is important to feel that I do something good for the environment and other people,* higher compared to the local (see Table 11). The local group did instead rate the behavioural belief (BB2) *If I eat less meat within the next 2 weeks, I will feel good about myself,* and the corresponding outcome evaluation (OE2) *I think it is important to feel good about myself,* higher (see Table 11). Aligning the result with previous research regarding psychological distance and core values (Liberman & Trope, 2008; Spence et al, 2011a), it could be possible that the distant focus in the global version aided the respondents' self-control. In other words, that the emphasis on the world and other people to some extent aligned with the respondents' core values, which contributed to rating the belief about the environment and other people higher than the local group (see Table 11).

However, we still assume that the distant and abstract aspect of climate change and an emphasis on the superordinate goals might not have the same effect on children as on adults. In alignment with this assumption, we argue that the trade-off that often is discussed in relation to pro-environmental behaviours (White et al, 2011) might not be as prominent for children as for adults. The trade-off relates to the short- and long-term perspectives that influences behaviour and tests the individual's self-control (White et al, 2011). In this case, the short-term perspective concerns the attributes of the specific behaviour, such as convenience, and the long-term perspective concerns the outcome of climate change (Milfont, 2010; White et al, 2011). As children in the particular age just recently

developed an ability to consider other people's perspectives (John, 1999) and generally values personal relevance higher than universalism (Grønhøj & Thøgersen, 2009), it might be the case that the children values the short-term aspects of the behaviour to a greater extent than an older age group. Deduced from this discussion, we argue that it is likely that the level of social and cognitive development can explain the different value priorities between adults and children.

5.3. The Social and Cognitive Level of Children

With our experience from conducting the research on children aged 10-12, we want to highlight the importance of children's social and cognitive level of development as discussed by John (1999). As the study was conducted on children in a specific age group, the findings should not be generalised across ages. It is possible that both younger and older age groups might respond differently to storytelling or psychological distance. The following section discusses the results of the study in relation to the social and cognitive level of the respondents through two different perspectives. First in regard to children's understanding of the connection between behaviour and outcome (5.3.1.), followed by potential effects the use of storytelling might have had on the children (5.3.2.).

5.3.1 Understanding of the connection between behaviour and outcome

Based on John's (1999) research on the social and cognitive development of children, important changes are taking place for children at the age of 10-12. Some of these children will just recently have started to develop a more reflective thought and an ability to take other people's perspective besides their own (John, 1999). In accordance with these changes they will be able to understand more complex phenomenon and contingencies (e.g. if-then rules) (John, 1999). In our study, we argue that the connection between meat consumption and its impact on climate change might be considered a relatively complex phenomenon for a child to understand. One aspect of pro-environmental behaviour is the understanding and acceptance of how climate change can impact the environment and other people, which further can be linked to altruistic behaviour (Kollmuss & Agyeman, 2002; Hopper & Nielsen, 1991; Stern, 2000). This aspect relates to an understanding of contingencies and the ability to incorporate other perspectives beside one's own, which is described by John (1999) as the ability of social perspective taking. As previously presented, the questions about the behavioural belief (BB4) *If I eat less meat within the next 2 weeks, I will feel that I am doing something good for the environment and other people* and corresponding outcome evaluation (OE4), is rated slightly higher for the global than the local group (see Table 11). Based on this, it

can be argued that the global story might have affected the children's belief about how the behaviour of eating less meat can impact other areas and people to a greater extent compared the local group. Consequently, we assume the global group's higher rating (see Table 11) might indicate a higher incorporation of social perspective taking, which John (1999) discusses in relation to children in the analytical and reflective stages.

Moreover, different pro-environmental behaviours can be considered more or less tangible (Kahriman-Ozturk et al, 2012). As the behaviour of eating meat do not have a clear linkage to climate change impacts, we argue that this specific pro-environmental behaviour of eating *less* meat can be perceived as relatively intangible. The results indicate that in regard to the respondent's attitude towards the behaviour, meat consumption and its impact on the environment and other people are not clear for all respondents (see Table 11; BB4, OE4). In addition, in regard to the control belief about whether meat consumption will have an affect on the environment (see Table 13; CB3, PCB3), the low rating could indicate a limited understanding between the action and its impact. Moreover, the data findings relating to psychological distance and the first hypothesis (H1) indicate that the respondents are not fully aware of the effects of climate change (see Table 4). It has been argued that the ability to understand more complex contingencies starts to develop in the analytical stage, but is further developed as the child matures into the reflective stage (John, 1999). Hence, the respondents' level of cognitive development could thus explain their difficulties in understanding the phenomenon being studied. In addition, as previously mentioned, it is important for children to be familiar with the knowledge domain of the research in order for them to process the information (Perrachio & Mita, 1991). Hence, it is possible that the respondents' limited knowledge could have affected their overall understanding of the experiment, hence contributing to the weak results in regard to their intentions towards decreased meat consumption (see Table 6, 8).

Moreover, even if the selected age group in general has begun to gain abstract thinking (John, 1999), the observations of the experiment made it evident that some children had a narrow focus on concrete details in the questionnaire. For example, in regard to the question (PD1) *I think climate change will primarily take place in the future* (see Appendix 8.3. Questionnaire nr. 25), one participant asked how many years in the future we meant by this, if it was five, ten or twenty years from now? Hence, this underlines the importance of paying attention to the fact that children in this age just recently started to understand more abstract concepts (John, 1999), which have been discussed as a recurrent insight throughout this whole section.

5.3.2. The story's effect on the respondents

Even if the respondents' understanding of meat consumption and climate change was not measured on beforehand, we assumed the story would contribute to an increased understanding of the issue. As previously mentioned, the result indicates that the global group rated the concern for the environment and other people higher compared to the local group (See Table 11; BB4, OE4). Hence, with the right presenting of information, it might be possible to increase children's understanding of the outcomes of a specific behaviour. This supports previous research arguing that even younger children have an ability to understand the background of pro-environmental behaviours and how their actions has an impact if the information is well adapted and presented in the right way (Kos et al, 2016).

However, as the results of our study are weak, it is also possible that the story was insufficient in explaining the relationship between action and impact. It is important to note that the story only included a few examples of climate change impacts, which were adapted after the local and global perspectives. For instance, in the global version of the story, respondents read "... *the temperature increases, forest fires occur more frequently, longer periods of drought in some regions and an increase in number and intensity of tropical storms"* (see Appendix 8.2.2. Global Version). The sentence only includes some of the more general aspects of climate change impacts and does not go into detail of any of the effects. As the impacts are not explained more thoroughly and in further detail, there is also a possibility that they appeared to be abstract for the respondents. Consequently, this aspect of the story might have contributed to making it difficult for the children to fully understand the whole picture and the true consequences of climate change.

In addition, as the results between the control group and manipulated group do not differ to a great extent (see Table 6, 8), the overall story might not have been as effective as we had hoped. One can argue that if the respondents were to be exposed to the story and similar messages at several occasions, their understanding of the behaviour and impacts might have increased. In turn, this could have contributed to more distinct results between the groups. In addition, it can be argued that the behaviour of eating less meat is considered to be a relatively unfamiliar type of pro-environmental behaviour in comparison to for example recycling. Therefore, children might not be used to reading about meat consumption in relation to climate change, which once again can be linked to their familiarity of the knowledge domain (Peracchio & Mita, 1991). In addition, as individuals' past experiences are reflected in their perceived behavioural control towards a specific

behaviour (Ajzen, 1991), we argue that limited knowledge and experience could be an obstacle to the behaviour, rather than facilitating the behaviour in this case. Consequently, it is possible that a limited pre-knowledge of the issue might require more time and explanation of decreased meat consumption compared to other pro-environmental behaviours.

In regard to the first sub-question, *does psychological distance have an effect on children?* we take both section 5.2 and 5.3 into consideration. The data findings and the following discussion have shown that the respondents perceive different aspects of climate change as either close or distant (see Table 4). Thus, the result indicates that the respondents perceive climate change (to a greater or lesser extent) as psychologically distant. Hence, we assume that it is highly individual to what extent a child perceives psychological distance towards climate change. We argue that the ambiguous result to some degree can be explained by the children's social and cognitive level. We assume most of the respondents can be categorised to a level of development reflecting the analytical stage, which is a stage characterised by several important changes (John, 1999). However, even within the specific stage, the respondents might be at different levels in the process of development. This could explain why children in the same age might perceive, understand and even prioritise the issue of climate change differently, which in turn might affect the behavioural intentions. Hence, even if the stages of development can provide a general guide of how children in specific age groups think and perceive the world, it is important to highlight children's individual differences also *within* a stage of development.

5.4. Is storytelling an effective way of communicating to children?

The data findings indicate a small tendency of higher intention among the manipulated group (local, global) compared to the control group who was not presented to the stimuli (see Table 6, 8). Based on the result, we argue that storytelling might have been a valuable communication form to increase the respondents' intention to behave pro-environmentally in regard to meat consumption. It has been shown that narrative messages can be a highly persuasive way to communicate messages (Green & Brock, 2000), however our study did not measure the effect of storytelling directly. Consequently, we do not know if it was the use of a story or the exposure to information of the issue in general that increased the respondents' intention. However, as there is a possibility that storytelling to some extent had an effect and contributed to the results, this section discusses how

the use of storytelling might have been effective. Thus, the potential advantages with indices (5.4.1.) and transportation (5.4.2.) through the use of stories are addressed in relation to children.

5.4.1. The Value of Indices

Our first argument for the effectiveness of storytelling relates to the use of indices (Woodside, 2010). The previous section *5.2.1. Did the story take advantage of psychological distance?* discussed the use of indices in relation to Construal Level Theory, however this section goes deeper into the structure of the story in relation to the presented theory about storytelling. The two versions of the story were created to facilitate many different indices that the child would be able to link to his or her own life (Woodside, 2010). For instance, our story in the experiment touched upon Danish contexts both in the protagonist's home and in school. The story involved everyday activities and decisions such as conversing with family members, having breakfast and deciding what to eat, as well as biking to school. The different indices the respondent might have registered when reading the story could have facilitated self-referencing (Debevec & Romeo, 1992). In other words, as the child made associations with other memories, the new information might have become more meaningful (Debevec & Romeo, 1992; Schank, 1999). Moreover, the respondents might have thought about and reflected upon previous experiences when (and potentially after) reading the story, which could have contributed to greater learning of the issue (Schank, 1999).

In addition to indices, the use of characters in a story can also influence the persuasiveness of a message (Green & Brock, 2000). The protagonist in the story, Frans, was used to illustrate that pro-environmental behaviours is not necessarily difficult and that everyone can do something good for the environment by eating less meat. The use of a protagonist differentiates storytelling from common informational texts, which focus on a particular topic rather than the character's ability to deliver a message (Green, 2006). Even if we did not measure the effectiveness of the protagonist in the story, we assume that using Frans to deliver the message might to some degree have had a positive effect, contributing to the result of higher intention among the manipulated group (see Table 6, 8).

5.4.2. How does transportation affect children?

Another argument that speaks for the effectiveness of storytelling is the phenomenon of mental transportation, which mainly occurs as a response to narrative texts (Green & Brock, 2000). Even if the effect of transportation was not measured in our study, we assume it is possible that transportation to some extent could have affected the result. However, we experienced that some of the respondents lost their concentration during the experiment, which indicates likelihood that some respondents did not get lost in the story or experience any transportation. Deduced from this discussion, we argue that the relatively short story about a Danish boy living a traditional Danish life might not have been entertaining or exciting enough to facilitate immersion into the text. However, even if some children lost their concentration, the result between the manipulated group and control group still indicates a difference between the groups' means that is statistically significant (Direct Behavioural Intention measurement) (see Table 15). Based on this, it is of interest to further discuss the story in relation to its elements, which might have facilitated transportation and possibly could have affected the respondents to some extent.

First of all, transportation leads to more real-world beliefs in agreement with the conclusion of the story (Green & Brock, 2000). Thus, if the respondents were transported by the story, it is possible that they formed beliefs aligning with the conclusion of the story. In addition, transportation might have affected the respondents' evaluation of the characters in the story (Green & Brock, 2000). For instance, positive feelings towards the main character Frans might have contributed to changes in the respondent's attitudes and beliefs in alignment with the character (ibid). As Frans has a positive attitude towards pro-environmental behaviours, this could consequently have influenced the respondents' attitude towards pro-environmental behaviours. Consequently, a changed attitude in alignment with Frans's and beliefs formed in agreement with the conclusion of the story could possibly be an explanation to the manipulated group's higher intention towards eating less meat (see Table 6, 8).

Moreover, if the respondents experienced transportation, this could also have contributed to making the narrative event seem more like a real-life experience (Green, 2006). As narratives have the power to provide more concrete examples of events or abstract ideas (ibid), it is possible that the story made it easier for the respondents to understand the issue of climate change and perceive the impacts as more realistic. As the respondents in the specific age just recently developed the ability

to understand abstract concepts and if-then contingencies (John, 1999), this benefit of narrative texts could have been extra advantageous in regard to the respondents.

Furthermore, Frans was created in order to make it easy for the children to identify with him (e.g. age, setting) as this can facilitate transportation (Green, 2006). Based on the possibility that the respondents identified with Frans, it is also likely that reading about Frans performing a task (e.g. choose a tomato instead of meat) could have contributed to an increased feeling of self-efficacy as discussed by Green (2006). In other words, the respondents might have felt more confident that they also could perform the specific behaviour of eating less meat. In addition, if the respondents experienced transportation while reading the story, this could have facilitated mental simulation of the specific behaviour (Green, 2006). More specifically, the specific behaviour of choosing tomato instead of meat for the sandwich to eat less meat and behave pro-environmentally. Hence, the mental simulation of the specific behaviour could also serve as a behavioural rehearsal for the respondent (Green, 2006). Consequently, the behavioural rehearsal might have increased the motivation and feeling of self-efficacy (ibid), which have been argued to be highly important when communicating pro-environmental behaviours towards children (Corner et al, 2015).

Based on this discussion, it is possible that enhanced feelings of self-efficacy have influenced the manipulated group's higher intention towards the behaviour (see Table 6, 8). This would support previous research conducted on an older age group (aged 12-25), arguing that relevant framed narratives in climate change communication can enhance young people's self-efficacy (Corner et al, 2015). Moreover, the concept of self-efficacy is similar to the concept of perceived behavioural control, which is one of the three determinants of behavioural intention in Ajzen's (1991) Theory of Planned behaviour. Thus, the enhanced feelings of self-efficacy might also explain the data finding indicating that the manipulated group has a slightly higher Perceived Behavioural Control compared to the control group (see Table 10). However, it should be noticed that this difference is not a reliable finding of the study, as the variance of means between the groups is not statistically significant (see Appendix 8.6.7. ANOVA Total PBC).

Finally, the discussion throughout this section has derived to answer the second sub-question, *does storytelling have an effect on children's intentions?* The findings of our study indicate that the story was effective, thus supporting Green and Brook (2000) arguing that storytelling is persuasive communication form. Even if our study did not measure the effect of storytelling directly, we want

to argue that our result to some degree aligns with previous findings arguing that storytelling can facilitate formation of intentions (Green, 2006). Moreover, a story emphasising specifically *how* to engage in decreased meat consumption can make a child who already holds positive intention towards eating less meat become more confident of how to engage in the behaviour and serve as a behavioural rehearsal (Green, 2006). We believe that some elements of the story, such as the familiar context and a protagonist that is similar to the respondents, might have increased the respondents' perception of personal relevance. In addition, the use of a protagonist to deliver the message of how to carry out a specific behaviour might have increased the children's feelings of self-efficacy. Hence, this can be linked to previous research stating that personal relevance (Grønhøj & Thøgersen, 2009) and a feeling of self-efficacy (Corner et al, 2015) are particularly important for children's engagement in pro-environmental behaviours.

5.5. What factors can influence a child's intentions?

The following section discusses how Theory of Planned Behaviour is applied to the specific study and dives deeper into some of the aspects of the TPB model that turned out to be important in relation to the data findings. The section discusses whether children in the specific age actually plan and predict behaviour (5.5.1.), how and to what extent children's attitude is related to the specific behaviour (5.5.2.) and finally what role social norms might have in the Danish society in regard to meat consumption (5.5.3.).

5.5.1. To what extent do children plan ahead and consider outcomes?

We assume there is a difference between children and adults in regard to planning ahead and making evaluations of the outcomes of behaviour. We argue that even if a child make the final decision to eat a piece of food, it might be another person (e.g. parent) who has decided *what* that food will be. Children are highly influential when it comes to the family's purchase decisions and especially in relation to food (Buckingham, 2011). However, we assume that a child not will be engaged in all of the decisions relating to what kind of food he or she will eat during a day. For instance, parents often purchase the food that the young child consumes (Buckingham, 2011). In addition, we assume that the child's lower level of engagement might apply to a school context as well, where the food alternatives might be limited for the child. Based on this discussion, we argue that situations where other people make most of the decisions and have great influence on the child

can be considered an obstacle perform the behaviour. Such obstacle can further be argued to affect the child's perceived behavioural control negatively (Ajzen, 1991).

However, as children grow older and become less dependent of other people's choices, as well as they starts to purchase more food on their own (Buckingham, 2011), we assume children might be more motivated to make deeper evaluations of potential outcomes of their behaviour. As it is argued that Theory of Planned Behaviour is applicable when consumers are motivated to make deeper evaluations of potential outcomes of a specific behaviour (Kotler et al, 2016), the theory might be more applicable on older children and adults when researching the specific behaviour of decreased meat consumption.

5.5.2. Children's attitude towards eating less meat

Among the three determinants of behavioural intention that are part of Ajzen's (1991) framework, attitude is the determinant that differs the most between the local and global groups in our study (see Table 10). The data result indicates that the global group rated a more positive attitude towards the specific behaviour compared to the local group (see Table 10). Within the attitude determinant, the behavioural belief (BB4) *If I eat less meat within the next 2 weeks, I will feel that I am doing something good for the environment and other people,* and the corresponding outcome evaluation (OE4) *I think it is important to feel that I do something good for the environment and other people,* was rated the highest among the global group (see Table 11). This result can be linked to altruistic behaviours and valuing the welfare of nature and other human beings (Stern et al, 1993). The finding indicates that the respondents to some extent can consider the consequences of their actions from a greater perspective and not exclusively from an egoistic perspective, which supports John's (1999) argumentation about children in the analytical stage.

However, for the local group and the control group, another attitude was rated the highest, namely the behavioural belief (BB2) *If I eat less meat within the next 2 weeks, I will feel good about myself* and the corresponding outcome evaluation (OE2) *I think it is important to feel good about myself* (see Table 11). The focus on the respondent self could be seen as a support of previous findings arguing that children values personal relevance (Grønhøj & Thøgersen, 2009). Moreover, the specific behavioural belief relates to a more egoistic orientation that emphasises the individual's own interests as discussed by Stern et al (1993). The egoistic focus further supports the previous research showing that most preschool children has a positive attitude towards protecting the

environment for the sake of their own lives (Kahriman-Ozturk et al, 2012). Even if the respondents in our study are older than pre-schoolers, the finding indicates that their understanding of other perspectives (e.g. people, nature) might not be fully developed yet.

Based on the findings relating to the two different behavioural beliefs (BB2, BB4), it is possible that the ability of social perspective taking is still under development among the respondents. Hence, this might explain why some respondents still holds a relatively egoistic perspective. This argumentation aligns with the developmental changes occurring for children in the analytical stage (John, 1999), which is the stage where most of the respondents in our study currently belong. Deduced from this discussion, we argue the result of our study to a great extent can be explained by the social and cognitive level of the respondents.

5.5.3. Eating less meat - not a social norm in the contemporary Danish society?

It has been proven that adolescents' pro-environmental behaviour is strongly influenced by family norms and their parents' behaviours (Grønhøj & Thøgersen, 2009; 2012). The result of our study indicates that most children (independent of group) do not perceive that other social groups think they should eat less meat (see Table 10), which strongly relates to the normative beliefs in the TPB model (Ajzen, 1991). In relation to this finding, it can be discussed whether the result might have something to do with the specific pro-environmental behaviour that was selected for research. We argue that decreased meat consumption is a type of pro-environmental behaviour that might not be as established among Danish households as for example recycling. As it has been shown that meat has a great cultural role in many societies (Stoll-Kleeman & O'Riordan, 2015), we assume this could also be the case for Denmark. Hence, it is possible that the meat consumption in Denmark is a strong tradition that might not be easy to overcome. Based on the discussion, we assume that decreased meat consumption might not yet be a common behavioural norm in Denmark. Consequently, this might have influenced the respondents' low ratings of Subjective Norm in our study (see Table 16).

Even if the findings indicate a relatively low rating of the Normative Beliefs (see Appendix 8.6.5.1.), the results also indicate that the respondents have a high motivation to comply with their parents (see Appendix 8.6.5.2.). This can be linked to the argumentation that the family is the most important socialisation agent, particularly when the child is young (Ekström, 2010). In addition, the parents is the social group with highest score within the measurement of Subjective Norm (see

Table 16), which to some degree supports the research showing that parents have an important role regarding mediation of pro-environmental consumer practises to children (Grønhøj & Thøgersen, 2012).

Due to the construct of the measurement of Subjective Norm, the perceived level of social pressure is depending on both the normative belief and motivation to comply with the parents (Ajzen, 1991). Even if the motivation to comply with parents is already high among the respondents, the normative belief regarding parents could possibly increase to result in a higher level of perceived social pressure. Deduced from the discussion, we argue that if children thought their parents expected them to eat less meat, this might contribute to higher intention towards the behaviour as they already listen to their parents to a high degree. Moreover, the result indicates that the control group rated the Subjective Norm higher than the manipulated group (see Table 10), which contradicts our hypothesis (H3.3). As the difference is relatively weak and the variance of means is not statistically significant (see Table 10, 17), we argue that it is likely this result occurred by chance.

To answer the third sub-question, *what determinants of behavioural intention can be influential on children?* this research has applied Ajzen's (1991) TPB as theoretical framework for the study in regard to intentions. Therefore, findings regarding the three determinants of attitude, subjective norm and perceived behavioural control have been discussed as the influential factors to a child's intention towards eating less meat. In our study, we found all three determinants of Ajzen's (1991) Theory of Planned behaviour to be important in relation to the specific behaviour. First, the determinant of attitude seems to be especially influential as the result indicates that with help of the story, the attitude towards eating less meat was rated slightly higher (see Table 11). Secondly, attitude and perceived behavioural control were the two determinants that differed the most between the manipulated group and control group (see Table 11). Finally, deriving from the subjective norm determinant, we assume that parents are especially influential regarding a child's intentions as the study results indicate a relatively high motivation to comply to parents among the respondents (see Appendix 8.6.5.2.). However, the findings also indicate that the respondents do not perceive social pressure to adapt to the specific behaviour of decreased meat consumption. Deduced from this discussion, we argue that the subjective norm as a determinant of behavioural intention might not have a great influence on the children's intention at the moment. However, if the normative beliefs about the behaviour would increase, it is likely that the subjective norm would be more influential in terms of the children's behavioural intention.

6. Conclusion

Returning to the initial citation by Leonardo DiCaprio, we believe his statement makes a great point by portraying a liveable climate as a basic, absolute human right. In addition, we argue that caring for the climate should also be a human responsibility. However, as discussed throughout our study, taking responsibility and making individual efforts are not always easy. At the introductory stage of our study, we highlighted the need to gain insight in how to effectively communicate complex phenomenon such as climate change in order to increase children's intention towards pro-environmental behaviour. In regard to our research question, we specifically predicted a spatially close (local) framing of climate change would result in higher intention towards decreased meat consumption. Guided by our sub-questions and based on our findings, we have made the following assumptions. Firstly, children generally perceive climate change as psychologically distant. Secondly, storytelling is an effective communication form towards children. Thirdly, we assume that attitude, subjective norm and perceived behavioural control are all influential determinants of behavioural intention. These findings could all be argued to support our main hypothesis, however deduced from the data we found an opposing result of the spatially *distant* frame resulting in higher intention. Due to a relatively weak result, the extent of which the framing of psychological distance affected the respondent's intention is uncertain. Moreover, even if our result indicates a psychologically distant framing to be more effective, we still highlight the importance of incorporating aspects of psychological closeness in the communication towards children. Based on experiences gained throughout the study, reflections on limitations of the method and previous research within the field, we still argue for our initial prediction that psychological closeness can have a positive effect on children's behavioural intention.

Further, based on our discussion we argue that psychological distance is merely one out of many aspects influencing a child's behavioural intention towards decreased meat consumption. Consequently, we assume that the effectiveness of a communication initiative is determined by several factors in interplay. Based on our experience from the research, we assume the children's developmental level is one of the main underlying reasons for the result. Hence, we want to highlight the importance of adapting research on children after their social and cognitive level.

However, adapting the research to children within a specific socialisation stage might be particularly difficult in regard to psychological distance and Construal Level Theory. Within this theory, the dimension of abstract- and concreteness is vital. Hence, depending on the individual changes during this stage of development, the dimensions might be perceived differently even among children within the same stage.

Based on this reflection, we argue that communication towards children primarily should emphasise incorporation of *personal relevance*, increased *self-efficacy* and facilitated *understanding* of the specific pro-environmental behaviour. Firstly, the communication should focus on increasing the children's understanding of the specific behaviour, making the link between the specific behaviour and the impact of climate change clear. Secondly, the communication material should be adapted to the child in order to make the issue of climate change personally relevant. Lastly, the communication should provide a clear guide of how to perform the specific behaviour, in other words how the child can eat less meat, thus increasing feelings of self-efficacy. Even if informational texts can provide understanding of the issue, personal relevance and self-efficacy might be easier to achieve through the communication form of storytelling. This result supports previous research across the fields, as well as it contributes with insight of how to apply the result also to a younger age group.

6.1. Perspectives

The result of our study will primarily be beneficial for environmental organisations (e.g. NOAH) and educational institutions (e.g. primary schools) communicating pro-environmental behaviours. The findings can be insightful when creating and framing messages for both educational and marketing material promoting decreased meat consumption for the specific age group. In addition, it can be argued that some findings from the study could be of value also for actors promoting increased consumption of vegetarian and vegan food alternatives as such initiatives aligns with the specific pro-environmental behaviour. Further, as the study has been conducted in relation to several fields of research, we argue that some of the insights gained from the study also can be valuable to other organisations or actors on a more general level. For instance, an actor that wants to communicate towards children, independent of topic, might find the insight about the effectiveness of storytelling relevant. In addition, even if our study has been conducted on children at the age of 10-12, it is likely that the results in regard to storytelling can be applicable for even younger

children as well. Thus, even if the results overall can not be generalised to other age groups, some findings in regard to storytelling as a method for communication could be seen as influential in specific managerial situations.

As our study apply decreased meat consumption as indicator of pro-environmental behaviour, the specific findings can not be generalised to other pro-environmental behaviours. We assume that all pro-environmental behaviours are different and has their own complex foundation based on both external factors, as well as internal needs, wants and value priorities. Hence, we argue that it is important for concerned actors to consider the specific foundation of the pro-environmental behaviour in question. For instance, in regard to decreased meat consumption we assume that the behaviour might not be as established in the Danish culture as other types of pro-environmental behaviours. We argue that such behaviour specific aspects are important to consider also in the communication. However, the overall recommendation of emphasising personal relevance, self-efficacy and understanding will probably be of value when communicating any pro-environmental practice.

In addition to the managerial implications of our results, we hope our study will influence and encourage to future research within the area. As previously discussed, the Danish people seem to care for the environment to a high extent and are willing to make an effort for its welfare. However, in order to gain deeper insights in how to increase people's intentions to engage in pro-environmental behaviours further research is required. As the behaviour include motivational trade-offs, strong connections to core values as well as issues of convenience, it is essential to gain knowledge in how communication should be formed in order to achieve its purpose. With our study as point of departure, we present three recommendations of areas where future research could be advantageous. Firstly**,** we advocate future research within the area of children's development as children are not yet as "formed" by traditions and habits. Even if there are difficulties and challenges involved in research conducted on children, the area should not be overlooked. While our research focused on children at the age of 10-12, future research within the topic could also focus on age groups in other stages of the socialisation process. Further, it is of value to get insight in *how* and *why* children in the different stages might respond to communication messages. Both the concept of psychological distance and the communication form of storytelling would be of interest to research further in relation to different socialisation stages. We advocate research both *within* a specific age group, as well as *between* age groups to gain insight of how different groups respond

towards a specific message. For instance, comparison studies could make it possible to distinguish which specific type of framing or element of a story would be the most effective or persuasive towards a particular age group.

Secondly, we advocate future research within the area of social norms. Our findings indicate that the respondents have high motivation to comply, especially with their parents but also with other social groups, which indicates that children value other social groups' opinions. However, our result also indicates that the participants did not perceive any expectations or social norm in regard to the specific topic of our study. In other words, they did not perceive any social pressure to eat less meat, which can be considered a potential drawback in regard to intention towards the behaviour. Based on this insight, we would recommend research that could contribute with insight on how decreased meat consumption could become more attractive and generally accepted in the Danish society. Through a broader perspective, we hope communication about climate change and pro-environmental behaviours will influence societies to build up a positive social norm around topics such as decreased meat consumption. Hence, future research within the area of social norms and its constituents would be advantageous also through a communications perspective.

Lastly, derived from our previous recommendations, we want to highlight the importance of future research within the field of storytelling. It is of value to gain further insight about the benefits and effectiveness of the elements that makes storytelling different from other communication methods. Based on our positive result, we assume storytelling will be widely used for different purposes and target groups in the future, which requires additional research to be able to take advantage of its full potential. Within the area of storytelling there is also a possibility to conduct future research applying different kinds of message framing. Giving an example in regard to the behaviour of decreased meat consumption, it could be of value to research whether a message should frame the behaviour as eating *less* meat or rather *stop* eating meat by for example emphasising a vegetarian diet. Based on these reflections, we advocate further research combining storytelling and framing to gain insight in what type of message could be the most effective in persuading people's intentions.

7. References

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8. Appendix

8.1. Structure and categorisation of story in Danish

Category	Description of category	Examples from local version of story
Setting	Introduction of the protagonist; contains information about the social, physical, or temporal context in which the story events occur	Frans står op en mandag morgen for at tage i skole. Frans bor i et hus sammen med sin mor, far og søster. Om morgenen plejer de alle at spise morgenmad sammen. Frans går ned i køkkenet, hvor hans...
Initiating event	An action, an internal event, or a physical event that serves to initiate the storyline or cause the protagonist to respond emotionally and to formulate a goal.	Far siger "Jeg læser lige en artikel om den danske kødindustri og den negative effekt den har på vores klima i Danmark. Vi har jo så stor en kødproduktion og eksport her i Danmark. Det kan være svært at forestille sig, men også fremstilling af mad kan være dårligt for Danmarks klima.
Internal response	An emotional reaction and a goal, often incorporating the thought of the protagonist that cause him to initiate an action.	Frans får lidt af en klump i maven over det, far siger. Frans spiser jo kød til næsten hvert måltid hver eneste dag. Måske burde han prøve at spise lidt mindre kød.
Attempt	An overt action or series of actions, carried out in the service of attaining a goal.	Frans er i gang med at smøre sin mad, og han kigger på de forskellige slags pålæg på bordet: Smør, tomat, pølse og leverpostej. Normalt vælger Frans spegepølse, men i dag ønsker han noget andet.
Consequence	An event, action, or end state, marking the attainment or nonattainment of the protagonist's goal.	Han rækker ud efter tomatskiverne og lægger dem på sin mad. Det smager godt.
Reaction	An internal response expressing the protagonist's feelings about the outcome of his actions or the occurrence of broader, general consequences resulting from the goal attainment or nonattainment of the protagonist.	Frans føler sig stolt, hæver sin hånd og fortæller, at han valgte ikke at spise kød til morgenmad. Tænk, hvor nemt det er at ændre adfærd og være god mod miljøet. Han er glad for at kunne sige, at han faktisk gør noget godt for miljøet og danskerne.

Reference Stein and Trabasso (1981).

8.2. Story

8.2.1. Local Version

Frans

Frans står op en mandag morgen for at tage i skole. Frans bor i et hus sammen med sin mor, far og søster. Om morgenen plejer de alle at spise morgenmad sammen. Frans går ned i køkkenet, hvor hans familie allerede sidder og spiser morgenmad. Far ser op fra sin avis og siger *"Frans, kom her og sæt dig, jeg vil fortælle dig noget interessant"*. Frans sætter sig ned og hans mor hælder et glas juice op til ham.

Far siger *"Jeg læser lige en artikel om den danske kødindustri og den negative effekt den har på vores klima i **Danmark**. Vi har jo så stor en kødproduktion og eksport her i **Danmark**. Det kan være svært at forestille sig, men også fremstilling af mad kan være dårligt for **Danmarks** klima. Når der fremstilles mad, udledes der kuldioxid (CO2) og andre drivhusgasser. Drivhusgasserne holder på solens varme, og det fører til klimaforandringer. Så det betyder noget for vores **danske** klima, hvad vi spiser. Jo mere kød vi spiser, jo mere CO2 udleder vi. Hvis vi for eksempel spiser 1 kg oksekød, så bliver der sendt 12,2 kg CO2 ud i atmosfæren. Hvis vi derimod spiser 1 kg grøntsager eller korn, der har vokset på marken, så bliver der kun sendt 0,5 kg CO2 ud i atmosfæren. Her i **Danmark** for eksempel, gør det at temperaturen stiger og nedbør og storm ændres. Er det ikke utroligt?"*

Frans får lidt af en klump i maven over det, far siger. Frans spiser jo kød til næsten hvert måltid hver eneste dag Måske burde han prøve at spise lidt mindre kød. Frans er i gang med at smøre sin mad, og han kigger på de forskellige slags pålæg på bordet: Smør, tomat, pølse og leverpostej. Normalt vælger Frans spegepølse, men i dag ønsker han noget andet. Han rækker ud efter tomatskiverne og lægger dem på sin mad. Det smager godt.

Når Frans har spist sin mad, sætter han sin tallerken i opvaskemaskinen, børster tænderne, tager sit overtøj på, og cykler til skolen. I skolen går han ind i klasseværelset, hilser på sine klassekammerater og sin lærer Mette, og sætter sig på sin plads. Mette er i godt humør, fordi klassen i dag får besøg af en miljøaktivist, Frederik, der skal fortælle om klimaforandringer og miljøvenlig opførsel. Ind gennem døren kommer en ung mand med et stort smil. Han hilser på Mette og vender sig mod klassen.

Frederik siger: *"I dag skal jeg fortælle jer om klimaændringer og konsekvenserne for **Danmark**. Den opvarmende effekt og ændringer i nedbør har ramt folk over hele **Danmark**. Mange områder i **Danmark** ændrer sig, både hvad angår landskab og klima, og dette forårsager skader til millioner af kroner, samt sundhedsproblemer blandt **danskerne**"*

Frederik fortæller også hvad man som **dansker** kan gøre for at handle miljøbevidst. Han nævner genbrug, valg af transport, reduktion af affald, og at spise mindre kød. Frederik spørger, om der er nogen, der normalt gør nogen af disse ting? Frans føler sig stolt, hæver sin hånd og fortæller, at han valgte ikke at spise kød til morgenmad. Tænk, hvor nemt det er at ændre adfærd og være god mod miljøet. Han er glad for at kunne sige, at han faktisk gør noget godt for miljøet og **danskerne**.

8.2.2. Global Version

Frans

Frans står op en mandag morgen for at tage i skole. Frans bor i et hus sammen med sin mor, far og søster. Om morgenen plejer de alle at spise morgenmad sammen. Frans går ned i køkkenet, hvor hans familie allerede sidder og spiser morgenmad. Far ser op fra sin avis og siger *"Frans, kom her og sæt dig, jeg vil fortælle dig noget interessant"*. Frans sætter sig ned og hans mor hælder et glas juice op til ham.

Far siger *"Jeg læser lige en artikel om kødindustrien og hvad den har af betydning for det **globale** klima. Det er jo en så stor produktion og konsumption af kød i **verden**. Det kan være svært at forestille sig, men også fremstilling af mad kan være dårligt for **verdens** klima. Når der fremstilles mad, udledes der kuldioxid (CO2) og andre drivhusgasser. Drivhusgasserne holder på solens varme, og det fører til klimaforandringer. Så det betyder noget for **verdens** klima, hvad vi spiser. Hvis vi for eksempel spiser 1 kg oksekød, så bliver der sendt 12,2 kg CO2 ud i atmosfæren. Hvis vi derimod spiser 1 kg grøntsager eller korn, der har vokset på marken, så bliver der kun sendt 0,5 kg CO2 ud i atmosfæren. **Globalt** stiger temperaturen og der opstår oftere skovbrande, længere tørkeperioder i nogle regioner og en stigning i antallet og intensiteten af tropiske storme. Er det ikke utroligt?"*

Frans får lidt af en klump i maven over det, far siger. Frans spiser jo kød til næsten hvert måltid hver eneste dag. Måske burde han prøve at spise lidt mindre kød. Frans er i gang med at smøre sin mad, og han kigger på de forskellige slags pålæg på bordet: Smør, tomat, pølse og leverpostej. Normalt vælger Frans spegepølse, men i dag ønsker han noget andet. Han rækker ud efter tomatskiverne og lægger dem på sin mad. Det smager godt.

Når Frans har spist sin mad, sætter han sin tallerken i opvaskemaskinen, børster tænderne, tager sit overtøj på, og cykler til skolen. I skolen går han ind i klasseværelset, hilser på sine klassekammerater og sin lærer Mette, og sætter sig på sin plads. Mette er i godt humør, fordi klassen i dag får besøg af en miljøaktivist, Frederik, der skal fortælle om klimaforandringer og miljøvenlig opførsel. Ind gennem døren kommer en ung mand med et stort smil. Han hilser på Mette og vender sig mod klassen.

Frederik siger: *"I dag skal jeg fortælle jer om klimaændringer og konsekvenserne for vores **jord**. Den opvarmende effekt og ændringer i nedbør har ramt folk i hele **verden**. Mange områder i **verden** ændrer sig, både hvad angår landskab og klima, og dette forårsager skader til millioner af kroner, samt sundhedsproblemer for mange mennesker på **jorden**"*

Frederik fortæller også, hvad man som beboer på **jorden** kan gøre for at handle miljøbevidst. Han nævner genbrug, valg af transport, reduktion af affald og konsumering af mindre kød. Mads spørger, om der er nogen, der normalt gør nogen af disse ting? Frans føler sig stolt, hæver sin hånd og fortæller, at han valgte ikke at spise kød til morgenmad. Tænk, hvor nemt det er at ændre adfærd og være god mod miljøet. Han er glad for at kunne sige, at han faktisk gør noget godt for miljøet og menneskene i **verden**.

8.3. Questionnaire

Spørgeskema

1. Hvordan er dit humør i dag? *(Sæt kryds over en smiley)*

2. Jeg er ◯ år gammel

3. Jeg er… Pige ○ Dreng ○

4. Jeg kommer fra …….. *(Skriv hvilket land)*

5. Jeg spiser… Kød ○ Ikke kød ○

6. Jeg har tænkt mig at spise mindre kød i løbet af de næste 2 uger *(Sæt kun 1 kryds)*

Meget sandsynligt	Sandsynligt	Jeg ved ikke	Usandsynligt	Meget usandsynligt
○	○	○	○	○

7. Min yndlingsret indeholder kød *(Sæt kun 1 kryds)*

Ja	Nej
○	○

8. Jeg har ikke tænkt mig at spise min yndlingsret (i løbet af de næste 2 uger) *(Sæt kun 1 kryds)*

Meget sandsynligt	Sandsynligt	Jeg ved ikke	Usandsynligt	Meget usandsynligt
○	○	○	○	○

9. Hvis jeg spiser mindre kød (i løbet af de næste 2 uger) vil jeg…

A. Savne at spise kød *(Sæt kun 1 kryds)*

Meget sandsynligt	Sandsynligt	Jeg ved ikke	Usandsynligt	Meget usandsynligt
○	○	○	○	○

B. Have det godt med mig selv (f.eks. stolt) *(Sæt kun 1 kryds)*

Meget sandsynligt	Sandsynligt	Jeg ved ikke	Usandsynligt	Meget usandsynligt
○	○	○	○	○

C. Have svært ved at finde noget at spise *(Sæt kun 1 kryds)*

Meget sandsynligt	Sandsynligt	Jeg ved ikke	Usandsynligt	Meget usandsynligt
○	○	○	○	○

D. Føle at jeg gør noget godt for miljøet og andre mennesker *(Sæt kun 1 kryds)*

Meget sandsynligt | Sandsynligt | Jeg ved ikke | Usandsynligt | Meget usandsynligt

10. Jeg synes det er vigtigt, at…

A. Spise kød *(Sæt kun 1 kryds)*

Meget vigtigt | Vigtigt | Jeg ved ikke | Ikke vigtigt

B. Jeg har det godt med mig selv (f.eks. stolt) *(Sæt kun 1 kryds)*

Meget vigtigt | Vigtigt | Jeg ved ikke | Ikke vigtigt

C. Jeg nemt kan finde noget at spise *(Sæt kun 1 kryds)*

Meget vigtigt | Vigtigt | Jeg ved ikke | Ikke vigtigt

D. Føle at jeg gør noget godt for miljøet og andre mennesker *(Sæt kun 1 kryds)*

Meget vigtigt | Vigtigt | Jeg ved ikke | Ikke vigtigt

11. Jeg tror at mine forældre synes jeg skal spise mindre kød (i løbet af de næste 2 uger) *(Sæt kun 1 kryds)*

Meget sandsynligt | Sandsynligt | Jeg ved ikke | Usandsynligt | Meget usandsynligt

12. Jeg tror at mine søskende synes jeg skal spise mindre kød (i løbet af de næste 2 uger) *(Sæt kun 1 kryds)*

Meget sandsynligt | Sandsynligt | Jeg ved ikke | Usandsynligt | Meget usandsynligt

Jeg har ikke nogen søskende

13. Jeg tror at mine venner synes jeg skal spise mindre kød (i løbet af de næste 2 uger) *(Sæt kun 1 kryds)*

Meget sandsynligt | Sandsynligt | Jeg ved ikke | Usandsynligt | Meget usandsynligt

14. Jeg tror at mine lærere synes jeg skal spise mindre kød (i løbet af de næste 2 uger) *(Sæt kun 1 kryds)*

Meget sandsynligt | Sandsynligt | Jeg ved ikke | Usandsynligt | Meget usandsynligt

15. Det er vigtigt for mig at gøre som mine forældre synes *(Sæt kun 1 kryds)*

Fuldstændig enig | Enig | Jeg ved ikke | Uenig | Fuldstændig uenig

16. Det er vigtigt for mig at gøre som mine søskende synes *(Sæt kun 1 kryds)*

Fuldstændig enig	Enig	Jeg ved ikke	Uenig	Fuldstændig uenig
O	O	O	O	O

17. Det er vigtigt for mig at gøre som mine venner synes *(Sæt kun 1 kryds)*

Fuldstændig enig	Enig	Jeg ved ikke	Uenig	Fuldstændig uenig
O	O	O	O	O

18. Det er vigtigt for mig at gøre som mine lærere synes *(Sæt kun 1 kryds)*

Fuldstændig enig	Enig	Jeg ved ikke	Uenig	Fuldstændig uenig
O	O	O	O	O

19. Jeg kan ikke godt lide kød *(Sæt kun 1 kryds)*

Fuldstændig enig	Enig	Jeg ved ikke	Uenig	Fuldstændig uenig
O	O	O	O	O

20. Jeg vil spise mindre kød (i løbet af de næste 2 uger) eftersom jeg ikke kan lide kød *(Sæt kun 1 kryds)*

Fuldstændig enig	Enig	Jeg ved ikke	Uenig	Fuldstændig uenig
O	O	O	O	O

21. Der findes andet mad for mig at spise i stedet for kød i skolen og hjemme *(Sæt kun 1 kryds)*

Fuldstændig enig	Enig	Jeg ved ikke	Uenig	Fuldstændig uenig
O	O	O	O	O

22. Jeg vil spise mindre kød (i løbet af de næste 2 uger) eftersom jeg kan finde mad uden kød *(Sæt kun 1 kryds)*

Fuldstændig enig	Enig	Jeg ved ikke	Uenig	Fuldstændig uenig
O	O	O	O	O

23. Mit eget kød forbrug vil have en effekt på miljøet *(Sæt kun 1 kryds)*

Fuldstændig enig	Enig	Jeg ved ikke	Uenig	Fuldstændig uenig
O	O	O	O	O

24. Jeg vil spise mindre kød (i løbet af de næste 2 uger) eftersom mit kød forbrug vil have en effekt på miljøet *(Sæt kun 1 kryds)*

Fuldstændig enig	Enig	Jeg ved ikke	Uenig	Fuldstændig uenig
O	O	O	O	O

25. Jeg tror klimaændringerne hovedsagelig vil ske i fremtiden *(Sæt kun 1 kryds)*

Fuldstændig enig	Enig	Jeg ved ikke	Uenig	Fuldstændig uenig
O	O	O	O	O

26. Danmark bliver påvirket af klimaændringerne *(Sæt kun 1 kryds)*

Fuldstændig enig	Enig	Jeg ved ikke	Uenig	Fuldstændig uenig
O	O	O	O	O

27. Klimaændringerne påvirker hovedsageligt steder langt væk *(Sæt kun 1 kryds)*

Fuldstændig enig	Enig	Jeg ved ikke	Uenig	Fuldstændig uenig
○	○	○	○	○

28. Klimaændringer har indvirkning på mig og mit liv *(Sæt kun 1 kryds)*

Fuldstændig enig	Enig	Jeg ved ikke	Uenig	Fuldstændig uenig
○	○	○	○	○

29. Jeg er usikker på, hvad konsekvenserne af klimaændringerne vil være *(Sæt kun 1 kryds)*

Fuldstændig enig	Enig	Jeg ved ikke	Uenig	Fuldstændig uenig
○	○	○	○	○

Tak for din deltagelse!

8.4. Recruitment Email

Hi,

We are two Swedish students from Copenhagen Business School. At the moment we are writing our master thesis within the field of communication. We are researching how to communicate pro-environmental behaviours towards children at the age of 10-12 to increase their intentions accordingly, in order to help environmental organisations like NOAH develop their educational materials.

We are contacting you because we would like to make a smaller experiment with a few classes in year 4,5 or 6. The experiment would involve two parts; first, the children will read a 1-page story. Secondly, the children will answer a self-completion questionnaire with a couple of questions relating to their intentions towards pro-environmental behaviours (questions with rating scale 1-5). The story and questionnaire would be written in a simple manner, adapted after the age of the children. There will be two versions of the text (each given to 50% of the participants randomly), as our objective with the test is an attempt to measure if psychological distance to climate change impacts (which we create by framing the story with different temporal and geographical perspectives) has an effect on the children's intentions to behave pro-environmentally. All the children that participate will be anonymous. The experiment takes approximately 30 minutes and would need to be conducted within the next few weeks. We would therefore appreciate to hear back from you as soon as possible.

We hope you find this interesting and want to take part in our study.
If you think there would be any teacher at your school that would be interested in letting us come to their class for the little experiment, we would appreciate if you could transfer this mail or provide us with the contact information.

We hope to hear back from you! Thank you in advance,

Best Regards,
X

8.5. Normalisation of Data

8.5.1. Calculation Old Values

Total Attitude formula

A = (BB1 x OE1) + (BB2 x OE2) + (BB3 x OE3) + (BB4 x OE4)

(Excluded: BB3, OE3)

Max value: (5x4) + (5x4) + (5x4) = 60

Min value (0x0) + (0x0) + (0x0) = 0

Total Subjective Norm formula

SN = (NB1 x MC1) + (NB2 x MC2) + (NB3 x MC3) + (NB4 x MC4)

Max value: (5x5) + (5x5) + (5x5) + (5x5) = 100

Min value: (0x0) + (0x0) + (0x0) + (0x0) = 0

Total Perceived Behavioural Control formula

PBC = (CB1 x PCB1) + (CB2 x PCB2) + (CB3 x PCB3)

(Excluded: CB1, PCB1)

Max value: (5x5) + (5x5) = 50

Min value: (0x0) + (0x0) = 0

Indirect Behavioural Intention = A + SN + PCB

Max value: 60 + 100 + 50 = 210

Min value: 0

8.5.2. Calculation New Values

The numbers were normalised to a scale between 1-5 using the formula:

$$NewValue = \frac{(OldValue - OldMin) \times (NewMax - NewMin)}{OldMax - OldMin} + NewMin$$

To view the normalised data calculations in Excel, see *Statistics* document in USB, "DATA" sheet:

Normalised values for attitude are shown in columns AK, AL and AM. Normalised values for Subjective Norm in columns AR, AS and AT. Normalised values for Perceived Behavioural Control in columns AX and AY. Normalised Total Attitude in column BD, Total Subjective Norm in column BE, Total Perceived Behavioural Control in column BF and lastly normalised value for Indirect Behavioural Control in column BG.

8.6. Data Findings

To view the data and calculations in Excel, see *Statistics* document in USB

8.6.1. Psychological Distance

		Psychological Distance					
		PD1	PD2	PD3	PD4l	PD5	Average
Local	Mean	2,61	3,50	2,42	3,21	3,25	3,00
	N	23	24	24	24	24	
	Std.Deviation	0,66	0,72	0,72	0,83	0,94	
Global	Mean	2,55	3,41	2,45	3,32	3,50	3,05
	N	22	22	22	22	22	
	Std.Deviation	0,67	0,73	0,80	0,99	0,67	
Control	Mean	2,46	3,58	2,73	3,08	3,27	3,02
	N	26	26	26	26	26	
	Std.Deviation	0,86	0,64	0,78	1,06	0,78	
Total	Mean	2,54	3,50	2,53	3,20	3,34	

8.6.2. Determinants of Indirect Behavioural Intention

		Total Attitude	Total Subjective Norm	Total PBC	
		Normalised value (1-5)	Normalised value (1-5)	Normalised value (1-5)	Average
Local	Mean	2,93	2,17	2,85	2,65
	N	21	20	23	
	Std. Deviation	0,63	0,38	0,78	
Global	Mean	3,29	2,18	2,90	2,79
	N	21	19	21	
	Std. Deviation	0,52	0,48	0,63	
Control	Mean	2,65	2,27	2,62	2,51
	N	26	25	26	
	Std. Deviation	0,53	0,39	0,72	
Total	Mean	2,95	2,21	2,79	

8.6.3. Attitude

		Attitude			
		Attitude 1	Attitude 2	Attitude 4	Average
Local	Mean	2,44	3,19	2,90	2,84
	N	24	22	22	
	Std.Deviation	0,81	0,94	0,94	
Global	Mean	2,64	3,45	3,53	3,20
	N	22	21	22	
	Std.Deviation	0,82	0,88	0,83	
Control	Mean	1,97	2,91	2,81	2,57
	N	26	26	26	
	Std.Deviation	0,82	1,14	0,73	
Total	Mean	2,35	3,18	3,08	

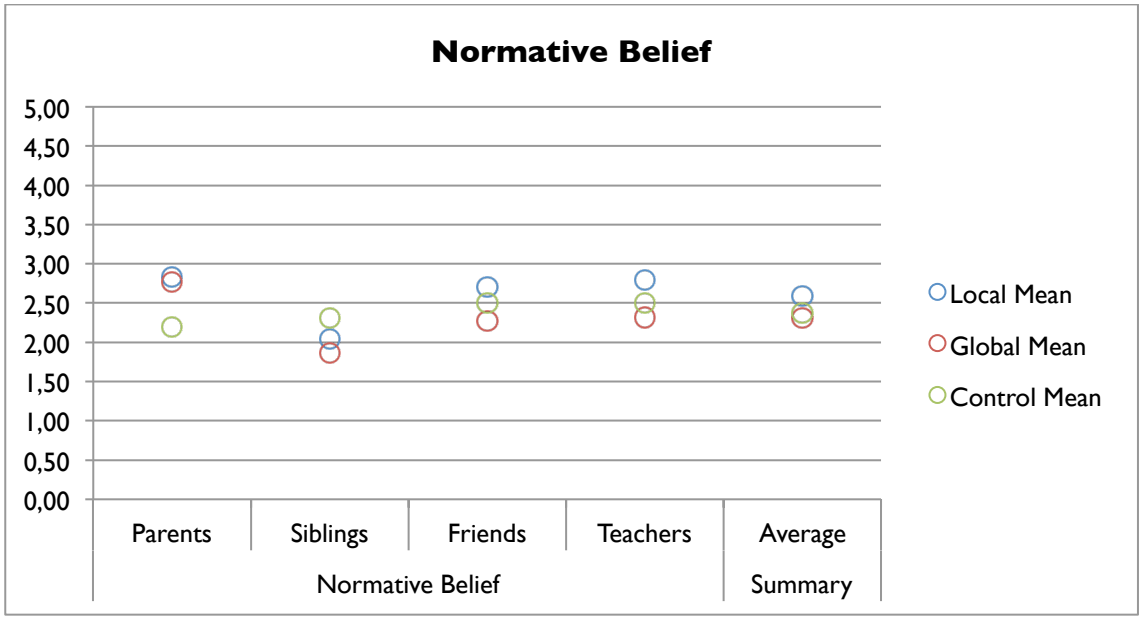
8.6.4. PBC

		PBC		
		PBC2	PBC3	Average
Local	Mean	2,93	2,72	2,83
	N	23	24	
	Std.Deviation	0,96	1,01	
Global	Mean	3,17	2,56	2,86
	N	21	22	
	Std.Deviation	0,72	0,80	
Control	Mean	2,67	2,46	2,57
	N	26	26	
	Std.Deviation	1,05	0,73	
Total	Mean	2,92	2,58	

8.6.5. Subjective Norm

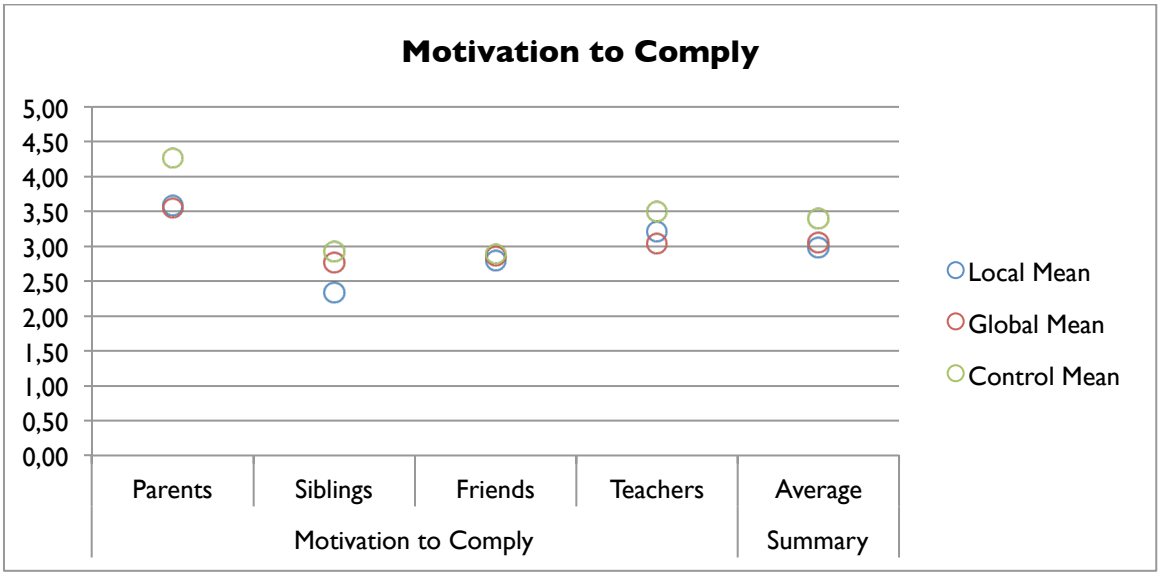
		Subjective Norm				
		SN1	SN2	SN3	SN4	Average
Local	Mean	2,49	1,87	2,08	2,31	2,19
	N	24	20	24	24	
	Std.Deviation	0,84	0,42	0,75	0,74	
Global	Mean	2,56	1,78	1,95	2,05	2,08
	N	21	21	22	21	
	Std.Deviation	0,85	0,65	0,56	0,74	
Control	Mean	2,38	2,04	2,03	2,27	2,18
	N	26	25	26	26	
	Std.Deviation	0,78	0,68	0,53	0,69	
Total	Mean	2,48	1,89	2,02	2,21	

8.6.5.1. Normative Belief



		Normative Belief				
		Parents	Siblings	Friends	Teachers	Average
Local	Mean	2,83	2,04	2,71	2,79	2,59
	N	24	24	24	24	
	Std. Deviation	1,17	1,04	0,91	0,93	
Global	Mean	2,77	1,86	2,27	2,32	2,31
	N	22	22	22	22	
	Std. Deviation	1,34	1,04	0,88	1,17	
Control	Mean	2,19	2,31	2,50	2,50	2,38
	N	26	26	26	26	
	Std. Deviation	0,98	1,09	0,86	0,91	
Total	Mean	2,60	2,07	2,49	2,54	

8.6.5.2. Motivation to Comply



		Motivation to Comply				
		Parents	Siblings	Friends	Teachers	Average
Local	Mean	3,58	2,33	2,79	3,21	2,98
	N	24	24	24	24	
	Std. Deviation	0,97	1,27	1,10	1,02	
Global	Mean	3,55	2,77	2,86	3,05	3,06
	N	22	22	22	22	
	Std. Deviation	0,67	1,07	0,71	1,25	
Control	Mean	4,27	2,92	2,88	3,50	3,39
	N	26	26	26	26	
	Std. Deviation	0,83	1,02	0,91	1,17	
Total	Mean	3,80	2,68	2,85	3,25	

8.6.6. ANOVA Total Attitude (manipulated vs. control)

ANOVA Total Attitude					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	739,842	1	739,842	10,413	0,002
Within Groups	4689,158	66	71,048		
Total	5429	67			

8.6.7. ANOVA Total PBC (manipulated vs. control)

ANOVA Total PBC					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	164,184	1	164,184	2,178	0,145
Within Groups	5127,016	68	75,397		
Total	5291,2	69			