



M.Sc. Thesis – University of Twente

# Is environmental activism stigmatized among youth?

How German adolescents make sense of their future in the face of climate change

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## Preface

This paper was motivated by several conversations within my personal surrounding and in the media about climate change and ways to handle it. I experienced a variety of reactions to the topic, especially among the younger generations, which aroused my interest. However, I could not find the scientific literature satisfying my curiosity. This M.Sc. thesis is intended to provide new insights into German youth's future perspectives in the face of climate change. I am especially indebted to my supervisors Dr. Anneke Sools and Dr. Mirjam Radstaak for guiding me through the journey of writing this paper. Further, I would like to thank my friends and family, who I neglected within the past months, for giving me time and support. On a final note, I dedicate this work to my boyfriend Benedikt Luster-Haggeney who I am infinitely grateful to for encouraging me to keep going and supporting me throughout the whole process.

## Abstract

**Objective:** Since climate change is a threatening circumstance concerning the global population, it is essential to find out how individuals worldwide react to it. From the media, several positions and perspectives become tangible. However, information about the German youth, in particular the ones who are not engaged in environmental activism (EA), is lacking. Previous research points towards the importance of the *theory of planned behaviour* (TPB) elements (attitude, subjective norm, perceived behavioural control and intentions) for exploring pro-environmental behaviour (Ajzen, 1991). Furthermore, *imagination of the future* has been found relevant for examining individuals' future perspectives. The purpose of this study was to gain insight into the future perspectives of German adolescents in the face of climate change and their intentions to engage in climate action. The research question was: *How do German adolescents make sense of their future in the face of climate change and how do the antecedents of the TPB shape their intentions for environmental activism?*

**Method:** The participant group consisted of four German adolescents between the ages of 16 to 18 years attending the Gymnasium or Hauptschule. During a focus group session, individual future perspectives were elicited using the *letters from the future* exercise followed by a discussion exploring interactive dynamics of these perspectives and the elements of the theory of planned behaviour. The data were analysed using a thematic analysis. The coding scheme was set up partly by deductive means using the elements of the theory of planned behaviour and the letter instructions, and partly by inductive means, e.g. the subjective experience of the imagined future and perceived responsibility, which emerged as additional themes.

**Results:** Eight themes have been identified as covering for the adolescents' future perspectives and intentions: letter characteristics (I.), climate change knowledge and perceptions (II.), subjective experience of the imagined future (III.), attitude (IV.), subjective norm (V.), perceived behavioural control (VI.), perceived responsibility (VII.) and intentions (VIII.).

**Discussion:** The findings indicate that the participants were conflicted between living their lives as usual and their knowledge and concern about negative future developments. Furthermore, the adolescents seem to experience a stigmatization of EA. The participants' perspectives for the future and the identified attitudes, norms and barriers offer input for how adolescents' objectives can be integrated into sustainable development, as aimed for by the UN.

Is environmental activism stigmatized among youth? How German adolescents make sense of their future in the face of climate change

*“Just as history shapes generations, so do generations shape history.”  
(Generation Waking Up, 2017)*

One widely discussed topic of today’s world is the ongoing climate change. While some people are denying the existence of climate change and the urgency for action, others have been demonstrating and speaking up for politicians to stop neglecting the earth’s future (Leiserowitz, Maibach, Roser-Renouf, Feinberg, & Howe, 2013; Zeit Online, 2019b). Especially, younger generations seem to engage in climate activism (RP Online, 2019). One reason for the growing activism might be how younger generations expect climate change to develop in the future. The following study will explore how adolescents anticipate their future in the face of climate change and how their intentions to engage in EA are shaped from a perspective of the theory of planned behaviour. Environmental activism will be conceptualized as purposeful and effortful engagement in behaviours aimed at preserving or improving the quality of the environment, and increasing public awareness of environmental issues (Séguin, Pelletier, & Hunsley, 1998).

### **Climate Activism Intentions**

Recently, the ‘Fridays for future’ demonstrations have caused a stir, since some students skip school on Fridays to go marching on the streets and raise their voices (RP Online, 2019). These students voluntarily refrain from education to raise awareness for climate change with the reasoning that studying will not be of use if they will not even have a future (The Guardian, 2018). While some people criticize the young people’s attendance at the demonstrations and say it will only teach them how to become unemployed, others show their support and encourage the activist youth (The Guardian, 2018, 2019). However, the adolescent activists seem to remain untouched by the critics and follow the example of 16-year-old climate activist Greta Thunberg, who founded the ‘Fridays for future’ demonstrations. The adolescents who are raising awareness on social media or on demonstrations seem to experience a mix of feelings and thoughts regarding the world’s future. Their posters express sadness, disappointment and fear, but they also depict hopeful

motivational appeals to society (Wright, 2019; Zeit Online, 2019a). However, not all young people go on the streets to demonstrate and raise their voice for climate action. Society hears and reads the stories of those who are actively engaged with protecting the climate, yet little is known about those who do not publicly share their opinion.

What is known from the recent European election, is that the youth has become more interested in climate action by giving more votes to the green parties, which became especially evident in German elections (ARD, 2019). The green party particularly benefited from the votes of the young voters in the age group of 18 to 24-year-olds. Within this age group, 34 per cent of the eligible voters elected the green party (ARD, 2019; Lehmann, 2019). It therefore seems that German youth is becoming more concerned with the future political situation in relation to climate change and starts engaging in climate activism. However, we do not know whether these voters were those already demonstrating or also the youth less engaged in EA. Further, we do not know the stance of the adolescents not yet eligible to vote.

Adolescents' engagement in EA might be influenced by several factors. The way pro-environmental behaviour is adapted by people seems to be influenced by different ways of talking about climate change and climate activism intentions (Pelletier & Sharp, 2008). It appears that explicitly communicating intentions regarding pro-environmental behaviour might lead to a stronger realisation of intentions to engage in climate activism. Climate change communication research points towards the anticipated implementation of goals or intentions within climate change communication to enhance internalization and maintenance of pro-environmental behaviour (Pelletier & Sharp, 2008).

Further factors influencing the adaptation of green behaviour are perceived costs, self-efficacy and peer influence. A study for green consumer behaviour describes this behaviour as an altruistic, highly costly behaviour (Muposhi, Dhurup, & Surujlal, 2015). By purchasing green products, the environment maintains clean, from which not only the actor benefits, but also everybody else, regardless of their engagement. Thereby, the price is often perceived as too high, when not only the individual profits, but also others who do not "pay the price". The perceived cost is the price of green products, their unavailability and the extraneous effort to acquire them. Additionally, perceived self-efficacy appears to be a requirement for adapting green behaviour, which means that individuals must believe that their actions will have the desired outcomes in order to increase the possibility of engagement in pro-environmental behaviour. Moreover, peer influence is a further factor, meaning that individuals need to be favourably influenced by views of family and friends in order to adapt the behaviour.

Concluding, it appears that the internalization of pro-environmental behaviours is not only influenced by the way behavioural intentions are being communicated (Pelletier & Sharp, 2008), but also by the perceived costs and believed effectiveness of the behaviour and the individual's social surroundings – the way peers evaluate the behaviour and the level to which the behaviour fits with the needs of belongingness (Muposhi et al., 2015). All of these factors resemble the elements of the theory of planned behaviour, namely the *attitude* towards the behaviour – the believed benefit of it, the *subjective norm* – the influence by the social surrounding, and the *perceived behavioural control* – the perceived barriers (or ease) of performing the behaviour. These appear to influence behavioural intentions and in turn predict following behaviour.

**The theory of planned behaviour.** The theory of planned behaviour entails that intentions are an essential determinant of human behaviour (Ajzen, 1991). In terms of climate activism, this would mean that intentions to engage in climate activism induce the actual behaviour of climate activism. The three main components defining intentions are: attitude, subjective norm and perceived behavioural control. Attitudes are the general valuation of performing the specific behaviour, which can be either positive or negative. According to Fishbein and Ajzen (1975) our beliefs link the behaviour to certain outcomes or attributes, which are already valued positively or negatively. Thereby, behaviour is either associated with pleasant or unpleasant outcomes and an attitude toward the behaviour is automatically acquired.

The subjective norm refers to the extent to which the individual experiences important others to like them performing the behaviour. Normative beliefs preceding the subjective norm are concerned with the likelihood that important individuals or groups approve or disapprove of performing the behaviour (Fishbein & Ajzen, 1975).

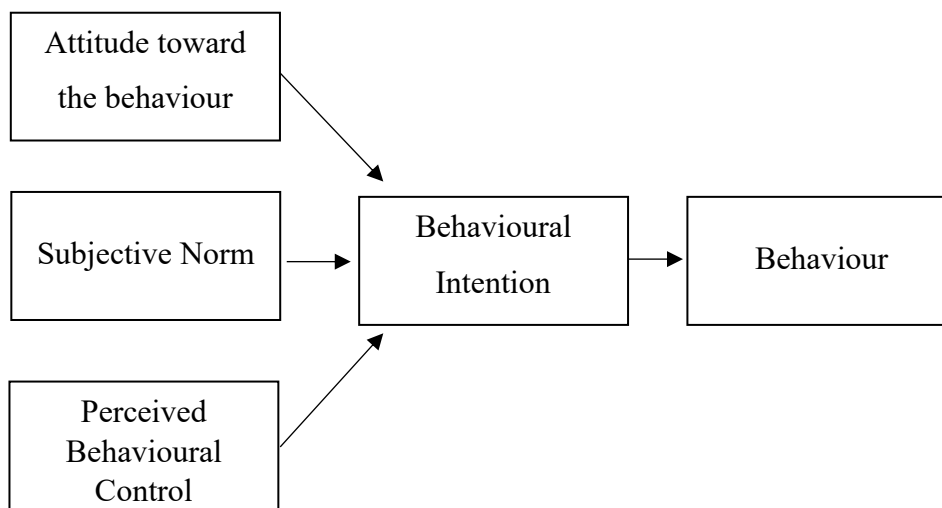
Thirdly, control beliefs deal with the required resources and opportunities (Ajzen, 1991). The more resources and opportunities the individual believes they hold, and the fewer barriers they expect, the higher should be their perceived control over the behaviour. Perceived behavioural control is the level to which the individual experiences ease or barriers in performing the behaviour, including past experiences for reference as well as anticipated facilitation or obstacles (Ajzen, 1991).

Another central factor in the TPB is the individual's intention to perform the given behaviour. Intentions entail the motivational factors that influence a behaviour (Ajzen, 1991). They indicate how hard an individual is willing to try or how much of an effort they are planning to exert, in order to perform the behaviour. Generally, the stronger the intention to

engage in a behaviour, the more likely should be its performance. However, behavioural intention can only be translated into actual behaviour if the behaviour is under volitional control, meaning if the person can decide at will to perform or not perform the behaviour. The theory implies that the more positive the individual's attitude and the subjective norm, and the higher the perceived behavioural control, the more likely that intentions will be followed by actual behaviour.

### Figure 1

*Main variables of the Theory of Planned Behaviour (Ajzen, 1991)*



Few studies have already looked at the relationship between the TPB and earth-conscious behaviours like EA, green travelling or energy savings and carbon reduction (Chen, 2016; Chen & Tung, 2014; Fielding, McDonald, & Louis, 2008). One questionnaire study investigated consumers' intentions to visit green hotels in Taiwan. Comprising 559 participants, of which mostly students between 20 and 29 years, it was found that attitude, subjective norm and perceived behavioural control exert positive influences on the consumers' intentions (Chen & Tung, 2014). A second study from Taiwan tried to explain people's intentions to engage in energy savings and carbon reduction behaviours with the same extension of the TPB model. Resulting from self-reported questionnaires by 728 participants, of which the age group 40-59 years constituted the majority, it was found that people's moral obligation and environmental concern pose additional variables for extending the TPB model and that perceived behavioural control had only limited predictive value (Chen, 2016). Fielding et al. (2008) explored the theory of planned behaviour and identity of

environmental activists in relationship with EA. With a sample of 169 Australian students, the achieved results showed that the TPB variables attitude and subjective norm were significant predictors of intentions, whereas perceived behavioural control could not predict intentions significantly. However, the study also showed that the TPB variables indicated similar effects whether or not the identity variable group membership was considered.

While two of the studies showed that attitude and subjective norm were the most predictive factors for intentions to perform the respective eco-friendly behaviour, and perceived behavioural control had a limited predictive value (Chen, 2016; Fielding et al., 2008), another study indicated that all three components of the TPB were found to predict corresponding intentions with perceived behavioural control as indispensable factor (Chen & Tung, 2014). However, they all emphasize the value of the TPB model for identifying the predictors of environment-related behaviours.

Adding to the TPB model, researchers argue that knowledge regarding beneficial and harmful environmental behaviours is a prerequisite for environmentally conscious action (Pelletier, Tuson, Green-Demers, Noels, & Beaton, 1998). Environmental knowledge consists of the factual information people possess on the state of the environment and the influence of human actions on it. In other words, knowing about the beneficial or harmful outcomes of behaviours and knowing about the further development of climate change should – incorporating the previous illustration of attitudes – lead to the development of beliefs linked to the behaviours. Thereby the automatic construction of attitudes and subsequently contribute to the generation of intentions towards the behaviours. However, the benefits and harms of our behaviour are complex and difficult to overlook. At this point, where outcomes are indefinite, the development of matters is up to our imagination.

In conclusion, previous studies have examined the attitude, subjective norm and perceived behavioural control of the individual to predict their intentions to engage in pro-environmental behaviours. However, there are no studies available assessing German adolescents' intentions for EA. Further, environmental knowledge seems to pose a prerequisite to the TPB model. Nevertheless, since scientific predictions about climate change are vague and very complex, anticipation serves as substitute for knowledge at some point.

### **Imagining Climate Change**

As climate change is an urgent topic with seemingly only few years before damages become irreversible (United Nations, 2019c), it is necessary to study it not only with its effects on the physical environment, but also in relationship with the individual affected by it.



Especially for the adolescents on the verge of becoming entitled to vote in crucial elections, it is important to find out how they imagine the future, what they expect to happen and what they intend to do about it.

Imagination of the future is a human capacity that allows us to envision the possibilities of life ahead of us (Sools, Tromp, & Mooren, 2015). The capacity to imagine the future is a key feature of the human mind and can be defined as mental representation (visual, verbal, auditory) of things that are not present to the senses (Seligman & Kaufman, 2014 - 2017). It enables the individual to explore for example emotions and goals, and to orient within the possible future.

According to Gilbert and Wilson (2007) all species strive for navigating toward futures that promote survival and away from futures that threaten it. Animals can predict hedonic consequences of events experienced before by the practice of associating pleasures and pains with preceding events. However, humans can predict consequences of events they have never even experienced (Gilbert & Wilson, 2007; Suddendorf, Bulley, & Miloyan, 2018). Human ability thus extends the animals' power of foresight. This extended ability is called *prospection*: our ability to "pre-experience" the future by simulating it in our minds. The brain combines incoming information with stored information to build mental representations of the external world. Mental representations of the future can be called *simulation*, just as mental representations of the past are called *memory* and of the present are called *perception* (Gilbert & Wilson, 2007). These mental simulations of the future can elicit hedonic reactions in the present. Thereby people can "preview" events and "pre-feel" the pleasures and pains those events will evoke.

Suddendorf et al. (2018) add that the feelings produced during these simulations are referred to as *affective forecasts* and play an important role in motivating future-directed behaviour. Likewise, Vasquez and Buehler (2007) suggest that imagining a desired future might increase one's motivation and effort to attain it. Generating mental images of future success can sometimes increase expectations of success, achievement motivation, effort, and performance by facilitating the clear articulation of goals and development of behaviours for fulfilling those goals. Imagining future events can not only make those events seem more likely but can also help to bring them about (Vasquez & Buehler, 2007).

However, the effectiveness of mental imagery can be altered by differences in its content. For instance, when positive mental images focus on precisely how the individual will attain the desired outcome, they are more beneficial compared to when they focus exclusively on the outcome itself (Vasquez & Buehler, 2007). Furthermore, motivational effectiveness is

influenced not only by the content of a mental image but also by how it is subjectively experienced. Positive images have stronger effects on motivation and subjective confidence to the extent that they are perceived as controllable, are easily imagined, and are highly accessible.

In addition to the general motivational effect, affective forecasts can support us in evaluating delayed outcomes of our actions and in making deliberate decisions. The affective information attained from simulations can influence decision-making in the context of intertemporal choices where future and present benefits must be evaluated (Suddendorf et al., 2018). For instance, recent evidence suggests imagining goal-related future events can reduce delay discounting (O'Donnell, Oluyomi Daniel, & Epstein, 2017). Temporal discounting means assigning less value to delayed outcomes as compared to immediate outcomes, and was previously found to play a role in utility evaluation regarding health and money (Chapman, 1996). In terms of climate change this would mean that serious consequences of climate change occurring in distant future might appear less worrisome and behaviour resulting in immediate pleasure might be preferred over action preventing delayed climate change consequences. However, imagining goal-related future events might weaken this effect. Mental simulations of the future can thus also support the weighing up of options.

Looking at empirical research addressing imagination of the future in adolescents, one study from the field of narrative psychology suggests that for children and adolescents, in general, the future seems bright and predictable (Bohn & Berntsen, 2013). In their study, they assessed 162 Danish middle-class school children aged 9 to 15 in writing prospective and retrospective life stories. Their findings suggest for one, that for adolescents, writing a story of the entire future life is more demanding than of a single specific future event. A second finding was that children and adolescents viewed the future more positive than the past. It was more difficult for them to imagine a negative future than a positive and the future was seen as more idyllic than the past. A third finding was that older adolescents relied unexpectedly much on sociocultural norms when creating their future life story, instead of focusing on finding their unique future self. When we look at other research exploring the development of adolescents' selves or identities, the sociocultural norms play an important role for creating the own identity (McLean & Pasupathi, 2010). Adolescent individuals appear to live in specific niches which comprise local cultural norms. Within these niches, different norms can stand in conflict with each other, like norms provided by parents and norms experienced among peers. In light of these findings it appears essential to explore the adolescents'

imagination of the future with regard to their normative beliefs and how these and relating factors influence them as individuals.

Summarized, imagination of the future can provide us with insights into the created connection of the anticipating person's own future with the planet's future and his or her intentions to engage in EA.

### **The current study**

To sum up the previous sections, climate change has been a topic of growing interest within the last decades to which many German adolescents react with engagement in EA. However, little is known about what keeps other German adolescents from joining this activism. Literature provides us with a lot of research in the sustainability domain, which points towards the importance of the TPB elements for exploring people's position towards climate change and climate activism. Further, the interest in and support of imagination of the future research is rising. Imagination of the future in adolescents was found to be – among others – strongly influenced by sociocultural norms. However, in current research the perspectives and intentions for climate change and climate action in less environmentally engaged German adolescents experience a lack of in-depth information. Such information could constitute an aid in understanding why this group of adolescents has not joined the activism shared among many other adolescents and what their perspectives for a future with climate change are. It could thereby provide us with crucial insights into if and how society, politics, corporations, schools and/or individuals should react to climate change in the less active youth's understanding. This in turn would add to a more holistic understanding of climate change and climate activism worldwide.

Therefore, based on above-discussed topics and findings, the research questions this study aims to resolve are: *How do German adolescents make sense of their future in the face of climate change and how do the antecedents of the TPB shape their intentions for environmental activism?*

### **Method**

The design of this exploratory study involves qualitative data collection and data analysis methods. Ethical approval has been received on 3<sup>rd</sup> July 2019 by the University of Twente BMS Ethics Committee.

### **Participants**

In July 2019, after approaching 8 adolescents for participation to account for dropouts, four German adolescents, one female and three male students, between the age of 16 and 18 were recruited for the purpose of this research. The participants were recruited through means of convenience sampling. Relatives of friends and adolescents from the researcher's neighbourhood were asked for participation in the current study. The three boys were partly befriended or knew each other, the girl knew one of the boys from the neighbourhood. Two of the boys and the girl were higher educated (Gymnasium), while one of the boys was lower educated (Hauptschule). The exclusion criteria were engagement in previous climate activism and being under 16 years or over 18 years of age. To rule out the exclusion criteria, the identified adolescents were enquired – either through a mediating person or personally by the researcher – whether they meet the exclusion criteria or not. If not, and interested in participation, the adolescents were provided with information about the study and invited to a focus group session few weeks later. For data privacy, participants' names were altered in the following.

### **Procedure**

Prior to the start of the session, informed consent was collected from the participants. Participants were given a comprehensive information sheet, which was additionally read out to them. Afterwards they were given time to fill out an informed consent form (see Appendices A and B). After given consent, participants received information about the specific procedure of the focus group session. It was highlighted that everything can be shared, but nothing must be shared, and that the interaction is respectful and non-judgemental. Subsequently, participants were provided with instructions on how to write a 'Letter from the future', which was verbally explained and additionally handed out (Step 1; see Appendix C). A short meditation was applied to facilitate participants' prospection and focus. Consequently, they were asked to write their letters. After having written the letters, they were asked to read them out loud to the group. Then, a 15-minute break was made.

Consequently, a focus group discussion of about 50 minutes duration was initiated regarding climate change perceptions and the participants' intentions to engage in climate activism (Step 2). At the end, participants were invited to ask study related questions and give comments, and to continue the discussion after the study-relevant discussion was over. After successful participation, the adolescents received 5 Euro gift cards for local ice cream cafés as reimbursement.

The whole focus group session, except for the duration of writing the letters and the break, was video recorded for the purpose of data analysis. To avoid a language barrier, the session was held in German language.

### **Materials**

**Letters from the future.** In the current study an adapted version of the ‘Letters from the future’ exercise (Sools et al., 2015), translated into German, has been utilized. The original version of the exercise was taken from storytelling groups in mental health promotion settings in the Netherlands and adjusted to a written exercise (Bohlmeijer, 2007), which functions as a powerful way to mapping different forms of future imagination close to everyday life (Sools et al., 2015). For this study, following adjustments were made: Instead of imagining themselves in a situation in a desired future, participants were asked to decide themselves whether the imagined future scenario was desired or undesired to explore their expectations. From this anticipated scenario they were instructed to write a letter back to for example their present self. As in the original version of the letter exercise, the recipient could also be another person they know, like their mother, a friend, their children, or the next generation. The participants were asked to imagine the future situation as vividly as possible and to incorporate all the impressions in the letters. By writing this letter, anticipatory processes become measurable, and sense-making of the future can be explored (Sools et al., 2015).

**Focus group.** In addition to the letter exercise, a focus group discussion to explore shared perspectives on climate change and climate activism was conducted with all 4 participants. Prior to the beginning of the discussion, the participants were given a short information about what to expect: the topics to be discussed, that it will be an interactional discussion with occasional input from my side instead of a strict question-answer interview, that everyone is invited to share their honest opinion about the subject, that nobody will be judged because of their stance and that it is always possible to discontinue their participation in the study. This information was given as a reminder of the informed consent previously given in case it fell into oblivion. The subsequent discussion was initiated by a more general open question (“What is climate change?”), followed by other questions to participants’ perceptions and expectations about climate change in general to initiate an interactional discussion. Other specific topics planned for discussion were the participants’ attitude, subjective norm, perceived behavioural control and intentions.

Fielding et al. (2008) measured the conventional TPB elements with the use of several items within a questionnaire. These items and Ajzen's (1991) paper about the TPB have served as tool for developing the discussion questions. The participants' attitude towards climate activism, defined as raising awareness and living eco-friendly, was asked for by the question: "What are your thoughts on climate activism?". The subjective norm was introduced by the questions: "What would your friends/family/surrounding think, if you would engage in climate activism?" and the participants' perceived behavioural control was asked for by the question: "Do you think it is easy to engage for the climate or are there any barriers that make it difficult to engage in climate activism?". Eventually, the intentions to engage in climate activism in the future was questioned by: "Do you have any specific plans to engage in climate activism?". Next to the determined topics there was room for the participants to discuss other emerging topics of interest. The moderation of the focus group was executed by the researcher self under careful consideration of biases and common moderation techniques.

### **Data Analysis**

The focus group session was transcribed verbatim, except for names and locations, which were substituted to ensure confidentiality. The collected data has been analysed separately by letters and discussion splitting the thematic analyses into two parts. A separation was made in order to do justice to both types of data, the short and individual letters and the elaborate and interactive discussion. The letters required additional themes, whereas the discussion required more extensive themes. However, since the themes and subthemes identified within the letters and the focus group discussion were overlapping, the coding schemes are depicted below in one integrative table (see table 1). During data analysis both a deductive and an inductive approach were followed. The research question as well as the theories and empirical findings discussed above were constantly in the researcher's awareness during the coding procedure.

To become familiar with the data, the data analysis of the letters commenced by listening to the recorded session and reading through the letters. For this article, all letters were translated into English language. During data analysis, an approach of constant comparison was followed. The letters were read after one another and first deductively explored for the letter characteristics. The utilized material (letters from the future exercise) provided these characteristics and thereby the first theme and respectively three subthemes. Subsequently, in an inductive process, the first letter has been reread individually and examined for its main themes. Consequently, the themes identified in the first letter were used

to organize fragments from the other letters and were complemented by further emerging themes. In order to glean for all possible themes and refine them, this procedure was repeated a few times until the fragments could be organized into themes and sub-themes and no new themes emerged. In this recursive process, the captured aspects and essence of the data of each theme were identified to precisely define the themes and subthemes. Finally, the themes were related back to the research question and careful conclusions were inferred.

The second part of the data analysis, the analysis of the focus group discussion, which proceeded simultaneously, commenced as following. To become familiar with the data, the transcript was thoroughly read, and recordings were listened to. Predetermined themes derived from the theory of planned behaviour literature were considered for the deductive categorisation of the data. Concurrently, the emergence of new themes and subthemes in the data was looked out for at all times. For this, a similar procedure of constant comparison as for the analysis of the letters was executed. Selected quotes from the transcript were translated into English language for this article.

From both types of data, eight themes emerged, with 13 subthemes in total (see table 1). All themes relate to the participants' sense-making of climate change in the present and future and the way the elements of the theory of planned behaviour manifest in their narratives. The first theme identified within the letters is the *letter characteristics*, under which the subthemes "place", "time" and "recipient" fall. The letter characteristics are determined by the type of material used. It was given that participants write a letter from a certain self-determined time in the future, which is why the letters were expected to include this subtheme. Just as expected were the subthemes place and recipient, which were also more or less instructed to be included in the letter exercise.

Additional to the letter characteristics, a second overarching theme identified in both types of data was *climate change knowledge and perceptions*. Under this overarching theme fall all statements that describe current knowledge, perceptions and anticipated consequences of climate change. The insight into the participants' knowledge and perceptions was asked for and acted as a necessary condition to go deeper into the topic.

The third theme identified both in the letters and in the discussion was *subjective experience of imagined future*. This theme entails the two subthemes "hopelessness and concern", which refers to the expressed hopelessness and concern when the participants displayed their anticipated future, and "nostalgia", which entails narrations that display the nostalgic thoughts and emotions evoked by the imagined future situation.

The fourth theme *attitude*, derived from the TPB literature, can be understood as positive or negative evaluations of the described behaviour, such as “favourable/unfavourable” or “foolish/wise” (Ajzen, 1991; Fielding et al., 2008).

The *subjective norm* as fifth theme was detected in four subthemes. The two subthemes “approval/disapproval of important others” and “necessity evaluation of important others” were based on the TPB literature (Ajzen, 1991). The third subtheme “perceived gender differences” emerged during the analysis, entailing the perceived difference between how boys’ and girls’ social norms are experienced by the participants. The fourth subtheme “dissociation from older generations” emerged from repeating statements about older generations as an outgroup, who were stated to have a different mindset and take less action regarding climate change compared to the younger generations.

Theme number six, *perceived behavioural control*, was again derived from the TPB literature (Ajzen, 1991; Fielding et al., 2008). One subtheme, “perceived control/difficulty”, refers to the participants sense of control over the behaviour and the experienced barriers or ease of engaging in it. Additionally, a second subtheme emerged during the analysis, which was “perceived differences between countries”, covering repeated comparisons made between Germany and other countries regarding perceived ease and difficulty in engaging for the climate.

The seventh theme, *perceived responsibility*, emerged during data analysis. However, as mentioned earlier “moral obligation” has previously been found to add to the TPB model for explaining pro-environmental behaviours, which is comparable to the theme of perceived responsibility (Chen, 2016). Nevertheless, it did not completely cover the contents of the discovered theme, which is why it was chosen for “perceived responsibility”. Different sections entailed conversational fragments about who the participants estimate as being responsible for the outcomes of climate change and responsible to act. Thereby, it is analysed for individual or collective responsibility, political responsibility and the extent to which the responsibility is applied to the narrator.

The eighth theme, *intentions*, covers the plans and motivations for future-related behaviour as described by Ajzen (1991).



## SENSE-MAKING AND INTENTIONS IN THE FACE OF CLIMATE CHANGE

Table 1.

*Identified themes from the Letters from the Future and the Focus Group Discussion*

Themes	Subthemes	
Letter Characteristics <sup>1</sup>	Place <sup>1</sup>	The location of the participant in the imagined future
	Time <sup>1</sup>	The time and date of the imagined future situation
	Recipient <sup>1</sup>	The person to whom the letter from the future is addressed
<b>Climate Change Knowledge and Perceptions</b>	-	The way participants understand and perceive climate change
<b>Subjective Experience of the Imagined Future</b>	<b>Helplessness and Concern</b>	Experienced emotions of helplessness and concern in the anticipated future
	Nostalgia <sup>1</sup>	Experienced emotions of sadness and regret when times before and during/after climate change are compared
<b>Attitude</b>	Raising awareness <sup>2</sup>	Participants' evaluation of raising awareness as positive or negative
	Green Consumer Behaviours <sup>2</sup>	Participants' evaluation of making green consumer choices as positive or negative
<b>Subjective Norm</b>	Approval/Disapproval by important others <sup>2</sup>	The extent to which important others would approve or disapprove of the individual in question to engage in EA
	Necessity Evaluation by important others <sup>2</sup>	The level to which important others evaluate the behaviour of engaging in EA as necessary or unnecessary
	Perceived Gender Differences <sup>2</sup>	The extent to which boys' and girls' norms are experienced as different
	Dissociation from Older Generations <sup>2</sup>	The extent to which the participants distance themselves from the mindset and actions of people over the age of 40
<b>Perceived Behavioural Control</b>	Perceived Control/Difficulty <sup>2</sup>	The extent to which participants experience being under control over the behaviour and to which

		they experience engaging in it as easy or difficult
	Perceived Differences between Countries <sup>2</sup>	The perceived difficulty/control to engage for the climate compared among different countries
<b>Perceived responsibility</b>	-	Remarks of allocating responsibility for climate change outcomes and EA
<b>Intentions</b>	-	The motivation people have or plans they make to take action for the climate in the future

*Note.* Themes in bold type were found in both types of data (letters and discussion).

<sup>1</sup>These (sub)themes were only identified within the letters. <sup>2</sup>These subthemes were only identified within the discussion.

**Results**

The results will be presented in two separate sections: 1) The letters from the future and 2) the focus group discussion. To give a preliminary overview of the content, there was inconsistency in the participants’ statements. While in the letters it became evident that the adolescents evaluated their futures with climate change as negative and dystopic and that action should have been taken against climate change to have avoided disastrous outcomes, the discussion started off unexpected, with participants expressing negative attitudes towards EA. However, the participants’ stance on EA fluctuated during the conversation, displaying mixed feelings towards climate change and climate activism.

With a look at the research question, the letter exercise and the discussion provided information about the adolescents’ perceptions and imagination of the future with climate change and brought up insights about the adolescents’ attitudes, subjective norms and behavioural control building up to their intentions to engage in EA.

**Letters from the Future**

In the following, it will be discussed per letter how the themes and subthemes are depicted within the letters. At the end of the section, a short summary of the similarities and differences between the letters will be presented. To give an overview, participants imagined the temperatures to either increase or decrease, but in any case, to become more extreme, water levels to rise and environmental pollution to be clearly visible and disturbing flora and fauna.

*Letter 1 – Melanie*

*A story of helplessness and deprivation of the joyful life*

Dear Helen,

Sylt, 10.07.2050

I currently am on summer vacation in our holiday home on Sylt. When I was here last, everything was different. The water had not flooded the island so much and also tourists were still allowed to visit the island. Today everything is so cold and quiet. Totally different than before. The water now almost reaches up to our house and the seats in the ice cream shops are all empty. The seagulls don't peck on the tourists' ice cream anymore but help themselves to all the trash from the ocean. Constantly ships are coming in to throw off sandbags for island protection, but none of them put in anymore to bring goods, because the island will probably not exist much longer. In the past, my husband and I always looked forward to our summer vacation so much, but meanwhile the excitement is gone. Where are we supposed to go, when there is no snow for going skiing, when Sylt is flooded, and the ocean resembles a landfill? Everywhere there is air pollution and dirt. With our E-Car we can't even reach France to relax there for once. Do you also often ask yourself, whether all this could have been prevented? Would the effort have been worth it? And would it have been successful? Could we have ensured the snow and therewith saved our holiday? Well, I think with small things a climate change could not have been foreclosed, but maybe delayed. If one had started earlier and acted faster, probably we could have gone skiing a few more times. What do you think about it all? Do you also think back sometimes? How do you like these changes? Do you have a problem with it? Looking forward to your answer! Best wishes, Melanie

The first theme, *letter characteristics*, with its subthemes place, time and recipient was found at the beginning. The letter is directed to a friend, which the author specified as her penfriend later, and written on the same date in 2050, exactly 31 years ahead of current time. However, the letter appeared not to be addressed to a person in the present but to a person experiencing the same future at that moment, which became distinct by questions like "What do you think about it all? Do you also think back sometimes?", showing the addressed friend shares the same anticipated future. The described place, the German island Sylt in the North Sea, is mentioned at the beginning. Throughout the letter it became obvious that Sylt is a well-known place for her, connected with positive experiences. However, in the future the beloved island is also connected with negative experiences.

Until 2050, Melanie anticipates the sea levels to rise to such an extent, that the water almost reaches up to their holiday home, tourists are not allowed to visit the island anymore, shops are empty, and ships bring sandbags instead of goods to the island. Furthermore, the surrounding is described as cold and quiet, the ocean and the air as polluted. These elements

were categorized under *climate change elements*. Within these themes it became evident that Melanie describes the future 31 years ahead as already affected by climate change so much that her previous normal life became restricted and some activities such as skiing or visiting islands like Sylt cannot be done anymore.

The letter also covers the third theme, *subjective experience of the imagined future*. The helplessness and concern subtheme became evident in the question format displayed in her letter. This depicted her need for answers and help to evade the future she is concerned about. One sentence was clearly nostalgic: “In the past, my husband and I always looked forward to our summer vacation so much, but meanwhile the excitement is gone”. Further, questions like “Do you also think back sometimes?” entail information about herself, that she often asks herself whether this future could have been prevented and thinks back to the past, to when she had a better time. This pointed out that she misses the past and regrets that nothing has been done for prevention.

The fourth theme, *TPB variables*, provided insight into Melanie’s attitude, subjective norm, perceived behavioural control and intentions. Her attitude towards EA appears to be positive. She states that early action might have delayed the negative outcomes she is unhappy about in the future. However, she seems unsure about it, which becomes evident through the questions she asks her friend. Regarding subjective norms, it does not become clear how her surrounding thinks about EA, but since she is asking for her friend’s opinion, it could be supposed that Helen has not been an environmental activist, but neither a person who has spoken up against it. Therefore, Melanie’s surrounding might have a similar attitude as she has herself. The perceived behavioural control is clearly depicted in the questions she asks herself and her friend. Those illustrate that it is ambiguous to her whether certain actions might have had success for fighting climate change and whether climate change could have been prevented. For the subtheme intention, no explicit plan of action could be found – maybe because the letter is addressed to the future, in which it is already too late for action – but “start[ing] earlier and act[ing] faster” might be an indirect and vague intention. However, it is unclear whether this proposed action is a motivation for herself to become active or a suggestion for others to act.

This leads to the fifth theme *perceived responsibility*, which could be found in the statement “If one had started earlier and acted faster, probably we could have gone skiing a few more times”. It becomes explicit that nobody is addressed personally who can be blamed, but that “one” could have done something. The author therefore appears to not make herself responsible for not having done something for prevention, but society in general.

*Letter 2 – Tobias*

*Nostalgic memories of Hamburg before climate change*

Hello Dear Tobias,

9.10.2059

Finally, I have settled down in Hamburg. But somehow it is different. Back then, when I was little, Hamburg was a beautiful city, but today everything is different.

Hamburg's Elbe is so dirty, really full of garbage. In summer it is often so hot that you cannot stand to go outside. However, the worst is that our seasons have changed completely. In summer it is freezing cold and in winter absolutely hot. I have the feeling that the earth wants to punish us for the reason that some people just want to exploit and destroy her. I hope that everything will become what it used to be, blue sky instead of clouds, but what am I supposed to do as only person? I don't know. When I was a kid, I always had the scent of Hamburg's air in mind. Oh, how I would like to smell it once again. The air is not clean anymore like back then in [Home place]. Somehow, I miss all that. Had people only acted earlier.

The letter included the *letter characteristics* at the beginning. The described place was the German city Hamburg to which the author had moved then. Later, the author also mentioned his hometown as comparison to when the air was still clean. The chosen time was 9.10.2059, about 40 years ahead in the future, and the chosen recipient is the author himself. However, it did not become clear whether the letter is addressed to the author's present self or to the future self, because the recipient is not addressed directly, and the letter appears more like a monologue.

The *climate change elements* were evident but in themselves contradictory. Tobias mentioned that the summers are "so hot that you cannot stand to go outside", but then stated the seasons have switched and "in summer it is freezing cold and in winter absolutely hot". This does not make sense and points towards an insecurity of possible outcomes in the authors anticipation. In addition to the change in temperatures, the environmental pollution is described, foremost regarding the polluted air and Hamburg's dirty river Elbe.

The *subjective experience of the imagined future* in terms of helplessness and concern became notable by his statement that he does not know what he could do as individual to prevent environmental pollution. He displayed despair and a need for help. The nostalgia expressed in Tobias' letter became evident in statements like "I hope that everything will become what it used to be" or "When I was a kid, I always had the scent of Hamburg's air in mind. Oh, how I would like to smell it once again" and "Somehow, I miss all that". This showed how the author wishes back the state of the past and that things had evolved differently.

The *TPB variables* were only slightly detectable in this letter. Tobias' attitude towards EA did not become clear. He mentioned he does not know what kind of actions he could possibly take. However, he made sure the reader knows his negative opinion about destructive behaviours harming the environment. His subjective norm was not trackable from the letter. The subtheme perceived behavioural control is present, however. Tobias alluded towards a powerlessness by stating that the earth takes vengeance for the way it has been treated and by saying he does not know what he can do. He therefore does not see himself in control over the outcomes of climate change and probably figures his own actions as ineffective. An explicit intention did not become clear. On the one hand, the author asked himself what he is supposed to do as only person and answers it by "I don't know", showing he might be willing to do something himself, but does not know what he can do by himself, projecting helplessness. On the other hand, he wrote "Had people only acted earlier". By this, he implies other people probably knew what to do and could or should have done something.

Thereby, the theme *perceived responsibility* became detectable. Further, it became notable in sentences like "the earth wants to punish us for the reason that some people just want to exploit and destroy her". This showed that Tobias views the outcomes mainly as other people's fault and blames the ones, who want to destroy and exploit the earth. He presents himself as helpless and as a victim of today's society.

### *Letter 3 – Lukas*

#### *By car crash into a climate change future*

This letter is to myself,  
Foolishly I was hit by a car and fainted. Right now, I am in the future. I am exactly where I had the accident. Instead of an avenue, a rural street in [Home place], that was usually always dirty, confusing, full of trees and laden with an unpleasant smell from the farmer close by, I am standing on endless water. I guess the climate change has taken place. The atmosphere was polluted by us people, the polar ice caps melted, the sea level rises and rises. West-Germany is very low, whereby it is completely under water. But humanity is still existent, just not on earth. We probably have found ourselves another planet, but I am probably currently alone on earth. Everything is gone, the smells, the chirping of the birds, just everything. How could it come this far? One cannot let this be tolerated. The I who got hit by a car is unaware of this in that oh so great world, without problems, but that is not true. I should give more thought to climate change. It could start with small things, like not being lazy and riding the bike. I think I will do that, after I have seen this monotonous colourless world. This letter I will take to the still idyllic world and do something that could stop it.

Letter 3 differed from the first and second letter regarding the *letter characteristics*, in that it does not include a certain date of time, when the letter is written. It entails a recipient – the author’s present self – and a place – a certain street in his hometown. Regarding the time, one interesting aspect is that the author anticipated himself into the future by imagining suddenly waking up in the future after being hit by a car. This factor might also be meant as a metaphor by the narrator. The crash between him as unaware person and the car could be interpreted on a higher level as the unaware society being hit by the outcomes of the industrial system and then having to face a future of disastrous climate change outcomes much sooner than imagined.

The *climate change elements* are mentioned as pollution of the atmosphere, melting ice caps – implying rising temperatures – and rising sea levels. Furthermore, he mentioned everything is gone, like smells, colours and sounds of chirping birds. It appeared Lukas knows about the scientifically predicted outcomes of climate change by imagining pollution, rising temperatures and rising sea levels. However, the anticipated loss of smells, colours and sounds seemed to be from a different source and created a dystopian picture in another way. One could think of apocalyptic books or movies having influenced this scenario. This would fit with Lukas imagining himself being left alone on the planet while the rest of humanity has rescued themselves to another planet.

The *subjective experience of the imagined future* reflected by helplessness and concern is evident in the dystopian scenario he described. He described himself left alone on a lifeless planet. The behaviour of the human species seems to concern him, since it led to this drastic scenario. The nostalgia becomes notable by the question “How could it come this far?” after depicting the loss of smells, colours and sounds. This shows that Lukas became emotional about this loss, although and maybe because he previously took these experiences for granted.

The author’s attitude towards EA as the first subtheme of the *TPB variables* appeared positive, because he stated to start his actions as soon as he is back in the present. He illustrated action as necessary and valuable. Regarding the subjective norm, the letter did not provide much insight into how his family and close peers think about climate activism. However, he described the rest of humanity has evaded climate change by fleeing to another planet. Instead of taking action to prevent disastrous outcomes of climate change, they ignored the problem’s cause and looked for another way to survive. He anticipated they do care about their survival, but not about the survival of the planet. The letter depicted Lukas’ perceived behavioural control is rather high. He mentioned his unawareness in the present is the main barrier and now that he is aware, he will become active by starting with small things.

For the subtheme intention, this letter included a specific plan of action. His future self became aware of the problematic future the idyllic world of the past is facing. He wrote that he will take the letter back to the past and do something to stop climate change, like starting to do little things like giving more thought to climate change and riding the bike. He therefore considered himself in the duty to prevent climate change. Another interesting solution the author anticipated for future humankind was the evasion to another planet to avoid extinction. However, he urged further development of climate change should not be tolerated but prevented.

Regarding the *perceived responsibility* subtheme, by making a plan of action for himself, it became obvious that the author sees himself, as a part of human society, responsible.

### *Letter 4 – Dennis*

#### *An objective appeal for individual action instead of new laws*

To the headquarter of the green party, wherever that may be,  
To my opinion the only and biggest enemy to mankind is the human himself/herself. Sure is, that the selfishness within every person will lead to the end. To stop climate change, no new laws, but a completely new thinking would have been needed. The economy can only be blamed partly, but every single person can reduce the ecological footprint much better. Latest in the year 2050, when globalisation has maximized greed and thereby the massive gap between rich and poor so much, that one is threatened by ecological problems really everywhere and immediately, even the little man, but also the big company bosses of cruise ship holidays and race tracks will notice that humanity is wiping out itself! Especially older people are not cutting back for the survival of nature. A typical problem that one doesn't act pre-emptively and only realizes problems, when they are already happening. In year 2050 probably most cars will be run electronically, and most energy will be green, which however will not stop the sea level from rising, because all this will only delay the total breakdown of nature. Only when every person to himself learns to better regulate their energy consumption, climate change can be delayed so much, that research can provide relief. Only demonstrating and criticising politicians for doing their jobs badly, gives people an apparent crutch and doesn't solve any problems. Working on oneself would help far more.

The fourth letter differed even more from the letters before. For one, the *letter characteristics* were treated in a different way. The recipient was not one person, but a political party. It was directed to the German green party which has their focus on topics like environmental protection and sustainability. Furthermore, no specific time was mentioned at



the beginning, from which the letter is written. Later, the year 2050 is mentioned, but Dennis did not place himself in this future, but merely envisioned how it will be at that time in the future. Moreover, a place was only found in the recipient “to the headquarter of the green party”, where the place would be this headquarter. However, this place was not further described in the letter.

Regarding the *climate change elements*, rising sea levels and a total breakdown of nature were mentioned. He described people are working towards the extinction of their own species and points towards environmental collapse. Otherwise there were no utterances or descriptions of climate change elements.

The *subjective experience of the imagined future* was present in helplessness and concern. By addressing the letter to the political headquarter of the green party he expressed his need for help on political level. Further, he expressed his concern, together with a notion of anger, about humanity wiping out itself. Nostalgia was not explicitly included within the letter. The outcomes of climate change were described in a rational manner and Dennis’ own emotions towards the past were not mentioned.

The *TPB variables* were less detectable within Dennis’ letter. His attitude towards EA appeared ambivalent. On the one hand he stated that no laws, e-cars or green energy will help to stop climate change but that change has to happen in the people’s minds. On the other hand, he named globalization as the root cause for maximized greed and selfishness, which in turn lead to ecological problems. He seemed to have a strong position in this discussion, but it was not clear where exactly he positioned himself. He also mentioned that demonstrating and criticizing politicians does not solve any problems, but demonstrations are for raising awareness and for convincing them to change their minds. This is contradictory and displays his ambiguous stance. Further, the subjective norm is not made explicit for the reader. The perceived behavioural control was again difficult to grasp. However, when the change of minds is the prerequisite for activism, then he depicted it as difficult to achieve. He described the human selfishness as the main barrier for achieving change and does not provide a solution for reducing the selfishness. The letter does not entail clear intentions for the author himself, but the author proposed a solution for mankind, namely that each person develops a new way of thinking and learns to regulate their energy consumption better, so that climate change can be delayed enough for research to find new ways for handling climate change.

The *perceived responsibility* subtheme was clearly present in this letter. To give some examples, “the human himself/herself”, “the selfishness within every person”, economy can only be blamed partly”, “globalization”, “the little man, but also the big company bosses” and

“especially older people are not making deductions” pointed towards making all individuals responsible, as well as the economy, globalization and older people. It became apparent that the author wanted to blame somebody for the development of climate change, and that he saw it as each person’s duty to change, however, he did not explicitly see responsibility in himself. The letter appeared like an evaluation from a meta-level, as if the author was no part of the society he was talking about.

**Summary.** For a conclusion, a similarity of the letters is that all displayed a dystopian future, in which climate change has disastrous outcomes for the planet. The participants were concerned about the outcomes and express their lack of power to prevent them. Another similarity is that they all gave little insight into the subjective norms the narrators hold. The letters differed from each other in their described intentions to become active for preventing disastrous outcomes. While Lukas provided an explicit approach (riding the bike) to engage for the climate, the other three had only vague intentions to “do something” if at all. Moreover, in the letters of these three the displayed perceived responsibility was mainly on the society as a whole and less on the narrator.

### **Focus Group Discussion**

The focus group discussion was in general a lively and dynamic conversation with merely a short period of reluctance at the beginning. One participant (Dennis) appeared as more dominant than the others. At the beginning, he was more confident about his knowledge and opinion than the others, by which the others seemed to be impressed and intimidated. One of the other participants (Tobias) aligned quite easily with the dominant participants’ views, while the other two expressed their different opinions, but with a lot of caution. Moreover, the only girl in the group (Melanie) was firm in her opinion and often contradicted the rest of the group. It was notable that some of the participants were befriended or knew each other while others did not. The dynamic of the discussion appeared to be partly influenced by peer pressure.

#### **Climate change knowledge and perceptions.**

*The blurry line between natural and man-made climate change.* The participants were on the one hand confident about their knowledge about the topic, but on the other hand contradicted each other and themselves from time to time. In the beginning, one participant presented an elaborated and scientific definition of climate change:

Dennis: First of all, there is a climate change that is natural, meaning that the sunrays are being reflected from the ozone layer within the atmosphere, so that temperatures stay at a comfortable level and that vegetation is possible. However, the problem we have is that we have such a high energy consumption and emit more and more CO<sup>2</sup>, so that the ozone layer becomes thicker and the sunrays that enter the atmosphere stay inside longer, which makes it warmer and the temperatures rise. Maybe not right now, but after decades you can notice a trend that temperatures increase, and it becomes problematic. When we look at the melting ice caps at the north and south pole, the rising sea levels, and species become extinct. Those species are used to different temperatures and that natural climate change is a lot slower, so that species can adapt, but not to the man-made climate change.

In short, he defined climate change as two distinct climate changes, one natural and one man-made, of which the man-made climate change is problematic for the survival of species. The other participants seemed to approve of this definition by nodding their heads. Further, their facial expressions revealed their being impressed by this extensive definition. It appeared that all participants understood climate change with its origin and its consequences based on scientific research.

However, the adolescents' perceptions differed. While Melanie stated the sea levels already "rose up to 9 cm higher" and Lukas mentioned the high temperatures past summer were also "not so typical for Germany", Tobias said that "you cannot blame climate change for everything" to which Dennis added that "you cannot even really notice climate change up until now". It became clear that the participants had different views about how and when climate change is or will be noticeable. While some argued for the climate change to be noticeable in today's world, others argued it cannot really be noticed yet.

Further, Melanie argued that in some places across the globe climate change can be experienced to a greater extent than in Germany. Her remark also includes the implication that some countries are affected by climate change and others are not, indicating climate change is not a global issue.

Discussing climate change facts and expectations, it became evident that not all participants were very certain and confident in their opinion the current noticeability of climate change and had ambivalent expectations about the further development of it.

### **Subjective experience of the imagined future.**

#### ***A relativized dystopia.***

*Subtheme: Helplessness and concern.* The subjective experience of the imagined future as a theme was probably reinforced by the previous letter exercise. Throughout the discussion it was interesting to notice how the participants' imagination or expectation about the further development of climate change differed, not only between the participants, but also within the participants. They gave varying answers to how they imagine the further development of climate change, but the expectations were in general dystopian. For example, Tobias talked about a video explaining "if we destroy the ozone layer" by emitting as much CO<sup>2</sup> as we do now, that we will reach a point of no return. However, he relativizes this perspective by saying that he doesn't "believe that this will be notable" during their lifetime. According to him, the noticeability of the dystopian development would probably begin at the end or after the participants' own lifetime. Still, the participants expressed concern about this development because it would affect the following generations and the earth in general. Melanie is concerned that it will result in a "vicious circle" if the rainforest is cut clear, then "no new oxygen is produced" by it and "nothing can be planted there because the nutrients are out of the ground". Further, the adolescents conveyed a feeling of helplessness because they did not feel capable of individually making a difference, but that sufficient change depends on the urgent cooperation of individuals, politics, economy and several other factors worldwide.

#### **Attitude.**

*Authentic engagement or none at all.* The discussion about attitudes towards EA started off very unexpected, with participants expressing strongly negative attitudes. However, the negative opinions were later put into different perspectives by the participants, which moderated their attitudes.

*Subtheme: Raising awareness.* At the beginning, the participants expressed strongly negative attitudes towards climate activism. Especially raising awareness by joining demonstrations was evaluated as foolish. Tobias stated: „People joining these demonstrations are stupid. Five years ago, the climate change already was an important topic, and nobody cared then, but now in 2019 the whole youth becomes interested in it.”. His argument appears ironic, because he criticizes the people's long inactivity during an earlier urgency to act, but he himself is also not active.

Furthermore, also the other participants evaluated climate demonstrations as negative, unpleasant and even harmful. They all agree in the argument that demonstrations are often being misused for skipping school and to behave in inappropriate manners. Lukas points out

that some scholars “only join the demonstrations to not go to school and be home earlier”. Melanie also notes that some produce waste and litter at the demonstrations, which is the opposite of what they demonstrate for. It was argued that joining demonstrations unnecessarily produces waste and CO<sup>2</sup>, which is contradictory to the goal of such events. Dennis mentioned that joining demonstrations is not a pleasant activity to him and includes being loud and showing off poor behaviour. He would “rather go to school”. Moreover, he says that demonstrators wrongly blame the politicians for their own bad behaviour. Summarized, demonstrators were depicted as hypocrites and stupid.

However, after having pointed out their negative impressions about demonstrations, the participants also depicted their positive aspects. Dennis mentioned: “Demonstrations are important because they might change people’s minds, so that they become aware”. After Dennis highlighted the importance of demonstrations, Tobias agreed and acknowledged this importance. This was surprising since Tobias presented a strongly negative attitude towards demonstrators before. One explanation for this might be that Tobias experienced peer pressure and therefore wanted to pronounce the same opinion as Dennis. Another possible explanation could be that Tobias earlier expressed an attitude which he did not actually hold, possibly to appear cool in front of the others, and that when Dennis argued the importance of demonstrations, he felt confident enough to express his real opinion. A third reason could be that he is not firm in his attitude and his opinion is volatile.

Another aspect of raising awareness was found in social media. Melanie argued that YouTube channels discussing sustainable products are interesting and appeared excited about them.

Melanie: On YouTube there are some YouTubers now, who test natural cosmetics and in general biodegradable products, and usually I thought the topic didn’t really concern me, because – to be honest – I was not really interested in it, but then I saw some of the videos, which actually were quite interesting.

YouTube channels were in general considered as more positive than demonstrations. It was notable that the adolescents were more excited about such videos than about Fridays for Future demonstrations. However, the sudden positive arguments for demonstrations might mean that although the participants would not like to join demonstrations themselves and although they view the demonstrators’ statements as inauthentic and unreasonable, they still recognize demonstrations as important for achieving change within the society.

*Subtheme: Green Consumer Behaviours.* In addition to the attitude towards demonstrations, also environmental engagement in form of buying eco-friendly products like bamboo toothbrushes was discussed. It was seen as uncool and participants mentioned that it is not attractive or fun enough and could lead to rejection by peers in some cases. Dennis for example emphasizes that among boys, other boys only join in with certain activities if they are not forced into it and if the activities are fun. He presents bamboo toothbrushes as products that are not fun and cool enough for boys to buy.

Dennis: Among boys, when one says ,Yo! Do this!' because it's fun and it actually is, then you do it, but when somebody says ,Yo, get yourself a bamboo toothbrush' then nobody thinks ,Yeah nice, a bamboo toothbrush, I will go straight to the drug store and buy one!' It's just not cool, that's why I wouldn't be stimulated by that.

However, as already mentioned under 2.1, Melanie found interest in eco-friendly products as presented on the YouTube channels and expressed a positive attitude towards buying them.

Another positive attitude about buying eco-friendly products was shown by Lukas. He introduced bulk stores into the discussion. He explained bulk stores and said they were "already an improvement". Still, he noted that it was still seen "as a hipster-lifestyle thing" and "not really taken seriously", which seemed to disappoint him.

In conclusion, the participants' attitudes towards EA were ambivalent, because on the one hand they see the value of demonstrations and argue how important they are, but on the other hand, they say the people demonstrating are stupid, that most adolescents only join demonstrations as an excuse for skipping school and do not see the importance of them, and that their critic on the politicians is unreasonable. Furthermore, they seem to acknowledge the value of living an eco-friendlier lifestyle like green consumption behaviours and discovered a growing interest in it, but also view this lifestyle as "uncool" and "not fun" enough to engage in it themselves.

### **Subjective Norm.**

*A battle of peer approval.* Regarding the subjective norms, it became evident that evaluations by important others, especially peer groups, had importance for the participants, because "coolness" was a prevalent topic throughout the whole focus group discussion.

*Subtheme: Approval/ Disapproval of important others.* The following section depicts quite clearly, how the adolescents struggle with their peers' opinions and how some of them

appear to think they must adapt to these opinions to not be made fun of or get weird looks from others.

Melanie depicts that one would get weird looks when they “pick up other people’s trash to throw it away” or when they “wear sustainable shoes”. Her explanation for the weird looks is that these behaviours “stand out too much” and “would be uncool”. However, she mentions that her friends would not give her weird looks, but other adolescents their age. Dennis answers that it “often depends on the circle of friends”. He argues that his friends would not be bothered by it and “would not see it as a reason to make fun” of him. Lukas mentions that his family would appreciate if he would “take the bike, also for the health aspect”.

Tobias: My family would also not have a problem with me engaging in climate activism a little, not too much, but I think my parents would not have a problem with it. Also, when I say to my friends ‘please throw that in the trashcan’.

Melanie: I think boys wouldn’t approve of that

Tobias: I think I wouldn’t care. When they don’t [accept it], I would seriously show them like ‘Okay fine, I do it myself’ and then they will know I react negatively to it.

Melanie: With you boys, if you observe it when you are out drinking for example and, I’ll just say it, have bottles of vodka, then often somebody just throws them in the field or kicks them somewhere in the corner. And it is not that accepted when somebody says something against it.

Dennis: No, I think a person has to look what kind of friends they have, or how respected they are by them.

Here, the argument heated up a little and to the observing eye it seemed as if it was an innocuous battle of whose friends were more accepting. However, it did not escalate, and the tenor of the whole argument was that closer friends would probably accept the behaviour or even support it, but other peers might be making fun or giving weird looks if one behaved eco-friendly.

Another statement by Melanie, on the contrary, showed that, even though a person engaging in EA is not in the same circle of friends, it does not necessarily lead to weird looks and disapproval by others, but can also be accepted and even act as an example to other individuals. She reported about a classmate who bought a reusable bag for bread at the nearby supermarket. Melanie mentioned that “everybody liked that and took it as an example and did

the same”. She further said it is disapproved of when people are impolite and force you to engage, but in a nice and polite way it is accepted.

*Subtheme: Necessity evaluation of important others.* The first statement by Dennis illustrates that his friends might “behave adequately” but that “nobody is really interested in saving the environment”. This indicates that they evaluate engaging in climate activism as less necessary.

Similarly, Melanie states that many other people “do not care about what happens with their waste” and just leave it for others to dispose of. Also, Tobias mentions that many people ignore the consequences of climate change and only “think about their profit”. The participants describe most people as being indifferent about climate change outcomes and measures for prevention.

However, Melanie also portrays the opposite stance by saying that others see the necessity of engaging in EA. She remarks: “I think many people want to do much more and want to be more engaged for the climate.” She reports that her old school has an Instagram account on which they regularly upload blogposts introducing eco-friendly products. The scholars buy, test and present the products to other peers. This shows that the school considers it necessary to dedicate a separate class to the conveyance of such information and to raise awareness among youth. Thereby they illustrate that climate change should be taken seriously, not only by individuals but also by institutions like schools.

*Subtheme: Perceived gender differences.* Especially for Melanie it appeared that boys and girls think and behave differently when it comes to EA, foremost with regard to subjective norms. Melanie mentioned: „I think that would not be welcomed among boys” and “Well, with the girls it is different anyway, but among you boys, when you observe that”. In addition to Melanie, Dennis also seems to experience a gender difference with regard to adapting environment-friendly behaviours. He stated, as mentioned before, that among boys certain behaviours are adapted when other boys say “it’s fun”, but when it is not “cool”, then it is unlikely that they engage in it.

Both, Melanie and Dennis try to distance themselves from the other gender group by pointing out the differences between the groups. They point towards apparent diverging social norms between the gender groups. While girls approve of engaging in certain behaviours, boys seem to evaluate such behaviours as unpleasant and unaccepted.

*Subtheme: Dissociation from Older Generations.* In general, some of the participants seemed to distance themselves from the mindset and actions of older generations. Dennis for example states that older people have a different mindset regarding the climate and care less



about the environmental outcomes of their actions. This utterance clearly depicts how Dennis prefers to distance himself from older generations and their climate-relevant behaviour. He points towards a clear cut at age above 40 years.

Dennis: People above 40 are a bit different. The green party only exists since 20 or 30 years. To their time this wasn't a big thing. I'd say, they don't always have that mindset, that they care about what they buy and how they live and with older people it's actually even worse. I can imagine, for example 60-year olds who drive somewhere to go for a walk. Older people, you cannot blame them for everything, doing everything wrong, but they do have a different attitude.

Melanie's and Tobias's messages also include distancing themselves from older generations, but in a less extreme way. Melanie explains that she prefers if peers talk to her about climate activism instead of older people who she experienced as urging her to do certain things. Tobias's report supports Dennis's account by pointing out that it is usually the younger generations who engage in climate protection projects instead of the older generations, who he calls "adults" although the younger generation he refers to also belong to the adult age group ("around 25/27 years old"). However, he states that he likes this, probably because it points out the engagement of younger generations which he identifies with.

To conclude, the content of the subtheme illustrates that some participants viewed younger generations as more eager to engage for the climate and older generations as not being sensitive to the environment and as taking too strict a stance towards younger people in educating them about environment-friendly behaviour.

In summary, the subjective norm present in the participants' surroundings appears to be similarly ambivalent as their own attitudes. On the one hand, the participants experience their peers or family to be accepting when somebody engages in EA, but on the other hand they expect other peers to give them "weird looks" if they engaged themselves and think they evaluate activism as "uncool". Subjective norms provided by important others, but also by less-close peers, seem to play an essential role in influencing the adolescents' climate-related attitudes and eventually behaviour.

### **Perceived Behavioural Control.**

#### *Unawareness among peers as difficulty, but little barriers on global level.*

*Subtheme: Perceived control/difficulty.* It appeared that participants experienced barriers on many different levels. First, they named that the outcomes of their own action

cannot be noticed on the large scale and one cannot force other people to engage in climate activism, but also that for themselves changing their behaviour would not be easy, in the context of avoiding meat. Melanie states: “As one person you cannot really achieve much. On a large scale it doesn’t make a big difference. I couldn’t change my diet for example.” Dennis and Tobias agree. Tobias says: “I just love meat too much. But I also think the human is a creature of habit and doesn’t like changes.”

Melanie states that the action of one person does not have a big impact on the large scale and therefore the individual cannot control the outcomes by changing their own behaviour. Further, all participants experience changing their diet as something they could not do, something difficult to do.

Nevertheless, the participants disagreed about whether it is difficult or easy to act environment-friendly when purchasing certain products. Dennis stated that one can notice what mistakes are made when buying certain products. Sometimes “you don’t know that you are making a mistake”, but when you are “consciously” doing it, it is “easy to purchase greener”. However, Lukas and Melanie had a different view:

Lukas: I do think that you experience barriers, especially when such products have some green certificates, they advertise it with that, which makes the products more expensive and that again discourages you to buy it. I think there are more barriers in purchasing than that you could say it is easy doing something for the environment.

Melanie: Bio doesn’t always mean that it is good for the environment.

They both state that purchasing eco-friendly is made more difficult than one would think due to “greenwashing”, labelling a product with “green certificates”, which does not mean it is actually eco-friendly. Another identified barrier was that the price of buying eco-friendly is higher.

Also, the participants noticed that many products in Germany come pre-packaged in a lot of plastic or cartonnage, which are unconsciously bought. For example, when going to McDonalds or buying frozen food, one cannot get around the packaging. Dennis states that the choices one makes as a single person by buying a certain product affect the economy due to the power of supply and demand, and that “when you buy it, it’s your own fault.” As a contrast, Melanie delivered a lot of information about environment-friendly cosmetic/hygienic product choices for females, whereby she pointed out the reasonable price and good quality of them.

Melanie: There are many different opportunities now for women, when they are on their period, to make it environment-friendly. It is not difficult to inform yourself about it or to buy the products. They are the same price and just as good.

Melanie pointed to the positive side of certain climate-conscious products, making it easy for women to make environment-friendly choices during their period. Lukas then also named the value of access to bulk stores, where unpackaged food can be bought in own containers, which he experiences as an improvement with positive effect on the environment. Therefore, eco-friendly products seem to be available and easy to purchase, but the prices are experienced as somewhere between reasonable and too expensive, which makes the purchase of them less attractive.

Another aspect discussed was addressing climate change in school. Tobias mentioned that within their class, climate change was not really addressed, only shortly with regard to the Fridays for Future demonstrations and specific natural disasters, and that most people in his class do not understand climate change and therefore do not take it seriously. It appears that if the subject is not being discussed at school, some adolescents do not pay attention to climate change. This seemed to bother Tobias, since he experiences his generation as “the ones who will carry the others”. He further proposed that geography teachers should get advanced education for addressing climate change in class. Dennis agreed and continued Tobias’ thought by saying that if adolescents do not occupy themselves with it, they cannot do anything about it.

Melanie initiated another discussion about the coolness of EA, trying to encourage the others: “Also, when you are bored later, you could watch YouTube videos. There are so many eco-friendly things that also look cool and are cool. And when it’s basically cool to do something, then it would be good, and people would unconsciously adopt this behaviour.” Dennis agreed, but argued that it is “difficult” because “it would have to be cool in the first place, it would have to become cool.” Tobias added that he figures it “a long journey.” Again, the topic of coolness appeared indispensable for the adolescents. While Melanie already seemed to evaluate some products as cool, the other participants did not recognize a coolness in climate-friendly behaviour.

*Subtheme: Perceived Differences between Countries.* As mentioned earlier, a differentiation was made between Germany and other countries regarding the extent to which climate change is currently notable. However, later in the discussion the main differentiation

between countries was made regarding how different countries are able to react to climate change. Germany was evaluated by Tobias as to have a good waste management system compared to his experiences from Paris, where “there are bottles on the ground everywhere”, which he never noticed “on the shore of the German Sea”. He further mentioned it was “more the developing countries, that have problems with plastic in the oceans”. Dennis added Germany has the societal and political capacities to give relevance to the climate change topic, while other countries might struggle with bigger and more acute problems in other areas overweighing the climate crisis.

Dennis: People with migration background living in Germany, like my parents, in their country this was not such an active topic. For us in Russia, or in all the eastern European countries, where the educational level is a bit lower, people there are not so [involved with the climate] and people who come from there to Germany don't [think] of climate change I'd say. These people don't see it as main problem in their countries. They have enough other problems. [...] Then they say to themselves ‘Waste? Let there be waste, I don't care. As long as my family is healthy, and we have something to live from’ and other problems are not talked of. Also, one lives from the tourism, then you cannot say ‘no, from now on no more plastic please.’ Then the family will starve. That's difficult.

When he was asked whether he experiences Germany as having climate change as a priority in political discussion, he answered that “basically, we don't have so many political problems.” He elaborates that “the refugee crisis and climate change are the top subjects” and that “Germany has a better focus on the climate change.”

Concluding, the participants indicated that barriers are notable on several areas of everyday life. In schools, the topic of climate change seems to have shortcomings, and among peers, many others are perceived as indifferent or unaware of climate change. Moreover, also on the individual level the participants mentioned barriers for engaging with climate protective behaviour like own habits, high prices and “greenwashing” that keep them from changing the diet into meat-less or buying eco-friendly products. In contrast, one facilitating factor identified was that different countries around the world experience different barriers and that Germany is one country, in which other problems are less relevant so that the focus can be put on climate change. Further, a growing variety of available environment-friendly products was highlighted.

**Perceived responsibility.**

*Acknowledgement of individual responsibility but externalisation of own responsibility.* Tobias was the first to initiate the subject of responsibility. He states that “we have to show sustainability for our children.” He further adds that “when we once will have a family, and their children, that we treat our world sustainably.” Here, he mentions that “we”, probably meaning him and his generation, are responsible and have to take action for the next generations. By saying “we” he acknowledges his own role in being responsible, but also says it is a collective task. The other participants share this opinion and highlight the individual responsibility of every person embedded within a collective responsibility.

However, when it comes to barriers hindering individuals from engaging, they place the responsibility for reducing these barriers on other agents like schools, politicians, peers or the economy. Regarding the schools, they see schools responsible for teaching the youth about climate change and ways to prevent it, as already discussed under 4.1. Politics are seen as responsible for creating change more globally. The participants see themselves only capable of making small changes and when it comes to bigger changes, they would pass on their responsibility to politicians by voting for a specific party. The peers are partly seen as responsible for the actual engagement of young generations because they decide whether EA is cool or not and only when it is cool, it is desirable to engage in it. The economy’s responsibility is seen by some participants in the sense that economy decides what products are available, to what prices and with how much effort. Though, Dennis referred to the fact that the economy develops from supply and demand, which is again determined by individuals’ consumer choices. This would again point to individual responsibility for shaping the sustainability market. In summary, the responsibility is generally seen in every individual person, but individual action is seen as useless if it is not embedded in collective responsibility and action.

**Intentions.**

*Vague intentions and no large-scale engagement.* Overall, the participants showed only vague intentions to engage for the climate. Topics discussed were intentions to engage in politics, engaging in projects abroad and by “doing small things for yourself.” The discussion about motivation to change the behaviour for the environment commenced with Tobias’ statement that he thinks he is already doing a good job:

Tobias: I think I’m already doing a good job [laughter]. No, like I said before, not drive at every occasion, something like that. I think I’m doing good without praising

myself now. Of course, there are situations when you think to yourself ‘Aw man, you could have reacted differently. Was that necessary?’ and I think these small things can be worked on, and when the conscience says ‘yes, you did something for the climate’, then I’m content with it.

Tobias’ statement shows that he does not take climate change as serious as to see the urgency for bigger action in himself. He does not provide any specific areas in which he expresses the need for much improvement. In the following, Lukas again gives a quite vague, but self-reflective view on the subject, whereby he initiates a discussion about politics and responsibility:

*Lukas:* “You can do many small things for yourself. But for me, I wouldn’t join the activists. I think I’m too lazy for that and wouldn’t support it to 100 per cent. The basic idea yes, but not going on the streets for that...Also one could vote for the green party, who then campaign for it, which is their job.”

After Lukas’ statement, Tobias picked up a previous argument by Dennis, saying that “the problem wouldn’t be diminished” for Lukas when he votes the green party because “it wouldn’t be [his] personal success”. Dennis added Lukas would “give away [his] responsibility to feel better” and compared it to Tobias’ statement earlier (“when my consciousness says I did a good job, then I did a good job”). Dennis further explained his political interest. He mentioned he would join the FDP and not the green party, which he identified as “the exact opposite [although they also fight for climate change]”. He then highlighted the power of politicians to spread their opinions among populations and thereby “change a lot”.

This section illustrates that some participants consider political change as necessary to achieve change, although they previously underlined the importance of the individual to change their own lifestyle, which in turn does not become evident as their own responsibility in their talk. They do stress that giving votes to certain parties might lead to a person thinking the politics are responsible, which would need to be avoided in their opinion. However, they do not elaborate specific intentions for themselves which reflect their sense of responsibility as individuals. Nevertheless, the idea of “spending a year abroad” and supporting climate protection projects there became a subject of interest, which some of the participants could see themselves engaging in.

*Lukas:* One could go abroad, maybe to Zanzibar, and have a look at the animals like turtles for example and learn to cherish them and when you go back to Germany and catch yourself throwing something into the ocean, then you know “this might harm the animals” and don’t do it.

How joining the projects would improve the environment is not elaborated by the adolescents. In addition, going abroad – probably by taking several planes when Zanzibar is the destination – might have counterproductive effects for the environment, although volunteering in ocean cleaning projects on remote islands sounds helpful at first. The countries producing and emitting the waste – the countries at the root of the problem - are often not the ones, where the waste is washed up at the beaches.

Tobias and Melanie further added intentions for the near future. Tobias illustrates that he will talk to his mother and a friend about the content of this study later that day and thereby about climate activism, by which he would partly follow his intentions to communicate about the topic. Thereby he would raise awareness for climate change on a small scale. Melanie jokingly prompted the other participants to “stop at Rossmann and get [...] a bamboo toothbrush” on their way home. Melanie insists that the other participants buy an eco-friendly product to support climate activism. By doing so, she appeals to them to do an activity as individuals of a group (the group of participants), which would benefit the environment, by which every person could demonstrate their intentions to “do small things for themselves”.

In conclusion, the participants mention only vague intentions to engage in EA, which mainly refer to no specific time and not specific activity. However, some low-key intentions could be detected with regard to joining projects abroad after graduation or by engaging politically. These intentions seemed to refer to the more distant future and appeared as spontaneous ideas formed within that moment of conversation.

**Summary.** To sum up, the focus group discussion showed that although the participants had a good basic scientific knowledge about climate change and its possible outcomes, it is still challenging for them to distinguish what parts of climate change are natural and what is man-made, to what extent climate change is notable and where, and how fast it will develop. The participants showed ambivalent attitudes towards EA like raising awareness by joining demonstrations or changing the consumer behaviour by purchasing eco-friendly products. Specific products and their availability in common stores were evaluated as positive and interesting. However, especially people joining demonstrations were depicted as stupid, because many demonstrators are perceived as inauthentic in their actions. Moreover,

coolness constituted a prominent factor among the adolescent participants composing the desirability of eco-friendly behaviours. The adolescents seemed to not necessarily perceive climate change as such a prevailing threat that it would outweigh the importance of peers' opinions about their person. The subjective norms within peer groups were argued to differ between boys and girls and in general between different friend groups. The adolescents further elaborated a difference between younger and older generations, distancing themselves from people over the age of around 40 years, who were experienced to be less engaged with climate protection and to have an indifferent mindset regarding the environment. Discussing the perceived behavioural control, the participants identified many barriers, but also aspects that facilitate engaging in EA. Identified barriers were social pressure/norms (coolness), lack of relevant education in school, high prices, greenwashing of products, own laziness/habits and unnecessary packaging of products. Facilitating aspects were the increase of available information and, partly cool and interesting, products and the advantage of living in Germany, where other issues like food scarcity or war are not as prevalent as in other countries, so more priority can be given to the prevention of climate change. The participants clearly illustrated that the responsibility for stopping climate change is both on the individual level and the collective level. Every single person must become active, but collective action must take place in economy, politics, schools and among peer groups. Last, the participants expressed their own intentions to engage in EA, which were rather vague and nonspecific.

### **Discussion and Conclusion**

Central to this study was to gain insights into how German adolescents make sense of their future in the face of climate change and how the antecedents of the theory of planned behaviour shape their intentions for EA. By the use of a focus group session including the Letters from the Future exercise and a guided discussion, it was possible to identify that the participants envisioned their future with climate change as dystopian. Another main finding was that they experienced a stigmatization connected to EA influencing their own intentions to engage in it.

### **Interpretation of the Findings**

**Knowledge and Imagined Future as Pre-requisites.** A thematic analysis of the written letters and the discussion revealed that the adolescents had extensive knowledge of climate change and its outcomes. On the other hand, they also expressed insecurities and discrepancies regarding the current noticeability and further development of climate change. It appears what is communicated about climate change is too nebulous to ascribe current



events to it. Nevertheless, climate change was considered as having negative impact on life on earth.

Regarding the participants' subjective experience of their imagined future, the letter exercise especially illustrated that the participants envision a dystopian future in which climate change will have disastrous outcomes for humanity. In the discussion they attenuated these anticipated futures by adjusting to each other's expectations and considering less drastic outlooks. Previous research suggested that children and adolescents in general view their future as bright and predictable (Bohn & Berntsen, 2013). Neither the insecurities about the further development of climate change, nor the imagined dystopian future presented by the adolescent participants are in accordance with the previous suggestion. It is therefore to assume that the topic of climate change leads to a negative outlook into the future.

One explanation why climate change could result in a dystopian future perspective might be that society mainly provides education about negative consequences of climate change. Yet, the possibilities for a positive reversal are barely discussed and even less what the positive future could look like, which possibly generates a bias towards dystopian thinking.

Previous research further suggested that imagination of the future influences the motivation for future-related behaviour, thus behavioural intentions (Suddendorf et al., 2018). The pre-experience of future events that prospection allows us to have, and pleasures and pain connected to it, provide information for developing beliefs antecedent to behavioural intentions (Gilbert & Wilson, 2007). It is therefore to assume that the dystopian imagination of the future influenced the TPB elements and affected the development of intentions to engage in EA.

Surprisingly, in the discussion after the letter exercise, the participants relativized their former stated dystopian outlook. They then explained that probably these outcomes will not occur to that extent during their lifetime. One explanation for why they then presented their perspective less drastic could be cognitive dissonance. Frantz and Mayer (2009) proposed cognitive dissonance as one force acting against the recognition of climate change as an emergency. Cognitive dissonance is the unpleasant feeling that emerges when our actions and our self-concept are inconsistent (Festinger, 1957). The theory of cognitive dissonance entails that to relieve this unpleasant tension evoked by inconsistency, individuals adapt their beliefs, attitudes and self-concept to their behaviour. Since, after the letter exercise it was again explained that the discussion will under more be about their own intentions to engage, the participants might have been prompted to reflect on their own behaviour. This might have

highlighted the inconsistency between their beliefs of the future and advisable behaviour, and their own behaviour.

**Attitudes.** The participants' attitudes towards EA were ambivalent. They acknowledged its importance but considered for example joining demonstrations as stupid and often inauthentic. Also, buying green products was on the one hand positively evaluated, but on the other hand mostly as uncool.

What confuses on first sight is that although the participants identified the world in a threatening situation and an urgency for action, the attitude was fairly negative. One might have expected that the participants, even if they are no activists themselves, would approve of others engaging for climate protection. However, the participants seem to live in a "double reality" (Macy & Johnstone, 2012).

Macy and Johnstone (2012) identified three stories that reflect society's perspectives regarding climate change: *Business as Usual*, *the Great Unravelling* and *the Great Turning*. These three stories reflect what people identify with when confronted with climate change. The first, Business as Usual, comprises the assumption that there is little need to change the way we live, that economic growth is crucial for prosperity. The second story is the Great Unravelling, which entails the realization that Business as Usual has brought us into the disastrous situation of climate change. The third, the Great Turning, means the emergence of new and creative life-sustaining responses to climate change by human society (Macy & Johnstone, 2012).

With regard to these three stories "double reality" refers to when the individuals on the one hand live by Business as Usual rules and are adapted to this reality, which is, on the other hand, interrupted by bad news of the Great Unravelling story. The activists' engagement seems to not fit into their Business as Usual lifestyle but is viewed as important as soon as they are confronted with the Great Unravelling.

**Subjective Norms.** Interestingly, the subjective norms in the participants' closer surrounding at first seemed positive, meaning important others would approve of their engagement in EA. However, the wider peer group was considered disapproving of this behaviour, which appeared to strongly influence the adolescents' own norms.

This is in accordance with the finding that sociocultural norms, in this case the norms provided by peers, are particularly relevant for adolescents' creation of their future life story (Bohn & Berntsen, 2013; McLean & Pasupathi, 2010). In fact, the way individuals create their possible selves is determined by their sociocultural and historical context (Markus & Nurius, 1986). However, according to Bohn and Berntsen (2013), adolescents might have

different possible selves due to discontinuities in parent and friend – or wider peer group – contexts. These discontinuities can vary in whether they are complementing each other or conflicting and reflect the local cultural norms of the niches in which the individual lives. The participants seem to experience discontinuities between their friends' and parents' context and the context provided by the wider peer group. The former depicts approval for both engagement and non-engagement in EA, but the latter seems to be disapproving of engagement in EA. The more possible selves one possesses and the more they conflict, the higher the chance of feeling inauthentic or diffuse, which in turn can be associated with lower well-being (McLean & Pasupathi, 2010). This agrees with the remarks of the adolescents that peers engaging in EA are inauthentic, and that they themselves on the one hand acknowledge the importance for action but also disapprove of it.

Further, the mentioned disapproval by the wider peer group points towards a stigmatization of pro-environmental behaviours. The participants addressed that coolness is an important factor for them to engage in a behaviour. Nevertheless, pro-environmental behaviours are supposedly evaluated as uncool by the wider peer group. This concurs with the background of one study aiming at refuting the thesis that habitual ecological worrying comes from a psychological imbalance (Verplanken & Roy, 2013). According to this study, people who overly worry about climate change are sometimes stigmatized as being mentally unstable or pathological.

**Perceived Behavioural Control.** The participants presented themselves help- and powerless in facing climate change individually. Although they noticed an increase of possibilities, they perceive it difficult to engage in EA. The personal laziness referred to by participants and the pressure to be cool seem to inhibit motivational factors for developing specific intentions to engage for the climate, although a clear necessity for action is acknowledged. Furthermore, not only high prices, greenwashing or unavailability of unpackaged products, but also a lack of relevant information provided in schools, political indecisiveness and social pressure among peers seem to make it difficult for the participants. In summary, the participants experience it increasingly easier to engage but can name several experienced barriers on different levels.

**Perceived responsibility.** The participants highlighted the need for individual but collective action. Individual in the sense that every person is responsible to become active, but collective in the sense that only combined the individual actions will be fruitful and that politics, schools and the economy should be aligned to encourage collective EA.

They identified fighting climate change as their responsibility, as every individual's responsibility. However, this sense of shared responsibility might also pose an inhibiting factor for EA (Frantz & Mayer, 2009). Diffusion of responsibility is often referred to in explaining situations in which victims of crime scenes are not being helped. This effect can occur within a large group, when every individual identified many other people available to help, which results in each member feeling less responsible for the well-being of the victim. Regarding climate activism, this effect can occur when many individuals assume it is someone else's task to take action (Frantz & Mayer, 2009).

**Intentions.** When intentions were discussed, the participants named only few vague intentions to become active on a small scale, like taking the bike sometimes or talking to others. Further, some intentions seemed counterproductive for the cause like going abroad to learn about animals for motivating oneself to not throw trash into the ocean or voting political parties like the FDP, who usually have economic progress as the main focus and often criticized the demands and efforts of green parties to work towards more sustainability.

One explanation for the vague small-scale intentions to engage expressed by the participants, after having discussed the disastrous outcomes of climate change and after having argued for urgent action, could be delay discounting (O'Donnell et al., 2017). Although mental simulations like the Letters from the Future exercise are assumed to aid in intertemporal decision-making, the participants were relatively indecisive about their intentions to engage in EA. Possibly the negative outcomes of climate change were evaluated as less threatening after the participants discussed that the anticipated disastrous consequences for life in Germany will probably only arise after their lifetime. However, negative consequences of becoming an activist like being seen as uncool or inauthentic among peers were considered as immediately threatening.

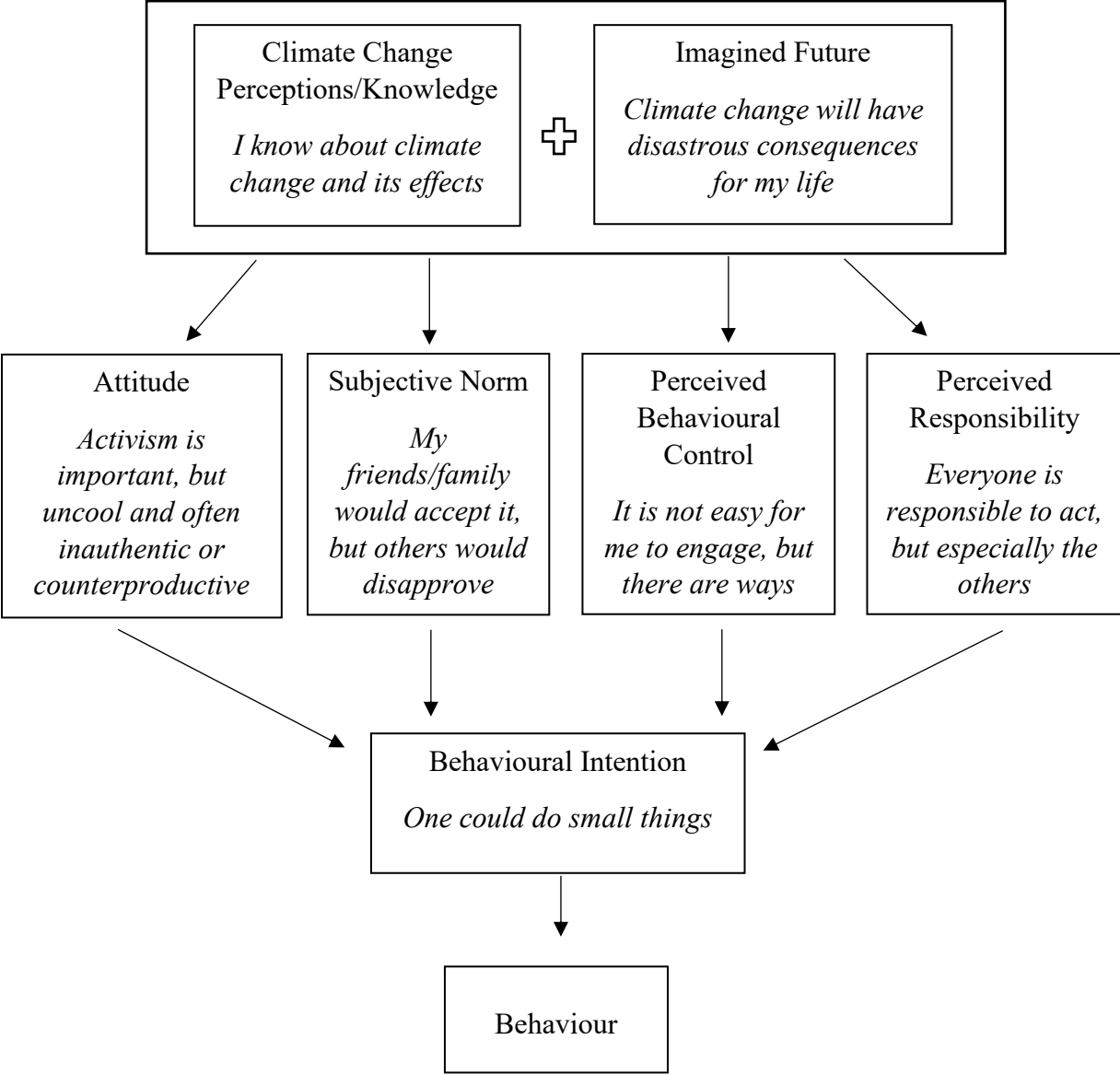
However, maybe the delay discounting did not take place and the participants' consciously weighed up the options of either staying inactive and contributing to the extinction of most life on earth or becoming active, but being considered uncool and inauthentic among peers, and ended up trying to make a compromise. It appears that the small actions the participants were willing to take would not harm their reputation or status among peers but would soothe their concern and maybe bad conscience. This would fit with the assumption of Muposhi et al. (2015) that eco-friendly behaviour is considered altruistic, highly costly behaviour. The participants see benefits of engaging in it mainly for generations to come and at the same time related costs – such as losing status among peers – as high, which makes it unattractive.

In conclusion, factors that might have influenced the participants' expressed intentions were the climate change knowledge/perceptions (*I know climate change is happening and I notice that it might have/already has negative outcomes for life on earth*), the imagined future (*Climate change will have disastrous consequences for my life on earth*), the attitude (*Activism is important, but uncool and often inauthentic or counterproductive*), the subjective norm (*My friends/family would accept it, but others would disapprove*), the perceived behavioural control (*It is not that easy for me to engage*) and the perceived responsibility (*Everyone is responsible to act, but especially the others*).

A previous study exploring pro-environmental behaviour introduced an extension of the TPB model including moral obligation as a fourth variable next to attitude, subjective norm and perceived behavioural control, and environmental concern as antecedent of these four (Chen & Tung, 2014). Environmental concern appears to involve a similar content to the one entailed in the theme subjective experience of the imagined future. Both include concern regarding the future with climate change and therefore seem to intersect. Further, the theme perceived responsibility seems to have an overlapping core with moral obligation since the latter has been defined as “a sense of responsibility to act morally” and “social responsibility” (Chen & Tung, 2014). Therefore, the themes perceived responsibility and subjective experience of the imagined future will be treated as complementing elements to the TPB model. In the following, an adjusted model of the possible relations between identified themes is presented (see Fig. 2).

**Figure 2**

*Proposed extension of the TPB model (Ajzen, 1991) by climate change perceptions and imagined future as pre-requisites and perceived responsibility as complementing factor.*



Regarding the three climate change stories explaining the way people make sense of life with climate change, it can be said that the participants primarily fluctuate between Business as Usual and the Great Unravelling (Macy & Johnstone, 2012). While in the letters the participants mostly depicted the Great Unravelling, a dystopian story in which it is too late to prevent disastrous outcomes, the participants moved slightly back to Business as Usual in the discussion. This became evident in their ambivalent attitudes, adherence to norms and lack of intentions to change. They partly placed importance on economic growth, peer acceptance

and viewed the problems as distant enough in the future and on the globe, that it would not concern their personal life.

Although it is difficult to allocate them to one specific story, it is interesting to see how they fluctuate between the different stories. It seems that to some extent it is challenging for all four participants to detach from the Business as Usual lifestyle. They all seem to see and understand the content of the Great Unravelling and demonstrate this understanding within the letters. However, this understanding of climate change and the anticipation of disastrous outcomes do not seem to suffice for the adolescents to create explicit intentions for themselves to become creative and active, which would be the Great Turning. Therefore, the four stories altogether probably depict a “double reality”, in which the adolescents remain in their Business of Usual story until they are confronted with the Great Unravelling story.

### **Strengths and Limitations**

The current study adds to the existing research by providing information about German adolescents who do not consider themselves activists. A positive aspect of this research is that less engaged adolescents were recruited to enable society to comprehend adolescents’ future perspectives that might be opposing to the ones we receive from Fridays for Future activists. With these insights it contributes to extending the knowledge about how individuals make sense of climate change.

Furthermore, this study provides in-depth insights on an individual level. Previous research has put the emphasis on higher numbers of participants and more global insights instead of examining participants’ perspectives in detail (Chen, 2016; Fielding et al., 2008). Therefore, this research can serve as a first effort to fill the research gap in the sustainability domain.

Another positive aspect of this study is the inclusion of imagination of the future. Imagination of the future exercises have previously been found to have a motivational effect for participants (Suddendorf et al., 2018) . By implementing such exercises into climate change research, the emphasis might move from examining the experienced threat by climate change to building up motivation to combat climate change, supporting the sustainable development goals of the UN (United Nations, 2019a). This study can avail sustainability research by having raised awareness for the value of imagination of the future. It further offers information about how such exercises might be utilized for further research.

However, one methodological limitation this research must face is the sampling strategy. Participants were recruited by convenience sampling, whereas purposive sampling

might have been more desirable. One positive aspect of this course was that not all participants were from the same school, which was the previous aim. Therefore, there was a variation in the participants' educational level. Further, convenience sampling allowed for a shorter recruitment period. However, the negative aspects were that participants were, except for one, known by the researcher, which might have affected the results. Further, the distribution of male and female was not equal in the participant group, whereby less information about the perspectives of female adolescents might have been obtained.

Another limitation is the letter instruction. During the introduction of the Letters from the Future exercise it was not clearly instructed that the participants should choose for a desired future situation. Since the researcher wanted to leave it up to the participants whether they choose for a desired or undesired future, to not give too much direction and obtain results reflecting the actual imagined future of the participants, it was instructed more openly. The participants were free to choose a situation in which climate change has or has not happened and whether this situation is positive, neutral or negative. However, it is possible that by leaving it open, the participants were inclined to choose for a negative situation because they have not given thought about how they as active agents of their story could possibly contribute to leading society through climate change into a positive future, while negative climate change future scenarios are provided regularly in the media and are therefore easier to grasp. One aspect that was missed out on by leaving it open would have been to encourage the participants to envision themselves as active agents of a positive future story. A positive imagined future, also recommended by Vaidyanathan (2018), was found to have stronger motivational effect (Suddendorf et al., 2018; Vasquez & Buehler, 2007). It could have led to motivational impacts on the participants and helped them to define explicit intentions to engage in EA. It would therefore be suggested to utilize the letter instructions in such a way that the participants are asked to write from a desired future situation in further research.

Another complementing adjustment for the letter instruction could be to write the letter from a third-person perspective. Vasquez and Buehler (2007) suggest that imagining own successful task completion from a third-person perspective heightens their personal meaning and significance and thus increases the motivation to succeed on the future task. It could therefore lead to the participants' creation of more explicit intentions to engage in EA and increase the likelihood of their translation into actual behaviour. This empowerment might thereby also result in more wellbeing for the participants (Suddendorf et al., 2018).

However, it is beyond the scope of this study to examine the effects of the negative and positive imagination of the future with climate change on the participants' well-being.



Nonetheless, it poses an important factor to address in further research. Since climate change affects individuals globally, information about the effects of it on adolescents' well-being could provide societies with necessary input for how to deal with it.

An additional recommendation for future research would be to include the consequent actual behaviour of the participants, to explore whether the discussed intentions are being translated into according actions and whether the letter exercise and/or the discussion influenced the intentions and the behaviour.

Furthermore, examining the perspectives of both environmentally engaged and less engaged adolescents in interaction with each other might deliver essential insights. Herewith, additional information could be obtained about social structures among younger generations regarding climate change and EA.

### **Final remarks**

According to O'Mahony (2015), to stop climate change it requires a shared responsibility and an inclusive understanding of different nations, minorities and age groups. In the study the political perspective on climate change regarding a global ecological responsibility is discussed from a philosophical-sociological stance, arguing for the establishment of a cosmopolitan co-responsibility to solve the issue of climate change. Similar to accomplishments like democracy, women's rights or abolitionism, making a difference in climate crisis requires not only the negotiating of globally operating politicians, but also intercultural cosmopolitan understanding and a re-arranged order of responsibility (O'Mahony, 2015). For such a cosmopolitan understanding and a resulting re-arranged order of responsibility, an inclusive understanding of perspectives of different nations, minorities and age groups would be essential. This study claims to contribute to the development of such an inclusive understanding by shedding light on the relevant perspectives and intentions of German adolescents.

German media and press keep us informed about young climate activists' positions and demands for politics by which the youth's motivation becomes tangible. However, it does not provide us with insight about the other side, what the perspectives and intentions of the less environmentally engaged German adolescents are. Also, literature could not sufficiently provide us with insights in this field. This study entails prospection-related research applied at individual level in the sustainability domain. It provides society with in-depth insights consulting less engaged adolescents in the topic of climate change and EA.

## SENSE-MAKING AND INTENTIONS IN THE FACE OF CLIMATE CHANGE

The UN declared the urgency to act for preventing climate change (United Nations, 2019c). They emphasized the need for the younger generation to be involved in the topic of creating a sustainable planet (United Nations, 2019b). The current study provides preliminary insights into the mindset of the less engaged youth in relation with climate change and activism. By this, we have come a step closer to understanding their position and putting it into perspective. The current research offers input for facing the adolescents' experienced pressures and barriers and for encouraging their engagement.

It further introduces in-depth narrative research concerning imagination of the future into the sustainability domain. This approach has proven as an interesting and useful method for exploring the youth's mentality, which was from participants' side evaluated as already encouraging on its own. It could serve as orientation for further research in that area and for developing new approaches for dealing with climate change: in the media, in schools, in politics, and more generally for youth and individually among own peers.

One suggested approach could be to implement a letter from the future workshop in school project days. Since the participating adolescents highlighted a lack of information given in school classes, one suggestion was to introduce climate projects providing information about climate change and methods to engage in climate protection. Moreover, as suggested by the adolescents, a letter from the future workshop could be included in such project days to stimulate the imagination of the future and a questioning of the current situation. Herewith, the described lack of information provided by schools could be reduced without forcing schools to adjust their schedules. Providing more information in schools could be a preliminary technique of assigning more power to youth for engaging in EA themselves if they perceive the urgency for action. Further, by communicating about intentions for EA, options and tools for confronting the problem of climate change can be examined and accumulated (Suddendorf et al., 2018). Eventually, it can contribute to spreading possible solutions for climate change throughout the global population. Thereby, society can take another step towards encouraging individuals and collectives for working towards a sustainable future.

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## Appendix

### A. Information Sheet

Masterstudie zum Thema: 'How do German adolescents make sense of the future in the face of climate change?'

#### INFORMATIONSBLATT

##### Einleitung

Hallo, mein Name ist Laura Koppmeier und ich bin 25 Jahre alt. Im Jahr 2013 habe ich mein Abitur an der Marienschule gemacht und studiere inzwischen Psychologie an der University of Twente in Enschede (NL). Im Rahmen dieses Studiums schreibe ich zurzeit an meiner Masterarbeit im Bereich Positive Psychology and Technology.

Falls du dir nach dem Lesen dieses Informationsblattes noch unsicher bist, ob du teilnehmen möchtest, kannst du dir gerne Zeit nehmen, um dich mit anderen zu besprechen oder dir selbst noch einmal Gedanken darüber zu machen. Außerdem kannst du dich gerne immer mit Fragen an mich wenden.

##### Zweck der Studie

Die Fragestellung meiner Studie (s.o.) heißt übersetzt in etwa: 'Wie stellen sich deutsche Jugendliche ihre Zukunft angesichts des Klimawandels vor und was beeinflusst ihre Intentionen sich für das Klima zu engagieren?' Die Studie wird in Deutsch ausgeführt und lediglich später im Englischen von mir verschriftlicht. Es geht bei meiner Studie darum herauszufinden, wie Jugendliche ihre Zukunft sehen angesichts einer Klimaveränderung und was sie prägt, sich zukünftig für das Klima einzusetzen zu wollen oder nicht. Genauer geht es um die eigene Haltung zum Thema Klima-Aktivismus, darum wie Personen im engeren Umfeld dem Thema gegenüber stehen und um das Maß, zu dem es einem schwierig oder leicht gemacht wird, sich für das Klima einzusetzen.

Vielleicht hast du sogar selbst schon einmal darüber nachgedacht, wie deine Zukunft aussehen könnte oder ob du etwas gegen den Klimawandel tun kannst oder willst. In dem Fall kann dir die Teilnahme an dieser Studie helfen, dir über deine eigene Haltung zu dem Thema bewusster zu werden und dich mit anderen darüber auszutauschen, was sie darüber denken.

##### Art der Studie

Die Studie umfasst das Schreiben eines Briefes und eine Diskussion in einer kleinen Gruppe (ca. 4-5 Personen).

##### Auswahl der Teilnehmer

Die Studie richtet sich an jugendliche Teilnehmer, da die 'Fridays for Future' Demonstrationen und die Wahlergebnisse der jüngeren Generation bei der Europawahl 2019 deutlich zeigen, dass der Klimawandel ein Thema ist, das viele Jugendliche und junge Erwachsene bewegt.

##### Freiwillige Teilnahme

Die Teilnahme an der Studie ist zu jedem Zeitpunkt freiwillig und kann ohne Begründung abgebrochen oder aufgehoben werden.

##### Ablauf

Zuerst wird ein kurzer Brief aus der eigenen Zukunft (mit Bezug auf Klimawandel) an die Gegenwart geschrieben. Hierzu erhältst du noch eine genauere Anleitung. Dieser Brief wird im Anschluss von dir selbst vorgelesen. Wenn du persönliche Details oder Abschnitte auslassen willst, ist das kein Problem. Nach einer kurzen Pause wird eine Diskussion mit allen Teilnehmern geführt

zu den Themen Zukunft im Klimawandel, Klima-Aktivismus und eigene Intentionen. Es werden hierfür keine Expertenmeinungen, wissenschaftlichen Kenntnisse, oder politische Statements abgefragt. Es geht darum, was eure persönlichen Erfahrungen und Einstellungen zu den Themen sind.

### **Dauer**

Die Teilnahme an der Studie wird insgesamt ca. 2 Stunden in Anspruch nehmen.

### **Risiken**

Mit der Teilnahme an der Studie sind keine voraussehbaren Risiken verbunden.

### **Nutzen**

Der Nutzen der Studie gilt sowohl für dich als Teilnehmer als auch allgemeiner für die Gesellschaft. Individuellen Nutzen hast du insofern, dass dir die Teilnahme dabei helfen kann, dich mehr mit dem Thema Klimawandel auseinanderzusetzen und deine Zukunft bzw. eure gemeinsame Zukunft zu erforschen. Somit können mögliche Zukunftsszenarien erkundet und diskutiert werden, was einen erlaubt sich besser auf diese Zukunft vorzubereiten. Der Nutzen für die Gesellschaft besteht darin, dass ein tieferer Einblick in individuelle Zukunftsperspektiven Jugendlicher und deren Intentionen für Klima-Aktivismus dazu beitragen kann, das Verständnis und die Zusammenarbeit zwischen Generationen bezüglich des Klimawandels zu fördern.

### **Entschädigung**

Als Dankeschön erhalten Teilnehmer ein kleines Geschenk.

### **Vertraulichkeit**

Die Daten der Teilnehmer werden vertraulich behandelt und ausschließlich vom Forschungsteam (L. Koppmeier, A. Sools) verwendet. Video- und Audioaufnahmen werden nach Durchführung der Studie vernichtet. Die anonymisierten Briefe und Transkripte der Diskussionen werden vorschriftsmäßig 10 Jahre auf dem Universitätsserver aufbewahrt, bevor sie gelöscht werden. Innerhalb dieses Zeitraumes können die Transkripte für weitere Studien benutzt werden. Es werden keine persönlichen Daten an Dritte weitergegeben. Innerhalb der Masterthese werden keine echten Namen der Teilnehmer verwendet.

### **Weitergabe der Ergebnisse**

Die Ergebnisse der Studie werden innerhalb der Masterthese auf der Universitätswebseite veröffentlicht und können dort nachgelesen werden. Die Teilnehmer können das Forschungsteam kontaktieren, wenn Interesse an den Ergebnissen besteht.

### **Recht zur Widerrufung/zum Abbruch**

Teilnehmer können jederzeit ihr Recht zur Widerrufung bzw. zum Abbruch in Anspruch nehmen, ohne einen Grund nennen zu müssen. Wenn du dir an diesem Punkt noch nicht sicher bist, ob du allem zustimmst, kannst du auch am Ende unserer Session noch die Nutzung deiner Informationen verweigern.

### **Kontakt**

Laura Koppmeier

Handynummer: 017684508172

E-Mail: [l.koppmeier@student.utwente.nl](mailto:l.koppmeier@student.utwente.nl)

Begleitende Dozentin:

Dr. Anneke M. Sools

E-Mail: [a.m.sools@utwente.nl](mailto:a.m.sools@utwente.nl)

## B. Informed Consent

### Einverständniserklärung

**Bitte setze ein Kreuz in die zutreffenden Boxen**

**Ja    Nein**

#### Teilnahme an der Studie

Ich habe die Informationen zur Studie [10/07/2019] gelesen und verstanden, oder es wurde mir vorgelesen. Ich hatte die Möglichkeit Fragen zur Studie zu stellen und meine Fragen wurden zu meiner Zufriedenheit beantwortet.

Ich stimme zu, freiwillig an dieser Studie teilzunehmen und habe verstanden, dass ich zu jedem Zeitpunkt verweigern kann Antworten zu geben, und dass ich jederzeit die Teilnahme an der Studie abbrechen kann, ohne einen Grund angeben zu müssen.

Ich habe verstanden, dass die Teilnahme an der Studie sowohl das Schreiben eines Briefes als auch ein aufgezeichnetes Interview beinhaltet.

#### Nutzung der angegebenen Informationen

Ich habe verstanden, dass die Informationen, die ich angebe, für eine Masterarbeit an der University of Twente (NL) genutzt werden.

Ich habe verstanden, dass persönliche Angaben von mir, die mich identifizieren können (z.B. Name, Wohnort), nicht an Personen außerhalb des Teams (L. Koppmeier, A. Sools) weitergegeben werden.

Ich bin damit einverstanden, dass Ausschnitte des Briefes und des Interviews innerhalb der Masterarbeit anonymisiert zitiert werden können.

Ich bin damit einverstanden, das Urheberrecht des Briefes mit Laura Koppmeier und Dr. Anneke Sools zu teilen.

#### Zukünftige oder wiederholte Nutzung der Daten

Ich bin damit einverstanden, dass der anonymisierte Brief auf dem Server der Universität vorschriftsmäßig für 10 Jahre gespeichert wird

Ich bin damit einverstanden, dass das transkribierte Interview anonymisiert auf dem Server der Universität vorschriftsmäßig für 10 Jahre gespeichert wird

#### Unterschriften

\_\_\_\_\_  
Name (Teilnehmer/in)

\_\_\_\_\_  
Unterschrift

\_\_\_\_\_  
Datum

Ich habe dem/der Teilnehmer/in das Informationsblatt sorgfältig vorgelesen und versichert, dass der/die Teilnehmer/in versteht, wozu er/sie freiwillig zustimmt.

\_\_\_\_\_  
Name (Researcher)

\_\_\_\_\_  
Unterschrift

\_\_\_\_\_  
Datum



### C. Adapted Instruction to the Letters from the Future Exercise

#### **Anleitung für deinen 'Letter from the Future'**

Die folgenden Anweisungen sind eine Orientierungshilfe, um dir eine Idee zu geben wie das Schreiben des Briefes gemeint ist. Fühl dich frei, um anhand dieser Tipps den Brief auf deine eigene Art und Weise zu schreiben. Benutze vollständig deine Vorstellungskraft: Denke daran, dass es um etwas geht, das noch nicht passiert ist und dass dies eine Möglichkeit ist, um dir vorzustellen wie deine Zukunft aussehen könnte.

Stell dir vor, du machst eine Reise durch die Zeit und bist auf einmal dein zukünftiges Ich. Nimm dir dafür ein paar Minuten Zeit.

**WANN:** Wie weit in der Zukunft bist du? Du kannst dir selbst den Zeitpunkt aussuchen, in dem du dich befindest: 1 Stunde in der Zukunft, 1 Tag, 1 Woche, Monate oder Jahre.

**WAS:** Stell dir eine Situation in deiner Zukunft vor, in der der Klimawandel stattgefunden hat oder (noch) nicht. Denke darüber nach, ob der Klimawandel positive, negative oder neutrale Auswirkungen auf dein Leben bzw. das Leben auf der Erde hatte.

Denk nicht darüber nach, wie realistisch es ist. Alles ist möglich. Wie hat sich dein Leben entwickelt? Denk auch daran, wie du in die Situation gekommen bist. Was hat dich dorthin gebracht? Was hat im Nachhinein dazu geführt, dass die Situation so ist wie sie ist? Was hast du selbst dazu beigetragen? Welche Veränderungen haben stattgefunden? Wie schaust du (von dem Punkt in der Zukunft) auf das Leben von jetzt zurück?

**WO:** Wo befindest du dich gerade? Stell dir eine bestimmte Situation vor, so lebendig wie möglich mit allen Details. Wie sieht deine Umgebung aus? Bist du alleine oder sind andere Personen anwesend? Welche Farben, Gerüche oder Geräusche nimmst du wahr?

**AN WEN:** Überlege dir, an wen du den Brief richten willst und gib dieser Person eine Botschaft für das Leben von jetzt. Das kann sein: - das heutige Ich (du gibst dann eine Botschaft an dich selbst) - jemand anders (z.b. dein Kind, dein Enkel, ein Freund/eine Freundin, die nächste Generation, etc.)

Nimm dir die Zeit, die du brauchst, um dich in dein zukünftiges Ich zu versetzen. Dann beginnst du deinen Brief zu schreiben.