

**Students' Imaginations of Their Climate Future in a
Climate Distress Storytelling Workshop**

Lauritz Dauer

Department of Psychology, University of Twente

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1st supervisor: Assistant Professor Dr Heidi Toivonen

2nd supervisor: Assistant Professor Dr Yudit Namer

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Abstract

Within this bachelor thesis, I explored the imaginaries of students concerning their climate future. In a climate emotions storytelling workshop that I developed together with my supervisor and another bachelor student, participants engaged in collective discussions and a written Letter to the Future task. In advance of and during the workshop the participants were exposed to materials which stimulated them to think about their climate future. Using thematic analysis, I developed meaningful patterns of the imagined climate future while integrating a phenomenological perspective. The results consist of seven themes of climate future imaginaries. In line with previous research, the results highlight a perceived uncertainty of the future of climate change. Furthermore, students experience negative emotions due to scary climate future imaginaries, but they also see themselves as capable to adapt to disrupted environments. Different from previous literature, participants' desired imaginaries conveyed climate futures in which they individually escaped from detrimental climate outcomes, though climate change was not prevented globally. For future practice, I recommend the implementation of discussion groups for individuals experiencing climate distress. Through regular meetings researcher can track and gain insights into how climate future imaginaries evolve within these groups over time. This longitudinal approach can provide a deeper understanding of the dynamics and changes in participants' climate imaginaries as they engage in ongoing discussions and reflect on their experiences. Additionally, incorporating non-verbal forms of analysis can offer valuable insights into the role of group dynamics in the evolvement of climate future imaginaries.

Keywords: Climate future, climate distress workshop, students, future imagination, qualitative research, cli-fi

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Due to the gradual, uncertain, and long-term nature of climate change's impact on the environment, people often find it challenging to directly observe and comprehend its effects over time (Hepach & Hartz, 2023). As a result, climate imaginaries can play a crucial role in shaping conceptions of climate change, by shaping narratives and perspectives that frame how to think about climate change (Levy & Spicer, 2013; Yusoff & Gabrys, 2011). To build a future distinct from the current paradigm of exploiting natural resources for human consumption (Loukianov, 2023), we require new ways to imagine the future (Pelzer & Versteeg, 2019). Consequently, research on climate future imaginaries increased a lot in the last few years and received significant attention (Paprocki, 2020; Pearce et al., 2019; Whiteley et al., 2016). Studies on climate future imaginaries argued that young people's imagined futures portray a struggle between them remaining collective hope for change in addressing climate change and their coping mechanisms for dealing with frightening future scenarios that project negative climate outcomes (Nairn, 2019; Spyrou et al., 2021).

Imagination is essential in cultivating individual self-efficacy, enabling collective agency, and ensuring our long-term survival and flourishing as a species (Finn & Wylie, 2021). In regard to the future of climate change, previous authors pointed out that this issue runs parallel with "a crisis of the imagination" (Ghosh, 2016; Morton, 2013; Wessel et al., 2022). According to Wessel et al. (2022), the current discussion around climate change overly focuses on technological aspects and overlooks the imaginative aspect of the climate future. The authors argue against relying on distant narratives, such as the depiction of melting icecaps (Doyle, 2007) or polar bears, when educating about climate change. Instead, it should create awareness of climate futures that regard the impacts of climate change on the lives of

individuals and societies (Wessel et al., 2022). By presenting alternative futures, imagination can serve as a catalyst for social and societal change towards a more sustainable future (Mangnus et al., 2021), offering people means to envision a livelihood that diverges from the present paradigm of societal reliance on environmental exploitation for economic growth (Loukianov, 2023).

Imaginarities in the context of this study refer to patterns of beliefs and ideas about the climate future. These convey individual visions of the socio-climatic future, based on beliefs of environmental and social change (Milkoreit, 2017). More specifically I will focus on students' conceptions of their future, in light of the climate crisis. When creating future imaginaries, people develop worlds that do not yet exist, however, influence their beliefs, emotions, and behaviours in the present. Imaginaries develop embedded in a socio-cultural context and are bound and influenced by the environment of people (Chao & Enari, 2021). In that regard, imaginaries are treated as individual perceptions of the future world which have a collective socio-cultural dependent aspect (Milkoreit, 2017). By studying future imagination in a climate distress storytelling workshop, I acknowledge this collective part of imaginaries, while analysing excerpts of participants to capture individual imagined climate futures.

Existing research on climate future imaginaries claims that they connect to a variety of emotions and feelings. In a qualitative study with interviews and focus group discussions, young climate activists expressed frustration towards previous generations due to their unsustainable actions (Spyrou et al., 2021). Furthermore, they constructed fearful and uncertain futures (Spyrou et al., 2021). Especially the aspect of uncertainty around the climate future appears to be very threatening to young people (Goring 2023; Hickman et al., 2021) and has been connected to eco-reproductive concerns, which revolves around the dilemma of having children in the context of a potential future climate crisis (Schneider-Mayerson & Leong, 2020). In regard to distressing climate emotions, experiences of climate anxiety are argued to

be connected to a future imaginary which entails the threat that climate change poses to the future of living beings on the planet including the mental and physical health of humans (Hickman et al., 2021; Palinkas & Wong, 2020). However, Spyrou et al. (2021) argued that young activists can meet scary future imaginaries with a sense of motivation to induce changes and collective hope within their generation.

It has been suggested that some people engage in defensive self-protection behaviour to defend themselves from negative emotions related to climate change (Wullenkord & Reese, 2021). In that regard, people engage in different strategies such as rationalization of their own involvement and avoidance, which has been negatively linked to pro-environmental behaviour (Wullenkord & Reese, 2021). Further studies on climate avoidance argued that this behaviour serves the purpose to alleviate potential negative feelings (Norgaard, 2011) and is associated with feelings of climate anxiety (Wullenkord et al., 2021). While avoidant strategies appear to be prominent, it has been claimed that they are maladaptive, since they prevent emotional coping with climate change (Weintrobe, 2013). Also, while this strategy has been picked up in the study by Wullenkord et al. (2021) and Wullenkord and Reese (2021), earlier studies on climate future imaginaries did not discuss climate avoidance (Nairn, 2019; Spyrou et al., 2019).

Trying to avoid climate change in daily life is increasingly difficult though, since the topic is omnipresent in public discourse, news, and social media (Pearce et al., 2019). There, people or media transmit narratives that frame certain aspects of climate change and narrate particular perspectives on the future of climate change (Whiteley et al., 2016). Hinkel et al. (2020) argue that the most prominent narrative around climate change is the “doom and gloom” narrative which conveys apocalyptic scenarios for the climate future (Guenther et al., 2021). The purpose of apocalyptic narratives has been widely debated because of their potentially counterproductive implications on the morality of the public (Chapman et al., 2017). In

response, Tàbara et al. (2018) argue for a more positive approach to create awareness about climate change, highlighting opportunities for change towards a “sustainabilisation”.

Earlier studies used collective activities like group discussions and reading or writing exercises to facilitate discussions and engagement of participants in the context of the climate future (Finnegan, 2022; Rudd et al., 2019) or to address feelings of climate distress (Pihkala, 2019). Finnegan (2022) used digital storytelling for participants to share their imagined climate future, demonstrating that creative methods can enable people to undertake a process of positive reappraisal. In that regard, some participants' future imaginary shifted from negative scenarios to a more balanced view including acceptance and hope towards the climate future. The use of creative methods is not limited to digital storytelling. A study by Rudd et al. (2019) suggests that letting students write their own fictional narratives stimulates hope in the context of climate change. Further, Lehman and Scharer (1996) claimed that combining group discussions and reading materials can help participants to develop a more elaborate understanding of reading materials and develop a multi-perspective comprehension through the shared insights of other people.

Expanding on the use of creative methods, Climate Fiction (Cli-fi) encompasses fictional narratives with a focus on the theme of climate change. These fictional stories provide readers with the opportunity to delve into and actively participate in speculative future scenarios (Goodbody & Johns-Putra, 2019; Johns-Putra, 2016; Nikoleris et al., 2017). Cli-fi developed as a cultural response to climate change and provides a variety of fictional narratives through which people can explore fictive climate scenarios and potential ways to adapt to and live in such scenarios (Whiteley et al., 2016). Iossifidis and Garforth (2021) argue that reading fiction can facilitate an affective interaction with climate change and through this enable new ways for the imagination of climate futures. Whiteley et al., (2016) analysed five cli-fi novels with a sociological approach and concluded that the novels showcase complex and varied ways

to orient and confront the topic of climate change whereby they address the variety of meanings of climate change itself. Concluding, by reading cli-fi people can expose themselves to a variety of imagined future scenarios for climate change.

Given that young people are projected to have the longest future with the outcomes of the climate crisis (United Nations Children's Fund UNICEF, 2021), they hold a significant position within this global issue. Meanwhile, they also take an important role in civil movements like Fridays for Future that bring concerns about climate change to the agenda of the public and in policymaking (Bowman, 2020). Consequently, previous research on climate future imaginaries has primarily concentrated on young individuals, particularly those involved in climate movements (Nairn, 2019; Spyrou et al., 2021). Hawlina et al., (2020) argue that imaginations take a crucial role in social movements, as they unite individuals through a shared understanding of a phenomenon. They also suggest that belonging to a social movement shapes the imagination of the phenomenon from its members (Hawlina et al., 2020). Consequently, climate future imaginaries outside of climate movements might differ from the imagined futures of climate activists.

Climate future imaginaries play a significant role in shaping people's beliefs about the future of climate change (Spyrou et al., 2021). Getting insights into future imaginaries can hence contribute to understanding people's beliefs about climate change and what role they are attributing to themselves and to society to address the climate future. Further, climate future imaginaries intertwine closely with other highly researched topics such as cli-fi, climate emotions, and climate anxiety. To provide further insights into the climate future imaginaries of university students, I will analyse how they imagine their climate future. Concluding, the research question for this study is: *How do students imagine their climate future in a climate distress storytelling workshop?*

Methods

Together with my supervisor Dr Heidi Toivonen and another student writing her bachelor thesis, Hannah Krähling, I created and conducted a three-hour long semi-structured workshop about climate distress. Dr Toivonen was the host of the workshop that entailed exercises and group discussions to trigger expressions about climate emotions and imaginations of the climate future. Hannah and I functioned as facilitators. We recorded this workshop and Hannah, and I used it as qualitative data for our theses.

Participants

To recruit participants, Dr Toivonen, Hannah, and I used convenience sampling by promoting the workshop in our networks. For this we used various WhatsApp groups, as well as sending information directly to teachers to promote it to their students and shared it on our LinkedIn accounts. Inclusion criteria specified that the participants were above 18 years old, experienced distress in connection to climate change and were available on the day of the workshop. For the workshop, we aimed to have a maximum of eight participants. All participants were German and between 21 and 25. Five participants identified as female and three as male. The study was approved on the 28th of March 2023 by the BMS Ethical Committee / Domain Humanities & Social Sciences at the University of Twente (application number 230282).

Materials

To promote the workshop, we developed and used a digital poster, created with the AI image creator Dream Studio (Appendix A). Before the workshop, participants received an information letter that was used to inform them about the purpose of the workshop including a short description of the content of the workshop, and participation criteria (Appendix B). Furthermore, prior to the workshop participants filled out an informed consent form (Appendix

C). To audio and video record the workshop, different independent materials were used to ensure a high-quality recording. We used a Zoom H4N Pro Voice/Sound recorder, a JVC 4k Camera fixed on a Star 63 tripod, a mobile phone camera, and the Microsoft Teams recording function on a laptop. Moreover, I took notes during the workshop to document relevant details. For the analysis, only the recordings of the Zoom H4N Pro Voice/Sound recorder and the JVC 4k Camera were used.

For the workshop, we used an outline which guided the different activities (Appendix D). The workshop outline included four topics with different activities and prompting questions. Prior to the workshop participants had to read an excerpt from the book “The Last Wild Horses” authored by Maja Lunde and published in the year 2022. This book plays at three different points in time and concerns the fate of the protagonists and wild horses during that time. The excerpt included 17 pages from chapter 10, which portrays a future in Norway in 2064. In the excerpt, Louise who had to migrate because of climate change tells her story of leaving her own family to go north where it is easier to survive. This excerpt was chosen to facilitate discussions about climate emotions and climate future imaginaries which were the thesis topics of me and Hannah. We perceived it as suitable to touch upon the climate-related emotions of the readers as well as by giving a fictive future scenario of life on earth, foster discussions about climate future imaginaries.

During the workshop, the participants had to do a “Letter to the Future” task. This was inspired by the letter from the future task of Sools and Mooren (2012), which I adapted to the purpose of this study. Towards the end of the workshop, we showed on the laptop of the host a video of Amanda Gorman (2021) performing her poem “Our Purpose in Poetry: Or, Earthrise”. This poem highlights the moral imperative to protect and preserve the Earth for future generations, inviting individuals to use their power to contribute to a sustainable future. This was chosen to stimulate discussions of positive emotions and future scenarios. The

workshop primarily used English for communication and materials, but in some instances and during the break, participants used German for specific expressions or descriptions.

Procedure

At the beginning of the workshop, we introduced ourselves to the participants and informed them orally of the aim of the workshop as well as that they could withdraw at any point from participating. Furthermore, the facilitators explained their thesis topic. Then we asked for the consent of the participants to start with the recording. The workshop entailed six activities including discussing, reading, and writing about climate emotions: Naming climate emotions, discussing climate fiction, writing unsent letters, introducing ways to cope with climate change, listening to a climate poem, and giving feedback (Appendix D).

During the first activity, participants engaged in identifying and naming climate emotions. For this, we placed sheets of paper with emotions that have often been connected to climate change in the room. Participants were provided with pen and paper to develop individual mind maps of emotions related to climate change. They were encouraged to take inspiration from the distributed emotions but also to think about other emotional experiences. Additionally, participants were asked about their thoughts on the future and how these thoughts made them feel. In the second activity, participants discussed their experience of reading two chapters from the book, "The Last Wild Horses". Guided by questions, they explored the influence of the story on their emotions about climate change, their ability to relate to the protagonists' emotions, their perceptions of the story's environment, and their perception and reaction to this fictive future scenario. The activity was followed by a twenty-minute break for participants to eat, while the recording of the session was checked and saved. At this moment we deviated from the planned outline because the discussion of the mind map exercise took more time than anticipated and the participants needed a break.

After the break, participants engaged in a writing task where they composed a letter to themselves twenty years in the future, contemplating the future impact of climate change on their personal lives, society, and the planet as a whole. Afterwards, the host provided scientific context on coping mechanisms related to climate change, including Lazarus and Folkman's (1984) coping theory and studies by Ojala (2007, 2012a, 2012b) on meaning-making coping. In response, participants discussed their thoughts on different coping strategies and shared their individual approaches to coping with climate change.

The last activity involved a collective listening of the poem by Amanda Gorman. Participants were asked about their emotional reactions to the poem and their overall experience. The workshop concluded with participants sharing their feedback and suggestions for improvement, specifically for a potential climate emotions storytelling group. Finally, the host led a joint mindfulness meditation to close the session.

Data Analysis

For the transcription of the workshop, Hannah transcribed the first part until the break using Trint and I did the rest using Descript. In this process we corrected wrongly transcribed words and pseudonymized the participants' names by giving them new names that fitted their self-identified gender. The cleaned transcript was further analysed using Atlas.ti 23.

Epistemically, I positioned myself for this research project at an essentialist theoretical perspective. Respectively, I treated participants' expressions as reflective of their inner beliefs and experiences (Braun & Clarke, 2006). For the interpretation of the data, I followed a hermeneutic phenomenological approach. Following, throughout the analysis, I was open to participants' sharing their descriptions of how participants made sense of their inner lifeworld (Tercelli, 2021) and their lived experiences (Pietkiewicz & Smith, 2014). For this research, I particularly paid attention to the future worlds that participants created, and how they

individually imagined their life and climate change in their future. By being hermeneutic, I did this through the interpretation of the participants' expressions (Gorichanaz, 2016).

I used reflexive thematic analysis because it allowed me a systematic identification, organization and presentation of patterns of meaning across the data set, relevant to answer the research question (Braun & Clarke, 2012, 2020). Further, it is an accessible and flexible analytic method to analyse qualitative data (Braun & Clarke, 2006). During the data coding, I used an inductive approach, to base my analysis on the experiences of the participants because this fits my research which is explorative and concerned with the imaginations and experiences of the participants.

To execute the thematic analysis in a reflexive way, I took some time prior to starting the data analysis to reflect on my own biases which potentially influence me as a researcher for this study. I particularly considered my own position on the future of climate change and on how I think climate change should be addressed to alleviate climate outcomes. Next, I also thought about how my own epistemic beliefs, tending more towards the framework of social constructivism, might influence me when doing research from an essential perspective. I documented these potential biases to not make them affect my analysis. Furthermore, I closely followed Braun and Clarke (2006) on how to conduct thematic analysis within an essentialist paradigm to use this epistemic position thoroughly in my analysis. Gaining reflexivity through this process facilitated me to follow a hermeneutic tradition of phenomenology. Hermeneutics claim that I as the interpreter bring my own experiences and beliefs into the research to understand the participants meaning making (Walters, 1994). Therefore, by remaining aware of my potential biases and utilizing my own experiences, I was able to interpret the participants' expressions in a manner that acknowledges and accounts for my own interpretive lens (Koch, 1996).

During the analysis, I followed the six steps of Braun and Clarke (2006). During the first step, I familiarized myself with the data. I first read the letters to the future to immerse myself in the individual imagination and meaning making of the participants before continuing with reading the transcript of the workshop. During the first readings in Atlas.ti, I identified relevant data extracts. Data extracts were chunks of data in the data set that could be relevant to answer the research question. In particular, I paid attention to expressions of participants' imagined future of climate change, as well as how their current experience of climate change is mediated through their future imaginary. During this phase, I was inclusive when identifying data extracts, because I could delete irrelevant extracts at a later moment in the analysis.

A data extract was the smallest segment of information that could be used from the data set and could vary from a single word to a whole sentence. For example, the extract "you feel like a lot of your, um, I would say this a lot of your destiny, in a way, lies in the hands of other people" would be identified as a relevant data extract. During the next step, I labelled data extracts with a code that was chosen to capture the meaning of that extract. The codes were generated inductively so I started with the identified data extracts and either used existing codes or if there was not yet one available, I generated a new code that captured the particular meaning of that extract. The extract "you feel like a lot of your, um, I would say this a lot of your destiny, in a way, lies in the hands of other people" was then labelled with the code *depending on other people to act against climate change*. The codes were aimed to be collectively exhaustive so that all data extracts were labelled with a code, and mutually exclusive so that the codes did not overlap with each other.

After all relevant data extracts were coded, I developed themes by putting together codes that shared the same essence, offering insight into common patterns of meaning-making of the participants. During this process, I continuously revised the codes and themes to fit a structure of analysis and emitted codes and data extracts which were in hindsight irrelevant to

answer the research question. The themes were named to reflect the content of the meaning pattern of the theme. I included a full report of the coded expressions in the appendix, categorized into the themes and codes (Appendix E). Lastly, I wrote the report for which I chose relevant vivid excerpts to illustrate the essence of the themes' meanings.

Results

The results consist of seven themes of future imagination concerning climate change. The themes are listed in the table (Table 1), ordered by frequency. In the table climate change is abbreviated with "cc". Further, the table gives a short description for each theme, mentions all the codes that formed part of the theme, indicates in which part of the workshop the theme occurred, and states the frequency of the Theme "N". To explain when the excerpt occurred, I divide the workshop into the discussion after the mind maps (Discussion MM), the discussion to the book chapter (Discussion Book) and the Letter to the Future (LtF). Each theme has between four and ten codes. Codes are mostly used for one or two and rarely for three themes.

In the sections following the table, I illustrate each theme by describing it together with an analysis of at least one data excerpt from the workshop. I inform how the excerpt occurred during the workshop and explain how this excerpt integrates into the overarching theme. I intertwine the analysis of the climate future imaginaries together with reflecting the lived experience of individual participants from a phenomenological perspective. Further, I use pseudonyms for excerpts that occurred within the discussion of the workshop. As we did not obtain the participants' consent to share their Letters of the Future openly, I refrain from using these pseudonyms for the excerpts of the letters, because participants can identify the pseudonyms by remembering what a participant shared with the group.

Table 1*Collection of Themes of Climate Future Imaginaries*

Theme	Climate future imaginary consists of [...]	Code	Where did this occur	N
Avoiding CC in Future Imagination	avoiding or suppressing cc in the imagination of the future.	Future fictive narrative triggers distressing emotion Suppress to think about climate future Avoiding cc to protect from distressing emotion What if home is threatened by cc Not considering cc in decision making Uncertainty of cc induces distress Hopelessness for future Cc threat to future generation Not making important decisions because of hopeless uncertain future	Discussion MM Discussion Book LtF	14
Existential Threat of CC	cc will concretely impact the environment and the participant in the future.	Threat of having to move in the future because of cc Imagining resource scarcity for the future Future of being dependent on the weather Cc will disrupt climate What if home is threatened by cc Preferable settling somewhere with low flood risk Threat of what could happen in the future Panic of the future Threat of storms	Discussion MM Discussion Book LtF	14
Anticipation of Adaptation	anticipating that in the future they might be able to adapt to potential new environment which gives them resilience.	Imagine humans will be self-sustainable in the future Adapting to cc future Learning how to sustain oneself to prepare to the future Helping others in need in the future Alleviating thought to be able to adapt	Discussion Book LtF	11
Desired Future	their desired future for which they have certain hopes and needs that are integrated in their imagination.	Imagine humans will be self-sustainable in the future Living in close communities Need for close relationships What if home is threatened by cc There is hope for the future but people need to act for it Importance to be able to settle Doubt to be able to settle safely cc Hope to have children Potential threat of fires in the future	Discussion Book LtF	9

Uncertainty of CC Interferes with Future Planning	struggling to not foresee what will happen and fear that some future goals might become incompatible or disrupted with cc.	Uncertainty of climate change future cc as a potential interference with future plans Doubts to have children because of cc future Uncertainty of the future of the next generation	Discussion MM LtF	9
Powerlessness to Influence Climate Future	being helplessness to address cc and have an impact on the further evolution of this issue.	Depending on other people to act against cc Powerlessness against cc Avoiding climate change to protect from negative emotion Cc as an uncertain threat in the future Feeling anxious about cc Avoiding topic of cc	Discussion MM LtF	7
Holding on Hope	hoping for certain changes which alleviate cc, without believing that these are realistic.	Trying to take actions to address cc future Hope for change which addresses cc There is hope for the future but people need to act for it Panic of the future Using hope to alleviate distressing cc emotions	Discussion MM LtF	5

Avoiding Climate Change in Future Imagination

Within this theme, participants tried to avoid climate change in their future imaginaries, mostly to not provoke distressing emotions. It was connected to a negative outlook to the future, perceiving it as scary and less desirable than their present environment. This theme occurred mostly during the first part of the discussion when participants talked about hopeless or scary future scenarios. There, several participants shared that they avoided climate change in the past willingly or unconsciously and noticed this also in other people. Lisa shared a situation of her past in which her parents wanted to move to a new home that was in an area with a lower altitude. This excerpt shows that she only developed concerns about this plan when her siblings pointed to the threat of a lower sea level:

My parents moved from a place where it was safe, when we think about the sea level, to a place where it's not safe. And me and my siblings, it was more my siblings because they were like, okay, that's not a good idea. But I didn't even think about it. And I also

then realised I can't because this doesn't even, I don't let it in my mind I think, that there could be a place where living is not possible.

In this excerpt, Lisa explains her avoidance of imagining “that there could be a place where living is not possible”. This thought of a place which is not liveable anymore is threatening to her so she suppresses this thought which can be seen in the expression “I don't let it in my mind”. With this, she illustrates that she is excluding in her imaginary possibilities in which climate change could impact her future. In another instant during the discussion of the mind maps, Lisa shared the following:

This, like, hopelessness and pessimism for me is also very related to my future because I think as much as I avoid thinking about climate change, I also avoid thinking about my future. Because for me it's like if I would think about my future and then I would realise what can happen.

Exploring Lisa's perspective, she experiences hopelessness and pessimism about her future. Therefore, she avoids it to prevent realising what can happen, as thinking about the future is sufficient for Lisa to get put off by negative emotions. Further, this excerpt shows that Lisa's strategy to avoid climate change is not limited to the concrete situation with her parents she shared first. Instead, she indicates avoiding imagining the future in general to prevent “realising what could happen”. Taking a phenomenological angle, when Lisa thinks about the future of climate change, she takes an individualistic perspective by imagining herself living in such a future. This personal imagination immerses her in the scenario, triggering unpleasant emotions as if she were already experiencing those future conditions.

When discussing the experiences of reading the excerpt of “The Last Wild Horses”, Lisa shares that this fictive future scenario made her think about what could happen with climate change which triggered anxious thoughts in her. She shares that therefore she would

not read this book voluntarily. Lisa's perspective is reflective of the whole theme. More participants shared their tendency to try to avoid climate change in their future imagination and also felt unpleasant emotions when reading the fictive scenario of "The Last Wild Horses" because it pointed out to them that they might not be able to continue living their lives as they do now. '

Concluding, it seems that some future imaginaries from the participants are threatened by fears about the future, which makes them want to avoid their climate future. Triggers like the excerpt from "The Last Wild Horses" which highlighted scenarios such as food scarcity can then trigger people to think about their scary future imaginaries. Thereby, they potentially trigger unpleasant thoughts in their present, but also interfere in participants' avoidance towards the topic and make them reflect on their future.

Existential Threat of Climate Change

Within this theme, participants shared a future imaginary of a world severely impacted by climate change. Their imaginary entailed that their environment will change a lot which then has implications for human civilization and living. This theme occurred in the first part of the discussion and in the letters. In the discussion, the descriptions were more connected to emotions and the participants did elaborate less on concrete scenarios. For example, Paula shared during the discussion of the mind maps:

When I see the future, the biggest emotion I have is panic, because I have this like I do think about climate change actively, like every second day or something. I look out the window and I think, how will this look like in 50 years?

Paula describes that she "look[s] out the window" which shows that she is afraid of how areas in her daily environment are impacted by climate change. Throughout the workshop participants' concerns were focused on the impact of climate change on their personal life and

surrounding. In that regard, participants acknowledged that climate change is a global issue but their worries concentrated on the impact of climate change on them and their environment.

Also interesting is Paula's description to "see the future". This indicates that when she looks out of the window she visualizes her future imaginary, indicating a very vivid imagination of how her environment might look like. In the letters to the future, some participants were elaborating more on their future imaginaries including projections of how the future environment might look like. Another participant wrote in his letter:

I can imagine that for you, you will probably wake up checking the weather forecast every day to not be caught off guard by any extreme weather events that used to be so rare that there were even a bit exciting. For you probably there is nothing exciting about the winds turning and storms blasting away means of transportation.

First, he envisions himself "checking the weather forecast every day not to be caught off guard" which appears similar to the description of Paula looking out of the window almost every day. As the participant wrote this letter after hearing Paula's description it could be that his description was partly influenced by her point. There were several of such occasions that indicated that participants during the workshop took inspiration from one another, however, this cannot be said for sure.

In the part "there is nothing exciting about the winds turning and storms blasting away means of transportation" the participant imagines a scenario in which human-made constructions such as "means of transportation" are subject to the arbitrariness of nature with a considerable frequency so that it is not "exciting" anymore. Phenomenologically, he creates a sense of the world in which humans are not in control to intervene in the environment, but get dependent on living with and adapting to nature. While this excerpt illustrates the core of the theme, participants' imaginaries of the climate future were not limited to events of storms.

Other participants wrote about other events such as flooding, droughts, and fire. Furthermore, they made also more explicit that such events could impact human living on earth, for example when areas are becoming not liveable anymore because they get too hot or they might get flooded frequently.

Anticipation of Adaptation to Climate Future

Within this theme, participants anticipated that they can adapt to and live in their imagined future. This theme occurred when participants shared their experiences reading the excerpt of “The Last Wild Horses” and in the Letters to the Future. For example, during the discussion of the reading material, participants mentioned that it made them hopeful to read how one girl in the story was told to brush her teeth. For the participants, daily events like a girl being told to brush her teeth made them perceive that this is “normality”, and that people can adapt to new environments without changing so drastically that they would stop doing “normal” human behaviour such as brushing their teeth. Reading and talking about this seemed to soothe the emotional reactions of the participants and evoke hope. From a phenomenological perspective, a girl being told to brush her teeth might evoke pleasant emotions because this event of someone caring for a child illustrates a world in which people are looking after one another.

In the letters to the future, participants highlighted more ways in which they could develop themselves to fit potential futures, or what they could learn that they perceive as helpful for their future. For example, one participant shared in his letter:

But also, if the future in 20 years turns out to be as bad as I expected, I wish you all the resilience the human mind can have. I hope that you can embrace one of the most unique features of human nature, the ability to adapt. I hope that you will, whatever comes, are able to make the best out of every situation and external influence which

comes by, because that's the only and most rational thing for you to do, although it may be hard.

This participant creates a future imaginary that evolved very negatively. Nonetheless, hopes that he can integrate himself in this future and “make the best out of every situation” by using “the ability to adapt”. For him, his own ability to adapt to challenging situations gives him hope for an imaginary of the climate future which he described on other occasions as hopeless. Thereby the ability to adapt is not only helping him in his future imaginary but the anticipation to adapt gives him resilience currently to cope with an imaginary which is majorly negative. In this theme, participants shared also more explicit visions of themselves developing and learning to fit their future. For example, one participant shared in her letter:

Maybe I should learn how to plant things how to take care of animals and use new resources. Maybe I will not be an autonomous person in a wealthy environment with access to food, infrastructure, and other things. Maybe I will have a farm, grow plants and try to survive. Or learn to live with immigrants learn to share and show empathy

In this excerpt, she acknowledges the possibility of not being “an autonomous person in a wealthy environment with access to food, infrastructure, and other things” for which she envisions different reactions by potentially learning “to plant things [...]” or “learn to live with immigrations learn to share and show empathy”.

In the first excerpt of the child being told to brush her teeth, the adaptation was about continuing to engage in regular behaviour. This example in the letter is different insofar, as the participant envisions that adaptation comes by a shift in her own agency. She imagines herself changing from her current privileged agency having a “wealthy environment with access to food, infrastructure, and other things” to a future self in which living self-sustainable and sharing with other people become elements of her agency.

Participants shared some different possibilities on how they would like to develop or what they would like to learn. Insofar, the excerpt is not exhaustive for all topics that came up in the theme, but becoming self-sustainable was mentioned with a high frequency.

Desired Future

Within this theme, participants shared their desired futures in which they integrated their needs, wishes and desires. The desires were connected to having a home, children, close relationships, and well-being. This theme occurred in the first part of the discussion and in a different form in the letters to the future. During the discussion, the participants shared their desired futures less extensively and mentioned parts of such futures rather as aspects that could be threatened by climate change like in the theme *Avoidance of Climate Change* the home of the parents of Lisa. In the letters, participants described their desired futures more explicitly, and participants elaborated on how they would like to live in the future. In the letters of some participants, climate change was often giving less emphasis. Instead participants envisioned themselves circumventing climate outcomes in their personal future. This lack of explicit acknowledgement of climate change in the future might support participants' indications that they avoid climate change in their future imagination which I showed in *Avoidance of Climate Change*. However, diverging from the theme *Avoidance of Climate Change*, participants in this theme were not avoiding climate future-related thoughts but envisioned that they achieved a future in which climate change does not pose a direct physical threat to them individually. In that regard, one participant shared in her letter.

I hope you are doing well and are content and happy. [...] Wherever you are, I hope that you are safe and have a protected home with a large garden. In my imagination you also have some animals and grow lots of crops for the winter. It would be good if you picked a house where flooding and fire risks are very low. I guess both in [country

name] and [country name] these risks are very likely each year. Keeping a close supportive social system of family and friends as very important. I think you still do not have money as much and are happy to have a roof over your head and food on the table. Ideally, you have one child as well.

This participant imagines a future in which she is “content and happy” demonstrating that her own mental well-being is very important to her. Furthermore, she illustrates a livelihood of being to some extent self-sustainable with “some animals and grow lots of crops for the winter”. She creates a world in which climate change impacts might threaten living on earth, however, she managed to circumvent such dangers by having a “house where flooding and fire risk are very low”. This participant describes an optimistic imaginary for her future in which climate change does not cause direct harm to her life, while other participants shared similar desires of circumventing climate change but were more contemplative if they manage to achieve this future which was indicated through the formulation of tentative future outlooks and questions.

Uncertainty of Climate Change Interferes with Future Planning

Within this theme, participants illustrated their uncertainty around their climate future imaginaries. They express that there are many possibilities through which their future might be impacted by climate change. This makes it difficult for them to project their personal future because climate change could rule these futures out. Therefore climate change interferes with their future planning because they are unsure if their plans and goals are possible with this issue. Lisa shared during the discussion of the mind maps:

I guess I agree there's a lot of uncertainty. Yes. I don't know. Like, for example, when you try to plan something, you don't really know how far you can go or before, for example, or people plan like, do you want to have kids or something like that. And then

there's the topic. Okay. Would it be responsible? Like would it be smart to actually have them? What is their future and stuff like that or. There's a lot of uncertainty about that also.

In this excerpt, Lisa illustrates how the perceived uncertainty of the climate reflects on her when making plans for her personal future. By sharing her insecurity about having children because of the uncertainty of their future, she indicates hesitation to make long-lasting decisions because she does not know if these decisions are adaptive in the imagined future. During the workshop uncertainty was mentioned frequently and in many cases connected by participants to negative emotional reactions.

This theme occurred often connected to the theme *Avoiding Climate Change in Future Imagination*. Participants' future imaginaries included many scary climate futures, that they did not want to think about. For example, one participant shared in her letter "I rather don't imagine a happy future for myself in 20 years when I don't know if this future is possible or not at all realistic." This participant connects the contemplation if a desired future is possible, to the avoidance of imagining the future which demonstrates the connection between the two themes exemplarily. Phenomenologically the participant appears to struggle with her insecurity if a positive future is possible which makes her conclude to not imagine such a future at all.

Powerlessness to Influence Climate Future

Within this theme, participants expressed their lack of agency to influence the future of climate change. Participants illustrate that climate change presents a threat to the future they would like to have. However, as climate change is such a big issue, they are not able to solve it on their own. In that regard, they explained that they have to rely on other more powerful people, even though the participants perceive that these powerful people do not address climate change sufficiently. This theme was mostly mentioned in the beginning when discussing the

mind-map task where many participants described their powerlessness in connection to emotions of hopelessness and frustration. Furthermore, this theme occurred in the letters to the future, however in a shorter form and more connected to hopes that powerful people will change. Vanessa's statement reflects the essence of the theme:

And then in between, I feel like and then also like surfaces a lot of times right now, like being frustrated and angry and overwhelmed because you feel very passive in a way, even though you're being active because you feel like a lot of your, um, I would say this a lot of your destiny, in a way, lies in the hands of other people. But then also, no one really feels responsible in a way, or there's like a lot of parties involved. [...] [I am now] accepting that I like very in a pessimistic way that nothing will change or like things will change so slowly that it won't like matter in a way that we will like experience detrimental like climate outcomes.

In this excerpt, Vanessa brings across her feeling of “frustration” and “anger” at people who are in the position to induce changes but are not doing this. With the expression “your destiny, in a way, lies in the hands of other people” she gives insight into her inner life world. Phenomenologically speaking, Vanessa creates an image of “other people” having the “destiny”, so the future, in their “hands” meaning that others are empowered over “your” future. Further, Vanessa changes in this statement from first person speech “I feel like” to second person speech “you feel very passive”. This change of perspective indicates that she perceives her own perspective within this statement to be transferable to the opinion of other people. In that regard, she might refer with “you” to people in her social environment, as she indicated at the end of the workshop that she talks regularly with friends about climate change.

Moreover, Vanessa expresses that a “lot of parties” must address climate change together. Here she switches again the perspective and refers to “no one” feeling “responsible”.

Thereby, she acknowledges that the restriction of being dependent on others is not only applicable to her but also to others. This lack of responsibility might also have concluded her that changes to address climate change will be too slow to prevent “detrimental outcomes”. This leads to the conclusion that for Vanessa the lacking personal responsibility for climate change is one factor which inhibits things to change. Vanessa’s statement is very extensive drawing a connection between the diffusion of responsibility through the involvement of many parties to a lack of changes. Most other participants remained by describing feelings of frustration or hopelessness due to their lack of agency to influence their climate future.

Holding on Hope

Within this theme, participants expressed their hopes that the climate-related global challenges of their future will be solved through technological development or human capacity without drastically impacting their lives. However, participants use this as a strategy to self-deceive themselves, to alleviate emotional discomfort through their climate future imaginary. This can be seen in the following excerpt:

I think in general I have an innate feeling the future is going to look grim and that it's not going to be great and that things in many ways will harm society. But I still do have like I kind of tried to soothe myself with it, but oh, maybe that's going to be something. Maybe some crazy technology or something which will kind of flip the whole thing and everything will be fine again. And I think this is also some kind of coping mechanism, just like this little hope that something will happen, which is unexpected, which will change the whole situation.

This participant shares in this statement a depiction of his future imaginary similar to one that I introduced in *Anticipation of Adaptation to the Future*, however, here he does not hope to adapt himself, but rather is hoping for “something” that will “flip the whole thing”,

meaning induce necessary changes to prevent drastic outcomes. The hope that external changes will address or prevent drastic climate outcomes was mentioned at other times more explicitly. Sometimes these external changes were technological advancements like in the current example or also changes in the policy and behaviour of powerful actors.

What is very noticeable about this statement and gives us insight into the inner world of the participant is the expression of “tried to soothe myself with [...]”. Phenomenologically, this indicates that the participant does not believe very much that the described “something” will indeed occur, but that he uses this hope purposefully. Considering his description of a grim future he is using his hope purposefully to “soothe” his negative emotions and future outlook. This purposeful use of hope by self-deceiving their own future expectations has been mentioned by a few participants.

Discussion

In this bachelor thesis, I explored the climate future imaginaries of students participating in a climate distress storytelling workshop. I developed seven themes which reflect a variety of meanings in imagined climate futures.

The theme *Avoiding Climate Change in Future Imagination* integrated shared meaning-making of trying to avoid climate change when imagining the future. *Existential Threat of Climate Change* and *Powerlessness to Influence Climate Future* both conveyed meanings of feeling vulnerable to climate change while the prior highlights the implications of climate change to their future, and the latter portrayed a perceived uncontrollability of climate change for the participants. The themes of *Anticipation of Adaptation* and *Desired Future* reflected hopeful future imaginaries for the future by either adapting to a changed world or living in a desired future by circumventing climate change. In the theme of *Uncertainty of Climate Change Interferes with Future Planning* participants illustrated current struggles to develop

plans because of the uncertainty with which climate change will impact their future. Lastly, *Holding on Hope* conveys that participants were holding on to their hopes for external changes which could prevent negative future scenarios while indicating that they do not strongly believe that these hopes will become true but use them purposefully to alleviate fearful feelings.

In line with a literature review by Pihkala (2020), the theme *Powerlessness to Influence Climate Future* captures that the participants perceived climate change as uncontrollable which was connected to distress. This powerlessness resonates with the observations made by Toivonen (2022), where participants constructed a limited ability to act upon climate change. However, Toivonen's (2022) finding on this matter were mixed, as participants constructed agency as external by lying in the hand of powerful people or systems, however, they also constructed limited agency in reference to humans in general. In this bachelor thesis the participants also imagined a strong external locus of control, believing that they are dependent on others for climate change, but they did not perceive that this limited ability to act upon climate change applies to all humans.

The participants' imaginaries of their climate future were characterized by high levels of uncertainty and negatively perceived impact on their future. This aspect of uncertainty has been identified previously (Clayton, 2020; Pihkala, 2020; Soutar & Wand, 2022), however, this study adds that uncertainty distresses participants because it interferes with their future planning. Connected to their perceived uncertainty to their future, participants described feeling hopeless regarding their climate future, which has also been described in previous research (Pihkala, 2022).

Exploring the meaning of hope more thoroughly, participants in this study were less hopeful about their own possibilities to prevent global drastic climate outcomes. Instead, they relied on hope for external changes that were beyond their control, however, with the intention

to self-deceive themselves to alleviate emotional discomfort. To my knowledge this self-deceptive use of hope has not been articulated in previous studies on climate future imaginaries. However, this ambivalent role of hope, mirrors the argumentation of Foster (2022) in his book “Realism and The Climate Crisis”. In his book he raises the question if people can realistically sustain hope to prevent detrimental climate outcomes on basis of past human actions. The results support the validity of this question by demonstrating that for some participants hope did indeed not seem realistic anymore, but they hold on to it for the purpose of alleviating distressing emotions.

Contrary to this study, the imaginaries of climate activists remained realistic hope for addressing climate outcomes globally (Nairn, 2019; Spyrou et al., 2021). A potential explanation for this difference might lie in the different samples. Research suggests that hopefulness for the future of climate change is connected to engaging in climate activism, so that people who are more hopeful might be more likely to start engaging in climate activism (Geiger et al., 2021). Furthermore, through collective action, people might develop hope to believe that change is possible (Nairn, 2019; Spyrou et al., 2021) because collectively fighting for a higher purpose can be empowering to people.

Connected to their hopelessness to prevent drastic climate outcomes participants envisioned different desired futures compared to previous studies. Nairn (2019) and Spyrou et al. (2021) argued that activists envisioned their desired future in terms of humans living sustainably in a world characterized by social equality and respect for the environment. In the workshop, the theme *Desired Futures* resembled an individualistic survival mentality, in which drastic outcomes were not prevented. Instead, it represented the willingness of participants to live with and adapt to their climate future and thereby circumvent drastic impact on their individual future lives. Hence, the hopelessness that participants experienced for the global future of climate change might lead them to develop alternative desired future imaginaries in

which they managed to live around climate change and escape physical impacts on their own livelihoods. The differences in the future imaginaries of the students in this study and climate activists in prior studies, support Hawlina et al. (2020) who claimed that common imaginations of the future take an important role to engage in a social movement and social movements vice versa shape the imaginations of the members.

In accordance with (Norgaard, 2011), participants avoided climate change-related thoughts and imaginations to prevent themselves from having distressing emotions. Wullenkord et al. (2021) argued that some people avoid attending to climate change in their daily life. Correspondingly, this study suggests that in addition to daily lives people also avoid climate change when creating climate future imaginaries. Further, different of research on the future imaginaries of climate activists, in which avoidance did not form part of the results (Nairn, 2019; Spyrou et al., 2021), the present study indicates that students avoid thinking of climate change to prevent distressing emotions. Hence, avoiding climate change might be a factor preventing people from engaging in climate action. This association is in line with previous research which measured the association between avoidance and motivation to engage in climate action (Wullenkord & Reese, 2021).

The discussed findings do not support the argumentation of Wessels et al. (2022) that the climate crisis runs parallel with a crisis in the imagination. Imaginaries in this thesis involved different meaning-making patterns related to individuals living in the future with climate change. This opposes the argumentation of Wessels et al. (2022) who claimed that climate change is treated overly as a technical problem and dismisses the impact of climate change on humans and societies. Although the findings of this study did not support the arguments put forth by Wessels et al. (2022), the climate imaginaries still illustrate a lack of hope for a positive global future. Hope for change is a crucial factor in driving actual change (Spyrou et al., 2021). Therefore, the absence of hope expressed by the participants could give

reason for concern that this might hinder the motivation and collective efforts needed to address the climate crisis.

Concluding the findings of this thesis, the results align with Toivonen (2022), who demonstrated that participants construct their agency in relation to climate change as human-centred. Similarly, participants' future imaginaries also majorly illustrated the implications of climate change on humans. Furthermore, participants recognized drastic climate catastrophes to majorly impact their own future and the future of the next generations. Looking ahead twenty years, their imagination envisaged a shift in the focus of human actions. Rather than focusing primarily on preventing climate outcomes, participants envisioned a future in which they learned to adapt to extreme weather events and catastrophes. When considering mitigation strategies, their imaginaries leaned more towards individual adaptation rather than extensive exploration of the potential for technological advancements.

In the data analysis for this study, I used a hermeneutic phenomenological approach to gain further insight into the individual experience of students in light of the climate crisis. However, previous scholars have claimed that phenomenological research is incompatible with a study design in which data is collected to a large extent through group discussions (Webb & Kevern, 2001; Webb, 2003). Most phenomenological studies in a qualitative setting are conducted with individual interviews (Creswell, 2007; Racher, 2003) as phenomenological research suggests that people should describe their experience "uncontaminated" without external influence (Webb & Kevern, 2001). This view was contested by Bradbury-Jones et al. (2009) arguing that phenomenology in the hermeneutic tradition does not concern the data to be uncontaminated. This is because in hermeneutic phenomenology, the researcher does not interpret participants' perspectives distinct from the outer world (Walters, 1994), but within the particular context. Therefore, I argue in line with Bradbury-Jones et al. (2009) that for the purpose of hermeneutic phenomenology, it is not relevant if the data is uncontaminated.

Using a workshop with group discussions might have shaped the results in many ways. Because of the specific context in which the workshop took place and by following a convenient sampling strategy, most participants were acquainted with each other. Research on the composition of groups is mixed (Gill et al., 2008) with some supporting to have strangers facing each other (Wilkinson, 1999), and others arguing in favour of people knowing each other in advance (McLafferty, 2004; Powell et al., 1996). Observing the open comfortable atmosphere in which the workshop took place and the rich amount of collected data lend support to the claims put forth by McLafferty (2004) that using groups with people knowing each other can result in favour of the research, especially for groups with limited time (Powell et al., 1996). However, the acquaintance of the participants might have potentially increased compliance within the group, leading to the production of less different opinions.

Considering the collective socio-cultural context of imaginaries (Milkoreit, 2017), the usage of group discussion benefited the analysis of climate future imaginaries. Following, the collective context of the workshop might have facilitated the discussion of climate future imaginaries. Furthermore, using a group workshop can give participants the possibility to share and give each other feedback on their imagined climate future (Spiegelberg, 2012). Hearing how participants clarified their beliefs to each other helped me to follow a hermeneutic phenomenological approach because I could thoroughly understand their perspectives and not have my own prejudices influence my interpretations (Halling et al., 1994). However, the group composition also had an influence on what participants touched upon in the first place. We explicitly searched for people who experience distress due to climate change so that the findings are not representative of all young people or students, but rather give explorative insights into young students experiencing climate distress.

Next, discussions also involve unique non-verbal group dynamics (Farnsworth & Boon, 2010; Tecau & Tescasiu, 2015). While I was present during the workshop and tried to reflect

upon the general atmosphere, thematic analysis limited the research insofar as the results reflected only verbal expressions and were lacking to interpret group dynamics. For the research topic of imaginaries, this limitation means that the findings only partially illustrate the collective aspect of imaginaries and the ways in which group dynamics contribute to the sharing of imaginaries within a group.

The insights of this thesis can be used for the development of further workshops and reading groups in the context of climate distress and research of climate future imaginaries. To address the ambivalence of imaginaries between their collective socio-cultural context and existence in individuals, using a group workshop and analysing individual experiences with phenomenology has shown to be very suitable. Further research on climate imaginaries could build up on this research by the usage of methods that also enables the analysis of non-verbal data. With this it could provide insights into how group dynamics shape the meaning making of climate imaginaries. Furthermore, I suggest future reading groups and workshops for people experiencing climate distress to not limit them to a one-time meeting. Regular meetings enable groups to discuss topics more thoroughly and this can provide insights how imaginaries develop within a group over time.

To conclude, this study demonstrated a variety of how participants imagine their climate change future. The findings illustrated a shift from preventing climate outcomes to a future in which participants learn to adapt to the changes in the environment around them. However, participants also highlighted experiences of hopelessness regarding the future of climate change and a tendency to avoid the issue in their future imaginaries. Furthermore participants indicated to self-deceive themselves through a purposeful use of hope. This underlies the need for measures to support people to cope with experiences of climate distress. This one-time workshop was received as helpful to engage with climate change. I recommend future discussion groups in the context of climate distress to have multiple or regular meetings

to expand the insights of this thesis and investigate how groups can shape imaginaries over time. For this purpose, I suggest future research to delve deeper into the group dynamics in the evolution of imaginaries for example by adding non-verbal forms of analysis.

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Appendix A

Digital Promotion Poster

Do you feel distressed about climate change?

We invite you to our climate distress workshop including:

- group discussions on climate-related emotions
- reading short climate fiction stories
- imagine and write about your own climate-related future

See you there!

- 12.04.2023; 1-4 pm; Cubicus building Utwente
- maximum of 8 participants (only with sign-up)

There will also be some vegan food ;)

Contact us:

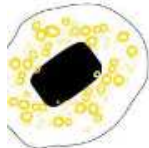
Heidi Toivonen: h.k.toivonen@utwente.nl
Lauritz Däuer: L.k.b.dauer@student.utwente.nl
Hannah Kräshling: h.m.kraehling@student.utwente.nl

Figure 1 Digital poster to promote the workshop in social media and in the personal network of the researchers.

Appendix B

Information Letter

UNIVERSITY OF TWENTE.



Information Sheet

Research Project: *From Climate Emotions to Developing a Climate Distress Storytelling Intervention*

Many people feel distress in regard to climate change as it is a real global threat. Therefore, we are hosting a climate emotions workshop that helps us design a climate change-focused reading and writing group.

This research project, conducted at the **University of Twente**, at Psychology, Health, and Technology, investigates the experiences and perceptions of people who are dealing with climate emotions. Assistant Professor Heidi Toivonen will host the workshop and she is assisted by two bachelor students who work on the workshop as part of their thesis.

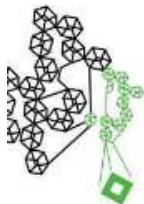
The research involves the collection of oral and written data during the workshop which will be held in English. The data is collected for students' bachelor's theses and can eventually be used for scientific publications by Dr. Toivonen and possibly other scholars.

Naturally, participation in this research is voluntary. The workshop will take three hours. Additionally, the participant will be asked to read one short story concerning climate change prior to the workshop which is expected to take another half an hour. During the workshop, the participants can engage in different exercises related to climate emotions. These involve identifying and naming climate emotions, discussing climate fiction and writing and discussing climate emotions. The participant can decline to participate and **withdraw from the research at any time**, without any negative consequences, and without providing any reasons.

The workshop will be audio- and videorecorded. The recorded data will be fully anonymized upon transcription, and all participants will be referred to with pseudonyms throughout the analysis and in the final written works produced from the data. Individual participants cannot be identified from the assignments, theses, or articles written using this data.

The BMS ethical committee / Domain Humanities & Social Sciences at the University of Twente has approved this study (application number 220077). The data will be stored safely according to the data policy of the University of Twente until 10 years after the research has ended.

Responsible researcher and contact person for questions about the research and rights of research participants: Assistant Professor Heidi Toivonen h.k.toivonen@utwente.nl



Appendix C

Informed Consent

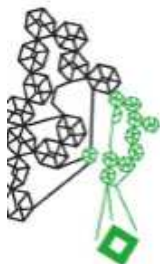


FROM:
H.K. Toivonen
P (+31) (0)6 189 20135
h.k.toivonen@utwente.nl

DATE
12-3-2023
OUR REFERENCE

PAGE
1 of 2

SUBJECT
Consent for Participation in a Climate Distress Storytelling Workshop



1. I volunteer to participate in a research project concerning climate change distress. I understand that the project is designed to gather information about people's experiences and thoughts on climate change, the emotional experience of climate change and the general experience of a climate distress workshop. Furthermore, I understand that I will take part in that workshop about climate distress, which includes discussing, writing, and reading about climate change. I understand that as part of the workshop, I will discuss my emotion regarding climate change, read fictional texts, write myself, discuss and learn about ways to cope with climate distress and give feedback on the format of the workshop.

2. My participation in this project is voluntary. I understand that I will not be paid for my participation. I may withdraw and discontinue participation at any time without any negative consequences. If I decline to participate or withdraw from the study, no one will be told, and it will not affect my relationship with the University of Twente.

3. I understand that most participants will find the discussion and exercises interesting and thought-provoking. If, however, I feel uncomfortable in any way during the workshop I have the right to decline to participate in parts or end my participation in the workshop.

4. Participation involves discussing, reading and writing about climate change in a group of 5-8 people guided by a clinical psychologist, Dr. and Assistant Professor Heidi Toivonen and two students conducting their bachelor thesis. The workshop itself will last approximately three hours. In addition, approximately half an hour will be spent on reading a section of climate

UNIVERSITY OF TWENTE.

DATE
12-04-2023

OUR REFERENCE

PAGE
2 of 2



fiction in preparation for the workshop. Notes will be taken during the workshop and the meeting will be video and audio recorded. An anonymized transcript will be made based on the recording which will be used for research purposes.

5. I understand that the researcher will not identify me by name in any reports using information obtained from this workshop and that my confidentiality as a participant in this study will remain secure. Subsequent uses of records and data will be subject to standard data use policies which protect the anonymity of individuals and institutions. I can request that the final thesis and/or book chapter(s) will be sent to me when it has been accepted/published.

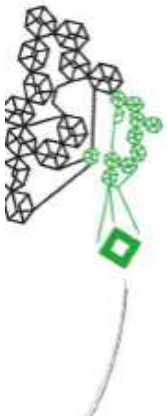
6. The data will be destroyed 10 years after the end of the project (that is, in December 2033), or at any time at my request.

7. No one outside of the project or not involved with writing assignments, theses, or papers using this data, will have access to the raw notes, recordings, or transcripts.

8. I have read and understand the explanation provided to me. I have had all my questions answered to my satisfaction, and I give my consent to participate in this study.

9. I have been given a copy of this consent form.

Signature of the participant



.....
Signature of the supervisor, Assistant Professor Heidi Toivonen

Heidi Toivonen

Appendix D

Climate emotions storytelling workshop

Duration: 3 hours with breaks

Pre-preparation: Reading a short climate fiction story

Group: 8 students, closed group, one meeting, the language in the workshop is English

Host: Heidi Toivonen

Facilitators: Hannah Krähling, Lauritz Dauer

Outline of the meeting:

- Welcome to the group! Explaining the point of the workshop (a trial for a longer climate emotions reading group, serves as data for two BSc thesis writers)
 - Everyone's emotions and opinions must be respected
 - Conversations in this group must remain confidential
 - Introducing the BSc thesis writers, Lauritz and Hannah
 - This is not a mental health intervention, nor are we here to label or diagnose

Topic 1. Identifying and naming climate emotions.

- **Intro talk:** Most people have some kind of emotions about climate change and environmental destruction. Climate emotions are also a topic of growing interest in climate psychology. The first thing we do here is try and acknowledge all the different kinds of emotions we have.
- The participants are shown names of various climate emotions in papers on a table.
 - Fear
 - Anxiety
 - Frustration
 - Anger
 - Helplessness
 - Hopefulness
 - Hopelessness
 - Grief
 - Sorrow
 - Confusion
 - Uncertainty
 - Powerlessness
 - Numbness
 - Guilt
 - Shame
 - Feeling motivated/inspired

Togetherness
 Overwhelm
 Disappointment
 Indifference
 Panic
 Loneliness
 Feeling disconnected/isolated

- They are asked to write down any emotions that they recognize having had and write any other emotions they have. They are encouraged to make it into a mind map: different emotions can be written in a different font and connected to each other with arrows or illustrated with figures.
- Discussing in a group. Which feelings do I have? How does it feel to have these feelings? Are they constructive or not? Would I want to change something about them or are they fine as they are?
- Emotions related to climate change often tie into the future and what we think about that. How do you see the future? What does it make you feel?

Topic 2. Discussing climate fiction and writing.

- It has often been said that reading climate fiction can help us make sense of the future and psychologically cope better. Reading can help you understand your own feelings, imagine new alternative futures, or even get inspired.
- **Reading talk 1.** Sharing our experiences of reading the story before the workshop. What kind of emotions did you feel while reading the text? Did reading the story change anything in your feelings about climate change? What do you think were the emotions of Isa? Could you relate to her emotions?
 How does it feel to think back and talk about the story right here and now?
 How did you perceive the environment in the story?
 Could you imagine the future looking like that?
 How would it feel to live in such an environment in the future?

Topic 3. Discussing climate emotions and coping with them.

- **Intro talk:** Research has shown that learning about and living in the middle of global problems such as climate change can trigger deep feelings of for example anxiety, helplessness, and hopelessness. The best known coping theory that you all probably have heard of, comes from Lazarus and Folkman. It underlines two main ways of coping: 1. Problem oriented and 2. Emotion oriented. Usually, the problem-oriented way of trying to solve the problem has been found to be better for well-being, whereas the emotion focused coping has negative effects for psychological wellbeing in the long run. We know from research that climate change is often handled using emotion-focused strategies such as denial or externalization of responsibility.
- A researcher called Ojala has studied coping with climate change and writes about meaning-oriented coping. When using meaning-oriented strategies, people draw on their beliefs, values, and existential goals to sustain well-being. It involves strategies such as positive reappraisal, acknowledging the

stressor but being able to reverse one's perspective. Do you recognize ever having done something like that in terms of climate change -changing your perspective about it and framing your experience in a way that lead you feel more positive?

- Other meaning-oriented strategies are, according to Folkman (2008), finding benefits in a difficult situation, revisioning goals, and believing in a higher power. According to him, meaning-oriented coping is especially important when the stressor cannot be removed or solved but still asks for your continuous involvement.
- Challenges about coping with climate change come from the fact that nobody can solve it instantly in any given moment and nobody can do it alone; in addition, most of us with our Western lifestyles are part of the problem (Ojala, 2007). Other challenges I have noticed personally are the feeling that if you think about climate change too much, you just paralyzed with anxiety -one has to take some distance from it. In addition, there is not one clear solution to it, but all solutions and acts we can do are something that don't show direct effects.
- Ojala (2012) has suggested that when doing meaning-focused coping with climate change, people don't deny or avoid the problem but try to activate some positive emotions that help them bear the worry. It is also very important to find a purpose or meaning in life that will help buffer even a high degree of environmental worry from turning into low well-being. Meaning-focused coping has been found to have a connection to positive feelings, pro-environmental behavior, and environmental efficacy (the feeling I can do something about climate change).
- What do you think about the idea of meaning-oriented coping? The idea of exploring your feelings, values, and beliefs and working to find a sense of purpose and a chance to feel something positive?

Break time! 15-20 minutes, ask the group

Topic 3 continues. We do an exercise of meaning-oriented coping.

- Write a letter to yourself in the future 2043. Try to imagine how your life will be considering the evolvement of climate change. What are the impacts on your personal life, on the society and on the whole planet? The letters will be collected to serve as data for the BSc thesis of Lauritz. You have 20 minutes.
- Discussing in a group. How did it feel to write the letter? Did it make you aware of some new feelings?

Topic 4. Closing of the session.

- One positive feeling that can be part of meaning-oriented coping is hope. To tune into this feeling (or other positive feelings), let's listen and read together the poem "Our Purpose in Poetry: Or, Earthrise" by Amanda Gorman ([Earthrise poem by Amanda Gorman | Sierra Club](#)). The poem is shared on paper for the participants.

- Discussion. What emotions did the poem awaken in you? What emotions do you think Amanda was feeling when she performed the poem?

Topic 5. Feedback and brainstorming. What are you taking with you from this meeting? If we had a climate emotions storytelling group, what kind of things should be involved? What would you like to do more, what less?

- Closing of the session with a mindfulness meditation.

Appendix E

Atlas.ti Transcript

Anticipation of Resilience through Adaptation

5 Codes:

- helping others in need in the future

2 Quotations:

5:27 ¶ 2 in Letter to myself

take in others that did not have the opportunity

9:14 ¶ 2 in Letter to myself

learn to live with immigrants learn to share and show empathy.

- Alleviating thought to be able to adapt

2 Quotations:

1:235 ¶ 326 in Transcript_Workshop_both parts

So it did seem like a bit not so different for her because she doesn't know anything else. So I was quite positive about reading her part.

1:236 ¶ 362 in Transcript_Workshop_both parts

I feel like it helps because then you kind of see, okay, we're adaptive and also the children like they kind of adapt to the situation and for them it's normality

- learning how to sustain oneself to prepare to the future

3 Quotations:

9:8 ¶ 2 in Letter to myself

Maybe I should learn how to plant things

9:9 ¶ 2 in Letter to myself

how to take care of animals

9:10 ¶ 2 in Letter to myself

use new resources.

- adapting to climate change future

5 Quotations:

1:207 ¶ 210 in Transcript_Workshop_both parts

I'll just kind of only put together my resources to be able to adapt to everything that might come

1:234 ¶ 326 in Transcript_Workshop_both parts

when you think about having kids in the future, you think everything will be so different. But they only know that. That's the normality

3:17 ¶ 4 in Letter to myself

I hope that you can embrace one of the most unique features of human nature, the ability to adapt

5:23 ¶ 2 in Letter to myself

Still, I believe in you that you have the strength to get through an deal with the consequences that were un/reservable

8:17 ¶ 3 in Letter to myself

Everything will come as it is and all you can do is adapt

○ **imagine humans will be self-sustainable in the future**

8 Quotations:

1:211 ¶ 262 in Transcript_Workshop_both parts

at this point humanity would have been a bit further and would be a little bit more self-sustainable

1:241 ¶ 414 in Transcript_Workshop_both parts

Maybe the only way I can survive is to be self-sustainable and your job being normal

1:242 ¶ 414 in Transcript_Workshop_both parts

having a garden and something like this

1:243 ¶ 414 in Transcript_Workshop_both parts

So, trying to survive, having like food in summer and maybe live off this in winter

2:12 ¶ 2 in Letter to myself

we are living in small kind of self-sustaining

5:26 ¶ 2 in Letter to myself

I think we are able to support or supplement what we need with things that we make ourselves

8:10 ¶ 2 in Letter to myself

In my imagination you also have some animals and grow lots of crops for the winter.

9:11 ¶ 2 in Letter to myself

Maybe I will have a farm, grow plants and try to survive

Desired Future

9 Codes:

○ **Hope to have children**

2 Quotations:

2:13 ¶ 2 in Letter to myself

I hope that we are having children, adopted or own does not matter right now for me

8:14 ¶ 2 in Letter to myself

Ideally you have one child as well. (Maybe two)

○ **potential threat of fires in the future**

2 Quotations:

1:177 ¶ 128 in Transcript_Workshop_both parts

are we going to look out the window and there's going to be a fire

8:12 ¶ 2 in Letter to myself

d fire risks are very low. I guess both in Germany and Australia these risks are very like each year

○ **importance to be able to settle**

3 Quotations:

6:12 ¶ 2 in Letter to myself

being good blessed with enough food and a home

7:16 ¶ 2 in Letter to myself

I would really love to already have settled and live in a place where I want to spend my whole life at.

8:9 ¶ 2 in Letter to myself

have a protected home with a large garden

○ **doubt to be able to settle safely because of climate change**

3 Quotations:

1:191 ¶ 140 in Transcript_Workshop_both parts

It looks like in some degree I would like to settle somewhere and yeah, again, this is like, is that even possible when the time would be that I could settle.

2:11 ¶ 2 in Letter to myself

I have no clue where it is liveable right now neither where we would be settling, if we settle

9:7 ¶ 2 in Letter to myself

Will it be a safe place to live.

○ **There is hope for the future but people need to act for it**

3 Quotations:

1:205 ¶ 168 in Transcript_Workshop_both parts

I do certainly believe that there is hope, but it's like one needs to do something about that

2:17 ¶ 4 in Letter to myself

We know that if we do not start doing something, this letter might never find a receiver, but I don't know how realistic that is.

8:16 ¶ 3 in Letter to myself

strive for a better future

○ **need for close relationships**

4 Quotations:

1:267 ¶ 304 in Transcript_Workshop_both parts

You maybe feel the need for more social support

8:18 ¶ 3 in Letter to myself

Everything will be okay as long as you and your family are together and healthy.

9:12 ¶ 2 in Letter to myself

the people close to you.

9:13 ¶ 2 in Letter to myself

being connected and sharing love and resources is vital no matter what challenges are among us

○ **what if home is threatened by climate change**

4 Quotations:

1:183 ¶ 130 in Transcript_Workshop_both parts

sounds like such like a survival thought because you actually think about, okay, what would happen to my area if, like, the sea level rises or if there like a lot of things happening

1:187 ¶ 134 in Transcript_Workshop_both parts

from a region where this over sea level is not given at all like the places of most likely our parents are like, can I swear? fucked.

1:268 ¶ 146 in Transcript_Workshop_both parts

that there could be a place where living is not possible

2:10 ¶ 2 in Letter to myself

I believe you are living somewhere, and I am meaning SOMEWHERE

○ **living in close communities**

6 Quotations:

2:15 ¶ 2 in Letter to myself

communes

4:18 ¶ 3 in Letter to myself

I imagine you to life for the interest or your close circle.

6:11 ¶ 2 in Letter to myself

When I could control it, I would imagine you living together with people you love, being surrounded by good people that take care of you and having a close connection to your family

7:22 ¶ 2 in Letter to myself

I imagine myself living close to my family

8:13 ¶ 2 in Letter to myself

Keeping a close supportive social system of family and friends as very important.

9:12 ¶ 2 in Letter to myself

the people close to you.

○ **imagine humans will be self-sustainable in the future**

8 Quotations:

1:211 ¶ 262 in Transcript_Workshop_both parts

at this point humanity would have been a bit further and would be a little bit more self-sustainable

1:241 ¶ 414 in Transcript_Workshop_both parts

Maybe the only way I can survive is to be self-sustainable and your job being normal

1:242 ¶ 414 in Transcript_Workshop_both parts

having a garden and something like this

1:243 ¶ 414 in Transcript_Workshop_both parts

So trying to survive, having like food in summer and maybe live off this in winter

2:12 ¶ 2 in Letter to myself

we are living in small kind of self-sustaining

5:26 ¶ 2 in Letter to myself

I think we are able to support or supplement what we need with things that we make ourselves

8:10 ¶ 2 in Letter to myself

In my imagination you also have some animals and grow lots of crops for the winter.

9:11 ¶ 2 in Letter to myself

Maybe I will have a farm, grow plants and try to survive

Existential threat of cc

8 Codes:

○ **threat of what could happen in the future**

3 Quotations:

1:163 ¶ 120 in Transcript_Workshop_both parts

if I would think about my future and then I would realise what can happen

1:165 ¶ 120 in Transcript_Workshop_both parts

when I think about the future, then I really have to think about what can happen there

1:176 ¶ 128 in Transcript_Workshop_both parts

Is there going to be crazy storms

○ **potential threat through storms in the future**

3 Quotations:

1:176 ¶ 128 in Transcript_Workshop_both parts

Is there going to be crazy storms

1:181 ¶ 130 in Transcript_Workshop_both parts

I actually also do think about it a lot. Like sometimes just like when daily things happen. So for example, if like in the past days it was so windy all the time and it made me like uncomfortable because it was windier than normally

4:17 ¶ 3 in Letter to myself

For you probably there is nothing exciting about the winds turning and storms blasting away means of transportation

○ **what if home is threatened by climate change**

4 Quotations:

1:183 ¶ 130 in Transcript_Workshop_both parts

sounds like such like a survival thought because you actually think about, okay, what would happen to my area if, like, the sea level rises or if there like a lot of things happening

1:187 ¶ 134 in Transcript_Workshop_both parts

from a region where this over sea level is not given at all like the places of most likely our parents are like, can I swear? fucked.

1:268 ¶ 146 in Transcript_Workshop_both parts

that there could be a place where living is not possible

2:10 ¶ 2 in Letter to myself

I believe you are living somewhere, and I am meaning SOMEWHERE

○ **preferable settling somewhere with low flood risk**

4 Quotations:

1:182 ¶ 130 in Transcript_Workshop_both parts

now they live like in an area that's I think from climate view like pretty above like the I would say I like the zero point, like it helps. The sea level

1:184 ¶ 130 in Transcript_Workshop_both parts

my parents have like a house in this area that's like very, like settled in a way. So, I kind of felt safe in a way

1:195 ¶ 146 in Transcript_Workshop_both parts

my siblings, it was more my siblings because they were like, okay, that's not a good idea

8:11 ¶ 2 in Letter to myself

It would be good if you picked a house where flooding

○ **climate change will disrupt climate****4 Quotations:****1:186 ¶ 130 in Transcript_Workshop_both parts**

things like that that like places that you now think are pretty stable temperature wise will become like very extreme

1:209 ¶ 262 in Transcript_Workshop_both parts

very hot everywhere

4:16 ¶ 3 in Letter to myself

by any extreme weather events that used to be so rare that there were even a bit exiting

5:18 ¶ 2 in Letter to myself

Do you have to go through weather

○ **Future of being dependent on the weather****5 Quotations:****1:240 ¶ 414 in Transcript_Workshop_both parts**

because people are so dependent on the weather in the future

1:244 ¶ 414 in Transcript_Workshop_both parts

people are very dependent on the weather all the time

4:15 ¶ 3 in Letter to myself

you will probably wake up checking the weather forecast every day to not be caught off guards

4:22 ¶ 5 in Letter to myself

You just look at the weather forecast instead of complaining about it.

5:19 ¶ 2 in Letter to myself

extremes like droughts and intense rain and winters

○ **imagining resource scarcity for the future****6 Quotations:****1:208 ¶ 262 in Transcript_Workshop_both parts**

Resource scarcity, no water

1:213 ¶ 262 in Transcript_Workshop_both parts

definitely the scarcity of everything, that was um very much what I also envisioned for my future

1:227 ¶ 304 in Transcript_Workshop_both parts

I don't know if you feel like basic human needs you have like trouble to fulfil. So, for example, due to food scarcity or something.

1:231 ¶ 308 in Transcript_Workshop_both parts

looking that you have some food on the table

1:263 ¶ 451 in Transcript_Workshop_both parts

to have resources

5:24 ¶ 2 in Letter to myself

Did we eventually experience food shortages

○ **threat of having to move in the future because of climate change****8 Quotations:****1:178 ¶ 128 in Transcript_Workshop_both parts**

maybe I'm not even going to be able to settle at one place, but maybe I have to move where it's safe

1:179 ¶ 128 in Transcript_Workshop_both parts

that's the main picture I have that I might not be stationary but trying to find somewhere where it's comfortable still to live at.

1:180 ¶ 130 in Transcript_Workshop_both parts

But that also made me uncomfortable, like thinking, okay, like, yeah, like the same with, like switching the places in a way

1:185 ¶ 130 in Transcript_Workshop_both parts

weather forecasts also say that, for example, Spain will be so hot that people probably also have to move because it's going to get too hot

1:232 ¶ 318 in Transcript_Workshop_both parts

I don't want to move and only find a place where I can survive

1:249 ¶ 427 in Transcript_Workshop_both parts

that you cannot live where you want to live.

1:262 ¶ 451 in Transcript_Workshop_both parts

some people will have, for example, have to move somewhere else to be able to be safe

5:25 ¶ 2 in Letter to myself

have many people moved yet

Holding on to hope to cope with future**5 Codes:**

- **using hope to alleviate distressing climate change emotions**

1 Quotations:**1:199 ¶ 164 in Transcript_Workshop_both parts**

I still do have like I kind of tried to soothe myself with it, but oh, maybe that's going to be something

○ **panic of the future****2 Quotations:****1:174 ¶ 128 in Transcript_Workshop_both parts**

when I see the future, the biggest emotion I have is panic

1:197 ¶ 164 in Transcript_Workshop_both parts

innate feeling the future is going to look grim

○ **There is hope for the future but people need to act for it****3 Quotations:****1:205 ¶ 168 in Transcript_Workshop_both parts**

I do certainly believe that there is hope, but it's like one needs to do something about that

2:17 ¶ 4 in Letter to myself

We know that if we do not start doing something, this letter might never find a receiver, but I don't know how realistic that is.

8:16 ¶ 3 in Letter to myself

strive for a better future

○ **hope for change which addresses climate change****4 Quotations:****1:133 ¶ 74 in Transcript_Workshop_both parts**

technology can help us in advance, there's definitely a little bit of hopefulness. Hopefulness and inspiration, but it's rather small

1:200 ¶ 164 in Transcript_Workshop_both parts

Maybe some crazy technology or something which will kind of flip the whole thing and everything will be fine again

1:201 ¶ 164 in Transcript_Workshop_both parts

think this is also some kind of coping mechanism, just like this little hope that something will happen, which is unexpected, which will change the whole situation.

3:15 ¶ 4 in Letter to myself

I hope that somehow every fear I had for you and others for the future dissolved somehow and are not relevant anymore.

○ **Trying to take actions to address climate change future****4 Quotations:**

1:157 ¶ 110 in Transcript_Workshop_both parts

I feel like when you take actions, for example, or you try to change something

1:204 ¶ 168 in Transcript_Workshop_both parts

I always try to work like politically or like actively against something like that and try to sometimes talk to my friends about that and organise and so on and so on

3:13 ¶ 3 in Letter to myself

I hope that you did at least something to prevent this,

4:21 ¶ 5 in Letter to myself

I can image that if it was in your power, you would give everything to change the way you live

Powerlessness to influence climate future**10 Codes:**

- **interrelation of climate change feelings and future**

1 Quotations:**1:167 ¶ 122 in Transcript_Workshop_both parts**

I feel like most feelings that are like, felt in a way are kind of connected to the future

- **changes are too slow to tackle climate change outcomes**

1 Quotations:**1:139 ¶ 78 in Transcript_Workshop_both parts**

things will change so slowly that it won't like matter in a way that we will like experience detrimental like climate outcomes

- **my actions do not matter for climate change**

2 Quotations:**1:141 ¶ 90 in Transcript_Workshop_both parts**

What I do won't change anything to the bad or to the good

1:171 ¶ 122 in Transcript_Workshop_both parts

you're like more like a passive player in like a whole system or like a game or whatever

- **Avoiding topic of climate change**

2 Quotations:**1:138 ¶ 78 in Transcript_Workshop_both parts**

I feel like this change to me just being very like, avoidant towards the topic

1:142 ¶ 90 in Transcript_Workshop_both parts

I also kind of try to distract myself from this topic

○ **angry at powerful people for not acting against climate change**

2 Quotations:

1:129 ¶ 70 in Transcript_Workshop_both parts

I am mainly angry at people who are not like who are like in positions that could actually do something against climate change

1:158 ¶ 110 in Transcript_Workshop_both parts

connected to disappointment because then you see other people, for example, people who are richer or who have more influence or in politics or something that are like introducing new projects

○ **climate change as an uncertain threat in the future**

3 Quotations:

1:130 ¶ 74 in Transcript_Workshop_both parts

we will experience something so and we're not quite sure what it will be

1:175 ¶ 128 in Transcript_Workshop_both parts

I look out the window and I think, how will this look like in 50 years

7:18 ¶ 2 in Letter to myself

Due to the uncertainty, I have about climate change and a liveable planet

○ **feeling anxious about climate change**

3 Quotations:

1:128 ¶ 70 in Transcript_Workshop_both parts

And this also creates, like, a feeling of hopelessness and fear and anxiety about it

1:131 ¶ 74 in Transcript_Workshop_both parts

I think especially related to the politics about climate change. But definitely when it comes to me and my family and people I'm close to, I think the biggest emotion would be fear and anxiety

7:21 ¶ 2 in Letter to myself

This makes me anxious

○ **avoiding climate change to protect from negative emotion**

4 Quotations:

1:143 ¶ 90 in Transcript_Workshop_both parts

I don't spend too much time thinking about this whole topic anymore, just to protect myself, to not feel anxiety, to feel anger

1:161 ¶ 120 in Transcript_Workshop_both parts

I think as much as I avoid thinking about climate change

1:172 ¶ 122 in Transcript_Workshop_both parts

most of the times I'm just trying to deal with it in a way to like, accept it and also maybe avoid some of the feelings in a way

7:29 ¶ 3 in Letter to myself

I rather don't imagine a happy future for myself in 20 years when I don't know if this future is possible

○ **powerlessness against climate change**

6 Quotations:

1:127 ¶ 70 in Transcript_Workshop_both parts

I cannot really myself do a lot against climate change

1:136 ¶ 78 in Transcript_Workshop_both parts

And then in between, I feel like and then also like surfaces a lot of times right now, like being frustrated and angry and overwhelmed

1:140 ¶ 90 in Transcript_Workshop_both parts

nothing I can do will change this

1:169 ¶ 122 in Transcript_Workshop_both parts

I have this feeling of not being able to do something and like feeling of like that

1:170 ¶ 122 in Transcript_Workshop_both parts

you don't have like agency

1:266 ¶ 70 in Transcript_Workshop_both parts

connected to frustration and then this connected to powerlessness

○ **depending on other people to act against climate change**

7 Quotations:

1:132 ¶ 74 in Transcript_Workshop_both parts

no matter what politics do now,

1:135 ¶ 78 in Transcript_Workshop_both parts

I would say this a lot of your destiny, in a way, lies in the hands of other people

1:137 ¶ 78 in Transcript_Workshop_both parts

then also, no one really feels responsible in a way, or there's like a lot of parties involved.

3:14 ¶ 3 in Letter to myself

but I see that most likely the true power of inducing a change laid in other people's hands.

5:20 ¶ 2 in Letter to myself

they have created some solutions by then

5:21 ¶ 2 in Letter to myself

very importantly, has anything changed in politics

5:22 ¶ 2 in Letter to myself

I hope that politicians, companies and also individuals took action to be more climate neutral and resourceful in their actions

Suppress cc in future imagination**9 Codes:**

- **not making important decisions because of hopeless uncertain future**

1 Quotations:**1:164 ¶ 120 in Transcript_Workshop_both parts**

decisions that I'm pushing away just because I'm right now my state of hopelessness

- **hopelessness for future**

2 Quotations:**1:160 ¶ 120 in Transcript_Workshop_both parts**

hopelessness and pessimism for me is also very related to my future

7:25 ¶ 3 in Letter to myself

the things about climate change that seem certain are rather hopeless

- **climate change threat to future generation**

2 Quotations:**1:196 ¶ 146 in Transcript_Workshop_both parts**

by the time that maybe living is not possible there anymore, they will not be alive anymore

7:20 ¶ 2 in Letter to myself

I do think that my niece and my nephew who are 20 years younger than me will experience the impacts of climate change when they are 40 like me in 2043

- **not considering climate change in decision making**

3 Quotations:**1:188 ¶ 134 in Transcript_Workshop_both parts**

we are thinking about building another house in our place

1:190 ¶ 140 in Transcript_Workshop_both parts

they just didn't think about

1:192 ¶ 146 in Transcript_Workshop_both parts

But I didn't even think about it

- **uncertainty of climate change induces distress**

3 Quotations:**7:23 ¶ 2 in Letter to myself**

this uncertain future makes me want to spend time with them as long it is possible.

7:26 ¶ 3 in Letter to myself

The fact that I don't know what my life will look like

7:27 ¶ 3 in Letter to myself

resources I have now makes me be anxious.

○ **what if home is threatened by climate change****4 Quotations:****1:183 ¶ 130 in Transcript_Workshop_both parts**

sounds like such like a survival thought because you actually think about, okay, what would happen to my area if, like, the sea level rises or if there like a lot of things happening

1:187 ¶ 134 in Transcript_Workshop_both parts

from a region where this over sea level is not given at all like the places of most likely our parents are like, can I swear? fucked.

1:268 ¶ 146 in Transcript_Workshop_both parts

that there could be a place where living is not possible

2:10 ¶ 2 in Letter to myself

I believe you are living somewhere, and I am meaning SOMEWHERE

○ **avoiding climate change to protect from negative emotion****4 Quotations:****1:143 ¶ 90 in Transcript_Workshop_both parts**

I don't spend too much time thinking about this whole topic anymore, just to protect myself, to not feel anxiety, to feel anger

1:161 ¶ 120 in Transcript_Workshop_both parts

I think as much as I avoid thinking about climate change

1:172 ¶ 122 in Transcript_Workshop_both parts

most of the times I'm just trying to deal with it in a way to like, accept it and also maybe avoid some of the feelings in a way

7:29 ¶ 3 in Letter to myself

I rather don't imagine a happy future for myself in 20 years when I don't know if this future is possible

○ **suppress to think about climate future****7 Quotations:**

1:162 ¶ 120 in Transcript_Workshop_both parts

I also avoid thinking about my future

1:193 ¶ 146 in Transcript_Workshop_both parts

when I think about future, I don't think about climate change

1:194 ¶ 146 in Transcript_Workshop_both parts

I don't let it in my mind I think

1:247 ¶ 427 in Transcript_Workshop_both parts

This makes me not want to think about my future.

1:254 ¶ 439 in Transcript_Workshop_both parts

it's quite hard to imagine also because I think I don't want to imagine it.

6:8 ¶ 2 in Letter to myself

I do not dare to imagine a life in far future as I simply cannot

7:28 ¶ 3 in Letter to myself

all in all I don't know and I don't want to know!

○ **future scenario triggers distressing emotion****12 Quotations:****1:166 ¶ 120 in Transcript_Workshop_both parts**

this makes me then anxious and I don't want to feel that.

1:168 ¶ 122 in Transcript_Workshop_both parts

watch something and I kind of get angry, but most of the time you don't actually, you're not like angry. It's something that's happening in the present, but more like about the general idea of this future

1:214 ¶ 266 in Transcript_Workshop_both parts

reading this kind of exposed me again with this scenario and I felt some anxiety again

1:215 ¶ 266 in Transcript_Workshop_both parts

I felt some kind of anxiety again reading it

1:216 ¶ 274 in Transcript_Workshop_both parts

it still made me feel something kind of a little bit anxious in a way

1:219 ¶ 274 in Transcript_Workshop_both parts

when I read the story, I feel like I'm more anxious because I'm like, Oh, that sounds so scary

1:222 ¶ 278 in Transcript_Workshop_both parts

I don't think I would read it because for me personally, it was not. I was it was like, I really thought about it afterwards and yeah, I thought about it

1:224 ¶ 278 in Transcript_Workshop_both parts

that make me even more hopeless because the chapter that we had to read was nothing about solutions or something.

1:225 ¶ 278 in Transcript_Workshop_both parts

so I don't think I would read it, even though I think it's well written, but it made me like anxious

1:245 ¶ 423 in Transcript_Workshop_both parts

I think pretty scary,

1:248 ¶ 427 in Transcript_Workshop_both parts

the drought and like making yourself aware of it that it can happen and that can happen

6:10 ¶ 2 in Letter to myself

It would make me sad to think about a future

Uncertainty of cc interferes with future planning

4 Codes:

- **Uncertainty of the future of the next generation**

2 Quotations:

1:156 ¶ 110 in Transcript_Workshop_both parts

What is their future and stuff like that or. There's a lot of uncertainty about that also

1:223 ¶ 278 in Transcript_Workshop_both parts

something like this could happen, not to us, but maybe one younger generation

- **climate change as a potential interference with future plans**

3 Quotations:

1:152 ¶ 110 in Transcript_Workshop_both parts

when you try to plan something, you don't really know how far you can go

1:189 ¶ 134 in Transcript_Workshop_both parts

I was like at a time where I would have children that it is not unlikely that this place is just like 20 meters underwater

1:233 ¶ 318 in Transcript_Workshop_both parts

this would really make me think about it, that this is a really big change to what we are thinking about the future right now

- **doubt to have kids because of climate change future**

Comment: by Lauritz Dauer

| 03/06/2023 11:35:37, merged with *Is it responsible to have children in the future*

5 Quotations:

1:153 ¶ 110 in Transcript_Workshop_both parts

do you want to have kids or something like that.

1:154 ¶ 110 in Transcript_Workshop_both parts

Would it be responsible

1:155 ¶ 110 in Transcript_Workshop_both parts

Like would it be smart to actually have them?

7:17 ¶ 2 in Letter to myself

I now don't think I will have children

7:19 ¶ 2 in Letter to myself

I would not want to bring kinds into a world where I don't think my own living will go or something will be positive

○ **uncertainty of climate change future****7 Quotations:****1:144 ¶ 98 in Transcript_Workshop_both parts**

my biggest topic was uncertainty

1:148 ¶ 98 in Transcript_Workshop_both parts

the really main thing is that I do feel uncertain

1:151 ¶ 110 in Transcript_Workshop_both parts

I agree there's a lot of uncertainty

2:14 ¶ 3 in Letter to myself

today we are still so uncertain about the future, we know a lot but we know so little

5:17 ¶ 2 in Letter to myself

What the future holds for me then is really uncertain to me

6:7 ¶ 2 in Letter to myself

It is also hard for me to imagine you right now as I am aware that so many things can happen in between

7:13 ¶ 2 in Letter to myself

what the planet could look like