

**Making meaning of a post-pandemic future: The association between language use
and uncertainty tolerance**

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Abstract

This study investigates individuals' language use when making meaning of a post-Covid-19 pandemic future, associated with differing uncertainty tolerance. Uncertainty tolerance can be defined as the extent to which people are able to deal with feelings of uncertainty. Events such as the Covid-19 pandemic are associated with uncertainty, and hence, they require individuals to re-evaluate meaning of the present and future. By using language in future narratives, experiences can be described which can be used to make meaning by guiding present thoughts and behaviour. By analysing those experiences, the following research question will be answered: *How do people differing in uncertainty tolerance use language to make meaning of a desired post-corona future?* To investigate this, a cross-sectional, international online study was conducted. Participants from different countries were asked to describe their desired future in a creative writing exercise from a time point when the pandemic would be over. The study aimed to measure uncertainty tolerance with three items of control, certainty, and comfort towards the desired future. Based on differing scores of uncertainty tolerance, four groups were created. A method that can transform large amounts of written data into variables, Digital Story Grammar (DSG), was applied to the letters identifying narrative patterns. This resulted in the groups displaying different meaning making processes identified as (1) realistic optimists, (2) dualistic preparers, (3) caring pioneers, and (4) hopeful inactivists. By considering the groups' uncertainty tolerance, it showed that the dualistic preparers (i.e. lowest uncertainty tolerance) tended to display a more negative future as compared to those with higher uncertainty tolerance (i.e. realistic optimists, caring pioneers, hopeful inactivists). As such, it can be recommended to support the unique needs of each group in tailored interventions to guide present actions in uncertain times.

Keywords: Covid-19, Letters from the Future, narrative writing, uncertainty tolerance, meaning making, Digital Story Grammar

1. Introduction

During the beginning of the Covid-19 pandemic, people were faced with great uncertainty (Rettie & Daniels, 2021). Nonetheless, individuals may vary to the extent to which they are able to deal with this uncertainty, a concept defined as uncertainty tolerance (Strout et al., 2018). Uncertainty tolerance might represent an unpleasant feeling; however, individuals can modify this sensation through emotional, cognitive, and behavioural reactions as well as altering appraisals towards the uncertainty eliciting event (Penrod, 2001). Studies found that during the Covid-19 pandemic, higher uncertainty tolerance was associated with better mental well-being whereas people with lower uncertainty tolerance experienced greater anxiety (Bavolar et al., 2021; Salamanca-Balen, Qiu, & Merluzzi, 2021). Nonetheless, those effects seem to be rather small and specific to the beginning phase of the pandemic.

Moreover, ruptures and associated uncertainties which may be evoked by a global pandemic, require individuals to reconsider not only their current situation but also to make meaning of their future outlooks (Picione, & Lozzi, 2021). In this regard, Halliday (2013) argues that language is a resource of meaning making by expressing experiences and interacting with others and our environment. To further classify these experiences, Halliday identified those most commonly expressed in different languages (i.e. English, Chinese, and Japanese). Those different types of experiences were material, mental, verbal, and relational processes (Halliday & Matthiessen, 2013).

Those processes of experience can be further useful when investigating individuals' meaning making patterns of the future in uncertain times. Here, narratives of the future can be beneficial, as they can be analysed in regard to meaning making and further guide individuals' actions and thoughts in the present (Inayatullah, & Ivana, 2015; Triliva, Sools, A & Philippas, 2020). Research in this field is especially important, as creative writing exercises can benefit people to shift their focus toward a future that is more desirable. Imagining a desired future can help them to guide present behaviour and to act upon alternatives to work towards that preferred

future (Bietti, Tilston, & Bangerter, 2019; Sools & Mooren, 2012; Sools, 2020; Uprichard, 2011).

Hence, based on Halliday's framework of experiences, the study at hand investigates how people make meaning of their preferred future in times of uncertainty by using language. To explore possible meaning making patterns, participants were invited to take part in the creative writing exercise *Letters from the Future* (Sools, 2020). Here, they could describe experiences in their desired future from a time point when the pandemic would be over. With the help of Digital Story Grammar (DSG), those letters will be analysed to identify patterns of meaning making as related to individuals' variation in uncertainty tolerance. DSG is a method transforming written data into variables that can subsequently be analysed to investigate individuals' language use in meaning making processes of their desired future. Investigating these processes seems to be particularly important, as insights can be used to support people to shift their focus toward a desired future in uncertain times and to investigate further how those alternatives might be attainable through present action. Taken together, the research question addressed in the study is as follows: *How do people differing in uncertainty tolerance use language to make meaning of a desired post-corona future?*

1.1 Covid-19 and Uncertainty Tolerance

As studies concluded, the Covid-19 pandemic is associated with heightened mental health problems including increased feelings of depression, anxiety, and uncertainty about the future (Rettie & Daniels, 2021; Salari et al., 2020), affecting healthcare workers, patients, and survivors of Covid-19, as well as the general public (Hossain et al., 2020; Talevi, et al., 2020). This related uncertainty is defined by Penrod (2001) as "a dynamic state in which there is a perception of being unable to assign probabilities for outcomes that prompts a discomfoting, uneasy sensation that may be affected (reduced or escalated) through cognitive, emotive, or behavioural reactions, or by the passage of time and changes in the perception of

circumstances” (p. 241). This definition implies that uncertainty might be a subjectively unpleasant feeling, which nevertheless can be changed and used to make meaning in the light of an unforeseen situation by different appraisals.

The extent to which individuals can deal with feelings of uncertainty is defined as uncertainty tolerance (Strout et al., 2018). The term was first operationalized by Krohne (1989) who attempted to develop a coping model explaining how different individuals would respond to ambiguous and threatening conditions (Grenier, Barrette, & Ladouceur, 2005). In this way, he argued that uncertainty would be an emotional response towards an ambiguous stimulus. To date, literature finds that some individuals experience feelings of uncertainty to be more difficult to tolerate than others (Rettie & Daniels, 2021). This uncertainty tolerance can be defined as “[a] set of negative and positive psychological responses - cognitive; emotional; and behavioural - provoked by the conscious awareness of ignorance about particular aspects of the world” (Hillen, Gutheil, Strout, Smets, & Han, 2017, p. 70 as cited in Strout et al., 2018).

This definition implies that an individual’s response to uncertainty can range from positive to negative and that those responses might vary depending on the individual’s perception and the situation, as also implied by the before-stated definition of uncertainty. Thus, people with a lower uncertainty tolerance might perceive uncertain situations as more stressful and subsequently not feel capable of dealing with those situations. They further tend to interpret unforeseen situations or events as more negative or threatening, which can in turn lead to higher experienced stress (Dugas et al., 2005; Rosen, Ivanova, & Knäuper, 2014). During the Covid-19 pandemic, studies found a negative correlation between intolerance of uncertainty (i.e. lower uncertainty tolerance) and mental wellbeing, as well as a positive correlation with anxiety (Bavolar et al., 2021; Satici, Saricali, Satici, & Griffiths, 2020). Nonetheless, the findings further suggested, that levels of anxiety decreased over time, whereas mental wellbeing increased (Bavolar et al., 2021). Thus, those findings might have been only accurate for the beginning phases of the pandemic, as the data was gathered first at the beginning of March, and

again, two months later. This result might be due to heightened uncertainty regarding the seriousness, or prevention methods in the early stages of a pandemic (Taylor, 2019).

Compared to that, people with a higher uncertainty tolerance might not respond with the same levels of stress and uncertainty to a comparable situation (Rosen, Ivanova, & Knäuper, 2014). This implies that a higher uncertainty tolerance would also lead to higher mental wellbeing as opposed to those with lower uncertainty tolerance. In this regard, one study showed that uncertainty tolerance was significantly and positively associated with physical and emotional wellbeing during the Covid-19 pandemic, nonetheless, those effects were rather small (Salamanca-Balen, Qiu, & Merluzzi, 2021). As the studies show, there seem to be individual differences in tolerating uncertainty, leading to differences in Covid related distress. This further highlights the possibility that individuals differing in uncertainty tolerance might engage in different ways of meaning making when being confronted with uncertainty.

1.2 Meaning making of the future

Differences in meaning making might show in people's differing descriptions of their experiences. In this regard, Halliday (2013) describes two basic functions of language and grammatical functions in his work about functional grammar: meaning making of our experiences and interacting with our social relationships. Specifically, through language, we can express made experiences, what is happening around us, and the circumstances of our world. From this, we can derive meaning for ourselves and our environment. Furthermore, enactment of social relationships refers to the way of relating to people around us. Halliday classifies this latter function as an interactive and personal meaning making process, leading up to the statement that "language [is] a resource of making meaning" (Halliday & Matthiessen, 2013, p. 3). Both functions can be frequently observed in language use, as "every message is both about something and is addressing someone" (p. 30). Therefore, it can be argued that people continuously make meaning of their experiences, as we share our personal and collective

experiences, we represent and interpret the world for ourselves and others (Matthiessen & Halliday, 2009).

In a study about systemic-functional grammar, where the authors examined the grammatical structure of English, Chinese, and Japanese language, Halliday and Matthiessen (2009) identified three different types of meta functions that are present in language construction. Halliday defines the term meta function as different modes of meaning which can be derived from grammar. First, the *interpersonal* meta function refers to enacting in social roles in general. Next, the *ideational* meta function shows the way of constructing our experiences with the natural world around us and inside us. Those first two meta functions seem to be similar to the before-represented basic functions of language use. Last, the *textual* meta function is concerned with the creation of the text itself. For the study at hand, the ideational, as well as the textual meta function are relevant, as the first relates to peoples' experiences which can be studied, whereas the second refers to the way how those experiences can be constructed in a future narrative. Hence, both functions become important for analysing experiences in individually constructed narratives.

To further specify the ways of constructing those experiences, Halliday developed a framework where he identified four types of processes that seem to be present in all three languages he studied (i.e. English, Chinese, and Japanese). First, *material* processes relate to doings and happenings of individuals and their environment. Next, *mental* processes describe experiences of sensing, whereas *verbal* ones refer to processes of saying. Last, *relational* processes refer to experiences of being and having. The meaning making process of individuals differs according to the used process types as well as those who are involved in it. As such, Halliday's framework highlights the importance of language use in making meaning of experiences, as an everyday and continuous process by interacting with our environment and people around us (Halliday & Matthiessen, 2013).

The described classifications of experiences might not only be used by individuals to make meaning of their present moment but can also be used to construct personal and collective futures. In this regard, it can be argued that reflecting on processes of desired futures can help individuals to derive meaning from present uncertainties. Evidence can be found in research on narratives of the future, in which individuals' patterns of experiences can be analysed in language use. As such, narratives are a mode of meaning making, and according to some narrative psychologists the mode par excellence in which people make meaning of themselves and their environment (Bruner, 1986; Bruner, 1990; Murray & Sools, 2015). As such, narratives of the future can be beneficial in times of uncertainty, as individuals are required to engage in re-evaluating meaning of their present experiences and future outlooks (Picione, & Lozzi, 2021). A study showed that it can be helpful for individuals to participate in narrative writing exercises when being confronted with uncertain events (Uprichard, 2011). Here, the process of depicting alternative and desired futures can act as means to guide present thoughts and behaviour (Inayatullah, & Ivana, 2015; Triliva, Sools, A & Philippas, 2020). This can lead to a possible reduction in uncertainty by making meaning of the future and take actions to change the outcomes to work towards the alternative, desired future (Bietti, Tilston, & Bangerter, 2019; Sools & Mooren, 2012; Sools, 2020; Uprichard, 2011).

As Halliday (2013) argues, whenever people engage in speaking or writing, they produce text, functioning as a process of meaning making in a certain context. In this line of reasoning, narrative writings function as a text and can be subsequently analysed to understand peoples' meaning making processes in different contexts. As the current Covid-19 pandemic represents an unforeseen rupture (Andrade, Sools, & Saghai, 2022), it can be expected to represent an event requiring meaning making. When making meaning of the future, people might draw upon existing frameworks. As one study investigated, narratives showing continuity between past experiences and a desired future were more common than those showing discontinuity

(Hänninen, & Sools, 2022). This indicates that meaning making processes of the future might primarily be similar to experiences individuals made before a rupturing event.

It can be argued that the meaning making of the future is especially important in uncertain times, as it can guide present actions to strive towards a desired future. During the unique framework of Covid-19, studies were conducted investigating how people make meaning of their future by analysing language use in narratives (i.e. Andrade, Sools, & Saghai, 2022; Hänninen, & Sools, 2022; Sools, 2020). Nonetheless, to the author's knowledge, there are no studies yet of future narratives in association with individuals' differences in uncertainty tolerance. As those variations might result in differences in constructing a desired future, it is worthwhile to invest in this field, to support peoples' present behaviour in uncertain times.

2. Methods

To answer this research question, different types of experiences were related to the process of meaning making and were subsequently analysed in individuals' language use. To relate these processes to varying uncertainty tolerance, the concept was operationalised based on three items: control, certainty, and comfort. Those items were part of a questionnaire (see *description of the larger study*) aiming at measuring participants' attitudes toward their preferred future. As such, the larger study included those three items to reduce participant burden but did not explicitly measure peoples' uncertainty tolerance. Nonetheless, for the study at hand, the items were used to investigate peoples' varying uncertainty tolerance and to classify them into according groups (see *data analysis*). The resulting scores were then related to individuals' language used to construct their desired future to make meaning.

2.1 Description of the larger study

The used data is part of a larger cross-sectional, international online study with the title *Will the Future Never be the Same? Letters from a Post-Corona Future*. Within the project,

participants from 14 countries were asked to take part in the creative writing exercise *Letters from the Future* (Sools, 2020) and to fill in a questionnaire. In the creative writing exercise, participants were instructed to imagine a time travel into the future when the Covid-19 pandemic would be over. Participants could decide how far into the future they would travel, where they were invited to write a letter to an audience in the present. They were asked to describe their preferred future and the process by which this desired future came about (Sools, 2020) (see Appendix A2). Next, the questionnaire consisted of ten questions in total (see Appendix A3). Relevant to this study are the following items: *certainty* (I feel certain about the future), *control* (I feel I have control over the future), and *comfort* (I feel comfortable not knowing what the future will hold). Those were operationalised as uncertainty tolerance for the study at hand.

The study was approved by the Ethics Committee of the Faculty of Behavioural, Management and Social Sciences (BMS) of the University of Twente (Request Number 200500). With a convenience sampling strategy, participants were recruited through social media platforms and the researchers' personal and professional contacts. The data set used for this study consisted of a total of 162 letters which were collected from five countries (Greece, the Netherlands, Ecuador, Finland and Estonia) from April to July 2020. No incentives or compensation was given for participating. To ensure the safety of the gathered data, they were anonymized, encrypted and later stored in the UT Network storage.

2.2 Data analysis

The data analysis took place in three steps. In the first step, a purposive sample was created, based on people's scores of uncertainty tolerance. By using the filtering function in excel, a binary distinction was applied to identify people with high and low uncertainty tolerance. For this study, the binary distinction was applied to the three items of certainty, control and comfort in every possible combination. High scores were set at a cut-off point of ≥ 55 and low scores

were set at a cut-off point of ≤ 45 . Those scores were chosen, to make sure that at least one letter was included for every possible constellation of the items, as this would not have been the case when setting the cut-off points to ≥ 60 (high) and ≤ 40 (low), for instance. The letters were then sorted according to the identified groups of varying uncertainty tolerance. For length purposes of the study, only four groups out of eight were included. Thus, those scoring highest and lowest in uncertainty tolerance were included, as well as one group slightly higher and one group slightly lower in uncertainty tolerance (see table 1 under heading *groups*). The groups were chosen to compare participants with the highest and lowest possible uncertainty tolerance and to further investigate how slight changes in this uncertainty tolerance would impact peoples' language use in meaning making.

In the second step, SPSS was used to compute descriptives (i.e. age) and frequencies (i.e. gender, education, country) of the participants' demographic information. This information is not used in relation to individuals' meaning making processes, but an overview is given to compare the groups according to their demographic information.

In the third step, patterns of meaning making were explored within the different groups. Here, the data were analysed using the text mining tool Digital Story Grammar (DSG). DSG is a method that can analyse a large amount of written data while identifying narrative units (Andrade & Andersen, 2020). The method is based on social theory of narrative identity stating that people's stories and their social actions influence each other (Somers, 1994 as cited by Andrade & Andersen, 2020). DSG analyses units of subjects, verbs, and objects within sentences and converts them into variables (Andrade & Andersen, 2020). Those variables were subsequently analysed with SPSS according to their frequency occurring in each group to understand what domains of experiences people use in their language to make meaning of a post-corona future (Andrade & Andersen, 2020). As inspired by Halliday's framework of different types of experiences, DSG distinguishes between three main domains of experiences: being, sensing, and doing. First, being describes inner experiences of outer experiences and the

world of relations. Here, DSG further classifies *existential* being, describing who we are, and *relational* being, meaning what we possess. Next, sensing describes a person's inner experiences of feeling, reflecting, and responding to the world. This domain is further divided into *mental* processes, which describe experiences of sensing and cognitive processes and *verbal* processes, relating to experiences of saying and communicating. Last, doing refers to processes of outer experiences of doing something and physical processes, and is further classified as *material* doings, meaning processes which are related to do things, maintain, or change something, and *behavioural* doings describing processes of physiological and psychological behaviour.

For each group, a more generic overview of the identified domains is given first. This identified pattern is further exemplified by excerpts of a letter highlighting the most important characteristics which can be observed in the content of the respective groups. Also, a name for the respective group is provided, trying to capture the essence of the experiences described in the letters.

3. Results

The final sample consisted of 56 people in total, of which 68% were female, 30% male and 2% other. Most of the participants have a university degree (40%) and come from Ecuador and Greece (38%), Finland (16%) and Estonia (9%). The relevant groups as well as the participants' demographic information can be seen in table 1.

To answer the research question *How do people differing in uncertainty tolerance use language to make meaning of a desired post-corona future?*, DSG was used to identify patterns of meaning making within the letters. The distributions of the before-described domains for the respective groups can be seen in table 2.

Table 1*Participants' Demographic Variables Including Age, Gender, Education and Country*

Group	Age	Gender	Education	Country
High certainty, high control, high comfort (n=12)	Range from 16 to 73 (M=37.58, SD=15.44)	66.7% Female (n=8), 33.3 % Male (n=4)	58.3% Vocational (n=7), 16.7% College (n=2), 8.3% Elementary, Other and University (n=1)	33.3% Greece (n=4), 25% Ecuador (n=3), 25% Estonia (n=3), 16.7% Finland (n=2)
High certainty, high control, low comfort (n=2)	Range from 35 to 39 (M=37, SD=2.82)	50% Female (n=1), 50 % Male (n=1)	50% University (n=1), 50% Vocational (n=1)	100% Ecuador (n=2)
High certainty, low control, low comfort (n=8)	Range from 29 to 62 (M=44, SD=12.01)	62.5% Female (n=5), 37.5% Male (n=3)	37.5% University (n=3), 25% Vocational and College (n=2), 12.5% Other (n=1)	50% Ecuador (n=4), 37.5% Greece (n=3), 12.5% Finland (n=1)
Low certainty, low control, low comfort (n=23)	Range from 18 to 57 (M=39.13, SD=14.61)	69.6% Female (n=16), 30.4% Male (n=7)	47.8% University (n=11), 21.7% Vocational (n=5), 17.4% College (n=4), 13% High School (n=3)	47.8% Ecuador (n=11) 34.8% Greece (n=8), 13% Finland (n=3), 4.3% Estonia (n=1)

Table 2*Distribution and Frequencies in Percent of the Different Domains Sorted by Groups.*

Domain	Subcategories	Realistic optimists	Dualistic preparers	Caring pioneers	Hopeful inactivists
Being		38.7	41.3	37.1	43.2
	Existential	10.4	13	11.9	11.4
	Relational	28.3	28.3	25.2	31.8
Sensing		30.3	25.4	33.9	25
	Mental	29	23.1	32.5	25
	Cognitive	5.7	6.1	8.8	4.5
	Desiderative	10.8	8.6	12.4	13.6
	Emotive	6.4	3.7	4.8	2.3
	Perspective	6.1	4.8	6.7	4.5
	Verbal	1.4	2.2	1.4	/
Doing		24.3	24.2	22.8	20.5
	Behavioural	1.8	2.4	1	2.3
	Material	22.5	21.8	21.9	18.2

3.1 Realistic optimists

People in this group score highest on uncertainty tolerance. Their letters are characterised by descriptions of a future that is rather close to the world experienced before, but consequences of the pandemic are still present. Participants describe their outlook as positive and being optimistic about it. Most frequently, experiences relate to states of being followed by sensing and doing. This indicates that participants focus more on relational bonds, the people around

them, as well as what they possess. About one third of the experiences are in the sensing domain, describing mental processes regarding individuals' wishes and desires in the future. Compared to other groups, this group displays the highest proportion of doings, meaning experiences related to the ability to do, maintain or change something. As an example, the following letter (#36012) was written by a 42-years-old man from Ecuador:

(...) When I arrive, I still see people with face masks ... with this I know that there is still fear of catching it, but I see happy people, who laugh. There are signs on the streets that tell you to get vaccinated. I'm home. In the news I see that the schools will not open until November, the hospitals are gradually emptying of COVID patients. Politicians say that from now on, priority will be given to the health sector, that there will be more jobs for doctors and that their salaries and competencies will be improved. They offer to eliminate cumbersome bureaucratic processes to avoid corruption again. Hopefully. I am fine and I see that my family is complete. We plan to travel next year. My work stabilized and I can continue with my projects from a year ago ... the ones that survived was because of discipline, and a little luck.

The author begins with the notion of a continuous fear of contagion, nonetheless, people seem to be content. This shows how he makes meaning of a future where corona measures are still present, representing a realistic outlook, as we are still confronted with the consequences of the pandemic (i.e. wearing face masks). The author further describes future processes (i.e. vaccinations, school closings, improved health care) more objectively, characterized by experiences of being (i.e. hospitals *are*, priority *will be* given). Those descriptions also express the participant's wishes and expectations for the future, represented by the sensing domain. In the end, he expresses a more personal outlook on the future, which seems to be close to the one experienced before the outbreak. The higher proportion of states of being and sensing might be due to the participant expressing desires in a way of actively contributing to change or maintain

something (i.e. my work stabilized, and I can continue with my projects; the ones that survived was because of discipline).

It seems that people with a higher tolerance of uncertainty tend to display a more realistic future which is similar to processes experienced currently in terms of the aftermath of the pandemic. Higher tolerance of uncertainty also seems to contribute to a more optimistic future vision where hopes and wishes (i.e. vaccination, improved health care system) but also worries about persistent global crises (i.e. pollution, global warming, corruption) are expressed.

3.2 Dualistic preparers

Within the group of people lowest on their uncertainty tolerance, most frequently, participants mention experiences of being followed by sensing and doing. This implies that most imagine experiences of who they are in their future and what they possess. People's future vision is marked by a new pandemic normal where about half of the letters show tendencies of a dystopic future, whereas the others describe a more optimistic outlook. The former seems to be unique for this group, as no other group describes alternative futures which are merely negative. This pattern of describing either a destructive or hopeful future contributes to this group being dualistic in their descriptions of the future. The outlook of a dystopic future can be seen in the following example written by a 24-years-old woman from Greece (#51602):

Hello Self, (...) *I am sending you to prepare you for what is to come* (...). The entire city stinks, and it's very noisy (...). There is no green vegetation (...) and plastic is everywhere (...) [T]he death toll of the coronavirus is said to have reached 100,000. (...). Everyone was getting together, traveling, filling the churches, and cafes. The National Health System, devastated for decades, lasted a month. (...) After a year, the vaccine came. It became mandatory for everyone and refusing it resulted in an unnegotiable 18 years in prison. Dictatorships are the way in the future. (...) The vaccine was found to cause massive sterilization in 12 different countries. In charge of these vaccine batches, Bill Gates was not

persecuted because he escaped and was never found. (...) The European Civil War of 2026 has not stopped simmering. According to reports, Kim Jong-Un died (...). They detonated nuclear weapons against the United States that, in turn, retaliated. None of these countries exist anymore as you know them (...). *I wanted to prepare you for all that will come (...)*
You knew that the future would definitely not be rosy. Now you have the knowledge to change it for the better. Take care!

About one third of the letter consists of more objective descriptions of a dystopic future, including many deaths due to the pandemic, and emerging crises, such as dictatorships, civil and nuclear wars. Compared to other groups, the dualistic preparers show the highest proportion of existential processes, identified in describing states of being (i.e. there *is* no green vegetation; everyone *was* getting together). In addition, a lower proportion of sensing related experiences becomes evident in this letter, as few emotional or cognitive processes are mentioned regarding the catastrophic future vision. This is also visible when applying Halliday's framework of classifying desiderative experiences: expressing wishes and desires regarding their future is remarkably low in the present group (see table 2).

Nonetheless, the catastrophic descriptions are used as appeals to herself to determine a course of action in the present, as can be seen in the end as well as in the first sentence (added in italics). This pattern seems to be predominant in letters with a more pessimistic future vision. The authors use their future perspectives as means to an end to show either themselves or a broader audience what to prevent in their future. This is also in line with Halliday's classification of behavioural doings, which is most frequent in this group and refers to perform psychological and physiological acts. The high frequency of doings in this group could point towards an overall pattern of future changes, which can be positive or more negative. In contrast to this negative post-corona future stands a letter (#20962) written by a 55-years-old man from Ecuador:

There are many bicycles on the roads. People have devices to breathe and better protect themselves on their heads. The energy that drives most machines and systems is electric or renewable. (...) I'm still working as an engineer. We continue to improve energy systems and try to clean up the planet. (...) I send a message to Tedros Adhanom WHO director (...) I ask you to tell governments that while the planet's resources are destroyed, the more likely they will be to alter the climate with eminent catastrophes and diseases to be transmitted through various means. They have a lot to do.

Here, the dualistic nature of this group becomes apparent, as this participant envisions his future as being more positive than the previous one. He is also aiming at preparing for his desired future through his profession enabling him to contribute to a cleaner planet. Nonetheless, he is also advising Tedros Adhanom “to tell governments (...) [that] they have a lot to do.” In this way, he is delegating actions for change to someone else.

Authors with a low tolerance of uncertainty seem to use either more destructive or positive alternative futures as means to take preventive or active measures. Nonetheless, it seems that those with a pessimistic worldview tend to use their alternative future to guide actions themselves, whereas those with a more positive outlook tend to hand over responsibility for change to other parties (e.g. WHO director, the president of the United States). Their lower uncertainty tolerance can be associated with the unique negative futures within this group.

3.3 Caring pioneers

The next group includes participants scoring high on certainty and low on control and comfort. The most frequent processes relate to being, followed by sensing and doing. As compared to other groups, participants display the lowest proportion of being and the highest proportion of sensing in their letters. This indicates a pattern of experiencing cognitive processes and desires in the future as opposed to processes of existence and relational beings in their environment. Regarding the wishes for the future, almost all letters describe a thriving,

recovered environment and heightened awareness for natural resources. Most describe a future where the pandemic is overcome, nonetheless, in two of the letters, uncertainties about their behaviour or fear of contagion persists. Almost all authors address their letters to their children and grandchildren, contributing to pass on their personal and collective experiences to future generations, leading to this group being characterised as caring pioneers. This is in contrast to letters written by the other groups which mainly address their letters to an unspecified audience or themselves. The following example (#81405) is written by a 29-years-old woman from Ecuador:

Dear daughter, it has been several years after we passed the chaotic wave of the covid-19. (...) It was a very hard learning process in all aspects, but we took some lessons. The important thing was to appreciate the best lessons. The children had to receive classes online and from here we could understand the value of a teacher. (...) We learned that society took excessive advantage of nature and we learned that there is always a balance and animals, and natural resources are an important part of the planet just like us. (...) New forms of business also emerged, and everyone had to reinvent themselves. It became clear to us that the human mind is great, but we must always evaluate how far it is correct for society and for the planet. *I have saved the most important lesson, in my opinion, for last. Life is so fragile, and the important thing is to value each person, minute and event in your life. Love with all your heart and thank life for the people who are by your side at any time, family and true friends. Always push yourself but stay humble at heart.*

First, this letter shows how collective awareness could shape the future of society in general and the planet, representing the pioneering characteristic. The DSG analysis classified the highest proportion of cognitive processes, as shown by descriptions of lessons and learning processes. Here, it seems this participant makes meaning of her future by addressing desired changes that emerged through the experience of the crisis. A writing style characterized by a high ability to reflect and respond to the world (i.e. the important thing was to appreciate the

best lessons; we could understand the value of a teacher etc.) might have contributed to more experiences related to sensing. On the other hand, the lowest proportion of being shows in a way that less relational processes are described, which further contributes to a more personal writing style in the letter. In the end, the author describes her personal learning process and meaning making of the pandemic (added in italics). Here, wishes for herself and her daughter as addressee become apparent, contributing to a high proportion of desiderative experiences, and thus, to the sensing domain.

In contrast to this rather reflective character seems to be letter #57998 written by a 57-years-old woman from Ecuador: “Life disruption This pandemic has disrupted everything we knew as our normal life! I imagine from this circumstance a chaotic and fearful world.” This two-line letter shows a more negative future, characterized by feelings of anxiety. Compared to the former group, the author does not engage in making meaning of her imagined future in terms of directing present thoughts or actions. As all other letters display a more optimistic future vision, the group is still characterized by means of optimistic changes and lessons given to future generations.

Overall, it seems that individuals scoring slightly lower on uncertainty tolerance tend to make meaning of the future with experiences of change, learned through the pandemic outbreak. Those are expressed by reflecting upon the experiences of the pandemic, which eventually contribute to a caring and advisory attitude for future generations.

3.4 Hopeful inactivists

Participants in the last group scored high on certainty and control and low on comfort. Individuals show the most frequent experiences related to the being domain followed by sensing and doing. This indicates that participants make meaning of their future by describing processes relating to their own existence, possessions, and relations. Both authors describe a future that seems to be close to the world before the pandemic, with positive changes present in both letters.

Those deal with environmental awareness, a better health care system, as well as the vaccination against the virus, leading to a hopeful future vision. Nonetheless, also societal and environmental issues as experienced before the pandemic are described objectively, without intentions of changing this state, leading to this group being characterised as being inactive in their respective future. This outlook is described by a 39-years-old man from Ecuador (#60337):

(...) [T]he virus ended a few years ago, there are fewer people in the country, but in the city there are many people trying to resume their lives, there are people who still suffer from the loss of their families, there are many children on the streets, asking for money because they lost their parents and family, people still feel fear for another possible infection, but I feel calm working in a field in nature (...). This future has many changes, (...) people have more awareness and respect towards nature and animals, due to the experience caused by the virus, many countries created laws and became aware to avoid new health problems. (...) [T]he world has not changed much, however technology has advanced by giant steps and is what is most dominating the world in part of technology and medical advances, which are faster and more important, corruption in all countries still exists and that is why I will say that it will never end, in the rest of the world it will be very similar to the past except that we will have less green areas, more pollution, many factories and businesses other than a lot of garbage due to technological advances.

The letter starts with describing the negative consequences of the pandemic where the author himself is not affected personally (i.e. but I feel calm working in a field in nature), indicating a certain degree of uninvolved and inactivity regarding the situation. In contrast, positive, pandemic specific changes are described, indicating the author's hopefulness. This outlook is in line with the highest proportion of desiderative processes present in this group, as compared to the other groups. Contrary to those pandemic specific changes, the author also envisions persistent global problems (i.e. pollution, corruption), as they were present before the pandemic, leading to a world that "has not changed much." As compared to the second group, this future

vision is not used to consider changes in personal and/or collective present behaviour. This observation seems to be consistent with this group's lowest proportion of doing experiences, indicating that the authors describe fewer processes of actively changing something. The highest proportion of relational beings might point towards a meaning making process characterised by many descriptions of possessional relations (i.e. there *are* many children, people *have* more awareness, technology *has* advanced, etc.), contributing to a more objective writing style. Surprisingly, no verbal experiences are classified in the letters. As in the example letter, no acts of verbal or nonverbal communication are described, which might further contribute to meaning making in a more inactive attitude.

It seems that individuals slightly higher in uncertainty tolerance are aware of possible negative consequences of the pandemic as well as continuous problems in society as they depict both in their future scenarios. However, they also hope for positive, pandemic specific changes, without showing intentions to bring these changes themselves.

3.5 Differences and Similarities Between the Groups

With the analyses, it becomes apparent that the four groups share similarities in the way they all relate most of their experiences to relational processes, indicating that meaning making seems to be mostly characterized by experiences of possessional processes. Moreover, in the mental domain, the highest distribution relates to desiderative processes, meaning that authors mostly express expectations, wishes and desires for their future. In addition, authors in all groups refer to different forms of changes, represented by a higher proportion of material processes.

Contrary to that, the dualistic preparers show the lowest frequency of mental, specifically, desiderative processes. Thus, people scoring lowest in their uncertainty tolerance seem to express fewer wishes for their future. Moreover, the hopeful inactivists describe a pattern relating most processes to being, whereas the least relate to sensing and doing, as compared to

the other three groups. Thus, it might be that people scoring slightly higher in their uncertainty tolerance make meaning of their future by relating more to their experiences in the outer world and relations present in those experiences.

When looking at the three items of uncertainty tolerance, it seems that those scoring low on *certainty* (i.e. dualistic preparers), tend to describe their future more by experiences relating to their own existence. Contrary, they display less frequent mental experiences, with the lowest frequency relating to desires in their future vision. Hence, it might be that low certainty contributes towards a meaning making pattern of describing happenings as opposed to processes of sensing, particularly expressing wishes for one's future. Next, participants scoring low on *control* (i.e. dualistic preparers, caring pioneers) seem to describe more processes relating to cognitive sensing as opposed to the others. This implied higher reflective capacity about the world might be associated with lower feelings of control over the future. Last, those scoring high on *comfort* (i.e. realistic optimists) seem to describe fewer processes relating to their own existence, whereas more processes relate to doings and happenings. Moreover, here, experiencing emotive processes are most frequently described. It might be that feelings, as well as active doings relate to higher comfort regarding the future.

4. Discussion

The study at hand aimed at identifying meaning making patterns of individuals' desired post-corona future in relation to their uncertainty tolerance. For this purpose, based on differing levels of uncertainty tolerance, meaning making language of four groups was analysed. Those meaning making processes identified with DSG led to four different patterns: realistic optimists, dualistic preparers, caring pioneers, and hopeful inactivists.

The main findings show that people with different levels of uncertainty tolerance seem to make meaning of their future in different ways, indicating that there is a possible association between individuals' meaning making processes and their uncertainty tolerance. Specifically,

people lowest in uncertainty tolerance (i.e. dualistic preparers) tend towards depicting a more negative and destructive future. Compared to that, people with higher uncertainty tolerance (i.e. realistic optimists, caring pioneers, hopeful inactivists) seem to envision a more positive future which is similar to the world experienced before the pandemic. Nonetheless, this indication should be considered with caution, as also those with higher uncertainty tolerance express uncertainties and feelings of anxiety in their post-corona future, whereas people lowest in uncertainty tolerance also show positive outlooks into the future. There further seems to be differences in participants with the lowest and those with higher uncertainty tolerance, as the former expresses the lowest frequency of desiderative processes in their letters. This indicates that people with the lowest uncertainty tolerance might experience fewer wishes for their future as compared to the other groups.

The findings further show that all participants engage more in meaning making processes regarding their abilities to do, maintain or change something, as shown by a higher frequency of material doings in the letters (Halliday, 2013). Moreover, participants seem to imagine their desired future in terms of inner experiences of sensing and reflecting, which is indicated by frequently mentioned mental processes (Halliday, 2013). Those experiences mostly express wantings and wishes for the future as desiderative processes. Next, acts of communication make up a very small portion of meaning making processes and are not represented at all in the hopeful inactivists. This finding seems to be contradictory to Halliday's findings, identifying verbal processes as frequently used in language (Halliday, 2013). This might imply that acts of saying and communicating might not be as important in meaning making of the future, as they are in the present. Instead, it seems that peoples' outlooks on their desired future are characterised more by descriptions of their inner feelings and experiences around them. This can be a consequence of the study's instruction, asking people to describe happenings in their desired futures' surrounding rather than displaying interactions with others. This seems to be

further underlined by the higher frequency of relational processes in all groups, contributing to more representations of possessional processes to describe states of being in their environment.

4.1 Previous research and future implications

As shown before, those with a higher uncertainty tolerance tend to display a more positive outlook on a world that seems to be similar to the one experienced before the pandemic. However, there are also exceptions of persistent uncertainties, as well as utopic visions that are different from the world before. This finding is partly in line with a study conducted by Hänninen and Sools (2022). The researchers used data from the larger study to investigate narratives of the future during the Covid-19 pandemic. They found five different story types which were classified according to negative or positive endings and (dis)continuity between the present and the desired future. In their study, most participants showed positive, continuous endings. As also in the current study, most participants display a positive outlook, this finding is in line with the study. In contrast, many envision a future that is different than before, thus, showing discontinuity between present and future, which is not entirely consistent with the results by Hänninen and Sools (2022).

This more positive, optimistic outlook on their futures might be explained by the so-called optimistic bias, stating that people expect more positive events to occur in their future (Sharot, 2011). Nonetheless, this assumption would contradict the persistent uncertainties as well as some entirely negative future visions displayed in those with the lowest uncertainty tolerance. Thus, this assumption should be investigated and confirmed with further research.

As opposed to those with higher uncertainty tolerance, people scoring lowest on uncertainty tolerance tend to envision a more negative future after corona. This finding seems to be in line with the group of *persistent problems* in the study by Hänninen and Sools (2022), displaying negative endings. However, in the current study, participants with the lowest uncertainty tolerance also envision positive futures, which are not described by those in the persistent

problems group. As opposed to the findings of the study, the group of dualistic preparers described more discontinuity between present and future in their letters.

Based on these findings, it seems that people with the lowest uncertainty tolerance tend to envision a more destructive future as compared to higher uncertainty tolerance. This might be due to people with lower uncertainty tolerance tending to interpret unforeseen events as more negative (Dugas et al., 2005; Rosen, Ivanova, & Knäuper, 2014), which might then also show in their future visions. However, as there are also positive futures imagined by those with low uncertainty tolerance, these assumptions should be investigated further. Moreover, when considering that the instructions of the study asked participants to describe a *preferred* future, it seems contradictory that they would desire a negative post-corona future for themselves and others. This is also reasoned by Hänninen and Sools (2022) with the group of persistent problems. The researchers argue that this outlook has a “cautionary function” (p. 12). This seems to be consistent with the studies’ findings, as most destructive future outlooks also include a personal message of changing present behaviour to prevent that future from occurring. This further underlines the general function of a future narrative to guide present thought and behaviour (Inayatullah, & Ivana, 2015; Triliva, Sools, A & Philippas, 2020). Here, it would be worthwhile to further investigate a possible association between low uncertainty tolerance, future narratives, and their warning function. It might also be that some participants did not exactly follow the instruction, resulting in a desired negative future. Nonetheless, this seems to be unlikely as not all participants with low uncertainty tolerance display a merely destructive future and those with higher uncertainty tolerance mainly wish for a positive future. Still, it cannot be readily concluded that low uncertainty tolerance automatically leads to people envisioning a more negative future. However, the possible association between low uncertainty tolerance and the tendency of a more negative future vision should be investigated and confirmed with further research.

Regarding participants' differing levels of uncertainty tolerance, it can be valuable to consider tailored interventions which might help to guide them through uncertain times. As shown by research, individuals can benefit from creative writing exercises to reduce uncertainties, by reflecting upon experiences and possible alternatives (Uprichard, 2011; Vaz, 2021). Moreover, a study among medical students showed that subsequent group discussions about experiences with the pandemic seemed to help them coping with internal and external stressors (Vaz, 2021). In this way, it can be argued that writing and exchanging future narratives might help people regardless of their uncertainty tolerance to reflect upon alternative future scenarios. This is also suggested by Lombardo (2006; as cited by Sools & Hein Mooren, 2012), stating that the capacity to imagine alternative futures can be trained and subsequently increase mental flexibility and resilience to adverse events.

This attempt could be especially beneficial for individuals low in uncertainty tolerance. By increasing their capacity to engage in alternative, more positive future visions, it might be that optimistic thinking could be strengthened. As studies show, optimism can act as a personal resource on which people can draw in uncertain times (Hou et al., 2021). As such, higher optimism in narratives is associated with fewer covid-related negative affect and a higher sense of wellbeing (Giusti et al., 2020; Hou et al., 2021). Thus, it can be that a more optimistic style of meaning making in future narratives might be associated with adaptation to adverse events resulting in higher wellbeing.

For those with higher uncertainty tolerance, it would be beneficial to engage in behaviour change to realise their desired futures. However, as a study by Oettingen and Reininger (2016) proposes, imagining a merely positive desired future can impair people's effort to arrive at those future scenarios. Instead, the researchers suggest that mental contrasting can help people to realize their future. This process relates to imagining a desired future as well as possible obstacles, aiming at giving a direction while engaging in seeking solutions to overcome obstacles (Oettingen & Reininger, 2016). Thus, it might be beneficial for those with higher

uncertainty tolerance to engage in active workshops, for instance, to practice mental contrasting and enhance the probability to act toward their desired future, whilst taking possible difficulties into account.

4.2 Considerations for future research

To ensure generalizability of the findings more research should be invested in the field of meaning making regarding the future. In possible follow-up studies (see Appendix A3), the continuation of the DSG method would be important to consider. The application of the DSG algorithm in this study represents a strength, as this method helps to transform large amounts of written data into variables. This is crucial regarding analysis and interpretation of meaning making patterns in narratives of the future, and thus should be invested further in the future.

It should be further considered how uncertainty tolerance in the current study was operationalized. As explained before, the larger study assessed individuals' desired *future attitudes* by means of certainty, control and comfort. For the study at hand, those items were used to operationalize uncertainty tolerance, however, it might be that they measured more than uncertainty tolerance. As the items were formulated more openly, they left room for personal interpretation. For instance, the concept of control is not further specified, thus, individuals could define control of their desired future for themselves, relating them to different areas of their personal lives or the world in general.

However, when looking at the items of the Intolerance of Uncertainty Scale-12 (IUS-12) (Carleton, Norton, & Asmundson, 2007), it shows that the items used in this study relate to the measure of intolerance of uncertainty. For instance, item five of the IUS-12 states *I always want to know what the future has in store for me*. Compared to this, participants' comfort attitude in this study was measured with the statement *I feel comfortable not knowing what the future will hold*. It seems that the two items measure a similar concept regarding individuals' comfortableness of future events. Nonetheless, it can also be that outcomes of the two items

would vary according to the different wording. It can be reasoned whether the results of the current study would be similar when measuring uncertainty tolerance differently (i.e. with the IUS-12 or comparable questionnaires). Thus, not only wording but also the focus of the statements (uncertainty tolerance vs. *intolerance*), as well as the length of the two measurement instruments (three vs. twelve items) could influence study outcomes accordingly.

4.3 Concluding statement

This study made an important contribution to understanding how language is used to make meaning in uncertain times in relation to individual variation in uncertainty tolerance. The letters show how individual and collective experiences are made within the unique framework of a global pandemic and used further to make meaning for possible future scenarios. As shown, reflective and creative writing exercises might help people to re-evaluate past and present experiences regarding their desired future. This can consequently benefit a wider population, by tailoring interventions to peoples' needs regarding their capacity to reflect on the future and tolerate associated uncertainties. Considering this, further comparisons of meaning making processes of different crises (i.e. global warming) could result in meaningful insights and practical implications.

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Appendix A

The larger study

A1 Informed consent

Will the Future Never be the Same? Letters from a Post-Corona Future

Welcome to this research study!

How do we envision our future lives and the future world once the current coronavirus outbreak is over? How do our present actions and decisions ensure that the new world to come will be a world we would like to be living in? Thanks to your contribution, this study will explore these questions. For this study, you will be asked to:

1. Write a letter from the viewpoint of the future back to the present. You will receive more detailed information about how to write this the letter via a time machine exercise.
2. Answer 10 questions about yourself. Your responses will be kept completely confidential and processed anonymously. The study should take you around 20-30 minutes to complete, but feel free to take as long as you need. Your participation in this research is voluntary. You have the right to withdraw at any point from the study. The project leaders of this study are located at the University of Twente in the Netherlands and can be contacted at:

Anneke Sools: a.m.sools@utwente.nl

Yashar Saghai: y.saghai@utwente.nl

By clicking the button below, you acknowledge:

Your participation in the study is voluntary. You are at least 16 years of age. You are aware that you may choose to terminate your participation at any time while taking this survey without giving a reason.

I consent and begin the study.

I do not consent, I do not wish to participate.

A2 Letters from the Future

Instructions: How to write your letter from the future

In this exercise you will imagine traveling to the future with a time machine. You will travel to a moment in time when the current coronavirus outbreak had ended. It may be the time just after the dust has settled or a longer time ahead when the longer-term impact of the corona outbreak has become clear. Once arrived in the future, you will write a letter about that future and send it back to the present.

The following suggestions give you an idea about what your own letter from the future might look like. Feel free to use these instructions as a basis for writing the letter your own way. Don't worry about spelling, sentence structure, or grammar but simply write anything that comes to your mind. There is no right or wrong answer.

Keep in mind that it is a letter that is written backwards from the future to the present, so you imagine the future situation as if it is already realized. Feel free to use your full imagination:

Remember that it is about a future which has not occurred yet. Consider it an opportunity to think about possibilities to transform your own life and the world around you for the better.

Ready to travel to the future? Then start writing your letter with the following guidelines.

Imagine the following points as vividly as possible, giving a detailed description so that others reading your letter will be able to see the future you imagined as if they were watching a movie.

(1) How far into the future and where did you travel?

Imagine traveling with a time machine to the future. Once arrived, you step out of the time machine and start living in this new time. Do you have a sense of where and when this future will take place? This time may be a week, a month, half a year, one full year, many years, decades or even centuries or millennia ahead of us.

(2) Describe your future world

Now that you're familiar with your future world, can you describe it? Look at your immediate surroundings. What do you see, feel, hear and smell? Do you for example see nature, buildings,

people, technology? Are you in a city or in the countryside? Are you in your own country or elsewhere? Are you inside a building or outside? Is it noisy or quiet? Now turn to look at your future world at large (community, society, humanity, the planet). Do you notice anything about how society or nature are functioning now that the corona outbreak is over (such as, social relations, the environment, schools, hospitals, employment, businesses, industries, transportation, technology, the concrete effects of laws, regulations, policies)? What positive changes do you notice in what matters to you? What has disappeared that you're glad has not returned?

(3) Describe yourself in the future

Consider now yourself. What are you feeling, thinking, and doing? If there are other people, what can you tell about them? What is happening in your future life? How are you dealing with opportunities and setbacks on a specific day, moment or event?

(4) Path towards the future

Now think about the path that led to the future you just described. How did this future come into being, who or what has contributed to making those changes possible? How do you look back on this path to the future?

(5) Message to the present

You decide to whom you want to write the letter and give a message to this person in the present. This could for example be yourself in the present, another person, group or organization (for example, your child or grandchild, friends, the next generation, the minister of Health etc.).

Thank you for your letter! To complete the survey, please answer the following 10 questions.

A3 Questionnaire

Q1 Can you tell us your story of how the corona outbreak has affected your life? Please feel free to write whatever comes to mind, long or short.

Q2 Indicate on a scale from 1 (very fearful) to 5 (very hopeful) your present attitude towards the future

	Very fearful	Fearful	Neutral	Hopeful	Very hopeful
My outlook on my personal future life is	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My outlook on the future of the country where I reside is	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My outlook on the future of humanity is	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My outlook on the future of the planet is	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q3 Slide the bar from left to right to describe your present attitude towards the future

Not at all		Sometimes		All the time
0	25	50	75	100

I feel certain about the future

I feel I have control over the future

I feel comfortable not knowing what the future will hold

Demographic Information

Q4 What is your age?

Q5 What is your gender?

Female

Male

Other

I prefer not to answer

Q6 In which country do you currently reside?

Q7 What is the highest level of school you have completed or the higher degree you have received?

Less than high school degree

High school graduate (high school diploma or equivalent, including GED)

Some college but no degree

Associate degree (2-years)

Bachelor's degree

Master's degree

Doctoral degree

Professional degree (JD, MD)

Other

I prefer not to answer

Q8 Which statement best describes your employment status just before the corona outbreak started?

Working (paid employee)

Working (self-employed)

Not working (looking for work)

Not working (retired)

Not working (disabled)

Not working (other)

I prefer not to answer

Q9 How did your employment situation or income change because of the corona outbreak?

No change

Loss of employment

Cuts to employment or income

Change of position or field of employment

No immediate change, but cuts to employment or income in the coming months is likely

Increased hours and/or income

I prefer not to answer

Q10 What is your household situation?

Single

Together with partner

Together with partner and children

Together with children no partner

Other

I prefer not to answer

Debriefing

Inspire others and share your story

Thank you for filling out the questionnaire! We have two more options for you before you leave. Do not forget to complete and submit your contribution to this study by clicking >> below.

1. Share your story

Make your story available to others by giving permission to publish your Letter from the Future on the public website of the project. We may slightly edit your letter to remove any identifying information to fully anonymize it. Please note that it may take a while to make a selection of letters for the website.

2. Join our follow-up study

We are looking for volunteers who would like to participate in a longer study where you will be asked to reflect on how your outlook on the future develops as the outbreak evolves. We are currently looking for funds so that we can give long-term participants some compensation for their efforts.

Please fill in your e-mail address in case you agree to be contacted for a follow-up study. The e-mail address will only be used for this purpose.