



# DO NOT LOCK DOWN YOUR HOPES:

A qualitative analysis on how Futures Consciousness relates to how  
Hopeful Young People are regarding their Post-Corona Lives

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## **Abstract**

Over the last one and a half years, the global Coronavirus Pandemic (COVID-19) took over the everyday lives of people across the world. The pandemic has its negative consequences: fear, isolation, and death are among the worst results the Coronavirus brings about. However, the feeling of hope seems to be an encouraging factor when it comes to the future of a person. Therefore, this research paper aimed at studying the relation between *Futures Consciousness* (i.e., the ability to foresee, apprehend, and prepare for the future; see Lalot et al., 2019) and the hope of younger people regarding their post-Corona lives. Futures Consciousness was captured with the help of five dimensions namely: Time Perspective, Agency Beliefs, Openness to Alternatives, Systems Perception, and Concern for Others. The analysis was based on already existing data from a study conducted at the beginning of the pandemic in 2020, in which the *Letters from the Future* method was used to gather insights into the perceptions of individuals from a variety of countries. The letters were examined qualitatively for how the five dimensions of *Futures Consciousness* occurred in high and low hope participants. The findings show that a higher level of hope in younger people towards their post-Corona lives is related to higher futures consciousness, specifically for the dimensions Agency Beliefs, Systems Perceptions, and Concern for Others. To conclude, it can be said that the findings of the presented study confirm the initial expectations from the beginning of the research that the capacity to think about one's own desirable future is related to hope. However, future research is recommended to validate the outcomes and to test the reliability and validity of the presented study and its findings.

## **Keywords**

Hope; futures consciousness; future; corona pandemic; young people; letters from the future

## 1. Introduction

“Hope is being able to see that there is light despite all of the darkness.” – Desmond Tutu

### 1.1. Background

The current Corona pandemic has already influenced people’s lives all over the world for over a year and asked them to adapt and restrict their lives to the necessary regulations of the nations. The global Corona Virus changed the lives of almost all societies all over the world. An update from the 11th of May 2021 of the World Health Organization (WHO) indicated 158.651.638 confirmed cases of diseased people, 3.299.764 people who died of the health consequences of the virus, and 223 countries, areas, or territories were counted with cases all over the world (World Health Organization, 2021, *WHO Coronavirus (COVID-19) Dashboard*. <https://www.who.int/emergencies/diseases/novel-coronavirus-2019>). The pandemic has socioeconomic and wide impacts on the everyday lives of younger people. Several studies have revealed that the pandemic has negative consequences on the mental and physical wellbeing of younger people as they experience increased levels of stress and loneliness and a decrease in mood (Kamphuis, 2020; Struijs, 2020). In Greece, for example, many younger people suffer from depression and anxiety related to the pandemic. According to epidemiological studies, similar levels of depression and anxiety were experienced during the financial crisis in 2009 in which the overall mental health of people suffered from the extraordinary situation (Skapinakis et al., 2020). Furthermore, the lack of social contacts and interactions, again, has an impact on the development of younger people leading to feelings of uncertainty, confusion of existence, and precariousness (Triliva et al., 2020; Dafermos et al., 2017; Sools et al., 2017). When thinking about the future after the Coronavirus, fear, psychological distress, and uncertainty play a big role (Satici, Gocet-Tekin, Deniz, & Satici, 2020).

Besides the negative impacts of Corona on the future, it is worthwhile to also expect a more positive, hopeful future when the pandemic is over. According to Costanza and Kubiszewski (2014), a distinction needs to be made between possible futures and desired futures. The possible future refers to everything probable with regards to the future and a desirable future is one that a person wants and wishes for, and which represents a person's vision concerning the future (Nunn,1996). Concerning the time after the Corona pandemic has ended, different questions arise: Do we generally want to go back to the way it was or are there crisis-induced changes we would rather maintain? What would a hoped-for future after Corona look like? Based on these kinds of questions, a global leitmotiv emerged in the early stages of the pandemic: "Will the world never be the same again?" This leitmotiv assumes that Corona impacts the future of the world and people all over the world. With potential consequences in mind, the present study aims at understanding the hope of younger people regarding their post-Corona lives and how their hope relates to the capacity of thinking about the desired future. It is relevant to think about this relationship as hope seems to be important in uncertain times and it can brace people for the future. The findings of the present study will be employed in research by getting insights into and understanding of how to help young people to stay hopeful by counteracting long-term pandemic related consequences like isolation, depression, anxiety, and stress.

## **1.2. Hope**

Taking the Corona Pandemic as an example and in the light of recent events, interesting questions to pose are: What happens to the hope of people when they find themselves in extraordinary situations? Does the hope of people regarding their futures get interrupted in crises? As hope plays an important role in the process of thinking about the future, and because the whole of humanity is currently concerned with this issue, hope is an important

construct of the research presented here. Hope can be defined in different ways. Scioli et al. (1997) and Scioli, Ricci, and Nyugen (2011) define hope as a forward-looking and emotive feeling which encourages a person to act in the desired direction. Hope is not inherited but rather based on a social, biological, and psychological interplay. In their study, Ginevra et al. (2016) found that hope relates to life satisfaction. It is supposed to enhance the overall quality of life and it is said to have positive effects on a variety of domains of a person's life (Alarcon et al., 2013; Nsamenan and Hirsch, 2015). Furthermore, hope suppresses pessimism and a person who experiences hope for the future is less likely to suffer from psychopathological symptoms (Scioli et al., 2011; Nsamenang and Hirsch, 2015; Arnau et al., 2007). Another definition proposes that hope can be divided into two different dimensions. The first one is concerned with hopes for an event to take place in the future and therefore is called the cognitive dimension. The affective dimension contains the expectation of a positive event with pleasant outcomes to occur in the future (Staats, 1989). According to Nunn (1996), hope is a "desire [that] impels to the attainment or possession of something. It is a goal-oriented, positive emotion directed towards the future and experiences as wanting, striving, longing, yearning, or even craving" (p. 228). Summarizing the positive aspects of hope, the above-mentioned definitions point out that hope reveals a positive view of a person regarding their future which, again, generates effective behavior.

According to Nunn, hope is a positive attitude towards possible future perspectives (1996). Hope plays a big role in general, but it is of particular importance in the lives of younger people, which is why for the present study, it is especially interesting to understand the importance of hope in younger people. Adolescents and young adults are in the focus of the subject matter at hand because this age is significant for building an own identity, which is a fundamental process in life. According to developmental psychologist Erik H. Erikson, this developmental phase is foundational for their consequential life and the evolvement of their

own identity and personality. Especially young people aged between 12 and 18 years find themselves in a state of Identity versus Role Confusion (Piaget, 1965), which is one of eight stages of Erikson's psychosocial development stages. During this time in life, adolescents try to integrate their already existing identity and, at the same time, want to be able to satisfy the demands and requirements of society, which could lead to a confusion of roles. Whitbourne (1986a, 1986b) and Josselson (1987) added, that the process of developing and changing an identity continues beyond the 18<sup>th</sup> year of a person's life, which is why this study also focuses on people between 18 and 27 years. This age group is particularly interesting to focus on, because it is expected that the process of building an identity, which is a fundamental one in life, might be interrupted or at least affected by catastrophic events like the Corona Pandemic which might influence the hope of young people regarding their post-Corona lives. This extraordinary situation is expected to have an impact on the development of young people, who fight challenges that are beyond the everyday life challenges of adolescents. This expectation is based on the idea that young people are unable to build an occupational identity if role confusion takes place in this meaningful time of life which again causes interruptions in the overall development of identity (Piaget, 1965). Because the impact of extraordinary situations on the development of identities should not be underestimated, this age group is chosen to find out how hope regarding the post-Corona future is related to the capacity of thinking about the desired future. It is aimed at contributing to the healthy identity building of young people.

A study conducted by Bishop and Willis (2014) examined the hope of young people relating to their future and found that younger people are able and feel the desire to look ahead in their lives rather than only concentrate on the present moment. In times of uncertainty, like the Corona pandemic, hope is an important alignment to follow one's goals and aspirations when important aspects of life are missing. Furthermore, hope gives young

people confidence and strength which is needed to deal with extraordinary, difficult situations or events in life. The hope of young people serves as a motivational and committing factor that is necessary to aim at longtime goals in the distant future. Moreover, Bishop and Willis (2014) found that hope enables young people to be open and creative searching for alternatives and solutions for seemingly desperate circumstances. Overall, the hope of young people can enhance the general quality of their day-to-day lives (Bishop & Willis, 2014). Being conscious about the future is vital during the Corona pandemic because in times of uncertainty hope for a desirable future might decline. Thinking about one's own future helps to maintain a hopeful attitude towards one's future. To understand how the hope of younger people relates to the capacity of thinking about the desired future and to receive an impression of how aware younger people are about their post-Corona lives, the present study is based on the *Model of Futures Consciousness*.

### **1.3. Futures Consciousness**

From the above-discussed information, it gets apparent that hope plays an important role in the awareness of a person towards the future. To understand how younger people think about their post-Corona future, the *Future Consciousness model* is introduced as a theoretical framework for the study at hand. This background is chosen because hope has a possible and partial link to *Futures Consciousness* (FC) as discussed below. Futures Consciousness refers to “the capacity that a person has for understanding, anticipating, and preparing for the future” (Lalot et al., 2019, p.2). FC can be understood as the perception of the future, which varies from individual to individual. Expectations of the future and the openness to react upon and live with different possible future actions are important properties of FC. FC is “being conscious of what is possible, probable, and desirable in the future” (Johan Galtung, quoted in Lombardo, 2007, p. 2). Anita Rubin defines the construct as “[an] active and action-oriented

perspective on the future, present and past and the relations between these. [It is] an internalized form of the development of thinking [and] a specific effort to form a conception about the meanings and consequences of issues and our daily actions.” (2002, p. 906).

The above-listed definitions comprise the idea that FC is the understanding of a possible and hopefully occurring future. The research conducted on the meaning of FC enabled the emergence of the conceptual *Model of Futures Consciousness* (Ahvenharju, Minkkinen, Lalot, 2018). In the presented research paper, the *Model of Futures Consciousness* is used to examine how FC relates to how hopeful younger people are about their post-Corona lives. As FC is also about the desirable future (Lombardo, 2007), hope seems to have a possible and partial link to the capacity of thinking about the desired future. The *Model of Futures Consciousness* encompasses five different domains named: time perspective, agency beliefs, openness to alternatives, systems perception, and concern for others. Those dimensions help in further researching the construct of *Futures Consciousness* and especially grasp emotional, motivational, and cognitive individual patterns (Ahvenharju, Minkkinen, Lalot, 2018). Below, all five dimensions are briefly described as a theoretical framework for the following research analysis.

*Time perspective* (TP) is the ability to think ahead into the future of one’s own life. Being conscious about the future means having a sense of passing time and knowing that there is a following day and a future (Ahvenharju et al., 2018). Therefore, time perspective is one fundamental dimension of FC. It was shown that there are individual verities in the perception of time and time perspective (Zimbardo & Boyd, 1999).

*Agency beliefs* (AB) encompasses the idea that the long-term future is a construct that is built through decisions and behaviors of so-called “agents”. This view comprises that the future does not default but is shaped individually by each person who is in control of their

future (Ahvenharju et al., 2018). Different viewpoints were identified that help being a good agent for one's future, as personal optimism (Scheier & Carver, 1985), general self-efficacy (Bandura, 1982), and the locus of control (Rotter, 1966).

*Openness to alternatives* (OA) is the outlook that there is a variety of futures possible and not only one default future exists but rather different ways in which a future might develop (Lalot et al., 2019). For FC openness to alternatives is necessary to be able to accept and embrace the unpredictable and unknown future and to be open to whatever the future brings. Being open to alternatives includes enduring the unknown about the future, questioning and evaluating events that happen, and visualize possible future events and potential alternatives to these events (Ahvenharju et al., 2018). OA is closely connected to the openness to experiences (e.g., Costa & McCrae, 1992; Lee & Ashton, 2004), the ability to think critically (Facione, Facione, & Sanchez, 1994; Sosu, 2013), and to the allowance of the uncertain (Carleton, Norton, & Asmundson, 2007).

*Systems perception* (SP) includes the individual's conception and esteem for the culture, society, and environment a person belongs to (Ahvenharju et al., 2018). This domain of FC is important because belonging to different systems raises and promotes helpful behavioral patterns that contribute positively to a global future. SP is closely connected to a systematic thinking pattern (Lezak & Thibadeau, 2016), integral thinking (Nisbett, Peng, Choi, & Norenzayan, 2001), the intermeshing with other people (Markus & Kitayama, 1991), and other environmental factors (St. John & MacDonald, 2007).

*Concern for others* (CO) is the idea that people do not only think about their future but rather about the future of other people, the society, and generations of the future, which is another characteristic of being futures conscious (Ahvenharju et al., 2018). Closely connected to CO are empathy (Decety & Jackson, 2004), the ability to take another person's point of

view (Leith & Baumeister, 1998), and the relatedness with other people (McFarland, Webb, & Brown, 2012).

#### **1.4. The Post-Corona Future**

Assembling the information already discussed, the question of a desirable post-Corona future seems to spark the use of people's capacity to think about the desired future (i.e., Futures Consciousness). To better understand how younger people think about their desirable post-Corona futures, the *Letters from the Future* (Sools & Mooren, 2012; Sools, Tromp & Mooren, 2015; Sools, 2020) method is used. The *Letters from the Future* method was originally invented to gain insights into the beliefs of people regarding their futures. Participants were asked to write a brief narrative about their visions and expectations of their lives and the future world when the Coronavirus will finally be defeated. With the aim of the *Letters from the Future* narrative method, a study conducted by Sools and Saghai (2020) asked participants to write about what their desirable futures look like when the current Corona pandemic is over. This method and the data collected by Sools and Saghai (2020) are important building blocks of the presented study which serves as a follow-up study in which prior qualitative methodologies are used to investigate the capacity which young people use to think about their desired post-Corona futures.

#### **1.5. New research**

Based on already existing studies, there seems to be a partial relation between hope and the ability to think about the future. However, the relation between the holistic interrelated model of *Futures Consciousness* and the hope of younger people towards their post-Corona lives has not yet been researched, which is why the purpose of this study is to fill this gap in research. Therefore, the study aims to investigate this relationship by finding out how the capacity to

think about the desired future in the context of a desirable post-pandemic future is used and how it relates to hope. Furthermore, the goal of the presented study is to validate the *Letters from the Future* methodology by examining how the capacity to think about the desired future is related to hope. A culturally diverse sample adds to the generalizability of findings. The presented study anticipates positive contribution to the field of future applied research by raising attention and gaining insights into the visions and expectations of younger people on their futures in critical times like the one we are currently facing with the global Corona pandemic. The study is relevant to be conducted as hope seems to be an important and promising factor when it comes to the desired future of a person which is why the findings should contribute to the health field in a way that hope is examined in a new context, which gives this research project uniqueness. It is expected that younger people with higher hope for both, their personal and collective future find it easier imagining a desirable future. Hence, comparing low- and high-hope individuals engaging in the same task of imagining a desirable future should yield differences in how they use the capacity to think about their desirable futures in response to this task. The consequential research question to be answered in this paper is the following:

How does *Futures Consciousness* relate to how hopeful younger people are regarding their post-Corona lives?

## 2. Methods

### 2.1. The Original Study

The study presented here is based on an already existing study, whose data were partly used for the research at hand. The original study titled ‘Will the World Ever Be the Same Again? Letters from a Post-Corona Future’ was led by Anneke Sools (Department of Psychology, Health, and Technology, Story Lab) and Yashar Saghai (Department of Philosophy; the Millennium Project: Global Futures Studies and Research) from the University of Twente. The initial study consists of a qualitative approach composed of a *Letters from the Future* method (Sools & Mooren, 2012; Sools, Tromp & Mooren, 2015; Sools, 2020) and a questionnaire consisting of ten questions aimed at finding images and pathways of people towards their desired personal and societal post-Corona futures. To allow for a diverse and large contribution of people from different countries this study was made available in nine languages (Dutch, English, Estonian, Finnish, French, German, Greek, Italian, Spanish), and the data of the research study were collected online from April to July 2020 (see <https://www.utwente.nl/en/bms/ehealth/research/story-lab/post-corona%20Futures/> for more information about the original study).

All participants satisfied the inclusion criteria of having sufficient cognitive and linguistic skills to be able to envision the future and compose it in a letter. Also, participants for the study needed to be aged 15 or older. Potential participants had to be citizens of countries belonging to Europe, North America, Asia, or the Middle East, as these countries are representatives of the countries concerned with the effects and consequences of the current Coronavirus outbreak. A total of 237 people completed the survey, of which 207 gave their consent to participate (87%). Out of the 207 participants, there were approximately twice as

many women as men (68%). The age range of the original study was between 15 and 81. However, younger people represented the highest contribution to the study.

The purposive sampling method was used for the original study whereby individuals were recruited by asking them to voluntarily take part in the study. To ensure the gathering of data from a variety of individuals from different countries, the link to the Qualtrics page, an online survey platform where the study was made available, was publicized on personal and professional networks and mailing lists, LinkedIn, Twitter, and other social media pages. Participants were informed about the aim, activities, burdens, risks, and confidentiality of the study using the informed consent form they needed to read and sign beforehand to give their consent. Ethical approval was given by the Ethics Committee of the Faculty of Behavioral Sciences at the University of Twente with the ethical request number 200500. For the possibility of further questions or comments from the sides of the attendees, the contact details of the two executing researchers were provided with the informed consent form. Personal data of the participants were anonymized before they were stored and analyzed with pseudonymization (e.g., by key-coding (assigning numbers) or using pseudonyms). If the data included personal information that would enable the identification of the attendee, the information was deleted to ensure full anonymization. The data of the original study was collected with the help of 1) the *Letters from the Future* technique (Sools, 2020) and 2) a questionnaire (see appendix). The brief survey included a 4-item hopefulness scale, a 3-item certainty scale, and a task that asked participants to tell their stories of how the Corona outbreak has affected their lives. The scales aimed at covering the attendees' attitude towards their post-Corona future.

## **2.2. The Presented Study**

The presented study aims at answering the research question *How does Futures Consciousness relate to how hopeful younger people are regarding their post-Corona lives?* The study at hand serves as a follow-up study of the original study, in which prior qualitative methodology was used for investigating *Futures Consciousness*. It aims at validating this methodology by examining how FC relates to hope.

### **2.2.1. Selection Criteria**

The study at hand is secondary data because the collection of information was not initially realized for this research. The non-probability convenience sampling method was used to draw a sample from the original data, in which participants who satisfied the inclusion criteria for the current study were included (Sedgwick, 2013). Four of ten questions of the questionnaire in the survey gave information about the participant's levels of hopefulness, distinguished between Personal Future (PF) and Collective Future (CF). The four hope-related items of the original study were used to indicate how hopeful younger people are regarding their post-Corona futures and to allocate them to one of four groups.

Participants belonged to group one (n=9) if they had a high level of hope ('hopeful' or 'very hopeful') for Personal Future (PF) and low hope ('fearful' or 'very fearful') for Collective Future (CF). Group two (n=11) was defined by high levels of hope for both PF and CF ('hopeful' or 'very hopeful'). Participants were allocated to group three (n=6) if they showed low hope for both, PF and CF ('fearful' or 'very fearful'). Finally, group four (n=1) is composed of attendees' low on hope for PF ('fearful' or 'very fearful') and high on hope for CF ('hopeful' or 'very hopeful'). CF is indicated as high ('hopeful' or 'very hopeful') or low ('fearful' or 'very fearful') if either all three CF-related questions prove the specific extreme or two of three CF-related questions proved the specific extreme and the third question

indicated ‘neutral’. For example, a person was classified as having a high level of CF hope if he/she answered two of the CF questions with ‘hopeful’ or ‘very hopeful’ and the third question with either ‘hopeful’, ‘very hopeful’ or ‘neutral’. Table 1 offers an overview of the different groups and the corresponding levels of hope.

Table 1

*Hope distinguished into four groups (N=27)*

	<i>High Hope Personal Future</i>	<i>Low Hope Personal Future</i>
<i>High Hope Collective Future</i>	Group 2 (n=11)	Group 4 (n=1)
<i>Low Hope Collective Future</i>	Group 1 (n=9)	Group 3 (n=6)

### **2.2.2. Participants**

Based on the selection criteria, a sample of 27 participants was selected from the original study for the study at hand. In addition to the inclusion criteria of the original study for the present research, participants were selected based on their levels of hopefulness, determined through the hope-related questions of the questionnaire. Only participants with high (hopeful, very hopeful) or low (fearful, very fearful) scores for hope were selected for the current study. Moreover, only attendees aged between 15 and 27 were chosen from the bigger sample, because these participants represent late adolescence and early adulthood, which are of particular interest for the study, as these people undergo fundamental developmental processes of life (Piaget, 1965). Participants were allocated to one of four groups, depending on their respective patterns of hopefulness. The study did not focus on the distinct patterns in demographics of high- and low hope young people. However, for a better understanding of the participants’ characteristics and to better be able to comprehend and identify with these,

an insight into the demographical patterns is given. Overall, the average age of the presented study is 22.18 years and approximately three-quarters of the participants are female. In addition, it is recognizable that 37.03% of the whole sample of the current research are Greek and 62.96% are between 22 and 27 years old. Below, the exact assignment is described. Table 2 reveals the characteristics of the participants per group.

Table 2

*Descriptive statistics of the participants per group (N=27)*

<i>Group</i>	<i>Percentage</i>	<i>Item</i>	<i>Factor</i>	<i>Frequency</i>	<i>%</i>
1 (N=9)	33.33%	Gender	Male	2	22.22
			Female	7	77.78
		Age	16 to 21	4	44.44
			22 to 27	5	55.56
		Nationality	Dutch	2	22.22
			Greek	4	44.44
			German	-	-
			Spanish	1	11.11
			Ecuadorean	1	11.11
			Finnish	-	-
2 (N=11)	40.74%	Gender	Male	2	18.18
			Female	9	81.82
		Age	16 to 21	4	36.36
			22 to 27	7	63.64
		Nationality	Dutch	5	45.45
			Greek	2	18.18
			German	2	18.18
			Spanish	1	9.09
			Ecuadorean	-	-

			Finnish	1	9.09
			Italy	-	-
3 (N=6)	22.22%	Gender	Male	1	16.67
			Female	5	83.33
		Age	16 to 21	1	16.67
			22 to 27	5	83.33
		Nationality	Dutch	1	16.67
			Greek	4	66.67
			German	-	-
			Spanish	1	16.67
			Ecuadorean	-	-
			Finnish	-	-
			Italy	-	-
4 (N=1)	3.7%	Gender	Male	1	100
			Female	-	-
		Age	16 to 21	1	100
			22 to 27	-	-
		Nationality	Dutch	1	100
			Greek	-	-
			German	-	-
			Spanish	-	-
			Ecuadorean	-	-
			Finnish	-	-
			Italy	-	-

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### 2.2.3. Materials

#### 2.2.3.1. Letters from the Future instrument

*The Letters from the Future* method (Sools & Mooren, 2012; Sools, Tromp & Mooren, 2015; Sools, 2020) was used to get insights into different topics concerning their post-Corona

futures young people who originated from different countries think and write about. The aim was to identify five dimensions of FC in each letter. The task was to imagine traveling with a time machine to a time when the current Coronavirus outbreak has ended and sending a letter from the future to oneself in the present about the expected future. The letters served as a navigating thought which was seen as a unique chance for young people to make sense of the present and the future by writing a letter. The aim was to apply the *Letter from the Future* method to the Corona crisis because it was seen as a good chance for people to imagine their post-Corona lives which was supposed to make participants resilient to possible challenges they may have to face during the pandemic. Furthermore, writing a letter from the future was a great chance to use skills to think about ways to control the future and to ask oneself whether one is looking forward to the future or is rather living in the present not wanting to picture the life after Corona. Suggestions and instructions for writing a *Letter from the Future* are represented in Box 1. The main themes which participants were asked to include in their letters were the following ones: *How far into the future and where did you travel; Describe your future world; Describe yourself in the future; Path towards the future and Message to the present*. The collected letters have an average of 491 words (SD=413). Writing a letter was estimated to take approximately 20-30 minutes.

In the context of the present research, the *Letters from the Future* method was helpful to identify the participants' overall understanding of their hoped-for future and define different domains. Those insights gave rise to different domains of *Futures Consciousness*. Finally, the content of the letters was used to investigate the relation between *Futures Consciousness* and the extent to which young people are hopeful about their post-Corona lives. Since the pandemic and its psychosocial, ecological, and economic consequences affect people all over the world, these letters were collected cross-culturally which allowed an

insight into diverse socio-cultural and political contexts and how participants make sense of the pandemic regarding their future.

Box 1

*Instructions for writing a letter from the future. © Storylab, University of Twente, The Netherlands*

### **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 has 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 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.).

### ***2.2.3.2. Questionnaire***

The brief survey included a 4-item hopefulness scale, a 3-item certainty scale, and a task that asked participants to tell their stories of how the Corona outbreak has affected their lives. The scales aimed at covering the attendees' attitude towards their post-Corona future. Questions about the participants' demographics were added at the end of the questionnaire.

**Hope** was measured with a 4-item Hopefulness Scale, which was created for the original study. Hope regarding the personal future life is measured with one item (*'My outlook on my personal future life is...'*) and collective hope is measured with three items (*'My outlook on the future of the country where I reside is...'*, *'My outlook on the future of*

*humanity is...*, *'My outlook on the future of the planet is...'*). The hopefulness survey offers answer options on a 5-point Likert scale, from 1 (*Very fearful*) to 5 (*Very hopeful*). The hopefulness scale of the original study was used for the new study to subordinate the participants to one of the four different groups, depending on their hopefulness pattern. This was important to make a statement and comparison between the groups and their level of *Futures Consciousness*, to answer the research questions *How does Futures Consciousness relate to how hopeful younger people are regarding their post-Corona lives?*

**Demographical information** of the participants from the original study was captured with six questions and indicated the participants' age, gender, the country they currently reside in, the highest educational level, employment status, and changes in employment status because of the Corona outbreak. For the present study, only the attendees' age, gender and, nationality was of importance, which is why Table 4 contains an overview of the relevant demographics of the participants.

#### **2.2.4. Data analysis**

Since the current study is based on thematic data analysis, the online software ATLAS.ti was used to qualitatively code the letters which were gathered with the aim of the *Letters from the Future* technique to answer the research question of the study at hand. A qualitative approach was used to analyze the data as the chosen technique helps in understanding human nature, which is at the core of investigating the desirable future participants write about in their letters. An analytic framework developed by Sools et al. (2021) (Table 3) was used to examine the five dimensions of *Futures Consciousness* per letter: *Time Perspective, Agency Beliefs, Openness to Alternatives, Systems Perception, and Concern for Others* (for more in-depth information about the *Futures Consciousness* Model see the article *The Five Dimensions of Futures Consciousness* by Ahvenharju, Minkkinen, Lalot, 2018). Codes and

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code descriptions for each dimension of *Futures Consciousness* are displayed in Table 3. This coding scheme was originally built on an iterative reflexive process of data analysis (Srivastava & Hopwood, 2009).

Table 3

*Codes and code descriptions per dimension of Futures Consciousness*

<i>Dimension</i>	<i>Code</i>	<i>Description</i>
<i>Time</i>		
<i>Perspective (TP)</i>		
	<b>Objective Time Horizon (OTH)</b>	The writer has dated the letter (year, day) so that the exact timespan can be determined
	OTH-ST	ST short term: less than or 1 year ahead
	OTH-MT	MT midterm: over 1 year up to 10 years ahead
	OTH-LT	LT long-term: over 10 years or more ahead
	OTH - unspecified	The date has not been made explicit in the letter
	<b>Subjective Time Horizon (STH)</b>	The time span can be deduced based on the depicted events in the letter
	STH Within Corona	During the Corona crisis period, typically describing social distancing measures or lockdown
	STH Extended Corona/ New pandemic normal	Aspects of Corona still influence life, even if the pandemic is already gone. It might be those certain measures (social distancing, wearing masks) or behavior remain the same as during Corona.
	STH just after Corona	A proximate post-corona future estimated or explicitly situated only weeks or months after the pandemic came to an end.

STH longer after Corona has ended	A distant post-corona future, estimated or explicitly situated weeks or months after the pandemic came to an end
STH time span unclear	It is unclear when the depicted future takes place

*Agency*

*Beliefs (AB)*

<b>Degree of Agency</b>	Section/sentence-level codes indicating (a) the degree to which the actor and action(s) are specified and clear and (b) the number of agency aspects made explicit. There are four aspects of agency (actions, responsibility for actions, reflection on consequences of actions, intentions, or plans for actions).
Low Agency	There may be a specified agent, but the actions, responsibility, reflection on action consequences, and plans/intentions for action are vague.
Intermediate Agency	There is an unspecified agent with 2 or more aspects of agency attributed, or there is a specified agent with one aspect of agency made specific.
High Agency	There is a specified agent with 2 or more aspects of agency made specific.
<b>Distribution of agency</b>	Letter-level code describing whether in the letter as a whole a collective or personal agent dominates
Personal agency	In this letter, agency is primarily allocated to a personal agent (typically an I-agent or You-agent, i.e., referring to the future or present self of the letter writer, sometimes including the immediate relations/family of the I).
Collective agency	In this letter, agency is primarily allocated to a collective agent, either the government, an organization, institution, community, or group.
Mixed personal/collective agency	In this letter, the allocated agency is equally distributed between collective and personal agents, for example, because the letter has multiple sections which each have different actors varying between the personal life and societal developments.

*Openness*

*to alternatives (OA)*

<b>Attitude</b>	Sentence-level code indicating the stance towards the future
Closed	A closed stance towards what the future will hold, in giving a sense of certainty, predictability, and control. This can be observed in word use (definitely, certainly, no doubt) and the lack of subjunctivizing language.
Open	Openness towards what the future will hold, allowing uncertainty and unpredictability. Openness can be observed by content (I surmised, it seems, I doubt, as if) and by subjunctivizing language (Sools, 2012).
<b>Multiplicity</b>	Letter-level codes for various ways in which multiple manifests in the letters in topics, thoughts, or action possibilities
Single-issue	Letters that predominantly deal with one central issue <sup>1</sup>
Multiple issues	Letters dealing with at least 2 issues and a single key issue cannot easily be identified.
Contrasting group action	Contrast is created in action possibilities between groups (some versus others, others, and self, or different stakeholder groups).
Reflective questions	Through raising reflective questions, the writer opens up multiple options and alternative perspectives

*Systems*

*Perception (SP)*

<b>Explicitness of systemic awareness</b>	Section-level codes for letter parts showing the extent to which awareness of the interconnectedness between system parts is demonstrated observably in implicit or explicit reflection.
Implicit interconnectedness	The wording does not express a (cause and effect) relation between parts (e.g., generations, timeframes, and/or domains). Parts are implicitly connected for example when a narrator moves from the description of developments at one level to developments at another, without referring to how one level influences the other.

Explicit interconnectedness	A connection between levels, generations, times, or domains is made explicit, for example by causal connectors or other linguistic markers or when the content of the letter reflects awareness of how things cohere, are part of a larger whole, and cannot be thought of independently.
<b>Degree of Systemic awareness</b>	Whole letter-level code of the degree of awareness shown overall of interconnectedness between parts, e.g. (a) personal-social-planetary levels; (b) generations; (c) times, e.g., past, present, future; (d) domains in life/society such as health, education, economy.
No interconnectedness	One level only (no descriptions of explicit relations between levels)
Some interconnectedness	Relations between 2 levels are mentioned explicitly (if other relations are mentioned implicitly, letters are coded at this level)
Extensive interconnectedness	3 or more relations presented explicitly OR one relation is described in a way that shows complexity (e.g., nonlinear thinking) OR one relation is described extensively (= elaborative narrative)

*Concern*

*for Others (CO)*

<b>Kind of Concern</b>	Sentence/section level code about the object of concern
Self	Concern for the personal life of the writer (well-being, health, education, housing, etc.) and the immediate circle of friends and family
Freedom	Concern about freedom of movement, of doing what one wants to do, of being free from fear
Awareness of what matters	Realization or (renewed) appreciation of values in (personal) life
Humans & generations	Concern for other humans beyond the immediate circle of friends and family (local or global) or even extending to generations before and after
Society	Concern for social inequality, the economy, the health-care system, the educational system, etc.

Green	Concern for the environment, either locally (sustainable communities) or globally (e.g., climate change and transition to a green economy)
<b>Degree of Concern</b>	Whole letter level code about the number of self-transcending concerns (from none to – nearly – all)
Self-only	The writer shows concrete concern(s) related to the personal future (happiness, well-being, education, employment, finances) that may include the immediate circle of friends/family
Low	One self-transcending concern is mentioned (e.g., freedom, awareness of what matters, humans/generations, society or green) with, or without concern for oneself
Intermediate	Two or three self-transcending concerns are mentioned (e.g., freedom, awareness of what matters, humans/generations, society, or green) with or without concern for oneself
High	Four or five self-transcending concerns are mentioned (e.g., freedom, awareness of what matters, humans/generations, society, green) with or without concern for oneself

In the research at hand, these dimensions were used to code the *Letters from the Future* and identify the themes of *Futures Consciousness* of young people to ascertain and make a statement about how they think about their post-Corona futures. Each dimension includes two main codes which again contain different subcodes which were analyzed on the sentence-, section- or letter level, depending on the dimension. While the sentence and section level codes are used for smaller parts of the letters, the letter level codes serve to see the letter as a whole. The different levels of analysis enable the detection of diversity within one letter and across letters (Sools et al., 2021). Since the dimensions and codes are not mutually exclusive, it was tried to code every sentence of a letter. If one sentence was not coded, the reason why it could not be coded was added, as these not-coded sentences are just as important as coded sentences. After coding the letters, the codes per letter were counted and summed up per

dimension for each group to get an overview of how *Futures Consciousness* is used per group (Table 4). A higher score per dimension represented more *Futures Consciousness* in that category. However, during the analysis, it was considered that the sample sizes per group vary tremendously. Group one represents 33.33% of the participants, group two 40.74%, group three 22.22%, and group four 3.7%. For the sake of completeness and not to expel group four from the comparative analysis, the indicated scores per dimension are interpreted accordingly. An internal comparison between the four groups was conducted to make statements about the *Futures Consciousness* per group and to draw conclusions about the relation between the capacity to imagine the desired future and the hope pattern of the specific groups. This comparison of the four groups was supposed to answer the research question of how *Futures Consciousness* relates to how hopeful young people are regarding their post-Corona lives.

Interrater reliability consistency coding took place with another researcher working on a similar topic, who independently coded six letters of the chosen sample, which served as a mutual understanding of the used coding scheme. Subjective agreement and consultation/communication with the two supervisors of the presented thesis occurred to ensure the conscientiousness and validity of the coding process.

### **3. Results**

To begin, it is presented how frequently the five dimensions of *Futures Consciousness* and the corresponding codes/subcodes are posed in the letters of the four different groups. These insights serve as a first imagination of how the dimensions are overall used by and distributed among the four groups in the context of a post-Corona future. In addition, a comparative analysis is conducted between high-hope people and low-hope people, in particular, to explore whether there is a noticeable variation of the dimensions. If a deviation is detected, this analysis aims at understanding why high- and low-hope participants use the dimensions

of *Futures Consciousness* differently and how these opposing groups differ in their use of the dimensions. Furthermore, the meaning of these differences is discussed.

### 3.1. Futures Consciousness in High versus Low Hope Participants Per Dimension

*Futures Consciousness* scores per dimension for each of the four hopefulness groups are displayed in Table 4. To answer the research question *How does Futures Consciousness relate to how hopeful younger people are regarding their post-Corona lives?* the way the different dimensions and subcodes of *Futures Consciousness* are presented by the four groups is described and the similarities and differences in using *Futures Consciousness* between the groups are compared per dimension.

Table 4

*Total Scores per Futures Consciousness Dimension differenced by groups*

<i>Dimension</i>	<i>Code</i>	<i>High PF</i> <i>Low CF</i> <i>(n=9)</i>	<i>High PF</i> <i>High CF</i> <i>(n=11)</i>	<i>Low PF</i> <i>Low CF</i> <i>(n=6)</i>	<i>Low PF</i> <i>High CF</i> <i>(n=1)</i>
<i>Time</i>	<b>Objective Time Horizon</b>				
<i>Perspective</i>					
	ST > 1 year	7	2	1	
	MT 1-10 years	7	7	3	
	LT < 10 years	1	1	1	1
	Unspecified	2	1	1	
	<b>Subjective Time Horizon</b>				
	Within Corona	33	52	22	
	Extended Corona/New	68	44	19	1
	Pandemic Normal				
	Just after Corona	15	6	3	
	Longer after Corona has ended	22	16	13	2

	Timespan unclear	11	11	5	
<i>Agency Beliefs</i>	<b>Degree of Agency</b>				
	Low	28	35	10	1
	Intermediate	49	50	16	1
	High	41	43	28	3
	<b>Distribution of Agency</b>				
	Personal			1	
	Collective	1	2	1	
	Mixed	8	9	4	1
<i>Openness to Alternatives</i>	<b>Attitude</b>				
	Closed	48	74	28	2
	Open	33	36	8	
	<b>Multiplicity</b>				
	Single Issue	1	1		
	Multiple Issue	8	10	6	1
	Contrasting Group Action	1	1	2	
	Reflective Questions	4	9	3	
<i>Systems Perception</i>	<b>Explicitness of Systematic Awareness</b>				
	Implicit	12	12	6	1
	Explicit	22	20	10	
	<b>Degree of Systematic Awareness</b>				
	No	1	3	3	1
	Some	4	4	1	
	Extensive	4	4	2	

<i>Concern for Others</i>	<b>Kind of Concern</b>				
	Self	95	134	70	8
	Freedom	54	41	12	
	Awareness of What Matters	18	43	13	1
	Humans & Generation	65	93	59	4
	Society	83	124	25	6
	Green	6	34	4	2
	<b>Degree of Concern</b>				
	Self only			1	
	Low	1			
	Intermediate		2		
	High	9	9	5	1

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Looking at Table 4, it is noticeable that some dimensions and subcodes seem to be more prominent across the groups compared to others, which is indicated by higher or lower scores. In general, the dimensions Time Perspective, Openness to Alternatives, and Concern for Others are prominently used by all four groups while the dimensions Agency Beliefs and Systems Perception are pointed out less often. This can be seen in the table above by roughly calculating the total scores for the four groups per dimension, which are higher for the Time Perspective, Openness to Alternatives, and Concern for Others dimensions compared to the Agency Beliefs and Systems Perceptions dimensions.

It is surprising that there are differences in how frequently the various groups used each dimension and the corresponding subcodes. A comparative analysis helps in detecting variations between the groups' representation of the dimensions and (sub-) codes. Excerpts

from the letters are used to better understand how the (sub-) codes per dimension are used among the different hope groups.

### ***3.1.1. Time Perspective***

The first dimension, Time Perspective, is mostly referred to by the low CF-high PF group and least prominent among the high CF-low PF group, taking the divergent sample sizes into account. This dimension is subdivided into two subcodes. The first subcode Objective Time Horizon is not as prominent among the groups compared to other subcodes with the low CF-high PF group using this subcode most frequently and the high CF-low PF group using it least frequently. For the subcode Objective Time Horizon, one commonality between the low CF-high PF group, the high CF-high PF group, and the low CF-low PF group is that these groups score highest on the Midterm code (1-10 years) and lowest on the Unspecified code. The difference between the groups for this subcode is that the high CF-low PF group selected the Long-term code, and the low CF-high PF group shows an equal selection of both, the Short-term and the Midterm code. Another difference is that the low CF-high PF group uses the Short-term code frequently while the opposite group (high CF-low PF group) does not use this code at all. Overall, this subcode does not show any serious differences between high and low hope participants when looking at the scores. The following two excerpts are examples of the finding that the low CF-high PF group, the high CF-high PF group, and the low CF-low PF group score highest on the Midterm code (1-10 years) and lowest on the Unspecified code. The first excerpt was written by a participant belonging to the low CF-high PF group and constitutes the future from three years after the letter was written:

*“It’s now 2022 and I’m living without Corona. Now that there is no corona, there still is an atmosphere all over the world since. It seems as if everyone is afraid of you when you sneeze*

*or cough. [...] I am not living a few months in 2022, this is very different compared to 2019.”*

(17-year-old Dutch woman)

The second excerpt was written by a participant of the high CF-high PF group and represents the future ten years ahead:

*“I have traveled 10 years into the future. I am in the Netherlands.”*

(25-year-old Dutch woman)

These two examples support the finding that imagining the future from the Midterm point of view is done by most participants no matter which group they belonged to. A possible explanation to this finding may be that no matter whether high or low on hope for CF and PF, participants consciously or unconsciously wish for the desirable future to occur during the following ten years. On the one hand, they might want Corona to come to an end as soon as possible during the following ten years but, on the other hand, are realistic enough to understand that the pandemic might not be over in less than one year. The Unspecified code would implicate that the participants do not have a rough idea about when they hope the pandemic to be over but which they do seem to have which is why the idea of when the post-Corona future occurs is not unspecified by one of the four groups.

The second subcode Subjective Time Horizon is prominently used among the four groups with the low CF-high PF group making the most use of it and the high CF-low PF group least. For this subcode, the commonality between the high CF-high PF group and the low CF-low PF group is that they score highest on the Within Corona code, while the low CF-high PF group also scores high on this code. The low CF-high PF group and the high CF-high PF group use the Timespan unclear code equally and the high CF-high PF group, the low CF-low PF group, and the high CF-low PF group write least about what is called Just after

Corona. Regarding the differences for this subcode, it is salient that the low CF-high PF group uses the Extended Corona Normal code most often while for the high CF-low PF group this is the Longer After Corona has ended code. Compared to the other groups, the low CF-high PF group least uses the Lifespan unclear code. What is salient is that participants high on hope use almost all codes of this subcode twice as much as participants low on hope. People high on hope for their personal future tend to use the Within Corona and Extended Corona Normal codes more often while people low on hope for their personal future use the Longer after Corona has ended code more frequently. Overall, this subcode is used more frequently represented by participants high on hope compared to participants low on hope. The following excerpt written by a participant high on hope for the post-Corona future demonstrates this finding:

*“Wow, these past 10 years really were amazing, and I now want to take the time to write to you about it. It is 2030, and the world has become a better place in many aspects. Even if you can't believe it, the Corona virus actually caused the beginning of many positive developments. In 2020, our planet was being destroyed due to pollution and CO2 emissions. [...] Nature began to recover. Many people began to reflect on travelling for the first time, and I realized that the world was becoming a better place when I also travelled less.”*

(23-year-old German woman)

It can be argued that the hope of people rises when thinking about their futures when the pandemic is over. This would explain the finding that participants with a higher hope level seem to better be able to imagine all kinds of post-Corona scenarios, whether it is just after Corona or longer after Corona has ended. It is questionable why people high on hope also represent the new pandemic normal more often than participants low on hope, but this finding could be explained that people with a lower hope level overall do not face up to the

consequences Corona might bring about and rather escape into denial and therefore do not write about it in their letters. What can be seen in the chosen excerpt is that this participant was capable to describe the post-Corona time by pointing out the consequences of the pandemic, which supports the finding that high-hope participants use this dimension of FC more frequently than low-hope participants.

### ***3.1.2. Agency Beliefs***

The second dimension, Agency Beliefs, is most prominently used by the high CF-high PF group. This dimension is also subdivided into two subcodes. The high CF-high PF group also most frequently uses the first subcode Degree of Agency. For this subcode, the commonality between participants high on hope for their personal future (group one and group two) is that they are most frequently classified in the Intermediate code while people low on hope for the personal future (group three and group four) most often use the High level of agency code. It could be argued that participants with high hope for their personal future want to see themselves as the main actors and think more about their own actions concerning their private lives. They might feel in control of their future lives which raises their hope regarding their post-Corona future. Participants with low hope for their personal future, on the other hand, see the responsibilities in others and external agents and might feel like their personal future is not under their control, which again lowers their hope for their private post-Corona lives because they are not able to actively contribute to a positive future. Another similarity across groups is that the Low degree of Agency code is used least. Regarding the difference for this subcode, it is ascertained that it is used more frequently by people high on hope compared to people low on hope. What can be seen in the chosen excerpts below is that while the high-hope participant (citation one) mentions different external as well as internal agents and actions, the low-hope participant (citation two) focuses solely on their own life. A possible explanation

for the finding that participants with higher hope levels show more low, intermediate, and high Degree of Agency can be that these people are more open to any possible change through actions of themselves and others, which is why their consciousness about the future is higher for this dimension compared to low-hope participants. These participants are hopeful that their post-Corona (personal and collective) lives change for the better and are willing to take action and responsibility for action. High-hope people seem to have intentions and plans for actions that take them back to their old 'normal' lives and expect others to contribute as well. Low-hope participants on the other side do not show a lot of awareness about possibilities to change their personal life and the world back to normal as they have little hope about what is coming. It can also be argued that this helpless attitude contributes to less hope in reserve:

*“When the first pandemic was over, restaurants and cafes filled up, people thought of their grandparents again and nature reserves were lovingly cared for. School was also different, everyone had to wash their hands when they came in. Sometimes there are some setbacks but fortunately I deal with them easily. S. is still a treasure; you marry him and it's a beautiful wedding day. You have a baby, but I am not going to tell you the baby's name is and if it's a boy or a girl. The Dutch government has done super well in dealing with the corona crisis. A lot of people don't think so, but I do think so. We've made it work together. A lot has changed positively, that's just something you have to remember and then it will all work out. Greetings Futuristic A.”*

(17-year-old Dutch woman)

*“You made it*

*First of all: Congratulations you made it. You haven't been sick, and you haven't made Mummy sick either. Fortunately, Mark is doing well again. Secondly:*

*It's now a year after the corona and you've done well. [...] You continued to work so that you*

*could continue to save for your goal. It's a pity that you missed all those concerts and that they were not rescheduled. [...] You've learned that when you ask questions, you're not stupid but smart to recognize a problem. You have spent more time with your family. School may have been very bad because you weren't very good at planning. But you also got better at it. Greetings for your future."* (17-year-old Dutch woman)

The four different groups do not frequently indicate the second subcode Distribution of Agency. For this subcode, the similarities are that all groups most often indicate the Mixed code and that the Collective and Mixed codes are used as frequently by people high on hope as by people low on hope. The difference for this subcode is that people belonging to the low CF-low PF group are the only ones indicating Personal agency, compared to the other groups. Overall, no noticeable distinction was found between people high on hope in contrast to people low on hope. Based on the two excerpts and the findings of the Degree of Agency, it could have been expected that participants with lower levels of hope more frequently represent Personal agency while participants with higher levels of hope indicate Collective agency more often. However, no noticeable difference was found and both high- and low hope people scored highest on the Mixed code. The Mixed agency would support the idea that people high on hope for their post-Corona lives do not leave the whole control to either other people or themselves as an important contributor and agent in the process of change and action, as can be seen by the first excerpt (above).

### ***3.1.3. Openness to Alternatives***

The third dimension, Openness to Alternatives, is prominent among participants of the low CF-low PF group and least among the participant of the high CF-low PF group. This dimension, again, has two subcodes with both being most frequently used by the high CF-high PF group while the high CF-low PF group does not really point them out. For the first

subcode Attitude, the similarity is that all groups more frequently show a closed attitude compared to an open attitude. Overall, participants who are high on hope use more closed attitudes compared to participants who are low on hope, which is why this dimension of FC is more representative among high-hope participants. It could be argued that more hope leads to a better understanding and visualization of what the post-Corona future should look like. The participants with higher hope levels might already have certain ideas about the time and their lives when Corona has come to an end and, therefore do not exhibit an open attitude but are rather certain about what the future holds. People low on hope for their post-Corona lives might not be sure about what to expect or have difficulties imagining a definite, desirable future due to their lack of hope. The following excerpt is an example of this finding:

*“People have adopted different standards and values and have made other things their own. A simple example is washing hands. This has become part of many people's routine. It is actually very funny. People have also been woken up to environmental issues. When the whole world was at a standstill for almost a year, nature flourished. It went on without us. Nature went its own way. People are now much more conscious when it comes to emissions, food consumption, etc. People also do a lot more themselves. Cooking, cutting hair, pedicure, manicure and much more. It has made us realize how good we have it in the Netherlands. We whine less, we complain less, and we are happy with more. Because we had to miss it for a very long time in quarantine.”* (17-year-old Dutch woman)

In this excerpt, it becomes clear that the author has a specific understanding of what the future holds which reveals her closed attitude. Besides the new pandemic normal that the participant describes here, more hopeful prospects like ‘Nature flourished’, ‘People are now much more conscious’, and ‘People also do a lot more themselves’ become clear, which supports the overall hopeful attitude of the person.

For the subcode Multiplicity, the similarities are the usage of the Multiple issues code, which is chosen most frequently by all groups, and the usage of the Single issues code, which is utilized the least by all groups. One difference is that people high on hope for the personal future in total show more multiplicity compared to people low on hope for the personal future. This may be since participants with higher hope for their personal lives are capable to visualize different possible future alternatives. Also, hopeful people might be looking forward to different events, changes, and occasions in their lives when Corona is over while people less hopeful about their personal futures do not face up with the idea of a post-Corona life but rather get buried by their hopeless attitudes which do not allow room for a more divergent, positive, and optimistic future perspective. This explanation would support the idea that high-hope participants score higher on this subcode of *Future Consciousness* compared to low-hope participants. Overall, people high on hope use all codes (besides the Contrasting groups' code) almost double as often as people low on hope. The following excerpts are great examples to visualize this finding. As can be seen from the first quotation, people high on hope for the post-Corona future show more multiplicity compared to people low on hope for the post-Corona future (second quotation):

*“Dear me, we meet in 2024 in Tokyo (Japan). The number of people who live in this city is enormous, it is much worse than Madrid, but at the same time it is much calmer, it is not stressful. There are many skyscrapers and bright advertising everywhere. Interacting with others is a bit the same [...], people take great caution when traveling and visiting places. The requirements to travel to countries have increased, it is necessary to go to the doctor before and that they make a report on your situation regarding health. Regarding personal relationships, we value more the moments that are spent together [...]. Due to the situation experienced with the COVID-19, people were left without opportunities, their lives stopped, but people had a strong will, you had to try several times so that everything would return than*

*their more or less normal situation, finding work [...]. The multinationals also suffered, it was seen how badly they treated their employees and how they did not care about their exposure, but the others said that they cared [...]. This letter is for you, remember that you always have to have that motivation, that makes you want to give everything and not because you want a drastic change after this situation but so that your life is always good.”*

(23-year-old Spanish man)

*“Dear Alexandra of 2020, I am Alexandra of 2030, that is, I am you in 10 years. I want to tell you that I am in Rhodes. It is September and as soon as the schools opened, and I came to teach in a temporary position. I'm delighted because I came to an island where my friends used to tell me it's beautiful, but it's only suitable for vacation. How funny (!) I came for at least one school year ... We'll see! I am full of energy and optimism. I look forward to meeting the children and colleagues. Everything is beautiful and bright. I am in a two-room house like the one you moved to in your second year of study [...].”*

(25-year-old Greek woman)

This finding might seem to contradict the insight that both, high- and low-hope participants show rather closed than open attitudes towards their post-Corona lives. However, the first excerpt disproves this expectation by showing that, even though multiple themes (e.g., society, population and humanity, personal life) are mentioned in only one letter, the author can still embody a closed attitude towards these topics by being certain. This multitude of possible future events could even increase a person's hope by not being dependent on one specific process or outcome in life but rather being certain that whatever the future holds, it will be good and promising. The author of the second excerpt does not show a lot of variety in the future perspectives and does not mention multiple issues. This letter is a good representation of a low-hope participants' letter because, in contrast to the first excerpt, people with less hope for their post-Corona futures might not be able to imagine different

domains of post-Corona life but rather tense up with one specific topic. What is learned from the chosen excerpts about how people with high and low hope differ in the usage of this dimension is that participants with higher hope show more multiplicity and, therefore, more Futures Consciousness compared to less hopeful participants.

#### ***3.1.4. Systems Perception***

The fourth dimension, Systems Perception, is the least prominent dimension among the groups and consists of two subcodes. The first subcode Explicitness of Systemic Awareness is somewhat common among the groups, with the low CF-high PF group showing the highest usage and the high CF-low PF group the lowest. For this subcode, the commonality between the low CF-high PF group, the high CF-high PF group, and the low CF-low PF group is that they all have higher explicit than implicit awareness. The difference for this subcode is that people high on hope for the personal future show more Explicitness of Systemic Awareness than people low on hope for the personal future. Overall, participants high on hope indicate twice as much Implicit- and Explicit systemic awareness compared to participants low on hope. Building on what has been found about the Openness to Alternatives of low-hope participants, it could be argued that those people are more concerned with one specific post-Corona life domain and are not capable of thinking about diverse outcomes, which would explain the rare systemic awareness. Being taken in by one specific issue, writing about it in detail, and thinking through all possible consequences to this life domain might also decrease a person's hope regarding the post-Corona future. People with higher hopes for their future might see the interconnectedness of diverse systems which might explain the higher level of *Futures Consciousness* in a way that one life domain positively influences another domain and, eventually the overall futures' perspectives are promising and contribute to a hopeful attitude. It could also be argued that Systemic Awareness is seen as a kind of control of

experiencing coherence concerning the post-Corona future which positively contributes to hope.

The second subcode Degree of Systematic Awareness is not prominently used among the groups. For this subcode, the similarities are the equal use of the Some degree code and the Extensive degree code by people high on hope for the personal future. Furthermore, participants low and high on hope show similar degrees of No Awareness. The difference for this subcode is that participants low on hope show the lowest degree of awareness while people high on hope overall feature the highest degree of awareness. Moreover, people high on hope for the post-Corona future are overall more represented in this subcode compared to people low on hope. The following excerpts prove the finding that high hope participants score higher on Explicitness of Systematic Awareness and Degree of Systematic Awareness. The first letter, written by a participant with a higher hope level, ascertains higher explicitness and more systematic awareness while the second letter, written by a participant with a lower hope level, proves lower explicitness and less systematic awareness:

*“I am in a building where I work. The people around me and my colleagues are quite friendly. The building is spacious with bright colors, relaxed decor, and large windows that reflect the sky above them. Under the building, there is a beautiful park with trees and plenty of greenery, a peaceful place in the city center that makes me feel free, and I spend carefree moments. I notice and would like to tell you that society has evolved, and many values such as peace and love have been embraced by the world. I am particularly happy that the wars have come to an end. Now many children have access to essential goods, and hunger and poverty have decreased; technology has evolved for the benefit of humanity [...]. Social inequalities tend to disappear, and no one is considered more or less human than someone else [...]. I feel lucky to have people in my life who really care about me and a partner who*

*makes me feel special and love life even more. I hope my letter finds you healthy and happy!!”* (21-year-old Greek woman)

*“So, two years later ... after what we experienced in March 2020. Fortunately, the inactivity and lack of motivation that I experienced at that time, along with some psychologically difficult days, did not hold me back ... I am now in a city where I want to be. I've finished my studies and doing my master's degree. I was unjustly frightened ... On the surface, everything superficially seems the same. Some people are working, but some aren't, they go out, have fun, fall in love, get upset, travel, feel alone ... the same as before. But I realize there is a small (or maybe big difference, significant!!) [...] I think that it was a good thing, even though I'm not an optimist. I have changed the way I behave and think. I have more respect for the planet and its needs. I now want to have more contact with nature. But also, with people!! [...] When sometimes it was a disappointed self, sad, sometimes a grieved self. I want to show that everything is somehow overcome, changed, and the best version of people and situations is possible, feasible, and WONDERFUL!!!!”* (22-year-old Greek woman)

It could be argued that the reason for the different usage of the dimension between high- and low-hope participants lays in the variety of themes discussed per letter. The first excerpt allows for insights into different domains like the environment, nature, technology, society, and human rights, just to mention some examples. The writing style of the author indicates a high degree of awareness and interconnectedness between the themes while the author low on hope rather focuses on the self in the letter. What can be seen in the chosen excerpts is that this finding would go hand in hand with what has been found out about the Multiplicity among the letters.

### **3.1.5. Concern for Others**

The fifth dimension, Concern for Others, is the most prominent of all five dimensions with the high CF-high PF group making the most use of it. Just like the previous dimensions, this dimension is subdivided into two subcodes. The first subcode Kind of Concern is prominent among all four groups, however, the high CF-high PF group offers the highest usage of this subcode. For this subcode, the commonalities are that all groups indicate Concern for Self most frequently and Concern for Green least. Regarding the differences between the groups for this subcode, it is noticeable that people high on hope for the personal future in general display more concerns compared to people low on hope for the personal future. In addition, people high on hope overall show more variety in the Kinds of Concern than people low on hope. The following excerpt is an example of the variety of different concerns mentioned in one letter, written by a participant with a high level of hope for the post-Corona future:

*“I notice that the whole of the Netherlands has changed. People have adopted different standards and values and have made other things their own. A simple example is washing hands. This has become part of many people's routine. It is actually very funny. People have also been woken up to environmental issues. When the whole world was at a standstill for almost a year, nature flourished. It went on without us. Nature went its own way. People are now much more conscious when it comes to emissions, food consumption, etc. People also do a lot more themselves. Cooking, cutting hair, pedicure, manicure and much more. It has made us realize how good we have it in the Netherlands. We whine less, we complain less, and we are happy with more.”* (19-year-old Dutch woman)

As already found with the Openness to Alternatives and Systems Perception dimensions, people with high hope for their post-Corona lives seem to show more awareness of the world around them, which is also visible in the chosen excerpt, in which concern for humans and generations, society, environment, self, and awareness of what matters displayed. One may

expect that higher concern for oneself, and others might lead to reduced hope as worst-case scenarios or worrying about diverse life domains is not in itself a promising process.

However, the excerpt shows that one could assume that the divergent concern for oneself and the world around in high-hope participants comes from the hopeful and optimistic attitude of the person. In return, it could be argued that less hopeful people do not bother thinking about the world around them and, therefore, do not score high on *Futures Consciousness* for this dimension.

The second subcode Degree of Concern is not prominently used among the groups. For this subcode, two similarities between groups are found. First, all four groups reflect a high degree of concern and second, the Self Only code is used the least by all groups. People high on hope for the personal future display a slightly higher degree of concern compared to people low on hope for the personal future. One could argue that the hope for the personal future seems to be a promising stance to view various domains of the future in a hopeful and positive way. It could be assumed that having high hope serves as resilience towards the post-Corona future, which is why those people are willing and motivated to write about those different domains concerning the post-Corona world. More fearful people might be hesitant to face the concerns of the world and rather focus on themselves instead of taking the risk of getting overwhelmed by the worries they might have. Nevertheless, no considerable difference is found in the Degree of Concern between participants high or low on hope.

#### **4. Discussion and Conclusion**

In general, in answer to the research question '*How does Futures Consciousness relate to how hopeful young people are regarding their post-Corona lives?*', this study shows that the four groups differ in their capacity to imagine the future regarding their hope pattern. Young people were particularly interesting to focus on in the presented study because it was expected

that the process of building an identity, which is a fundamental one in life, might be interrupted or at least affected by catastrophic events like the Corona Pandemic which might influence the hope of young people regarding their post-Corona lives. When looking more closely at the findings of the study, it is salient that the high PF-high CF group outcores the low PF-low CF group in multiple future-concerned domains. Above, no clear distinction was seen between personal- and collective future-related hope which is why this differentiation had little relevance in the presented study. The findings of the study at hand partially validated what has been found by other researchers.

#### **4.1. Discussion of findings**

A link was seen between the different domains of *Futures Consciousness* and hope. To begin, it was found that participants with higher hope for their personal and collective post-Corona lives are better able to encompass the idea that the long-term future is a construct that is built through decisions and behaviors of themselves, and other people (Ahvenharju et al., 2018). They indicated the actions of others or oneself and made explicit the aspects of agency as e.g., actions, responsibility for actions, reflection on consequences of actions, intentions to actions, or plans for actions. Agency beliefs were seen to be related to hope in a way that hope is an emotive feeling which encourages a person to act in the desired direction (Scioli et al., 1997; Scioli, Ricci, and Nyugen, 2011). Taking actions into desired directions covers the agency beliefs aspect of *Futures Consciousness*. Beyond, hope is goal-oriented and positive, future-directed emotion (Nunn, 1996) which, again, shows the relation to *Futures Consciousness* through agency beliefs. The findings of the presented study have shown that participants with higher hope levels show more agency beliefs which suggest that these people have more intentions and plans for actions and are more open to any kind of change through their own or other's people's actions. This insight indicates the direction of this relation as hope seems to

foster agency beliefs but having a sense of agency also contributes to hope, which is why these concepts interact with each other.

Furthermore, high hope participants showed a better conception and esteem for the culture, society, and environment to which they belong (Ahvenharju et al., 2018). A systematic thinking pattern (Lezak & Thibadeau, 2016), integral thinking (Nisbett, Peng, Choi, & Norenzayan, 2001), the intermeshing with other people (Markus & Kitayama, 1991), and other environmental factors (St. John & MacDonald, 2007) are all characteristics connected to the participants' esteem which the high hope participants represented more frequently in their letters than low-hope participants. This was observable by a higher interconnectedness between various system parts of a letter (e.g., personal-social-planetary levels, generations, times, domains in life/society such as health, education, economy) of high-hope participants, which again infer a higher level of *Futures Consciousness* compared to the participants low on hope. Systems perception could be related to hope because hope is supposed to enhance the overall quality of a person's life and it is said that it has a positive effect on a variety of domains of a person's life (Alarcon et al., 2013; Nsamenan and Hirsch, 2015) which suggests interconnectedness between different domains in life, which again is a characteristic of systems perception and, therefore the link between these two constructs. The findings of the presented study suggest that the interconnectedness of diverse life domains contributes to a hopeful attitude and the coherence of the post-Corona future positively contributes to hope, which is why experiencing systems perception fosters hope in people.

Beyond, people high on hope for their post-Corona lives do not only think about their future but rather about the future of other people, the society, and generations of the future, which is in line with what Ahvenharju et al. found (2018). They seemed to focus on more objects of concern that they think about when it comes to the post-Corona future. These

findings mean that participants high on hope for their post-Corona lives outscore the other three less hopeful groups in the capacity to imagine the future (FC). Hope might be connected to the concern for others as it suppresses pessimism and high-hope people are less likely to suffer from psychopathological symptoms (Scioli et al., 2011; Nsamenang and Hirsch, 2015; Arnau et al., 2007), which can be defined as one domain of concern in this context. The findings suggest that a hopeful and optimistic attitude fosters divergent concern for other people and oneself which is why people with higher hope for their post-Corona lives show more concern for others compared to low-hope participants.

Time perspective seems to be connected to hope because it is understood as the ability to look forward and knowing that there is a following day and a future (Ahvenharju et al., 2018), which infers that a person is hopeful about what is yet to come. This means that the ‘forward-looking’ aspect of hope can be found in the time perspective domain of *Futures Consciousness*. This finding adds to knowledge about time perspective and hope and that these two concepts seem to foster each other. Having hope seems to contribute to the ability to look ahead in the future and being able to envision one’s future seems to add positively to the hope of a person. It could be argued that the hope of people rises when thinking about their futures when the pandemic is over. This would explain the finding that participants with a higher hope level seem to better be able to imagine all kinds of post-Corona scenarios, whether it is just after Corona or longer after Corona has ended.

Finally, the openness to alternatives is another characteristic of hope with the expectation of a positive event situated in the future with a pleasant outcome (Staats, 1989). With the findings of the presented study in mind, hope seems to foster the participants’ ideas regarding possible prospects by understanding and visualization of what the post-Corona future could and should look like. Therefore, hope seems to contribute to the openness of

people concerning their post-Corona lives. In conclusion, *Futures Consciousness* relates to the hope of younger people regarding their post-Corona lives in a way that hope is a promising and essential internal alignment which enables the capacity to imagine one's future.

Therefore, more hope is associated with a higher consciousness of the future, which was found with the help of the research at hand and already existing studies on this construct. The interplay between hope and *Futures Consciousness* is expected to prepare young people for their post-Corona lives and help them in this fundamental time of their lives. Making clear the importance of hope in younger people and the influence of hope on the capacity to imagine one's future are the higher purpose of the findings of the presented study which can contribute to the field of health care and future research on this topic.

As discussed above, one could argue that the higher number of indicated future-related topics and awareness in the letters stand for higher *Futures Consciousness* because these high-hope participants actively face up to the future in different domains. On the other hand, one could assume that hope is context-specific and the difference between high- and low-hope participants could be explained by the idea that the life circumstances of people scoring low on hope are direr than those of people scoring high on hope. According to Nunn (1996), hope is the positive attitude and the desired, goal-oriented emotion towards a possible future, which suggests that hope is a disposition. Even though the assumption that hope is context-specific deviates from what Nunn (1996) has stated and no salient support was found in the demographics of the chosen sample of the presented study, this idea was based on personal intuition as it seems logical to expect that dire life circumstances lower the hope of people. This hypothesis could be found out by conducting a follow-up study in which the life circumstances of participants are examined in more detail, beyond the already collected demographical information.

What surprised when looking at the findings of the presented study is that the difference between collective and personal hope appears generally to be less relevant than the difference between high and low hope in this context. One possible explanation for this finding is the fact that personal hope was measured with only one item while collective hope was measured with three items. Measuring collective and personal hope with so few items does not allow for a more detailed insight into the actual hope of people towards their personal and collective post-Corona lives, which is why hope is better seen as a whole construct without distributing it in collective and personal hope. One could also argue that for most future perspectives investigated in the presented study, it was not of big value to distinguish between these two kinds of hope as it would not allow for better or more predictive statements. A third possible argument could be that the *Letters from the Future* instrument has influenced the findings in a way that no direct distinction was captured between the personal and collective hope. A letter is rather a transmission of information concerning the future as a whole which is why a clear difference between collective and personal hope appears to be less relevant than the difference between high and low hope and, therefore the information is blended and does not allow for a clear distinction. Hence, and for the sake of simplicity and usability, the focus was mostly laid on high compared to low hope instead of collective compared to personal hope.

The findings of previously conducted studies by other researchers coincide with and build on the outcomes of the presented study. Younger people are more capable to look ahead in their lives when they are hopeful about what is coming which can be explained by Bishop and Willis (2014) who also ascertained this trend by examining the hope of younger people to their future. The study at hand yields that being capable to imagine the future is somewhat implicated in the ability to be open towards the future. This finding partially confirms the idea of Bishop and Willis (2014) who found that being hopeful enables the capacity of young

people to be open to what the future holds even in times of uncertainty. Furthermore, Nunn's (1996) insight that hope is a positive attitude towards possible future perspectives is in line with the findings of the presented study. Generally, Nunn's (1996) finding suggests that there is a relation between hope and the capacity to imagine one's future which validates what the research project at hand has revealed.

#### **4.2. Strengths, limitations, and recommendations**

There are some limitations to the presented research project which should be taken into consideration for future- and follow-up research on this topic. First, different inclusion and exclusion criteria may have changed the results of the study. For example, the *Letters from the Future* method asked participants to write online letters, which might be a linguistic and cognitive reflection of their writing skills rather than a representation of *Futures Consciousness* per se. Only individuals with a higher and sufficient educational status who can put their thoughts into words and who have access to a computer and an internet connection could therefore be included in the study. This might have biased and altered the findings of the research in a way that different outcomes might have been found if people with lower cognitive abilities and no admission to a computer/internet had been included as well. One could argue that the results may have been different when including people with lower cognitive abilities in a way that these might already be influenced by social everyday disturbances which negatively contribute to already existing difficulties in life due to the low cognitive and educational resources and abilities. For follow-up research on this topic, it should be considered that the study is not based on the cognitive abilities of participants but rather allow the inclusion of all educational groups. This can be realized by conducting the study based on another methodology than the *Letters from the Future* method. Another approach would be to offer the opportunity to record oneself in case one is not capable of

writing the thoughts and ideas down. In their study, Archibald et al. (2019) have proven that e.g., recordings with the help of the Zoom technology are a comfortable and highly suitable aim of data collection for a qualitative research study as it is convenient, easy to use, and reliable.

The fact that the data of the original study were gathered when the pandemic was still at the outset is a second limitation as the content of the letters might have changed in the course of the pandemic. As the long-term consequences and restrictions, the pandemic would bring along were not foreseeable when the data were collected, more recent letters might have represented more relatable visions. As the data collection took place at the beginning of the pandemic, in the letters it was easier to relate to and identify with post-Corona normal topics like restrictions in everyday life that remain, familiarizing with new social settings, and the appreciation of the little things in life. On the other hand, understanding topics like flying cars, tremendous climate change, or artificial intelligence did not feel natural, which might change during the pandemic if it is expected that the Corona crisis preserves, which should be embraced in further research. In follow-up studies on this topic, it should be ensured that the data are as recent as possible. Especially in the light of current events, it is noticeable how fast situations can change and get more severe over time. Being in a pandemic for a couple of months compared to one and a half years makes a huge difference and is expected to also influence the hope and *Futures Consciousness* of younger people. The data of the presented study does not lose its relevance when analyzed years after the pandemic, but it should be ensured that the findings are complete and representative of the whole event. The presented study for example can only stand representative for the beginning of the pandemic as the dramatic art changed during the event and the middle/end of the pandemic are not captured by the data.

A third weak point of the presented study is the fact that the sample sizes of the four groups of interest varied tremendously which made a fair comparison between these almost impossible. For the study at hand, this limitation was handled by further simplifying and merging the groups into high- and low-hope participants. Beyond, the participant of the low PF-low CF group was treated with caution. However, since this is not the best basis for a research study, for future research in which a comparative analysis is conducted, it should be ensured that the sample sizes of the groups allow for a fair and valid comparison.

Finally, there are some limitations concerning the analytical framework ‘Codes and code descriptions for each dimension of *Futures Consciousness*’ (Sools et al., in press) which might have affected the results of the letters. For the presented study the draft version of the framework was worked with which raised some difficulties and uncertainties during the process of coding and, therefore, might have an influence on the findings. The results would have been different with an improved coding scheme in a way that the total numbers of dimensions per group may vary more and allow for a better comparison and statement about the usage of this *Futures Consciousness* dimension. One could expect that these uncertainties concerning the exact application of the analytical framework and the seeming incompleteness of the draft version of the coding scheme influenced the analysis of the findings, which should be considered when using the outcome of the presented study for future studies. Also, one could argue that the analytical issues may have affected the results of the presented study in a way that the connection between hope and the *Futures Consciousness* dimensions could not be made. When conducting future research on this topic, the recently revised version of the analytical framework should be used (Sools et al., in press), in which the abovementioned limitations and uncertainties to the coding scheme are remedied and progressed. However, this newly developed version of the framework was not yet completed when the study at hand was conducted.

Alongside the aforesaid limitations concerning the presented study and the analytical framework, important strengths are making the research unique and worthwhile. Overall, the analytical framework is a great method to qualitatively measure *Futures Consciousness*. Furthermore, with the help of the coding scheme, it was possible to analyze the letters in an thematic way. Another strong point about this study is that the hopefulness scale was tailored to what was intended to be measured because the questions could be freely formulated and adapted to the purpose of the original study. This advantage made it possible to grasp the hope of individuals' regarding their post-Corona futures in the most specific way possible. The uniqueness of the presented study is another strength because the pandemical context is quite recent and there has not been a lot of existing research on the relation between hope and *Futures Consciousness* yet. Due to the unexplored nature of this topic, an unbiased and open approach could be taken because a comparison to already existing studies was impossible. Applying a qualitative research method to the presented study is another strong point because it provided interesting and unique insights into the mindset of younger people. These impressions helped to understand the individual attitudes of the participants e.g., their hope connected to *Futures Consciousness*, as this methodology allows for an open-ended process in which emotional data can be recorded while the individual human experience of the participants was integrated. Since the Corona pandemic is a newly arising, extraordinary situation for people all over the world on which not a lot of research was conducted and because especially the hope aspect has not yet been studied in this context, the insights into these kinds of special events are groundbreaking. The findings of the presented study are helpful for future catastrophic situations by preparing the society in a way that hope is recognized as a positive attitude towards possible future perspectives (Nunn, 1996) which should be supported early in the life of people to prepare them for situations like this and to make them resilient.

The multi-cultural aspect of the presented study is a further strong point that allows for insights into the attitudes and ways of thinking of individuals from different countries and continents rather than only one cultural group. This diverse impression enables making a more generalizable statement about the relationship between hope and *Futures Consciousness* which can be applied to different socio-cultural groups. This, again, makes the presented study diversely usable all over the world. Another strength is the validation of a newly developed analytical methodology (*Futures Consciousness* model) and testing an analytical framework for its usability which can serve as feedback for the researchers of the original study. This has the effect of mutual assistance as the original study provided the analytical framework and the presented study tested the framework for its comprehension and utility. Finally, exchanging thoughts and ideas about the analytical framework with another researcher, who was also working with the coding scheme on a somewhat similar topic, led to interrater reliability consistency coding which is an additional strong point of the presented study.

The fact that the research could be started with an existing coding scheme rather than having to start from scratch is another strong point of the presented study as it can be viewed as an advantage for the reliability and validity of the coding scheme. Of course, it saved a lot of time not having to make up a new analytical framework. Furthermore, testing the coding scheme for reliability and validity by applying it to the Letters from the Future technique gives the presented study another value and importance beyond the borders of the study at hand.

If future research will be conducted on this topic, the limitations and uncertainties outlined above must be corrected and adopted. Additionally, replicating the study at different points in time while the pandemic is still present would make the comprehension of possible

changing attitudes and ways of thinking possible. This could be an interesting follow-up study to be conducted as a more recent data collection might deviate from the input of the letters collected at the beginning of the pandemic and changing attitudes could be observed over time. An interesting problem statement for follow-up studies could be to find out how people with different educational backgrounds differ in how hopeful they are regarding their post-Corona lives, as the data collection procedure of the original study solely enabled the participation of people with sufficient linguistic skills and access to the internet and computer, as discussed above. Another recommended follow-up research is the application of the longitudinal study design to this topic. The prospective kind would allow for the observation of changes over time. The new study would be built on the here presented results in a way that the design is adapted to the main results. To be more precise, the data collection for the longitudinal study would take place every quarter of the year as it is expected that, under pandemic conditions, the hope of people changes and measuring that every three months would allow for detailed traceability of the course of hope. It would be expected that hope diminishes more over time as the pandemic goes on because restrictions and lockdowns might not seem to have a promising effect and the society and government are not able to contain the pandemic. The findings of the presented study were based on a cross-sectional design which suggests that there is a relationship between the different domains of *Futures Consciousness* and hope. However, to know how exactly these dimensions relate to hope, another design would be needed to recognize the exact direction in which these concepts are connected, which should be analyzed in terms of future research.

### **4.3. Conclusion**

The study is relevant to be conducted as hope seems to be an important and promising factor when it comes to the desired future of a person. The findings of the presented study contribute

to the health field and to already existing studies on *Futures Consciousness* in a way that hope is examined in a new pandemic-related context, which made the study unique and exceptional. The findings have shown that hope fosters a variety of post-Corona future dimensions which is why this study contributes to the higher value of the study to raise awareness about the importance of hope in catastrophic times and demonstrate facilities that are in close contact with young people (e.g., schools, sports clubs, and caretakers) how to adequately deal with the hope of younger people to make them resilient for these kinds of extraordinary situations. Beyond, the study raised the important questions of how to help young people to stay hopeful and to foster the capacity to imagine a desirable future in less hopeful people. This scope crosses the borders of the presented study, but the findings are valuable for subsequent future research on this topic in which e.g., the arousal, the preservation, and the reconstruction of hope regarding the *Futures Consciousness* dimensions could be of particular interest. Besides the higher value of the presented study, the *Letters from the Future* yielded a personal value while examining those as the post-Corona future affects me as a researcher and a young person as much as the authors of the letters. While reading and understanding the different letters, it was noticeable that it was easier to identify with the authors who were writing about smaller changes in everyday life compared to those authors who wrote about flying cars, a tremendous climate change, or artificial intelligence. This might be because this study raised my awareness about the importance of hope regarding my post-Corona future as to want the life before the pandemic back and not to think about any, in my sense, 'farfetched' visions.

To conclude, one can state that this research project can act as an indication and basis for future work concerned with the topic of pandemic-related futures as imagined by younger people. The findings of the study reveal that there is a relation between the level of hope younger people have concerning their post-Corona lives and their ability to imagine a

desirable future. This relation contains that hope increases *Futures Consciousness* in younger people and, partly the other way around. These outcomes confirm the expectation from the beginning of the study implementation that high-hope participants might be better able to visualize a desirable post-Corona future compared to low-hope participants. However, follow-up studies on the relation between hope and *Futures Consciousness* would be advisable and valuable to be performed to confirm the reliability and validity of the findings of the presented study which could be proved by other researchers. To enhance the quality and trustworthiness of future research it must be ensured that the limitations and weak points of the presented study are accounted for and corrected to gather even more expressive findings with which the relation between e.g., hope and *Futures Consciousness* can be studied and analyzed. It is desirable to carry on with research on this topic because the importance of hope in younger people should not be underestimated, especially in such extraordinary times as a pandemic as hope seems to be an encouraging quality to watch one's future. The findings of the presented study are concerned with a not yet commonly investigated, recent topic affecting the whole society and people from all over the world, which made this research timely. The knowledge of these new insights should be used as a starting point for future studies.

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## 6. Appendices

### Appendix 1:

#### Information letter and 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.

## **Appendix 2: Letters from the Future method**

### **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.

**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.

**Appendix 3: Surveys**

**4-item Brief Hopefulness Scale**

**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"/>				
My outlook on the future of the country where I reside is	<input type="radio"/>				
My outlook on the future of humanity is	<input type="radio"/>				
My outlook on the future of the planet is	<input type="radio"/>				

### 3-item Certainty Scale

**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.