

VALUES, ENVIRONMENTAL AWARENESS, RISK & COVID-19

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Final Report GSS Project 3

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Abstract

This research is dealing with the effects that the current COVID-19 crisis has on values, specifically environmental ones. By pursuing a longitudinal quantitative study in Lüneburg, GER, and Tempe, USA, we ask if and how participating in the World Value Survey influences environmental awareness and climate change attitudes in times of COVID-19, how the crisis related to the coronavirus may change major values, and how the crisis affects environmental awareness and climate change attitudes over time. Depending on the dynamics of the situation, the research will continue by asking if it is possible to shift people's values back into crisis mode after an event and if yes, if it could help to direct and influence values in the future. In addition to the quantitative survey method, qualitative interviews will be implemented at a later stage of the project in order to deal with certain values more in depth. As of now, the project is still in the data-gathering stage. Nonetheless, the research will yield relevant, timely, and valuable results, as it will be interesting to see if environmental awareness increases in times of crisis or if it gets lost entirely.

Keywords: World Values Survey, Environmental Awareness, Risk, COVID-19, Corona-crisis

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1 Values in Times of COVID-19

As permafrost across the arctic thaws, droughts increase in frequency and severity, and extreme weather events become a regular occurrence across the globe (Wuebbles et al, 2017), the urgency to act on man-made climate change grows. Recent years have seen an increase in public and political awareness of the climate crisis as one of the most pressing global problems (Federal Ministry for Cooperation and Development, 2016). In the last months of 2019, public attention was abruptly drawn to the sudden and rapid development of the global corona crisis, which grew from a localized health issue to a global pandemic in a matter of months. As the crisis develops and uncertainty about the future remains, its impact on economic, social, and financial development begins to show (Krastev, 2020).

The question arises which lasting impacts the corona crisis will have on people's values in general, and how this might translate to their behaviors and attitudes towards other crises, particularly climate change. The priority placed by individuals on different values can shift in times of great uncertainty and in response to drastic life changes (Sortheix et al, 2019), both of which can currently be seen on a global level. With values serving as deep-rooted leverage points in attitude and behavior change (Abson et al., 2017), a change in values due to increased uncertainty in this crisis setting is therefore likely to affect related attitudes and perceptions. A review of current literature on the interplay of climate change and values shows a clear research gap in regard to how changing values impact attitudes towards the climate crisis. Studies instead focus on the influence of the climate crisis itself on societal and political values and how societies adapt to the changing climate and its entailing consequences (Kvaloy et al., 2012; Leiserowitz, 2006; Libarkin et al., 2019). Our proposed research aims to tackle this research gap by focusing on the impact of the current corona crisis on values, and how this might affect the perception of the climate crisis.

The corona crisis and climate change are similar in that both are unarguably urgent and time-sensitive problems that affect all of society on a global level. With borders closing, public life shutting down, and people being confined to their own homes due to the current state of emergency, the corona crisis strongly impacts people's daily lives. Negative impacts of climate change can already be seen worldwide as well, but may not be as present in people's minds as the current health crisis. Nevertheless, with greenhouse gas emissions steadily increasing and planetary boundaries being pushed to their limits, tackling the climate crisis is similar in urgency and time sensitivity, and the Intergovernmental Panel on Climate Change (IPCC) warns that failure to act fast will lead to hardship and financial loss in the future (Federal Ministry for Cooperation and Development, 2016). In recent months, environmental activism increased in many countries around the globe, reinforced by the rise in popularity of the youth movement Fridays for Future (Laville and Watts, 2019). With the current crisis in mind, it will be interesting to see whether this movement will keep its momentum in the coming months, or whether changes in values and attitudes will inevitably lead to less priority placed on environmental activism, as attention shifts towards areas such as healthcare and food security.

The proposed research will be conducted in a cross-cultural study with the German city of Lüneburg and the city of Tempe in the United States. Cultural, geographic, and demographic differences between the cities suggest that participants will have different overall values and attitudes, but all of them are currently directly affected by the corona crisis and will be likely to be aware of the climate crisis. By including cities from different countries, we will be able to compare results in a cultural context and explore how different circumstances during the crisis impact value and attitude change.

2 Literature Review and Key Supporting Theory

Schwartz (2012) refers to values as “what is important to us in life” (ibid., p. 3). Values are an important subject of research in several disciplines since they are seen as determinants for perceptions, attitudes, and behavior (Hiltin & Piliavin, 2004; Rokeach, 1973). According to Schwartz’s theory of basic human values, values motivate and guide action as they refer to desirable goals and serve as standards or criteria. As overarching principles in an individual’s life, values transcend specific actions and situations which distinguishes them from other concepts, such as attitudes or norms (Schwartz, 2012). In particular, Schwartz identifies ten universal values that differ with regard to the broad goal they refer to. Namely, these are Self-Direction, Stimulation, Hedonism, Achievement, Power, Security, Conformity, Tradition, Benevolence, and Universalism. Those universal values are individually ordered by importance relative to another, meaning that people differ in their personal value hierarchies (Bardi & Goodwin, 2009; Schwartz, 2012). Since this relative importance ultimately guides action, it is important to emphasize that certain actions in pursuit of a specific value typically conflict with some values and are aligned with others at the same time. In general, two overarching dimensions summarize the possible key conflicts between the values: self-transcendence (concern for others) vs. self-enhancement (concern for oneself) and openness to change vs. conservation (Schwartz 2012).

Another frequently used value concept is centered around the postmaterialism and self-expression values of Inglehart and Welzel (Beckers, Siegers, & Kuntz, 2012). Even though the applied definition by the authors also refers to “standards for desirable and undesirable goals” (Inglehart & Welzel, 2005, p. 23), the developed approach differs from Schwartz’s theory as the underlying institutional processes are emphasized by Inglehart, while Schwartz is more focused on the individual level (Mohler, Rammstedt & Wohn, 2006). Inglehart and Baker (2000) developed a Materialism-Postmaterialism index to explain changes in societies. This model was later on expanded to two cultural dimensions: Traditional vs. Secular-Rational values and Survival vs. Self-Expression (Inglehart & Baker, 2000; Inglehart & Welzel, 2005). Due to the focus on individual values, Schwartz’s theory of basic human values will mainly be applied to individual value changes in this project. Since environmental concerns belong to post-material concerns, especially the postmaterialism values and new politics perspective as proposed by Inglehart and colleagues will play a role to establish a

relationship between possible value changes and associated changes in attitudes towards the climate crisis.

2.1 Value Changes

Even though values are considered to be relatively stable, changes in values can occur. Bardi and Goodwin (2011) define a value change as “a change in the importance of a value” (ibid., p. 26). It has to be differentiated between mean-level value changes and intra-individual value changes. While mean-level changes are located on population-level and refer to changes in the average value importance, intra-individual change describes individual changes in the rank order of the values (Bardi & Goodwin, 2011). According to Bardi and Goodwin (2011) environmental cues, such as triggering events or special circumstances, are often the trigger for value changes. The specific environmental cue can cause an, often initial, value change in two ways:

1. The individual directly re-evaluates existing values, directly leading to the value change.
2. The event requires the individual to act in a new schema which then leads to a priming of new values, potentially leading either directly to a value change or to a re-evaluation of values which then again results in a value change.

The initial value change becomes long-lasting if a repeated priming and re-evaluation occurs (ibid.).

2.2 Individual Values in Times of Crisis

Besides events that may occur on a day-to-day basis, such as intense discussion with friends or family, major public events can also induce a value change. Typically, extreme events, for example natural disasters, lead to commonly experienced negative feelings, such as anxiety and uncertainty (Daniel et al., 2013; Sorthaix et al., 2019). Additionally, with crisis associated severe traumatic impacts often undermine the previously unquestioned assumptive world of the individual, thus possibly questioning underlying beliefs, attitudes, and values (Daniel et al. 2013; Janoff-Bulman, 1989) which may then result in a re-evaluation of values. It can be assumed that another main factor in this process is the individual perception of risks. Risk perceptions on one hand can be assumed to influence the reaction to the crisis and thus may impact the value change. On the other hand, values determine individual risk perception to some degree: According to the cultural cognition theory people perceive risks in relation to their values. In general, people weigh the risk of a situation in alignment with the values they hold. This means, that the individual risk perception, underlying values, and value changes influence each other mutually. Criticisms of this method include that it is only built around the current polarization of values in the United States (La Croix and Gifford, 2018).

3 Research Design

In the following sections, a short overview of the overall research design will be provided. The general structure of the research project is displayed in Figure 1. The research is designed in a way that reflects the dynamics of the crisis. The first wave of sending out questionnaires to the respective groups, which are elaborated upon in the next section, will take place during peak times of the corona crisis during which certain restrictions and lockdown rules are still in place. The second wave of survey questionnaires will be sent out once the crisis has lessened or even been tackled completely. This must be evaluated at a later stage of the project again, as it must follow the dynamics of the crisis. After the quantitative data from the first and second wave has been analyzed, qualitative interviews will be conducted. Participants will indicate in the survey if they are willing and available to participate in such interviews. The form and execution of the interviews will be adjusted to match the current situation of that point of time and the crisis situation.

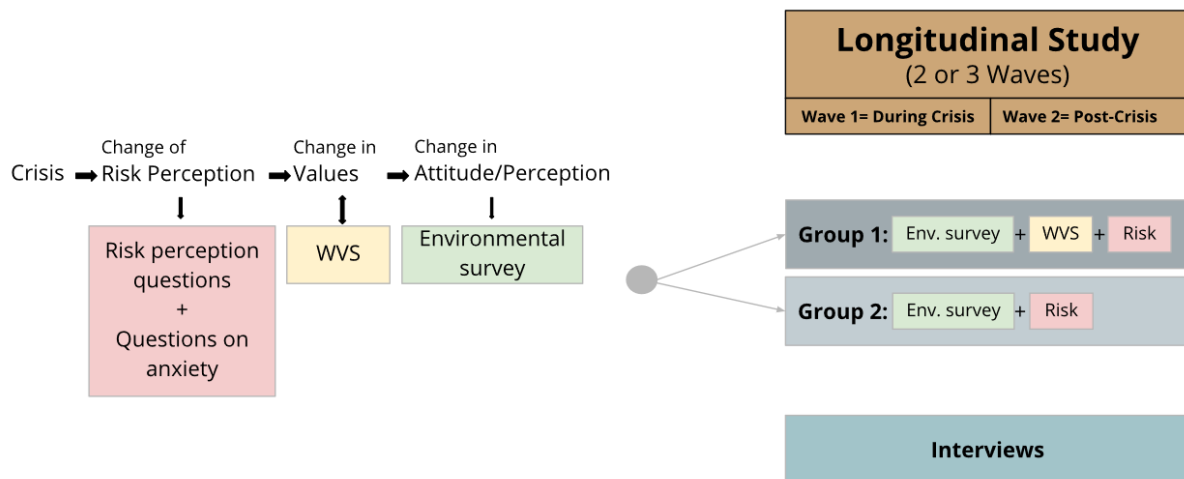


Figure 1: Research Design.

3.1 Participants

Participants will be divided into two groups. The first group will answer all three parts of the survey, namely the risk perception, the environmental survey, and the adapted world value survey. The second group will answer only two of the survey parts, which are the risk perception and the environmental survey. This is also displayed in Figure 1.

The groups operate under the assumption that high-risk times can shift values, which may then shift environmental attitudes. Participants will also be asked to fill in demographic information and specific location so surveys may be stratified later in the study.

Recruitment will have to be creative due to the coronavirus restrictions and working remotely. All recruitment methods will note that this study requires participation over a few months to try reducing participant dropout. In Lüneburg flyers with a link to the online

survey will be distributed via post. In Tempe, the researchers will utilize community board websites, the next-door app, and neighborhood associations to ask for public engagement.

3.2 Study Area

This study will perform a cross-cultural comparison between two cities, which are the northern German city of Lüneburg and the southwestern US city of Tempe, Arizona. Tempe is approximately 1.5 times the size of Lüneburg in terms of land area and almost 3 times the size of Lüneburg in terms of population. The environments of both cities are extremely different, with Tempe being classified as a hot desert (BWh) on the Köppen-Geiger scale, while Lüneburg is classified as marine west coast (Cfb). However, both towns are the home of a university, which influences the city culture, and both contain populations of diverse socioeconomic backgrounds.

The study will examine the populations of both towns on a city-wide basis, drilling down to specific neighborhoods in the analysis if enough data is available.

At the time of survey distribution in Lüneburg (calendar week 19 and additional flyers in calendar week 21, May 2020), the total detected COVID-19-cases in the Landkreis Lüneburg were ranging between 162 and 166, most of which were assumed to be recovered at this time. Two active cases were detected for the Landkreis (LZ Lüneburg, based on Data of RKI and John Hopkins University). In Germany, the total number of cases was 166 152 on May 04th and increasing to 180 328 until March 24th. Until March 24th, there were 8257 COVID-19-related deaths in Germany (RKI). In Lower Saxony as well as in the rest of Germany, several restrictions were in place. These included contact restrictions as well as mandatory use of face masks on public transport, supermarkets, and other shops (Bundesregierung.de; Land Niedersachsen). While all shops which had been classified as non-essential had been closed since mid-March, they could reopen from May 6th with the provision of strict hygiene measures and arrangements to ensure a distance of at least 1.5m between customers (NDR1 Niedersachsen a). School and day-care emergency programs were extended, and some classes were allowed to have limited in-person lessons (Niedersächsisches Kultusministerium). From May 11th, first gastronomy businesses were allowed to serve customers, also under strict hygiene measures (NDR, 2020b).

4 Quantitative Survey

The following sections provide an overview of the quantitative part of our study. The following chapter describes the survey design, the quantitative as well as qualitative pre-test procedure for this part of the study as well as the sampling strategies for Lüneburg and Tempe.

4.1 Survey Design

The questionnaire consists of five parts, which have all been chosen due to different criteria. The first part of the questionnaire includes formalities such as the declaration of consent, the creation of a personal code word which will be used to sort the studies throughout the

different waves, and a demographic section. The latter one varies slightly between the questionnaire for Lüneburg and the one for Tempe, as it needs to fit the contextual peculiarities, such as the school systems, taxable income, or neighborhood.

The second part of the survey is the environmental questionnaire. Here, it has been decided to use a survey tool that has already been established to make sure the tool has been accepted academically. Therefore, this study uses the revised New Ecological Paradigm Scale (NEP) as designed by Dunlap et al. (2000), which is a measure of endorsement of a “pro-ecological” world view. It is used extensively in environmental education, outdoor recreation, and other realms where differences in behavior or attitudes are believed to be explained by underlying values, a world view, or a paradigm. The scale is constructed from individual responses to fifteen statements that measure agreement or disagreement. Furthermore, it has previously been widely used in different countries. Deducing from that, one can argue that the NEP will work well in assessing ecological worldviews within both target contexts of this study. To supplement the NEP, which is mainly about beliefs, with information regarding general concerns about environmental behavior and its consequences, some questions as designed by Snelgar (2006) have been added. This allows us to examine the egoistic, altruistic, or biospheric orientation of the participants. In addition to this, one question about dietary habits has been added to this section.

The third part includes a risk perception assessment. As the current situation is highly dynamic in its timeliness and development, we were unable to use a pre-existing tool in this section. Thus, a questionnaire of 13 questions has been newly designed, which aims at assessing perceived risks for both an individual level and a collective level. Regarding the individual level, the questions have been designed for the purpose of this research, meaning they include questions related to the coronavirus (indirect and direct) as well as questions related to more general risks. Regarding the collective level, one main question from the World Economic Forum’s Global Risks Report 2019 has been utilized. It does include most of the acute global risks but excludes the corona crisis as it has been published before 2020. The understandability of this section specifically has been tested through a qualitative pre-test (section 4.3).

Whereas the previous sections are being displayed to all participants, the following one, which includes the world value survey, is only accessible for one of the randomized groups. In cooperation with the World Value Survey network, the survey has been condensed, leaving in only the questions relevant to the study at hand. The world value survey has been chosen as a tool in the first place due to its worldwide accessibility, its exhaustiveness, and its cross-national applicability. Another reason to choose this survey is that the data of wave 7 will be published in 2020, allowing us to use that data to zoom in from a global to a local level. Furthermore, the project leaders are currently themselves undertaking a value-risk survey regarding the corona crisis and encourage other academics to engage with them to share data. This can be helpful for the continuation of this longitudinal study.

The entire questionnaire is rounded up by the fifth section, again displayed to all participants, which contains three questions to evaluate the quality of the survey. This promises to help detect mistakes, uncover obstacles in the handling of the survey, to give people the space to

express themselves, and to ultimately allow for some adaptations for the following rounds of sending out the survey.

The survey is attached in the Appendix.

4.2 Quantitative Pre-test

Our first three research questions focus on (1) how participating in the World Value Survey (WVS) influences environmental awareness, (2) how corona changes values over time, and more specifically (3) how the corona crisis affects environmental awareness and climate change in particular. To answer these questions, data from multiple research waves and groups is needed, as indicated by the study design above. A quantitative pre-test was done to determine whether answering questions related to the NEP would influence participants' responses to the WVS questions.

In order to compare WVS-scores of two different research groups, one of which had answered both NEP and WVS, and the other of which had answered only questions related to the WVS, we created an index based on the Materialist/Post-Materialist values. Due to the length and complexity of the WVS, we decided to focus on a few carefully selected items as indicators for the overall WVS results rather than trying to build an index for each individual section. Therefore an index of Materialist/Post-Materialist values priorities was constructed in accordance with the following principles. If post-materialistic values were named as the 1st and 2nd aim, then the score was encoded as 0 = pure post-materialism. If the 1st aim was a post-materialistic value and the 2nd aim was a materialistic value, then this combination was coded with 1 = rather post-materialistic orientation. If the 1st aim was a materialistic value and the 2nd aim was a post-materialistic value, then this combination was coded 2 = rather materialistic orientation. If materialistic values were named as the 1st and 2nd aim, then encodes this combination was coded as 3 = pure materialism. The more complex 12-item version of Materialist/Post-Materialist values priorities was coded by repeating the above procedure for the other values and then adding three four-item indexes into a new summed index. Our final index thus has values ranging from "0" (the Materialist extreme) to "5" (at the Post-Materialist pole). A t-test of this index for the group that received the NEP and the WVS and the group that received only the WVS showed no significant difference between the mean values ($\alpha = 0.05$). It was therefore assumed that the NEP questions had no effect on how the participants answered the WVS questions and that no additional third control group would be required, which means that two groups would be sufficient for our future research.

4.3 Qualitative Pre-test

To identify flaws and assure the understandability of the questionnaire, we complemented the quantitative pre-test with a qualitative pre-test. We oriented ourselves on the two-phase-testing approach suggested by Prüfer and Rexroth (2007) and adapted it accordingly. Instead of a subsequent approach, qualitative pre-testing was conducted parallel to quantitative pre-testing.

Besides the aim to assess the participants' general perception of the survey as a whole, the focus was on the understandability and perception of the risk perception questions in

particular as the included questions in this section were not adopted from already well established and validated question blocks.

The conducted qualitative pre-test was structured according to the following four main areas:

- (1) Descriptive data on the participant: demographics
- (2) Descriptive data on the survey displayed to the participant: Language and treatment group
- (3) General perception of the survey as a whole
- (4) Specific perception of the risk perception questions

While the areas (1) and (2) were assessed by open questions, so-called cognitive pre-test techniques were employed for the areas (3) and (4).

In order to assess the general perception of the survey, general probing was applied which consisted of three general questions, such as “When reflecting back on the survey, was there a question that you did not understand?”. For the focus of the qualitative pre-test, the assessment of the risk perception questions, the two previously identified techniques with the most potential, retrospective think-aloud, and category selection probing, were tested in four interviews with participants from the researchers’ private environment to identify the most suitable technique. With retrospective think-aloud participants were asked to state the underlying thoughts that led to the final answers. This mainly resulted in participants stating the answer they gave and explaining why they chose this answer, which basically is the idea behind category selection probing. Thus, the latter was used and if necessary, adapted for the qualitative pre-test. To have a clear structure, a scheme for the pre-testing was developed and used in the interviews. The scheme for qualitative pre-testing is included in the appendix.

The participants of the quantitative pre-testing sample were approached via email. Unfortunately, only two participants were willing to conduct the qualitative pre-test. With those two participants, an interview was conducted via Zoom. During the interview, the developed scheme was followed. During the category selection probing of the risk perception questions, we opened the questions in the preview function of Qualtrics and shared the screen with the participants to help them remember the questions.

Even though we had hoped for a higher number of participants, the conducted pre-tests with a total of six individuals, as we included some of our family members in the sample, rendered sufficient data to assume with a high certainty that all questions are understandable and valid. Due to the qualitative pretest, existing flaws, mainly spelling and translation mistakes, could be identified and corrected. Additionally, an interesting pre-insight whether and to what extent participants related the risk perception questions to Corona was gained: The degree to which people associated the risk questions with Corona was varying notably. While some individuals did not think about Corona when answering the questions at all, others entirely focused on the current situation. A possible explanation for this may be that the individuals that did not relate the risk questions to Corona potentially were not affected by the situation as much. This supports the approach to include additional questions on the consternation due to Corona as well as to examine this in more detail in the qualitative part of the research project.

4.4 Sampling

The following sections provide an introduction to our sampling method for Lüneburg and Tempe. It partially draws on ideas from Hoffmeyer-Zlotnik (2003) and Häder (2016) regarding “random-walks” and similar approaches. The sampling methods might in some aspects seem “unconventional”, however, one has to notice that important preconditions, such as, for example, a full list of the registered citizens in a certain city, for conventional approaches were not fulfilled and the ongoing COVID-19 pandemic called for creative approaches. Furthermore, other sampling methods have proven to be outdated or insufficient for our use.

4.4.1 Sampling for Lüneburg

By choosing for the questionnaire to solely be available online we followed an approach that has proven to be adequate for the German population. Most standardized surveys in Germany are conducted online (Wagner-Schelewsky and Hering 2019, p. 787). In general, it can be said that "online surveys are always a sensible option if the targeted group of participants is large and has Internet access" (Wagner-Schelewsky and Hering 2019, p. 789). The realization of an online survey however had consequences for the sampling process. Although the digital divide seems to be slowly disappearing over time, there are some differences between the German online population and the German population as a whole (van Dijk and Hacker, 2003). Among German Internet users, for example, older people, women, people who are not in employment, and people with a low level of education are underrepresented (Initiative D21 e. V. 2019). All in all, however, the positive aspects of standardized quantitative online surveys appear to outweigh the negative ones. In combination with the good fit of the survey method to the research objective, this approach was therefore chosen in the present study.

The sampling consisted of different steps, in the whole ensuring a randomized, but also feasible/achievable sample. First, based on an official document of the city of Lüneburg, 768 different streets, each one associated with one of the 17 city-districts were identified (Hansestadt Lüneburg, 2013). Second, by randomly choosing 10 percent of the identified streets a sample was gathered ($n=77$). After the distribution of the initially planned 2465 flyers, due to relatively low return rates, another 768 flyers were distributed. All in all 3.233 flyers were distributed in Lüneburg. Third, each of these streets was visited by one of five flyer distributors, who followed the subsequent procedure.

Generally, flyer distributors were instructed to distribute 32 flyers in each street based on an instruction sheet with a randomized procedure. Accordingly, this means that 2465 flyers have been distributed. For every street, distributors had to start in the geographical middle of the street (e.g. for a 1 km street at km 0.5). Distributors then had a look at the instruction sheet they were provided with. Based on the presented instructions a general direction for a street was selected, to (during the next steps) walk upstreet (increasing house numbers) or downstreet (decreasing house numbers). If house numbers went in the opposite direction for each side of the road, the distributors had to orientate themselves on the even numbers. Next, they identified the house next to them. One was distributed into every mailbox of this house. In the next step, the distributor added (upstreet) or subtracted (downstreet) a (random)

number that was presented on the instruction sheet to the house number the distributor just started with. This then was the next house, again one flyer was distributed into every mailbox. Again the next house was identified on the just-introduced procedure. The process was repeated until all 32 flyers had been dropped. Then the distributor had to move to the middle of the next street of the sample. If for some reason distributors were not able to find the necessary house number they had to drop the flyers at the next house/mailbox possible in the same street. If they reached the end of the street and still had flyers, they returned to the middle of the street and continued in the other direction. If streets only had a few house numbers, flyers were dropped in a connecting street.

4.4.2 Sampling for Tempe

Since the Internet penetration rates for Arizona in general and the Tempe metropolitan area, in particular, can be considered sufficient (broadbandnow.com, 2018), the same online survey approach as for the German sample was chosen. Due to the travel restrictions associated with COVID-19 and the lack of external funding, an alternative sampling approach was chosen. By contacting all neighborhood and homeowner associations of Tempe (~160) the intention was to distribute access to the online questionnaire. Although not all the associations contacted responded to the request to distribute the survey within their network, the response rates were acceptable. To ensure sample comparability to the statistical population of internet users of Tempe sample demographics will be compared to existing studies for the region in focus (census.gov, 2019).

5 Qualitative Survey

In the qualitative part of the study, deeper insights into participants' experiences during the pandemic and the associated lockdown will be revealed in guided interviews. With these findings, we aim at gaining a more sophisticated understanding of potential changes in values and environmental attitudes among the participants and the underlying dynamics which led to these changes. The following sections provide an overview of the questionnaire design and the pre-test of the interview guideline.

5.1 Questionnaire Design

Guided interviews provide the needed balance between openness and structure. Openness is one of the key features in qualitative research that describes the exploratory manner which allows for unexpected insights and might unveil unforeseen dynamics and relations (Steger 2013). The structure provided by this mode of research supports the comparability of findings (Loosen 2015). The interview questions cover the same topics as the quantitative survey, namely values, environmental attitudes, and perception of the crisis situation. For each question, there are potential follow-up questions that can be asked by the interviewer to get more detailed answers about causes and motives for the participants' actions, behavior, and

feelings.

At the beginning of the interview, the participant is welcomed and provided with an introduction that assures that the data will be anonymized and the participant can decide if they want to answer the questions or not. The questionnaire was designed for a 30-minute interview.

In order to get the participant to reflect on their experiences during the lockdown, the participant is asked to describe what their life was like three months ago, which means directly before pandemic had reached Europe and people were still living their everyday lives. In the following, the participant is asked about the changes that they have made since then. This formulation is aiming at the decisions and actions of the participants to unveil how their perception of the situation influenced their behavior and the underlying motives of these decisions.

The second section is designated to questions about the participants' values and how these have changed.

The participants are asked to take some time to think about what is important to them in life. Since this is a very personal and possibly overwhelming question, the participant is given time to reflect on it. Once they have given their answer, they are asked whether these priorities have changed in the past few months.

Then, the questionnaire moves towards the environmental section in which the participant is asked if their environmental attitudes and beliefs have changed over the past months. This question is followed by a question about attitudes and beliefs towards climate change specifically as this is one of the most pressing global concerns and the COVID-19-pandemic and climate change have often been compared in recent debates (e.g. Hägele & Mathis 2020). To close the interview, the participants are asked what they miss the most and what they are looking forward to. The aspects that are mentioned when talking about what they miss the most are supposed to give insights into what changes have happened to people that they have not intentionally made and to cover details that might not have been described in the section of the questionnaire that has been devoted to the participants' values. Since the interview covers sensitive topics which might be difficult to talk about or bring about feelings of sadness or unease, letting the participants explain what they are looking forward to is supposed to let people leave the interview with a more positive feeling and instead of leaving them with their mind around potential problems and unpleasant circumstances.

5.2 Pre-test

To ensure the soundness and to verify the estimated length of the interview, pre-test interviews were conducted with fellow students.

In the first pre-test phase, three students were interviewed via Zoom. The audio of the interviews was recorded and transliterated. After the interview, the participants were asked several questions on the experience of the interview and their perceptions regarding the quality, quantity, and soundness of questions. The overall feedback was very positive. Some questions came up regarding the intention of some of the questions, especially regarding the second question dealing with the intentional changes that people made instead of asking which changes occurred in their lives. One of the participants suggested asking specific

questions regarding their perception of animal trading since this might be an interesting aspect to investigate during the COVID-19 outbreak and its origin.

However, we decided to leave this aspect uninvestigated since it does not match our initial research interest. No further adjustments regarding the content of the questions were made.

While the interviews took only around fifteen minutes and thus only half of the anticipated length, a first analysis confirmed that the detail of the participants' answers were sufficient to give deeper insights into the investigated topic and covered all areas of interest. No further questions were added.

Based on the experience from the interviews, changes of interview guidelines were made regarding the second section of the interviews aiming at the participants' values and specifically the question of what is important to them in life. Here, a passage was added to make the transition from their everyday life towards their general values more fluent and an emphasis was added that people should take as much time as they need to think about what is important to them since this question had interrupted the interview flow in the first pre-test phase. Further options for follow-up questions were investigated and included in the interview structure.

In the second phase of the pre-test, it is tested whether the changes had the desired effect. The first interviews confirmed the desired outcome, mainly regarding the second section and the feedback on the participants' experience was positive. However, this second phase is still in progress and final conclusions will be drawn at the end of the second pre-test phase.

6. Outlook

The next steps of the project are highly dependent on the development and the dynamics of the COVID-19 pandemic. First of all, data gathering has to be finalized in the city of Tempe. After that, the data sets derived from this first wave of the survey distribution need to be analyzed and compared. The next wave of surveys will then be sent out accordingly. When exactly this will take place remains unknown at this point in time, as it depends on the development of the severeness of the crisis. Overall, the broad aim is to conduct the research within the year of 2020.

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Appendix

Attachment 1: Scheme for Qualitative Pre-testing

Qualitative Pre-Testing:

Open preview in Qualtrics:

- (1) risk questionnaire block
- (2) Q163 through answering in the pre-testing section
- (3) Q172: drag and drop question via the translation tool

Pre-Test Date:

Interviewer:

Introductory part

- First of all: Thank you so much for deciding to engage in this interview with us
- Introduce yourself: name, master student of global sustainability science at Leuphana in cooperation with Arizona State University in Tempe
- Info on survey: The survey is part of a joined research project between these universities and will explore how value hierarchies may or may not shift during times of crisis.
- Info on interview: During this interview we will ask you some deeper questions regarding the survey about your life and the environment which we have sent to you before. More specifically, you will be asked why you chose a certain answer or to tell us about your thoughts during answering. We would like to ask you to be as honest as possible, since your answers will greatly help us in validating and strengthening our survey. Your answers are for this scientific purpose only and will not be passed on to third parties or commercialized. This interview is on a voluntary basis. You can stop the interview at any point or ask us to skip a question if you do not feel comfortable answering it.

Part	Question/Text	Answer	Comment/possible follow-up questions
Intro	Before we start with the pre-test, do you have any questions?		
I. Demographics	First of all, it would be great if you could tell us your age.		
II. Orga	To get a better understanding of the survey you took, I will now ask some general questions on the survey set-up.		
II.1	Did you take the survey in English or German?		
II.2	When starting the survey, did you answer a block of questions concerning the environment?		
II.2a	If yes, did you afterwards answer a large block of questions concerning your individual attitudes and values in life?		Yes: Envi + WVS + Risk No: Envi + Risk
II.2b	If no, when starting the survey, did you answer a large block of questions concerning your individual attitudes and values in life?		Yes: WVS + Risk
III. General Probing	Now, we will continue with general questions about the survey as a whole.		
III.1	When reflecting back on the survey, was there a question that you did not understand?		If yes: What was it that you did not understand here? How did you understand the question? What could we do to make understanding the question easier for you?
III.2	When reflecting back on the survey, was there a question you did not feel comfortable answering?		If yes: Did you still answer the question? What could we change to make the question easier to answer for you?
III.3	Do you have any other remarks on the questionnaire that you would like to share with us?		
IV. Risk questionnaire	Thank you a lot, that already helps us. In the following we will focus on a specific block of questions that you have already answered and go through the questions individually. It would be great if you could indicate the answers you chose. <i>"Share screen with demo version of the questionnaire"</i>		
IV.1 – Q164	Taking a look at the first question, what was the image or thought that came to your mind? Why did you think of this in particular?		
IV.2 – Q165	<i>"Read question out loud"</i> Why did you answer this way? [especially when people state having a moderate or low emotional reaction]		
IV.3 – Q166, Q168, Q169, Q167, Q179)	Please take a look at the following block of questions that relates to perceived risks, uncertainties and feelings of anxiety within the past weeks. Now I ask you to think about the answers you've given. Did you relate those questions to the thought/image that you've stated in the first question?		
IV.3.a	If no, what did you have in mind?		

IV.4 – Q162, Q163	Now for the next two questions I would like to ask you again to state the answer you've given. <i>*Read out Q162 out loud and wait for answer*</i> Why did you select those areas? <i>*Read out Q163 out loud and wait for answer*</i> Why do you perceive this area to be at risk the most?		
IV.5 – Q 172	When thinking about the next question, what did you relate the risks to in order to sort them: did you think about the risks you perceive to be the biggest for yourself / for humanity / for your country / ...?		
V. Finish	That was already most of the interview. Is there anything else you would like to add?		

Now, that was it. Thank you again for participating in our pre-test.

In case you have any other questions or remarks regarding our research projects, you are welcome to contact us via study.wys@gmail.com and can also reach out to us via Henrik.

Attachment 2: Quantitative Survey (Tempe Version)

ASU GSR Survey - Tempe

Start of Block: Welcome Picture

Start of Block: Declaration of consent

Q160 Welcome

Dear participant, welcome and thank you for your interest in our study. In the following 20-30 minutes we will ask you some questions about your life and the environment. The data are for scientific research purposes only.

Voluntary participation: Participation in the study is voluntary. You may end your participation in this study at any time and without giving reasons, without any disadvantages for you.

Anonymity and data protection: Of course, the evaluation is pseudonymised and answers cannot be traced back to you.

The study is part of a long-term survey. We would be happy to interview you again at a later point in time. In order to be able to contact you, you will be redirected at the end of the study and asked to provide your e-mail address. The submission of your e-mail address is voluntary. Your email address will be stored separately and will not be linked to your details in the survey. Your e-mail address will not be passed on and will only be used for the purpose stated. After the end of the study or for the evaluation of the data, your e-mail address will be deleted.

The data collected in the course of this study will be treated confidentially. Survey data is only analysed and shared with third parties for scientific purposes and in such a way that no conclusions can be drawn about individual respondents. Furthermore, the results of the study will be published without your data being attributable to you personally. The results of the survey will not be commercialized.

Declaration of consent: The participant information presented above is part of the consent form.

Information and consent: I hereby confirm that I have been informed in written form about the study. I have read and understood all information completely. I also agree with the described collection and processing of data (demographic data, questionnaire data).

Voluntariness: I understand that participation in the study is voluntary and that I can terminate my participation at any time without giving reasons.

Anonymity and privacy: The collection of your personal data is pseudonymised, i.e. your name is not asked for at any point. Your answers and results are stored under a personal code word, which you have created yourself based on a rule. This means that it is not possible for anyone to associate your data with your name. By entering this code, you can request a direct deletion of your data until the end of the compilation of the data sets.

I agree that my pseudonymised and or anonymised data can be used for research purposes and will be stored for at least 10 years. The provision of the e-mail address is voluntary. The e-mail address will not be passed on and will only be used for the purpose stated. After the end of the study or for the evaluation of the data, my e-mail address will be deleted, so that no conclusion can be drawn about my personality at this point either.

If you have any questions or other concerns, please contact us by mail at study.wvs@gmail.com

I have read the above-mentioned conditions of participation in this online survey, in particular the data protection guidelines, and by checking "I agree" I agree to participate. If you do not wish to participate, please tick the box "I do not wish to participate". Many thanks!

☐ I agree

☐ I do not wish to participate

End of Block: Declaration of consent

Start of Block: Personal Code Word

Q161 **Code word** In order to be able to assign your data correctly without violating the privacy, we need a code word. The code word is structured in such a way that nobody can derive any conclusions from your code word to your person, not even we. However, you yourself can reconstruct your code word at any time if you are asked for it and should have forgotten it. We only need to tell you the rule by which you have to make it.

1. the last two letters of your mother's (first) first name 2. the first two letters of your father's (first) first name 3. the number of letters of your first name

* Please **write all numbers with two digits**, i.e. with leading zero if necessary. * If you have several or compound first names, please only include the first one. * If you do not know the respective name, write XX instead of the letters or 00 for the number.

End of Block: Personal Code Word

Start of Block: Demographics

Q163 Timing

First Click

Last Click

Page Submit

Click Count

Q1 What gender are you?

☐ Male

☐ Female

☐ Other

Q2 How old are you?

☐ Age in Years _____

Skip To: End of Survey If Condition: Age in Years Is Less Than 18. Skip To: End of Survey.

Q3 Were you born in this country, or are you an immigrant?

☐ I am born in this country.

☐ I am an immigrant to this country.

Q4 What is the highest educational level that you have attained?

☐ Didn't go to school

☐ Elementary school complete

☐ Middle school complete

☐ High school graduate

☐ Associate's Degree

☐ Bachelor's

☐ Master's

☐ Doctorate or higher

Q179 Are you currently

☐ Married

☐ Living together as married

☐ Divorced

☐ Seperated

☐ Widowed

☐ Single

Q180 Have you had any children?

☐ No child

☐ One child

☐ Two children

☐ Three children

☐ Four or more children

Q8 Are you working for the government or public institution, for private business or industry, or for a private non-profit organization? If you do not work currently, characterize your major work in the past! Do you or did you work for

☐ Government or public institution

- ☐ Private business or industry
- ☐ Private non-profit organization
- ☐ I've never worked

Display This Question:

If Are you working for the government or public institution, for private business or industry, or fo... != I've never worked

Q144 Please specify in which field you work

Q6 What is your regular monthly household income after tax? This means the sum of any wage, salary, income from self-employment or pension after subtracting taxes. Additionally, please include any form of public aid, income from rentals or lease, housing money, child allowance, or other earnings. If you do not share your income with your household, please state your individual income.

- ☐ Less than \$500
- ☐ \$500- \$1,000
- ☐ \$1,001 - \$1,500
- ☐ \$1,501 - \$2,000

- ☐ \$2,001 - \$2,500
- ☐ \$2,501 - \$3,000
- ☐ \$3,001 - \$3,500
- ☐ \$3,501 - \$4,000
- ☐ \$4,001 - \$4,500
- ☐ \$4,501 - \$5,000
- ☐ More than \$5,000

Q181 Including yourself, how many people live permanently in your household? Please also consider all children that live in your household. If you indicated your individual income in the previous question (e.g. because you live in a shared flat), please state 1.

Q182 Are you the chief wage earner in your household?

- ☐ Yes
- ☐ No

Q183 Is the chief wage earner of your household employed now or not?

☐ Yes

☐ No

Q7 In which neighborhood of Tempe do you live?

End of Block: Demographics

Start of Block: Environment Questionnaire

Q26 Listed below are statements about the relationship between humans and the environment. For each one, please indicate whether you STRONGLY AGREE, MILDLY AGREE, are UNSURE, MILDLY DISAGREE or STRONGLY DISAGREE with it.

Q10 We are approaching the limit of the number of people the earth can support.

☐ Strongly agree

☐ Somewhat agree

- ☐ Neither agree nor disagree
- ☐ Somewhat disagree
- ☐ Strongly disagree

Q11 Humans have the right to modify the natural environment to suit their needs.

- ☐ Strongly agree
- ☐ Somewhat agree
- ☐ Neither agree nor disagree
- ☐ Somewhat disagree
- ☐ Strongly disagree

Q13 When humans interfere with nature it often produces disastrous consequences.

- ☐ Strongly agree
- ☐ Somewhat agree
- ☐ Neither agree nor disagree

☐ Somewhat disagree

☐ Strongly disagree

Q14 Human ingenuity will insure that we do NOT make the earth unlivable.

☐ Strongly agree

☐ Somewhat agree

☐ Neither agree nor disagree

☐ Somewhat disagree

☐ Strongly disagree

Q15 Humans are severely abusing the environment.

☐ Strongly agree

☐ Somewhat agree

☐ Neither agree nor disagree

☐ Somewhat disagree

☐ Strongly disagree

Q16 The earth has plenty of natural resources if we just learn how to develop them.

☐ Strongly agree

☐ Somewhat agree

☐ Neither agree nor disagree

☐ Somewhat disagree

☐ Strongly disagree

Q18 Plants and animals have as much right as humans to exist.

☐ Strongly agree

☐ Somewhat agree

☐ Neither agree nor disagree

☐ Somewhat disagree

☐ Strongly disagree

Q19 The balance of nature is strong enough to cope with impacts of modern industrial nations.

- ☐ Strongly agree
- ☐ Somewhat agree
- ☐ Neither agree nor disagree
- ☐ Somewhat disagree
- ☐ Strongly disagree

Q20 Despite our special abilities humans are still subject to the laws of nature.

- ☐ Strongly agree
- ☐ Somewhat agree
- ☐ Neither agree nor disagree
- ☐ Somewhat disagree
- ☐ Strongly disagree

Q21 The so-called "ecological crisis" facing humankind has been greatly exaggerated

- ☐ Strongly agree
- ☐ Somewhat agree
- ☐ Neither agree nor disagree
- ☐ Somewhat disagree
- ☐ Strongly disagree

Q22 The earth is like a spaceship with very limited room and resources.

- ☐ Strongly agree
- ☐ Somewhat agree
- ☐ Neither agree nor disagree
- ☐ Somewhat disagree
- ☐ Strongly disagree

Q23 Humans were meant to rule over the rest of nature.

- ☐ Strongly agree

- ☐ Somewhat agree
- ☐ Neither agree nor disagree
- ☐ Somewhat disagree
- ☐ Strongly disagree

Q24 The balance of nature is very delicate and easily upset.

- ☐ Strongly agree
- ☐ Somewhat agree
- ☐ Neither agree nor disagree
- ☐ Somewhat disagree
- ☐ Strongly disagree

Q25 Humans will eventually learn enough about how nature works to be able to control it.

- ☐ Strongly agree
- ☐ Somewhat agree

- ☐ Neither agree nor disagree
- ☐ Somewhat disagree
- ☐ Strongly disagree

Q26 If things continue on their present course, we will soon experience a major ecological catastrophe.

- ☐ Strongly agree
- ☐ Somewhat agree
- ☐ Neither agree nor disagree
- ☐ Somewhat disagree
- ☐ Strongly disagree

Page Break

Q171 You may have heard that the climate on the earth is changing because temperatures rose over the past 100 years. Do you think the world's climate is changing?

- ☐ Definitely changing
- ☐ Probably changing
- ☐ Probably not changing
- ☐ Definitely not changing
- ☐ Don't know

Q172 Do you think that climate change is caused by natural processes, human activity, or both?

- ☐ Entirely by natural processes
- ☐ Mainly by natural processes
- ☐ About equally by natural processes and human activity
- ☐ Mainly by human activity
- ☐ Entirely by human activity
- ☐ I don't think climate change is happening
- ☐ Don't know

Q27 People around the world are generally concerned about environmental problems because of the consequences that result from harming nature. However, people differ in the consequences that concern them the most. Please rate the following items from 1 (not important) to 5 (extreme importance) in response to the question: I am concerned about environmental problems because of the consequences for ____.

	1	2	3	4	5
my future	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
my lifestyle	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
my health	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
humanity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
future generations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
people in the community	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
plants and trees	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
marine life and whales	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
land animals and birds	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q173 What type of diet do you follow?

☐ Omnivorous

☐ Vegetarian

☐ Vegan

☐ Other _____

End of Block: Environment Questionnaire

Start of Block: Risk Questionnaire

Q174 Please answer the following questions about the risks you perceive in your life.

Q164 What is the first image or thought that comes to your mind when thinking about crisis?

Q165 How strong is your emotional reaction to this image/thought?

- ☐ Very strong
- ☐ Strong
- ☐ Moderate
- ☐ Weak
- ☐ Very weak/no reaction

Q168 Over the last four weeks, how often have you been bothered by the following problems?

	Not at all	Several days	More than half of the days	Nearly every day
Feeling nervous, anxious, or on edge.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Not being able to stop or control	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

worrying.				
Feeling down, depressed or hopeless.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Little interest or pleasure in doing things.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have felt lonely.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q167 Who are you worried about the most?

- ☐ myself and my family
- ☐ my local community
- ☐ my state
- ☐ my country as a whole
- ☐ people all over the world
- ☐ non-human nature

☐ not concerned at all

Q170 To what extent do you currently feel at risk?

☐ Extremely at risk

☐ Very at risk

☐ Moderately at risk

☐ Slightly at risk

☐ Not at risk at all

Q162 Which of the following areas in your life are currently at risk?

☐ Health (physical and/or mental)

☐ Lifestyle

☐ Prosperity

☐ Job/Professional life

☐ Family or other personal relationships

☐ Other _____

☐ ☒ None

Skip To: Q172 If Which of the following areas in your life are currently at risk? = None

Carry Forward Selected Choices from "Which of the following areas in your life are currently at risk?"

Q163 Of the areas you selected, which one are you most worried about?

☐ Health (physical and/or mental)

☐ Lifestyle

☐ Prosperity

☐ Job/Professional life

☐ Family or other personal relationships

☐ Other _____

☐ ☒ None

Q172 Please drag and drop the following items to rank them by what you consider to be the biggest potential global risk to the lowest global risk. Items contain possible examples of specific risks. When ranking the items please don't think about yourself as an individual but rather about the world as a whole.

_____ Loss of privacy (*to companies or to governments*)

_____ Cyberattacks & cybercrime (*disruption of operations and infrastructure, theft of data or money, criminal use of cryptocurrencies, identity theft*)

_____ International military confrontations (*State-on-state military conflict, military actions short of war*)

_____ Economic instability (*Market collapse of stock or other assets, currency crisis, debt defaults (public or private), major recession in an economy, economic confrontation between two major powers, erosion of global supply chains, crisis-driven or economic migration, ineffective monetary stimuli*)

_____ Uncertainty regarding jobs/Changing job market (*High levels of youth unemployment, job losses due to technology*)

_____ Extreme environmental conditions/Impacts of environmental degradation (*Uncontrolled fires, water crisis, extreme heat waves, involuntary climate-related migration, erosion of global policy coordination on climate change, destruction of natural ecosystems, human health impacted by air, water pollution and plastic*)

_____ Terrorist attacks

_____ Domestic political disruptions (*civil unrest (including strikes and riots), foreign interference in domestic politics, public anger against elites*)

_____ Deep or widespread poverty or inequality within countries

_____ Weakened institutions (*Loss of trust in media and information sources, Loss of confidence in collective security alliances, corrupt leadership, Domestic political polarization*)

_____ Nationalism (*Populist & nativist agendas, hostility against minorities, authoritarian leadership, protectionism against foreign workers, protectionism regarding trade and investment*)

Q169 Considering your health situation during the Corona crisis, please state for each of the following experiences whether or not it happened to you (voluntary information).

	YES, happened to me	NO, did not happen to me
I have been tested positively for COVID-19.	<input type="radio"/>	<input type="radio"/>
I have been tested negatively for COVID-19.	<input type="radio"/>	<input type="radio"/>
I have or had mild symptoms of COVID-19.	<input type="radio"/>	<input type="radio"/>
I have or had severe symptoms of COVID-19.	<input type="radio"/>	<input type="radio"/>
People close to me have or had mild symptoms of COVID-19.	<input type="radio"/>	<input type="radio"/>
People close to me have or had severe symptoms of COVID-19.	<input type="radio"/>	<input type="radio"/>

Q170 Please, state for each of the following economic experiences whether or not it happened to you during the Corona crisis (voluntary information).

	YES, happened to me	NO, did not happen to me
I lost my job.	<input type="radio"/>	<input type="radio"/>
I had to close my business.	<input type="radio"/>	<input type="radio"/>
I am reduced to part time work.	<input type="radio"/>	<input type="radio"/>
I am doing home office.	<input type="radio"/>	<input type="radio"/>
I receive money from an aid package.	<input type="radio"/>	<input type="radio"/>
I go to work as before.	<input type="radio"/>	<input type="radio"/>
I daycare my children.	<input type="radio"/>	<input type="radio"/>

Q171 The social media are full of stories telling that the Corona pandemic is a hoax and that all the lockdown measures are a hysterical overreaction. Do you believe in these stories?

☐ Yes, I do believe in these stories.

☐ No, I don't believe in these stories.

Q173 How credible do you think are the social media, like Twitter and Facebook, compared to the traditional media, like TV and newspapers?

☐ Social media are most credible

☐ Social media are slightly more credible than traditional media

☐ Both the same

☐ Traditional media are slightly more credible than social media

☐ Traditional media are most credible

End of Block: Risk Questionnaire

Start of Block: Quality Evaluation

Q164 How do you feel about the length of this survey?

☐ much too short

☐ slightly too short

☐ adequate

☐ slightly too long

☐ much too long

Q165

How do you rate the overall design of this survey?

☐ very good

☐ rather good

☐ neutral

☐ rather bad

☐ very bad

Q166 Do you have any comments on this survey or would you like to say something further on the topic?


End of Block: Quality Evaluation

Start of Block: World Values Survey

Q184 All things considered, how satisfied are you these days with your:

[illegible]

Q38 Here is a list of qualities that children can be encouraged to learn at home. Which, if any, do you consider to be especially important? Please choose up to five!

- ☐ Independence
- ☐ Hard work
- ☐ Feeling of responsibility
- ☐ Imagination
- ☐ Tolerance and respect for other people
- ☐ Thrift, saving money and things
- ☐ Determination, perseverance
- ☐ Religious faith
- ☐ Unselfishness
- ☐ Obedience
- ☐ Self-expression
- ☐  none of the above

Q40 Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people

☐ Most people can be trusted.

☐ Need to be very careful.

Q44 Do you agree, disagree or neither agree nor disagree with the following statements?

	Agree	Neither	Disagree
When jobs are scarce, men should have more right to a job than women.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When jobs are scarce, employers should give priority to people of this country over immigrants.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If a woman earns more money than her husband, it's almost certain to cause problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Having a job is the best way for a woman to be an independent person.

☐☐☐

Q45 For each of the following statements, please mark how strongly you agree or disagree with each. Do you strongly agree, agree, disagree, or strongly disagree?

	Strongly agree	Agree	Disagree	Strongly disagree
One of my main goals in life has been to make my parents proud	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When a mother works for pay, the children suffer.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
On the whole, men make better political leaders than women do.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

A university education is more important for a boy than for a girl.

☐☐☐☐

On the whole, men make better business executives than women do.

☐☐☐☐

Being a housewife is just as fulfilling as working for pay.

☐☐☐☐

Q46 Some people feel they have completely free choice and control over their lives, while other people feel that what they do has no real effect on what happens to them. Please use this scale where 1 means "no choice at all" and 10 means "a great deal of choice" to indicate how much freedom of choice and control you feel you have over the way your life turns out

	1	2	3	4	5	6	7	8	9	10	
No choice at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	A great deal of

choice

Q47 Do you think most people would try to take advantage of you if they got a chance, or would they try to be fair? Please show your response on this scale, where 1 means that “people would try to take advantage of you,” and 10 means that “people would try to be fair”

	1	2	3	4	5	6	7	8	9	10	
	1	2	3	4	5	6	7	8	9	10	
People would try to take advantage of you	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	People would try to be fair

Q50 People sometimes talk about what the aims of this country should be for the next ten years. Here you can see some of the goals which different people would give top priority. Please indicate which goal you would consider most important and which would be the next most important.

Most Important		Second Most important
<input type="radio"/>	<input checked="" type="radio"/> A high level of economic growth	<input type="radio"/>
<input type="radio"/>	<input checked="" type="radio"/> Making sure this country has strong defense forces	<input type="radio"/>
<input type="radio"/>	<input checked="" type="radio"/> Seeing that people have more say about how things are done at their jobs and in their communities	<input type="radio"/>
<input type="radio"/>	<input checked="" type="radio"/> Trying to make our cities and countryside more beautiful	<input type="radio"/>

Q55 Here is another list. In your opinion, which one of these is most important? And what would be the next most important?

Most Important		Second Most important
<input type="radio"/>	<input checked="" type="radio"/> A stable economy	<input type="radio"/>
<input type="radio"/>	<input checked="" type="radio"/> Progress toward a less impersonal and more humane society	<input type="radio"/>
<input type="radio"/>	<input checked="" type="radio"/> Progress toward a society in which ideas count more than money	<input type="radio"/>



☒ The fight against crime



Q53 If you had to choose, which one of the following things would you say is most important? And which would be the next most important?

Most Important

Second Most important



☒ Maintaining order in the
nation

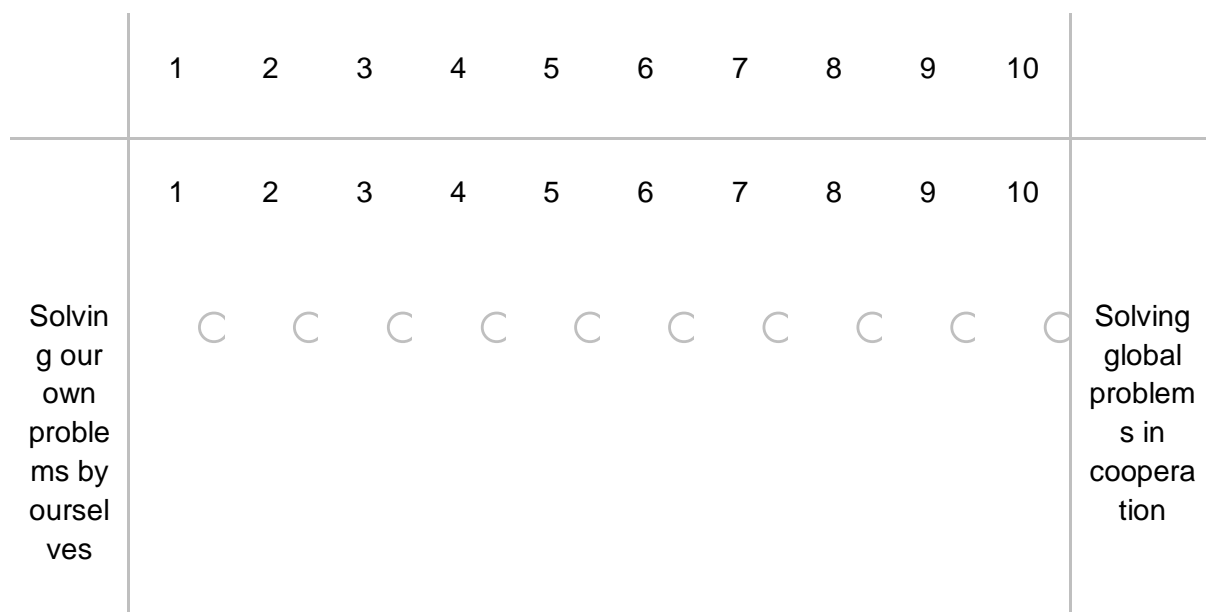


☒ Giving people more say
in important government
decisions





Q181 Talking about political priorities, do you think that our government should give top priority to solve our own country's problems by ourselves or should it give top priority to solving global problems in cooperation with other countries:



Q56 The following is a list of various changes in our way of life that might take place in the near future. Please say for each one, if it were to happen, whether you think it would be a good thing, a bad thing, or don't you mind?

	Good	Don't mind	Bad
Less importance placed on work in our lives	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
More emphasis on the development of technology	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Greater respect for authority	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q57 Some people will briefly be described. Please indicate for each description whether that person is very much like you, like you, somewhat like you, not like you, or not at all like you.

	Very much like me	Like me	Somewhat like me	A little like me	Not like me	Not at all like me

It is important
to this person
to think up
new ideas
and be
creative; to
do things
one's own
way.

☐☐☐☐☐☐

It is important
to this person
to be rich; to
have a lot of
money and
expensive
things

☐☐☐☐☐☐

Living in
secure
surroundings
is important
to this
person; to
avoid
anything that
might be
dangerous.

☐☐☐☐☐☐

It is important
to this person
to have a
good time; to
“spoil”
oneself.

☐☐☐☐☐☐

It is important
to this person
to do
something for
the good of
society.

☐☐☐☐☐☐

It is important
for this
people to
help the
people
nearby; to
care for their
well-being.

☐☐☐☐☐☐

Being very
successful is
important to
this person;
to have
people
recognize
one's
achievements

☐☐☐☐☐☐

Adventure
and taking
risks are
important to
this person;
to have an
exciting life.

☐☐☐☐☐☐

It is important to this person to always behave properly; to avoid doing anything people would say is wrong.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Looking after the environment is important to this person; to care for nature and save life resources.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tradition is important to this person; to follow the customs handed down by one's religion or family.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q59 Here are two statements people sometimes make when discussing the environment and economic growth. Which of them comes closer to your own point of view?

- ☐ Protecting the environment should be given priority, even if it causes slower economic growth and some loss of jobs.
- ☐ Economic growth and creating jobs should be the top priority, even if the environment suffers to some extent.

Q60 During the past two years have you...

	Yes	No
Given money to an ecological organization?	<input type="radio"/>	<input type="radio"/>
Participated in a demonstration for some environmental cause?	<input type="radio"/>	<input type="radio"/>

Q62 Please look at the following items and select whether you have done any of these things, whether you might do it or would never under any circumstances do it.

	Have done	Might do	Would never do
Signing a petition	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Joining in boycotts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attending peaceful demonstrations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Joining strikes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Any other act of protest?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q65 In political matters, people talk of "the left" and "the right." How would you place your views on this scale, generally speaking?

	1	2	3	4	5	6	7	8	9	10	
	1	2	3	4	5	6	7	8	9	10	
Left	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Right

Q70 Please indicate how much you trust people from various groups. Could you tell for each whether you trust people from this group completely, somewhat, not very much or not at all?

	Trust completely	Trust somewhat	Do not trust very much	Do not trust at all
People you know personally	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People you meet for the first time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q73 Below is a list of different organizations. For each one, please indicate how much confidence you have in them: is it a great deal of confidence, quite a lot of confidence, not very much confidence or none at all?

	Trust completely	Trust somewhat	Do not trust very much	Do not trust at all
Health Sector	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Government	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Major Companies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Environmental organizations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Our country's institutions as a whole	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The European Union	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The United Nations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q79 And how democratically is this country being governed today? Again using a scale from 1 to 10, where 1 means that it is “not at all democratic” and 10 means that it is “completely democratic,” what position would you choose?

	1	2	3	4	5	6	7	8	9	10	
	1	2	3	4	5	6	7	8	9	10	
not at all democratic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	completely democratic

Q78 How much respect is there for individual human rights nowadays in this coun-try? Do you feel there is

- ☐ A lot
- ☐ Some
- ☐ Little
- ☐ None at all

Q81 Apart from weddings and funerals, about how often do you attend religious services usually?

- ☐ More than once a week
- ☐ Once a week
- ☐ Once a month
- ☐ Only on special holy days
- ☐ Once a year
- ☐ Less often

Q97 I see myself as someone who . . .

[illegible]

...tends to find fault with others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...does a thorough job	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...gets nervous easily	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...has an active imagination	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q101 Do you agree or disagree with the following statement: "Under some conditions, war is necessary to obtain justice."

☐ Agree

☐ Disagree

Q104 Please answer how much you agree or disagree with each of these statements. For these questions, a 1 means that you "completely disagree" and a 10 means that you "completely agree."

Q116 People have different views about themselves and how they relate to the world. Would you indicate how strongly you agree or disagree with each of the following statements about how you see yourself?

	Strongly agree	Agree	Disagree	Strongly disagree
I see myself as a world citizen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I see myself as a member of my local community	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I see myself as member of the United States	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I see myself as part of the NAFTA	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I see myself as an autonomous individual	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q138 In the city or area where you live, are you satisfied or dissatisfied with the quality of the following?

	Very satisfied	Fairly satisfied	Fairly	Very
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			dissatisfied	dissatisfied
The public transportation systems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The roads and highways	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The schools	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The quality of air	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The quality of water	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The quality of health care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The quality of housing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The beauty or physical setting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: World Values Survey

Attachment 3: Qualitative Interview

Examining Environmental Attitudes and Values in Times of Crisis Interview

I am a graduate student under the direction of Professor Daniel Fischer in the School of Sustainability Arizona State University. I am conducting a research study to investigate how environmental attitudes and personal values change in times of crisis.

I am inviting your participation, which will involve a interview lasting about 15 minutes which will cover the topics of your daily routine, changes in your life, your experience with CoVID-19, climate change, and environmental degradation. You have the right not to answer any question, and to stop participation at any time.

Your participation in this study is voluntary. If you choose not to participate or to withdraw from the study at any time, there will be no penalty. You must be 18 or older to participate in the study.

This exercise may offer you a chance to reflect over the past few months and how you grew from going through this stressful time period. There are no foreseeable risks or discomforts to your participation.

Your personal information will not be connected to this interview, only your personal identifier you gave

for the survey. In this way, your responses anonymous and confidentiality will be maintained. The

results of this study may be used in reports, presentations, or publications but your name will not

be used.

I would like to audio record this interview. The interview will not be recorded without your permission. Please let me know if you do not want the interview to be recorded; you also can change your mind after the interview starts, just let me know.

If you have any questions concerning the research study, please contact the research team at daniel.fischer.1@asu.edu or 480-965-9622. If you have any questions about your rights

as a subject/participant in this research, or if you feel you have been placed at risk, you can contact the Chair of the Human Subjects Institutional Review Board, through the ASU Office of Research Integrity and Assurance, at (480) 965-6788. Please let me know if you wish to be part of the study.

By verbal agreement, do you consent to being part of this study?

Do you consent to this interview being audio recorded?

Interview Script:

First, we will talk about your day-to-day life.

1. Please describe what your life was like three months ago.
2. Now, can you tell me what your daily routine was?
3. What are the biggest changes you've made in your life since three months ago?
4. Why did you make those changes?
5. *In the event restrictions are still in place:* What do you miss?/What are you looking forward to?

Now, we will transition to talking about the things you value.

6. Please take a minute to think about what is important in your life. When you are ready, please tell me what came to mind.

7. Did your priorities change within the past three months? Why?

Let's talk about the environment.

8. What, if anything, changed in your attitudes and beliefs towards the environment over the past three months? Why?

9. *If no mention of climate above:* What, if anything, changed in your attitudes and beliefs towards climate change over the past three months? Why?

10. *If no changes were reported in the first two questions:* Why didn't your attitudes and beliefs change?