



Threat and Challenge of Incremental and Dramatic Social Change

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Abstract

Social change is an evident feature of reality. Based on the pace at which it happens, social change is divided into incremental and dramatic social change. People respond to both types with different coping mechanisms and behaviors. In this study, we aimed to investigate whether incremental and dramatic social change elicit threat and challenge responses in people. We integrated sociology and psychology by measuring threat and challenge of social change in an experimental setting, using real-world themes (global warming and immigration) that induce social change in contemporary Dutch society. 61 Dutch citizens read a text describing the status quo, followed by a text describing social change regarding both themes. Afterwards, they self-reported their threat and challenge responses, and the rate at which they perceived the social change to happen. Contrary to expectations, incremental social change (global warming) elicited a stronger threat response compared to dramatic social change (immigration). Furthermore, social change of global warming elicited a weaker challenge response than status quo of global warming, and we found no difference between social change and status quo of immigration. Finally, the perceived rate of social change was found to be related to the threat response. The results of this study shed light on the psychological responses to social change and the way people cope with it. A better understanding of these responses is crucial for perception management and an adequate distribution of coping resources, as well as to understand whether distinguishing social change in incremental and dramatic is useful to researchers interested in the psychological consequences of social change.

Keywords: Social change, global warming, immigration, threat, challenge

“Social change is lived and deeply personal and human beings not only experience but make social change happen.” – Garth Massey (2016)

Introduction

In social psychological literature, social change remains a poorly defined and understood phenomenon (de la Sablonnière, 2017). Inconsistent findings show a lack of understanding of the psychological effects of social change and indicate the need for further studies (Kim, 2008). In an attempt to add more clarity to the understanding of social change, de la Sablonnière (2017) suggested a typology of social change. They proposed to distinguish social change in incremental and dramatic, based on the argument that the pace at which social change happens affects people’s experience of it. Furthermore, studies on social change have insofar used artificial scenarios, causing their ecological validity to be low (de la Sablonnière, 2017). As a result, in this study, we aimed to interrogate whether de la Sablonnière's typology of social change is a valuable tool to social psychologists. We investigated the threat and challenge responses to incremental and dramatic social change, using real-world world themes. We selected global warming and immigration as a conceptual representation of each type of social change (respectively incremental and dramatic), as they both are pressing contemporary issues in (Dutch) society.

The findings of this study could shed light on the theoretical and ecological validity of the typology of social change suggested by de la Sablonnière (2017). They may reveal whether this typology is reflected in the psychological responses (threat and challenge), and to what extent the pace of social change plays a role in determining such responses. Furthermore, they could provide a useful tool to increase understanding of which current issues people experience as more threatening or challenging than others. Such a tool could help policy makers and community

organizers to understand how to properly divide the resources needed to cope with contemporary social changes healthily.

Social change

When an event induces a shift in current social relations between groups, this phenomenon can be described as social change (Wilterdink & Form, 2017). These phenomena may happen gradually and over long periods of time, but they often reshape political and economic institutions, cultural norms, and interpersonal relationships within society (Dunfey, 2019). Any social scientific theory, regardless of its conceptual starting point, must eventually address this evident aspect of social reality. However, studies on social change remain underdeveloped (Haferkamp, 1992).

For a better understanding of social change, it is difficult to develop complex and predictive models. Numerous factors, processes, and outcomes need to be considered when doing so (Haferkamp, 1992). Historically, social change was studied more from a societal perspective, integrating psychology and sociology. However, today's psychology has drifted away from these ambitions, and the emphasis is often on cognitive processes, individual differences, and brain imagery (Howarth et al., 2013). Furthermore, many psychosocial approaches appear to ignore the systemic aspect and context-dependence of social change, as well as to properly consider the types or rate of social change and their effects on people. In this study we attempted to reintegrate a sociological perspective on social change with a psychological one. To do so, a mix of methodologies is needed. We therefore combined experimental methods, that allowed us to establish a highly controlled environment, and real-world scenario, that allowed us to account for the complexities of social change (Howarth et al., 2013). In social change research, these aspects should systemically be integrated,

because a bridge between these sociological macro-processes, and the psychological micro-processes has yet to be built (Biddau et al., 2022; de la Sablonnière, 2017).

The pace of social change

One of the central characteristics of social change is its pace, which is either rapid or slow. Researchers from both psychology and sociology distinguish two types of social change based on this characteristic. First, incremental social change is defined as a situation in which a slow event induces gradual but fundamental changes in society, altering the social and normative structure, or jeopardizing the cultural identity of group members. On the other hand, dramatic social change is characterized by being a rapid event inducing profound social transformation, disrupting the order of social and normative structures, and threatening the group members' cultural identities (de la Sablonnière, 2017). According to de la Sablonnière (2017), distinguishing between these two main forms of social change is key in understanding what different psychological impact social change has on people. For example, they argued that especially, if not exclusively dramatic social change forces people to mobilize resources, psychological and material, to cope with the situation at hand. Dramatic social change often gives too little time for people to adapt and requires people to adopt a whole new set of behaviors (Buchanan et al., 2005). As a result, we expect dramatic social change to have stronger psychological effects than incremental social change.

The psychology of social change

Social change has an impact on people's psychological well-being (Kim, 2008). Even though this relation has been often neglected in research (Noack et al. 1995), major indicators of the effects of social change on mental health have been linked in studies across a range of academic disciplines. Researchers have often

concluded that these psychological consequences are a result of rapid social change. So that, the pace of social change is an important determinant of how people tend to respond to it. The gradual nature of incremental social change causes neither the social structure nor the collective social support system to be disrupted, only altered. Moreover, the pattern of the change is consistent, which causes both social structures and people to be able to adapt to it (Nadler et al., 1995; de la Sablonnière, 2017). On the other hand, the higher pace of dramatic social change leads to peoples' adaptive capacities being less effective. Both individuals and society as a whole experience increased stress as a result of a faster pace of change (Millican & Middleton, 2020). A measurement of the rate at which people perceive change to happen is included in this study to investigate how people respond differently to incremental and dramatic social change. The faster people perceive social change to be happening, the more negative they experience it to be. As a result, people who perceive social change as occurring too quickly may experience symptoms such as depression, anxiety, and worry (Kim, 2008).

On the other hand, a case can be made for a positive relationship between social change and well-being. For example, in many instances people see social change as an opportunity and use it as a means of success (Kim, 2008). These inconsistent results on the psychological effects of social change highlight the need for further studies to better understand them. Hence, in this study, we will focus on the extent to which people experience negative threat or positive challenge as a result of incremental and dramatic social change.

Threat and challenge

Threat and challenge are affective (or emotional), cognitive, and physiological states that are elicited by a person or situation (Blascovich & Mendes, 2000). Which

response is triggered, and to what extent, is determined by the balance between the situational demands, and the resources someone has to deal with these demands. The evaluation of these resources determines the way someone copes with stressful events (Donaldson et al., 2011). When someone evaluates their resources as sufficient, a challenge response is elicited. On the other hand, when someone evaluates them as insufficient, a threat response is elicited (Blascovich & Mendes, 2000).

Moreover, the pace of social change influences the perceived availability of resources. When social change is perceived to happen in a gradual manner, people experience having enough time to adapt to the changing reality. This will lead to them having a more positive outlook on it. However, when social change is perceived as faster, people feel less time to cope with these changes. This results in a perceived shortage of coping resources. Hence, it is anticipated that the rate of social change is correlated with how negatively people view it (Kim, 2008; Silbereisen et al., 2006).

Additionally, threat and challenge result in people having a different regulatory focus. A prevention focus is related to the experience of threat, caused by a hindered sense of control. People in a prevention focus are mostly concerned with the presence and absence of negative outcomes. On the other hand, a promotion focus is related to experiencing challenge. These people are more concerned with obtaining positive outcomes. Either focus might lead to different behaviors from people when confronted with social change (Sassenrath et al., 2016; Guo & Spina, 2014). In this study, we thus expected dramatic social change to induce stronger threat and weaker challenge responses than incremental social change.

Social change inducing themes

To investigate incremental and dramatic social change in connection to real-world issues, this study focuses on global warming and immigration. Global warming

will be a representation of incremental social change, and immigration of dramatic social change. Both contemporary topics, which bring on social change in Dutch society, are frequently discussed in the news, and often appear on the home page of official governmental websites, such as Rijkswaterstaat (2023).

Global warming

Global warming refers to the long-term heating of the earth's surface since 1850-1900, mainly due to human activities. At this point, it has already caused an increase in global temperature, leading to gradual changes such as a loss of sea ice, sea level rise, and melting glaciers (NASA, 2022; Kahn, 2013). Furthermore, scientists predict that in the future global warming will lead to more climatic changes (e.g. droughts, extreme rainfall), more tensions between nations and communities, and consequences for agriculture and healthcare (NASA, 2022; Shaftel, 2023). Also, rising temperatures will cause more intense heatwaves, and might worsen air and water quality. These changes may impact human health on a personal level (US EPA, 2021). As a result of these changes happening over a long period of time, and being slow-moving, we argue the social change global warming induces is of the incremental type. For this reason, we expect that it will elicit a stronger challenge, and a weaker threat response.

Immigration

Immigration is the procedure through which people become citizens of another country (Cambridge Dictionary, 2019). Extrinsic (e.g. everyday practices) and intrinsic (e.g. values) differences between immigrant people and citizens of the receiving country lead to cultural barriers between these groups, which are perceived to be harmful (Pae, 2020; Garrett et al. 1998). Recently, the Dutch government has even fallen because of disagreements on asylum policies (NOS, 2023). Furthermore,

the net immigration rate in the Netherlands has increased every year since 2014 (Macrotrends, 2023), and phenomena such as population density and multiculturalism are said to be a big problem for Dutch citizens (CBS, 2020). Furthermore, a significant increase in newcomers increases feelings of hostility and threat towards them, especially when they come from a different cultural background. Additionally, when opposition towards immigration is public, it can seriously disrupt social structures (Verkuyten, 2021). As a result of this steady increase, the disruption of social and cultural structures, and a perceived threat to the cultural identities of the group members, we argue that immigration induces dramatic social change. For this reason, we expect that it will elicit a stronger threat, and a weaker challenge response.

Current study

In this study, we investigate the threat and challenge responses of Dutch citizens to global warming- and immigration-related social change. By comparing these responses in a status quo and a social change condition, we aim to clarify the psychological consequences of incremental and dramatic social change and test the validity of the typology of social change suggested by de la Sablonnière (2017). We expect that the faster social change is perceived, the more threat it will elicit. Therefore, we expect that social change of immigration will elicit a stronger threat response, accompanied by a weaker challenge response. For global warming, we expect to find the opposite. Throughout the rest of this thesis, global warming- and immigration-related social change will be referred to as the ‘status quo/social change of global warming/immigration’.

Methods

Participants

Participant characteristics

The total sample consisted of 61 Dutch citizens (female $n = 35$, non-binary $n = 1$) with an average age of 25.81 ($SD = 12.48$) years old. All responses were valid.

Sampling procedures

Before the recruiting of participants started, the research had been approved by the Ethics Review Board of the Faculty of Social & Behavioural Sciences at Utrecht. The participants were invited via word of mouth and several social media platforms. They were asked to fill in a survey to contribute to thesis research on different social themes, conducted by two master's students at Utrecht University. The participants did not receive any kind of compensation for their contribution.

Sample size and statistical power

To determine the minimum sample size needed to test the hypotheses, we conducted an a priori power analysis using G*Power (version 3.1.9.2). The results showed that the ideal sample size for a 2-way repeated measures ANOVA to achieve 80% power to detect a small effect ($F = .15$) at a significance level of $\alpha = .05$ was $N = 62$.

Materials

Software

The data used in this study is collected using Qualtrics software (Version 0423).

Manipulation

Social change-inducing theme. The themes were manipulated by presenting the texts and the items related to them after one another. The presentation of the

themes was counterbalanced to control for order and sequence effects (Stephanie, 2016).

Social change. The status of social change was manipulated using two short texts. The first text always described a status quo scenario; the second text always described the social change scenario. Example sentences from the texts describing the status quo and social change of global warming are: “*The Dutch government supports the Paris Agreement, which aims to limit global warming to no more than 2 degrees Celsius, ideally 1.5 degrees Celsius.*”, and “*For example, floods, droughts and other extreme weather events could lead to an increase in climate refugees.*”. Example sentences from the texts describing the statuses of immigration are: “*Current immigration policy prioritizes choosing highly skilled immigrants who will benefit the Dutch economy and society.*”, and “*Therefore, it is crucial for the government to take measures to promote the integration of immigrants and improve communication between different groups.*”. For the full texts, see Appendix A. To avoid steering the participants in a particular direction, all texts were written in a neutral tone.

Manipulation check

To test if our manipulation was effective, we asked participants to rate to which extent the text they just read indicated drastic social changes. (Example: “*What I just read in the text indicates that there are going to be drastic social changes*”). We used a 7-point scale, with 1 meaning ‘strongly disagree’, and 7 meaning ‘totally agree’.

Threat & challenge

We presented the participants with 24 items to measure to what extent they experienced threat and challenge. These items consisted of eight subscales (political,

instrumental, status, safety, health, values, identity, and meaning) (Morgan & Ryan, 2021). Each domain contained three questions, one regarding the system level, one regarding the ingroup level, and one regarding the personal level. (Example: “*The situation described in the text I have just read constitutes a negative threat/positive challenge to ...*”). For an overview of the items, see Appendix B. We used a 7-point scale, with 1 meaning ‘strongly disagree’, and 7 meaning ‘totally agree’. We found an excellent internal consistency ($\alpha > .90$) for all occurrences of the scales measuring threat and challenge.

Perceived rate

We presented the participants with three items to measure their perceived rate of social change. (Example: “*The world we live in changes so quickly that it sometimes leaves me breathless*”). For an overview of all items, see Appendix B. We used a 5-point scale with 1 meaning “strongly disagree”, and 5 meaning “strongly agree”. We found an acceptable internal consistency ($\alpha > .70$) for all occurrences of the scale measuring perceived rate.

Procedure

Research Design and Data Collection Methods

Research design. The experimental research was conducted using a 2 (global warming/immigration) x 2 (status quo/social change) within-subjects design.

Data collection methods. All participants were told that the questionnaire was about different societal themes and would take them about thirty minutes to finish.

When starting the questionnaire, they received guarantees of confidentiality, and they gave informed consent. Then, the participants were presented with the first text, describing the status quo of either global warming or immigration, followed by the

text describing the social change of the theme in question. After reading each text, we asked the participants to which extent they had experienced the text they had just read to indicate that there are going to be drastic social changes. Next, they filled in the scale that measured threat, followed by the scale that measured challenge. Lastly, they reported the perceived rate of social change. At the end of the questionnaire, participants reported their demographics (age, sex, gender, ethnicity, education) and, if they wanted to, they had the opportunity to leave a question or comment.

Data diagnostics

To test whether global warming would elicit a stronger challenge-response and a weaker threat response than immigration, we conducted two 2 (theme: global warming/immigration) x 2 (status: status quo/social change) repeated-measures ANOVA's. In the first model, the threat response was the outcome variable; in the second model, the challenge-response was the outcome variable. To investigate the relations between the perceived rate and the outcome variables, we conducted a bivariate correlation analysis. We performed several paired-samples t tests to check for simple main effects and for differences in perceived rate. All analyses were conducted using SPSS (Version 28).

Results

Manipulation check

Global warming

A paired-samples t-test showed that participants felt that a more drastic change was about to happen when reading about the social change of global warming ($M = 5.6$, $SD = 1.3$) than when reading about the status quo ($M = 4.3$, $SD = 1.5$) ($t(60) = -6.85$, $p < .001$).

Immigration

A paired-samples t-test showed that participants felt that more drastic change was about to happen when reading about the social change of immigration ($M = 4.7$, $SD = 1.3$) than when reading about the status quo ($M = 3.5$, $SD = 1.6$) ($t(60) = -6.65$, $p < .001$).

Threat

We found a significant main effect of the social change-inducing theme ($F(1, 60) = 23.840$, $p < .001$, $\eta p^2 = .29$), and a significant main effect of the status of social change ($F(1, 60) = 30.26$, $p < .001$, $\eta p^2 = .34$). Furthermore, we found a significant interaction between social change inducing theme and the status of social change ($F(1, 60) = 6.87$, $p = .011$, $\eta p^2 = .10$). The means and standard deviations for threat are presented in Table 1 below.

Table 1

Descriptive statistics for threat

	Status	
	Status quo	Social change
Theme	<i>M (SD)</i>	<i>M (SD)</i>
Global warming	3.3 (1.3)	3.9 (1.4)
Immigration	2.8 (1.2)	3.0 (1.4)

Note. $N = 61$

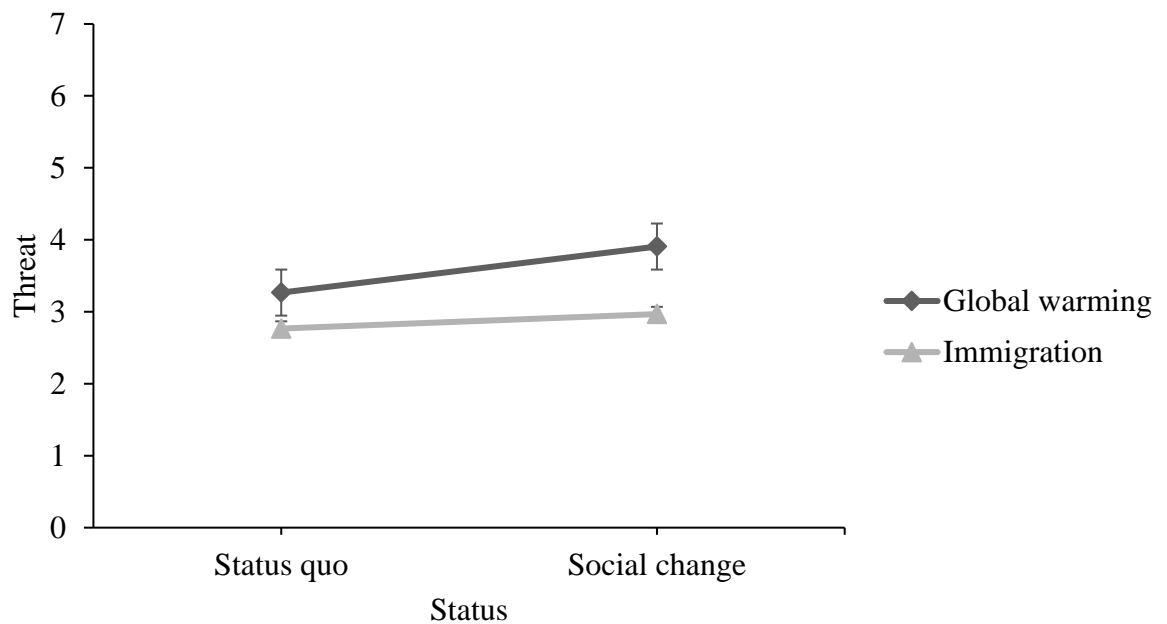
A paired samples t-test was performed to check for simple main effects indicated that threat was significantly higher for the social change than for status quo of both global warming ($t(60) = -4.94$, $p < .001$) and immigration ($t(60) = -2.13$, $p <$

.001). Furthermore, the threat elicited by the social change of global warming was significantly higher ($t(60) = 5.13, p < .001$) than by the social change of immigration.

The effects on threat are presented in Figure 1 below.

Figure 1

Threat elicited by the status quo and social change of global warming and immigration



Note. Error bars: Standard error

Challenge

We found no main effect for the social change-inducing theme ($F(1, 60) = 1.11, p = .296, \eta p^2 = .02$), and no main effect for the status of social change ($F(1, 60) = 2.24, p = .139, \eta p^2 = .04$). However, we found a significant interaction between social change inducing theme and the status of social change ($F(1, 60) = 9.02, p = .004, \eta p^2 = .13$) on challenge. The means and standard deviations for challenge are presented in Table 2 below.

Table 2*Descriptive statistics for challenge*

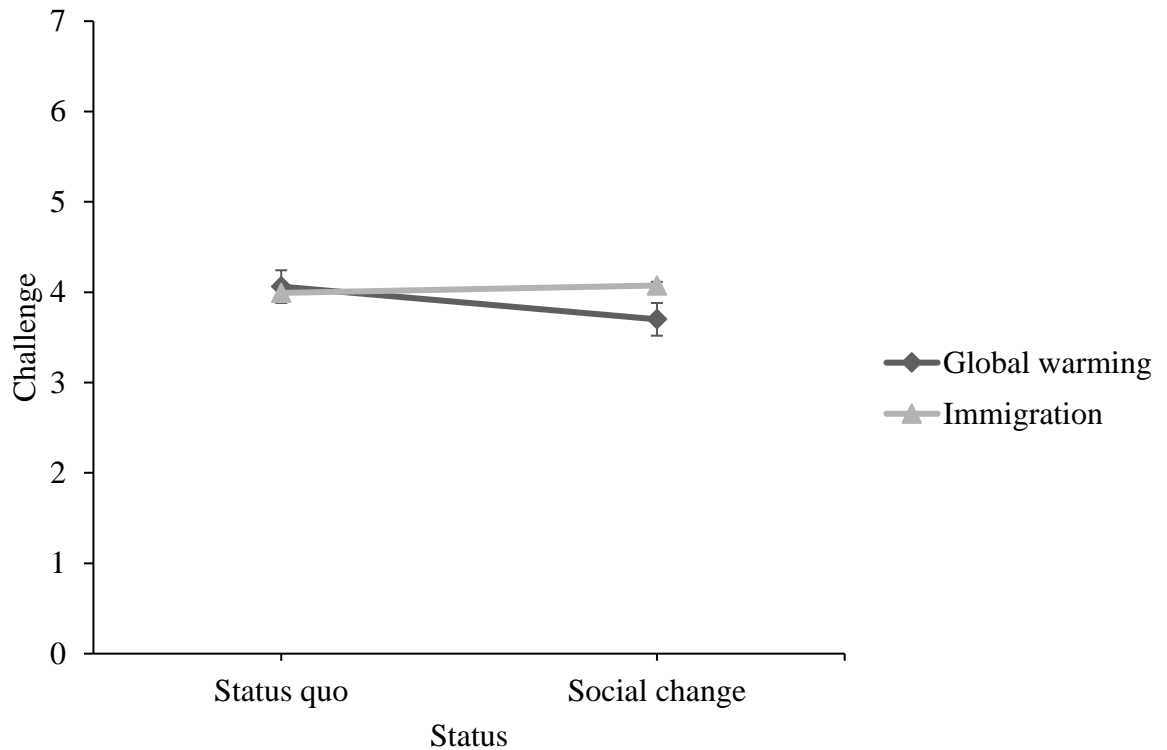
	Status	
	Status quo	Social change
Theme	<i>M (SD)</i>	<i>M (SD)</i>
Global warming	4.1 (1.3)	3.7 (1.3)
Immigration	4.0 (1.2)	4.1 (1.2)

Note. $N = 61$

A paired samples t-test to check for simple main effects indicated that challenge responses were significantly lower for the social change than for the status quo of global warming ($t(60) = 2.78, p = .007$), and that there was no significant difference between challenge responses for the social change and the status quo of immigration ($t(60) = -.77, p = .446$). The effects on challenge are presented in Figure 2 below.

Figure 2

Challenge elicited by the status quo and social change of global warming and immigration



Note. Error bars: Standard error

Perceived rate

Correlations

We computed a Pearson correlation coefficient to evaluate the relationships between threat and challenge elicited by the social change of global warming and immigration, and the perceived rate of this social change. We found a moderate positive correlation between threat elicited by social change of global warming and the perceived rate of this social change, $r(59) = .46, p < .001$, and a moderate positive correlation between threat elicited by the social change of immigration and the

perceived rate of this social change, $r(59) = .41, p = .001$. However, we found no relationship between the perceived rate of both themes and the challenge they elicited.

Differences

We performed a paired samples t-test to compare the perceived rate of the social change of global warming and immigration. We found a significant difference between the perceived rate of the social change of global warming ($M = 3.5, SD = 0.9$) and the social change of immigration ($M = 3.1, SD = 1$); $t(60) = 4.06, p < .001$.

Discussion

Summary

The current study aimed to investigate the threat and challenge responses to incremental and dramatic social change. As we classified global warming as incremental, and immigration as dramatic social change, we expected the former to elicit stronger threat and weaker challenge response than the latter. Furthermore, we expected to observe a link between the perceived rate of social change and people's threat responses. Contrary to our expectations, we found that the social change of global warming elicited a stronger threat response and a weaker challenge response compared to the social change of immigration. Relatedly, and also contrary to expectations, social change of global warming was found to be perceived as faster than that of immigration. Furthermore, for both themes, the social change scenarios elicited a stronger threat response compared to the status quo scenario. We also found that social change of global warming induced a weaker challenge response than the status quo of social change. However, this difference was not found in the case of immigration. .

Findings

Threat

We found that the perceived rate of social change of both global warming and immigration was related to an increase in threat response. Furthermore, we discovered that whether social change results in a stronger threat response depends on the theme inducing it. In accordance with our expectations, the social change of immigration elicited a stronger threat response compared to the status quo. However, in contrast to what we anticipated, the social change of global warming triggered an even stronger threat response.

The finding that people perceived global warming as happening more quickly than immigration may explain this contrary result. Therefore, it is argued that the notion that global warming is incremental is in opposition to its theoretical classification. The social change of both global warming and immigration is probably perceived as dramatic (de la Sablonnière, 2017). An explanation may be that climate change was first perceived as gradual, but that a so-called tipping point has been reached. This is a disruption of the linear pace of global warming by a sudden phenomenon, leading to an increase in risk perceptions (Formanski et al., 2022). For example, due to heavy rainfall, a part of the south of the Netherlands and neighboring countries were hit by floods in 2021 (NOS Nieuws, 2021). Moreover, recently the Netherlands has experienced one of its strongest storms measured since 1950 in July of 2023 (Mahovic & Nietosvaara, 2023). Dutch citizens may have discovered such a tipping point only recently since there is a delay in the actual shift and its detection (Lohmann et al., 2021). As a result of this shift, an experienced decrease in perceived time to cope with these changes may have caused people to experience having fewer coping resources as well (Kim, 2008). As a result, they could be striving to regain control over these resources. This indicates that people perceive less control over the

conditions that affect their lives, increasing stress, and in turn threat (Bandura, 2002; Folkman, 1984).

Alternatively, global warming may have become increasingly relevant in recent years. The novel creation of neologisms, brought into life to express newly developed ways for people to feel, arguably supports this. It might indicate that global warming is no longer perceived as a future problem, but as a present one. For example, 'eco-anxiety' is a neologism meaning that there is an ongoing anxiety about environmental catastrophe brought on by seeing what appears to be climate change's effects are irreversible (Iberdrola, n.d.) (Kurth & Pihkala, 2022). It is not yet classified as a disease. However, symptoms of eco-anxiety include stress, nervousness, and, in more severe cases, even depression. According to experts, as climate-related issues become more prevalent, more people will experience eco-anxiety (Clayton et al., 2017).

Furthermore, the results confirm that immigration is indeed perceived as a form of dramatic social change, which is in accordance with its theoretical classification as such (de la Sablonnière, 2017). Dutch citizens may feel that their resources are being jeopardized by the increase of immigrant people. When this access is jeopardized, they feel the need to retain their grip on it, resulting in threat being triggered (Gibson, 2002; Bandura, 2002).

Challenge

Similarly to how the threat response changed depending on the social change-inducing theme, so did the challenge response. Contrary to our expectations, we found that the social change brought on by global warming reduced the challenge response compared to the status quo. For immigration, we found no difference. Furthermore, the perceived rate of both themes was not found to be related to the challenge

response they elicited.

Even though it was contrary to our expectations, the decrease in challenge for the social change brought on by global warming is accordance with the suggestion of Blascovich & Mendes (2017) that this happens when threat increases. However, we found no relationship with the perceived rate, thus other factors may have been of play. For example, a shift in perceived resources might have occurred. To achieve internationally agreed-upon climate goals, the Dutch government concluded the National Climate Agreement in 2019. In this agreement, they explicitly mentioned that the implementation of it would remain the responsibility of the participating institutions (Government of the Netherlands, 2019). Moreover, this indicated that it was no longer up to the people to personally cope with global warming, but that the government would provide this coping by an increase in collective responses.

Additionally, climate change has become less predictable. As a result, people tend to lose their sense of control over the situation (He et al., 2021). This decreases their ability to adapt, along with their sense of control over the conditions that affect their life. Hence, people strive to regain that control because of experienced threat, rather than responding with challenge (Bandura, 2002).

Furthermore, because the social change of immigration also increased threat, we would expect the challenge to decrease as well. However, this was not the case and instead, no difference was found. Possibly the manipulation that we used had an impact confusing for participants. The text about the social change immigration combined more negative and positive aspects than the text about social change of global warming, which mostly mentioned negative outcomes. This may have led to the participants perceiving it as ambiguous, causing them to report non-reliable results (Etikan & Bala, 2017). However, this result is difficult to interpret, and future research

should specifically investigate challenge responses to social change brought on by immigration more extensively.

Nonetheless, these findings taken together suggest that the typology of social change proposed by de la Sablonnière (2017) may be an insightful classification for social psychologist interested in the psychological consequences of social change. This is especially evident in the link found between a higher perceived pace of social change and people's higher threat responses. However, as our study failed to include a well-operationalized case of incremental social change, future studies may attempt to find real-world scenarios that better represent this form of social change.

Limitations

This study has been subject to several limitations. Firstly, the data used in this study was conducted using self-report measures. Even though this type of data is easy to obtain, it may be influenced by the bias people have when reporting their own experiences. For example, they could be influenced by social desirability, meaning that they report more socially acceptable experiences. The measurements were also conducted using rating scales. This could lead to participants reporting extreme or middle responses to the questions they were asked. Participants might have experienced the measurement of their responses to the themes that were investigated in this study as personal or sensitive since these themes are generally polarizing (Sunstein, 2002; Casal Bértoa & Rama, 2021). This might have led to a non-accurate reflection of the participant's responses (Salters-Pedneault, 2023).

Furthermore, a sampling bias may have been present in this study. The population of Dutch citizens was investigated, and snowball sampling was used to recruit the sample. However, this method is liable to some biases. For example, the first participants have a strong influence on who the rest of the sample will contain.

Also, the representativeness of the sample is affected. It is not possible to know for sure whether snowball sampling provides an accurate representation of the target population (Raina, 2015). For this reason, the data may have been affected using this method. For example, stratified sampling might have been more effective for acquiring a representative sample (Etikan & Bala, 2017).

The conceptual clarity of the concept of resources which was used to formulate the hypotheses and the texts that were used to implement the manipulation in this study can also be seen as a limitation. An information bias may have influenced the results, causing a different reflection of reality. The concept of resources was described in an arguably abstract way for the reader, for it did not specify what these specific resources were. The texts that were used to implement the manipulation were mainly an overall description of the status quo and social change of global warming and immigration. Additionally, the text describing the social change of global warming included a segment mentioning immigration as a direct result of it. This may have caused confusion for the participants reading it.

Moreover, even though they were specifically used to construct the scale, the different levels (system, ingroup, personal) at which threat and challenge are experienced were not specifically considered and analyzed. A more extensive look into them could have provided more valuable information (Bringmann et al. 2022).

Future research

There is still a lot of information to be found on the psychology of social change, and future research is needed for an expansion of this knowledge. For example, measuring directly how people evaluate their resources to meet the demands of a social change-inducing theme. Compared to speculation based on literature, a direct measurement of resources would give more insight into the effects of this

evaluation and its relation to threat and challenge. A suggestion of a scale to use in future research would be the Perceived Adequacy of Resources scale (Rowland et al., 1985), which was designed to measure people's evaluation of resources from several categories, including personal and community.

Furthermore, the concept of national identity could be a contributing factor to the threat that is elicited by social change of immigration. Sandelind (2015) argues that whether social change is perceived to have an impact on an individual's national identity plays a key role in whether they experience it as a threat. Possibly participants experienced the social change of immigration change to have an impact on their national identity, thus causing them to experience more threat from it. This is a concept that would be interesting for future research to take a more extensive look at. Findings on this would add nuance to the theory, and it is important to gain concise and accurate insights into this matter. For that reason, this elicited threat might be emphasized compared to the challenge experienced by it. The measurement of national identity is argued to be difficult (Hermann & Brewer, 2004). However, a possibility is the National Identity Scale (NATID), which is an instrument used to investigate the extent to which national identity can be defined (Keillor et al., 1996).

Most importantly, since the perceived rate was related to the threat experienced from both the social change of global warming and immigration, but not to challenge, these results show a clear connection. It seems to increase a threat response, regardless of the theme that induces social change. Future research could investigate this perceived more thoroughly to get more clarity into which extent the perceived rate is related to threat and in what way.

Conclusion

In this study we measured threat and challenge responses to incremental and

dramatic social change. We found that social change of both global warming and immigration caused an increase in threat response. Most importantly, we discovered that the pace of social change is possibly directly related to the extent to which people respond with threat, which hints at the validity of de la Sablonnière's (2017) typology of social change. We suggest that future research investigates this concept more extensively. Furthermore, the results of this study show that people experience threat from social changes related to both global warming and immigration. As a result, people most likely cope with these changes through a prevention focus. Policy makers, social activists, and individuals as a part of society, must consider this information when dealing with contemporary social change. Hence, resources can be put in the right places so society can cope with these changes in a psychologically healthy way.

Literature

- Agho, K., Stevens, G., Taylor, M., Barr, M., & Raphael, B. (2010). Population risk perceptions of global warming in Australia. *Environmental research*.
<https://doi.org/10.1016/j.envres.2010.09.007>
- Bandura, A. (2002). *Self-efficacy in changing societies: [papers based on the proceedings of the third annual conference, held Nov. 4-6, 1993, at the Johann Jacobs Foundation Communication Center, Marbach Castle, Germany]*. University Press.
- Rafiey, H., Shakiba, A., Noroozi, M., & Sajjadi, H. (2020a). A Review of Studies on Climate Change and Social Variables from the Perspective of Social. *Journal of Community Health Research*, 9(3). <https://doi.org/10.18502/jchr.v9i3.4263>
- Benhabib, J. (1996). On the political economy of immigration. *European Economic Review*, 40(9), 1737–1743. [https://doi.org/10.1016/0014-2921\(95\)00122-0](https://doi.org/10.1016/0014-2921(95)00122-0)
- Biddau, F., Brondi, S., & Cottone, P. F. (2022). Unpacking the psychosocial dimension of decarbonization between change and stability: a systematic review in the social science literature. *Sustainability*, 14(9), 5308.
<https://doi.org/10.3390/su14095308>
- Blascovich, J. & Mendes, W. B. (2000). Challenge and threat appraisals: The role of affective cues. In J. Forgas (Ed.), *Feeling and thinking: The role of affect in social cognition* (pp. 59–82). Cambridge, UK: Cambridge University Press.
- Bose, B. (2010). Global Warming: Energy, Environmental Pollution, and the Impact of Power Electronics. *IEEE Industrial Electronics Magazine*, 4(1), 6–17.
<https://doi.org/10.1109/mie.2010.935860>

- Brügger, A., Dessai, S., Devine-Wright, P., Morton, T. A., & Pidgeon, N. F. (2015). Psychological responses to the proximity of climate change. *Nature Climate Change*, 5(12), 1031–1037. <https://doi.org/10.1038/nclimate2760>
- Bringmann, L. F., Elmer, T., & Eronen, M. I. (2022). Back to Basics: The Importance of Conceptual Clarification in Psychological Science. *Current Directions in Psychological Science*, 31(4), 096372142210964. <https://doi.org/10.1177/09637214221096485>
- Buchanan, D., Fitzgerald, L., Ketley, D., Gollop, R., Jones, J. L., Lamont, S. S., et al. (2005). No going back: a review of the literature on sustaining organizational change. *Int. J. Manag. Rev.* 7, 189–205. <https://doi.org/10.1111/j.14682370.2005.00111.x>
- Cambridge Dictionary. (2019). *IMMIGRATION* | meaning in the Cambridge English Dictionary. Cambridge.org. Retrieved from <https://dictionary.cambridge.org/dictionary/english/immigration>
- Casal Bértoa, F., & Rama, J. (2021). Polarization: What do we know and what can we do about It? *Frontiers in Political Science*, 3. <https://doi.org/10.3389/fpos.2021.687695>
- CBS. (2020). *Waar maken we ons zorgen over? - Nederland in cijfers 2020* | CBS. Waar maken we ons zorgen over? - Nederland in Cijfers 2020 | CBS. Retrieved from [https://longreads.cbs.nl/nederland-in-cijfers-2020/waar-maken-we-ons-zorgenover/#:~:text=Criminaliteit%20\(48%20procent\)%20en%20milieuverving](https://longreads.cbs.nl/nederland-in-cijfers-2020/waar-maken-we-ons-zorgenover/#:~:text=Criminaliteit%20(48%20procent)%20en%20milieuverving)
- CBS. (2022a). *Hoeveel immigranten komen naar Nederland?* Centraal Bureau Voor de Statistiek. Retrieved, June 22, 2023, from <https://www.cbs.nl/nl->

[nl/dossier/dossier-asiel-migratie-en-integratie/hoeveel-immigranten-komen-naar-nederland](https://www.cbs.nl/dossier/dossier-asiel-migratie-en-integratie/hoeveel-immigranten-komen-naar-nederland)

CBS. (2022b). *Bevolking - Integratie en Samenleven* | CBS. Bevolking - Integratie En Samenleven | CBS. Retrieved, June 22, 2023, from <https://longreads.cbs.nl/integratie-en-samenleven-2022/bevolking/>

Clayton, S., Manning, C., Krygsman, K., & Speiser, M. (2017). Mental health and our changing climate: impacts, implications, and guidance. <https://www.apa.org/news/press/releases/2017/03/mental-health-climate.pdf>

Cochrane, W., & Poot, J. (2020). Effects of Immigration on Local Housing Markets. *The Economic Geography of Cross-Border Migration*, 269–292. https://doi.org/10.1007/978-3-030-48291-6_12

Cohen, G. L., & Sherman, D. K. (2014). The Psychology of Change: Self-Affirmation and Social Psychological Intervention. *Annual Review of Psychology*, 65(1), 333–371. <https://doi.org/10.1146/annurev-psych-010213-115137>

Dekker, P., Van Der Horst, A., Joosten, W., Van Der Meer, T., Tang, P., Coenders, M., Lubbers, M., Nicolaas, H., Sprangers, A., & Van Der Valk, J. (2005). Bestemming Europa immigratie en integratie in de Europese Unie Europese Verkenning 2 Bijlage bij de Staat van de Europese Unie 2005. In *Centraal Plan bureau*. Retrieved from <https://www.cpb.nl/sites/default/files/publicaties/download/europeseverkenning.nl.pdf>

Donaldson, S. I., Csikszentmihalyi, M., & Nakamura, J. (2011). *Applied positive psychology : Improving everyday life, health, schools, work, and society*. Psychology Press.

- Etikan, I., & Bala, K. (2017). Sampling and sampling methods. *Biometrics & Biostatistics International Journal*, 5(6), 215–217.
<https://doi.org/10.15406/bbij.2017.05.00149>
- Folkman, S. (1984). Personal control and stress and coping processes: A theoretical analysis. *Journal of Personality and Social Psychology*, 46(4), 839–852.
<https://doi.org/10.1037/0022-3514.46.4.839>
- Form, W., & Wilterdink, N. (2017). social change | Definition, Theory, & Examples. In. *Encyclopædia Britannica*. Retrieved from
<https://www.britannica.com/topic/social-change>
- Formanski, F. J., Pein, M. M., Loschelder, D. D., Engler, J.-O., Husen, O., & Johann Martin Majer. (2022). Tipping points ahead? How laypeople respond to linear versus nonlinear climate change predictions. *Climatic Change*, 175(1-2).
<https://doi.org/10.1007/s10584-022-03459-z>
- Galway, L. P., Beery, T., Jones-Casey, K., & Tasala, K. (2019). Mapping the Solastalgia Literature: A Scoping Review Study. *International Journal of Environmental Research and Public Health*, 16(15), 2662.
<https://doi.org/10.3390/ijerph16152662>
- Garrett, C. R., Treichel, C. J., & Ohmans, P. (1998). Barriers to health care for immigrants and nonimmigrants: a comparative study. *Minnesota Medicine*, 81(4), 52–55. PMID: 9577539
- Gibson, R. (2002). *The Growth of Anti-Immigrant Parties in Western Europe*. Edwin Mellen Press.
- Gillis, A., Geiger, N., Raimi, K., Julia Lee Cunningham, & Sarge, M. A. (2023).

Climate change–induced immigration to the United States has mixed influences on public support for climate change and migrants. *Climatic Change*, 176(5). <https://doi.org/10.1007/s10584-023-03519-y>

Guo, T., & Spina, R. (2014). Regulatory Focus Affects Predictions of the Future. *Personality and Social Psychology Bulletin*, 41(2), 214–223. <https://doi.org/10.1177/0146167214561194>

Haferkamp, H., & Smelser, N. J. (1992). *Social change and modernity*. University Of California Press.

He, W., Xie, X., Mei, Y., Wan, S., & Zhao, S. (2021). Decreasing predictability as a precursor indicator for abrupt climate change. *Climate Dynamics*, 56(11-12), 3899–3908. <https://doi.org/10.1007/s00382-021-05676-1>

Herrmann, R. K., Risse-Kappen, T., & Brewer, M. B. (2004). *Transnational identities: becoming European in the EU*. Rowman & Littlefield.

Iberdrola. (n.d.). *Eco-anxiety: the psychological aftermath of the climate crisis*.

Iberdrola. Retrieved from <https://www.iberdrola.com/social-commitment/what-is-ecoanxiety>

Kahn, B. (2013, December 3). *Gradual Climate Changes Could Cause Sudden Impacts* | *Climate Central*. www.climatecentral.org. <https://www.climatecentral.org/news/gradual-climate-changes-could-cause-sudden-impacts-16792>

Keillor, B. D., Hult, G. T. M., Erffmeyer, R. C., & Babakus, E. (1996). NATID: the development and application of a national identity measure for use in

international marketing. *Journal of International Marketing*, 4(2), 57–73.

<https://doi.org/10.1177/1069031x9600400205>

Kim, J. (2008). Perception of Social Change and Psychological Well-Being: A Study Focusing on Social Change in Korea Between 1997 and 2000. *Journal of Applied Social Psychology*, 38(11), 2821–2858. <https://doi.org/10.1111/j.1559-1816.2008.00415.x>

Kössler, K. (2012). Immigration and Migrant Integration in Multicultural Societies.

L'Europe En Formation, 363(1), 367. <https://doi.org/10.3917/eufor.363.0367>

Kurth, C., & Pihkala, P. (2022). Eco-anxiety: What it is and why it matters. *Frontiers in Psychology*, 13(981814). <https://doi.org/10.3389/fpsyg.2022.981814>

Kustov, A., Laaker, D., & Reller, C. (2021). The Stability of Immigration Attitudes: Evidence and Implications. *The Journal of Politics*, 83(4), 1478–1494.

<https://doi.org/10.1086/715061>

Laczko, F., & Aghazarm, C. (2009). *Migration, Environment and Climate Change: ASSESSING THE EVIDENCE*.

https://publications.iom.int/system/files/pdf/migration_and_environment.pdf

Lauer, R. H., & Thomas, R. (1976). A Comparative Analysis of the Psychological Consequences of Change. *Human Relations*, 29(3), 239–248.

<https://doi.org/10.1177/001872677602900303>

Lohmann, J., Castellana, D., Ditlevsen, P. D., & Dijkstra, H. A. (2021). Abrupt climate change as rate-dependent cascading tipping point. *Earth System Dynamics*.

<https://doi.org/10.5194/esd-2021-7>

Macrotrends. (2023). *Netherlands Net Migration Rate 1950-2023*.

Www.macrotrends.net; Macrotrends.

<https://www.macrotrends.net/countries/NLD/netherlands/net->

[migration#:~:text=The%20current%20net%20migration%20rate](https://www.macrotrends.net/countries/NLD/netherlands/net-migration#:~:text=The%20current%20net%20migration%20rate)

Mahovic, N. S., & Nietosvaara, V. (2023, July 7). *Storm Poly* | EUMETSAT.

Www.eumetsat.int. <https://www.eumetsat.int/storm-poly>

Massey, G. (2016). *Ways of Social Change: Making Sense of Modern Times* (2nd ed.).

Sage Publications, Inc.

Milán-García, J., Caparrós-Martínez, J. L., Rueda-López, N., & de Pablo Valenciano,

J. (2021). Climate change-induced migration: a bibliometric review.

Globalization and Health, 17(1). <https://doi.org/10.1186/s12992-021-00722-3>

Millican, R., & Middleton, T. (2020). A need for resilience. *Reconsidering Resilience*

in Education, 3–16. https://doi.org/10.1007/978-3-030-49236-6_1

Ministerie van Justitie en Veiligheid. (2021, March 12). *Wist u dat ...? Feiten en ficties*

over migratie (deel 7) - Nieuwsbericht - Adviesraad Migratie.

[Www.adviesraadmigratie.nl](http://www.adviesraadmigratie.nl).

<https://www.adviesraadmigratie.nl/actueel/nieuws/2021/03/10/wist-u-dat-blog->

[7](https://www.adviesraadmigratie.nl/actueel/nieuws/2021/03/10/wist-u-dat-blog-7)

NASA. (2022, January 13). *The Effects of Climate Change*. Global Climate Change:

Vital Signs of the Planet; NASA. Retrieved from

<https://climate.nasa.gov/effects/>

NOS Nieuws. (2023, July 7). *Kabinet gevallen, geen akkoord over asielmaatregelen.*

Nos.nl; NOS. <https://nos.nl/collectie/13942/artikel/2481938-kabinet-gevallen->

[geen-akkoord-over-asielmaatregelen](#)

NOS Nieuws. (2021b, July 17). *Watersnood Limburg: zo heeft de situatie zich tot nu ontwikkeld*. Nos.nl. <https://nos.nl/collectie/13869/artikel/2389673-watersnood-limburg-zo-heeft-de-situatie-zich-tot-nu-ontwikkeld>

Parry, S. (2018). Immigration. In *Encyclopædia Britannica*. Retrieved from <https://www.britannica.com/topic/immigration>

Pae, H. K. (2020). The East and the West. *Literacy Studies*, 21, 107–134. https://doi.org/10.1007/978-3-030-55152-0_6

Potential implications of increasing significance of migration | knowledge for policy. (2020, September 8). Knowledge4policy.ec.europa.eu. Retrieved from https://knowledge4policy.ec.europa.eu/foresight/topic/increasing-significance-migration/more-potential-implications-relevant-migration_en

Raina, S. (2015). Establishing association. *Indian Journal of Medical Research*, 141(1), 127. <https://doi.org/10.4103/0971-5916.154519>

Rogers, P. (2008). Coping with Global Warming and Climate Change. *Journal of Water Resources Planning and Management*, 134(3), 203–204. [https://doi.org/10.1061/\(asce\)0733-9496\(2008\)134:3\(203\)](https://doi.org/10.1061/(asce)0733-9496(2008)134:3(203))

de la Sablonnière, R. (2017). “Toward a Psychology of Social Change: A Typology of Social Change.” *Frontiers in Psychology*, vol. 8, no. 397, 28 Mar. 2017, <https://doi.org/10.3389/fpsyg.2017.00397>.

Salter-Pedneault, K. (2023, April 14). *The use of self-report data in psychology*. Very well Mind; Very well mind. Retrieved from <https://www.verywellmind.com/definition-of-self-report-425267>

- Sandelind, C. (2015, August 29). *National identity plays a key role in determining whether people view immigration as a threat*. EUROPP. Retrieved from <https://blogs.lse.ac.uk/europpblog/2015/08/29/national-identity-plays-a-key-role-in-determining-whether-people-view-immigration-as-a-threat/>
- Sassenrath, C., Sassenberg, K., & Scheepers, D. (2016). The Impact of Regulatory Focus on Challenge and Threat. *Swiss Journal of Psychology*, 75(2), 91–95. <https://doi.org/10.1024/1421-0185/a000175>
- Shaftel, H. (2023, April 5). *Overview: Weather, Global Warming and Climate Change*. Climate Change: Vital Signs of the Planet; NASA. Retrieved from <https://climate.nasa.gov/global-warming-vs-climate-change/>
- Silbereisen, R. K., Pinquart, M., Reitzle, M., Tomasik, M. J., Fabel, K., & Grüner, S. (2006). *Psychosocial Resources and Coping with Social Change*.
- Stephanie. (2016, October 12). *Sequence Effects: Definition, Examples*. Statistics How To. Retrieved from <https://www.statisticshowto.com/sequence-effects/>
- Sunstein, C. R. (2002). The law of group polarization. *Journal of Political Philosophy*, 10(2), 175–195. United Nations. (2023). *Start with these ten actions!* United Nations; United Nations. Retrieved from <https://www.un.org/en/actnow/ten-actions>
- US EPA. (2021, April 16). *Impacts of Climate Change*. Retrieved from <https://www.epa.gov/climatechange-science/impacts-climate-change#:~:text=Climate%20change%20can%20also%20impact>

Verkuyten, M. (2021). Public attitudes towards migrants: understanding cross-national and individual differences. *World Psychiatry*, 20(1), 132–133.

<https://doi.org/10.1002/wps.20819>

Appendix A

Manipulation texts

Global warming status quo

Ook Nederland ondervindt de gevolgen van de opwarming van de aarde. Meer dan de rest van de wereld heeft Nederland sinds de eeuwwisseling een gemiddelde temperatuurstijging van ongeveer 1,7 graden Celsius doorgemaakt. Als gevolg daarvan zijn er in Nederland meer extreme weersomstandigheden, zoals hittegolven en stortregens, opgetreden. De Nederlandse regering steunt het Parijs-akkoord, dat tot doel heeft de opwarming van de aarde te beperken tot maximaal 2 graden Celsius, idealiter tot 1,5 graden Celsius. Er zijn verschillende stappen gezet om dit doel te bereiken, waaronder het verlagen van de uitstoot van broeikasgassen en het stimuleren van duurzame energie.

Global warming social change

Er worden verschillende sociale veranderingen op korte termijn verwacht als gevolg van de opwarming van de aarde. Zo kunnen overstromingen, droogte en andere extreme weersomstandigheden leiden tot een toename van het aantal klimaatvluchtelingen.

Spanningen tussen naties en bevolkingen kunnen hiervan het gevolg zijn. De opwarming van de aarde zal ook gevolgen hebben voor de landbouwproductie, wat kan leiden tot voedselschaarste. Dit kan vooral negatieve gevolgen hebben voor ontwikkelingslanden die sterk afhankelijk zijn van de landbouw. Bovendien wordt verwacht dat gezondheidsproblemen zoals allergieën, besmettelijke ziekten en door de hitte veroorzaakte ziekten zullen verergeren als gevolg van de opwarming van de

aarde. Dit kan de infrastructuur van de gezondheidszorg onder druk zetten en de 32 kosten opdrijven.

Immigration status quo

Immigratie is een omstreden onderwerp in Nederland dat vaak aanleiding geeft tot discussie. In het huidige immigratiebeleid wordt prioriteit gegeven aan het kiezen van hoogopgeleide immigranten die de Nederlandse economie en samenleving ten goede komen. Er is echter ook veel verzet tegen het immigratiebeleid, met name van verschillende politiekepartijen en organisaties die voorstander zijn van strengere regelgeving om het aantal migranten dat het land binnenkomt te beperken. Zij vinden dat de huidige immigratiegolf problemen veroorzaakt bij de integratie en een te grote druk legt op de Nederlandse samenleving. Aan de andere kant pleiten veel groepen en mensen voor meer liefdadigheid en kansen voor vluchtelingen en andere kwetsbare groepen die een veilig heenkomen zoeken.

Immigration social change

Op korte termijn kan immigratie grote maatschappelijke gevolgen hebben voor Nederland, zowel in positieve als in negatieve zin. Er kunnen spanningen ontstaan tussen nieuwkomers en de oorspronkelijke bewoners van het land als gevolg van de introductie van nieuwe mensen met hun eigen cultuur, gewoonten en taal. Volgens onderzoek is de meerderheid van de bevolking in sommige gemeenschappen niet-westers, wat kan leiden tot segregatie en sociale conflicten. Bovendien kan immigratie de woningmarkt, het onderwijssysteem en de gezondheidszorg onder druk zetten, wat de spanningen tussen verschillende raciale en etnische groepen kan verergeren.

Daarom is het van cruciaal belang dat de overheid maatregelen neemt om de integratie van immigranten te bevorderen en de communicatie tussen de verschillende groepen te

verbeteren. Op lange termijn kan immigratie leiden tot een betere levenskwaliteit en een 33 verrijking van de cultuur.

Appendix B

Scale items

Threat and challenge

- De Nederlandse rechtsstaat en democratie.
- De rechten van mensen zoals ik.
- Mijn persoonlijke rechten.
- De Nederlandse economie.
- De economische situatie van mensen zoals ik.
- Mijn persoonlijke economische situatie.
- De sociale status van Nederland.
- De sociale status van mensen zoals ik.
- Mijn persoonlijke sociale status.
- De veiligheid van Nederland.
- De veiligheid van mensen zoals ik.
- Mijn persoonlijke veiligheid.
- De Nederlandse gezondheidszorg.
- De gezondheid van mensen zoals ik.
- Mijn persoonlijke gezondheid.
- De Nederlandse waarden.
- De waarden van mensen zoals ik.

- Mijn persoonlijke waarden.
- Wat het betekent om Nederlanders te zijn.
- Wat het betekent om te behoren tot de groep mensen zoals ik.
- Wie ik ben als persoon.
- Waar Nederland zich om zou moeten bekommeren.
- Waar mensen zoals ik zich om zouden moeten bekommeren.
- Waar ik me persoonlijk om zou moeten bekommeren.

Perceived rate

- De wereld waarin we leven verandert zo snel dat het me soms ademloos achterlaat.
- Er is zoveel informatie dat ik niet alles kan bijhouden wat ik moet weten.
- Over het algemeen lijkt het verstrijken van de tijd mij meer op een ruisende rivier dan op een langzaam kabbelend beekje.

Appendix C

Information and informed consent

Welkom!

Bedankt voor uw deelname aan dit onderzoek naar de kijk van mensen op maatschappelijke onderwerpen.

Hierna volgt een beschrijving van de onderzoeksprocedures en een uitleg van uw rechten als proefpersoon. In overeenstemming met de ethische richtlijnen van de American Psychological Association (APA) vragen we u deze informatie zorgvuldig te lezen. U hebt recht op een kopie van dit informatieformulier als u akkoord gaat om deel te nemen onder de beschreven voorwaarden. Het doel van dit onderzoek is om te begrijpen hoe mensen sociale gebeurtenissen om zich heen ervaren. Het onderzoek is onderdeel van het afstudeeronderzoek van Joris Jongen en Rebecca Jacobse en onderdeel van de master Social, Health & Organisational Psychology van Universiteit Utrecht. Het onderzoek is getest en goedgekeurd door de Facultaire Ethische Toetsingscommissie (FETC).

De deelname duurt ongeveer 30 minuten en vindt online plaats. Tijdens dit onderzoek wordtu gevraagd om korte stukjes informatie over actuele maatschappelijke onderwerpen te lezen en enkele vragen daarover te beantwoorden. Er zijn geen bekende of verwachte risico's verbonden aan deelname aan dit onderzoek.

Voor het gebruik van uw onderzoeksgegevens gelden de volgende voorwaarden: Uw gegevens worden gebruikt voor onderzoekdoeleinden. Alle verzamelde gegevens, tot ophet moment dat u uw deelname stopt of de sessie is afgelopen, worden gebruikt voor onderzoek. Uw gegevens worden vertrouwelijk verwerkt en bewaard, tenzij openbaarmaking wettelijk verplicht is. In het bijzonder zal de onderzoeker een

codenummer gebruiken in plaats van eventuele persoonlijke informatie om uw gegevens op te slaan. Uw gegevens zijn niet persoonlijk identificeerbaar. Na het moment van publicatie worden alleen de gegevens die nodig zijn voor de verificatie van de onderzoeksresultaten gedurende minimaal 10 jaar veilig bewaard. Persoonlijk identificeerbare informatie, zoals het IP-adres van uw computer, wordt in een willekeurige volgorde, en apart van de rest van de gegevens op een veilige locatie opgeslagen. Persoonlijk identificeerbare informatie wordt gedurende ten minste 10 jaar na publicatie van het onderzoek bewaard en verwijderd zodra deze niet langer nodig is. Persoonlijk identificeerbare gegevens worden alleen gedeeld als dit wetenschappelijk vereist is om te verifiëren dat de rest van de gegevens waar zijn.

Onderzoekers mogen de verzamelde gegevens gebruiken voor wetenschappelijke publicaties. Echter, de gegevens in publicaties kunnen niet herleid worden naar u als persoon. Alleen de geanonimiseerde gegevens kunnen worden gedeeld met derden voor open science- doeleinden. In het kort, 'open science' betekent dat we zo transparant mogelijk moeten zijn. U hebt het recht om uw onderzoeksgegevens achter te houden van verdere analyse. Dit betekent dat we uw gegevens niet zullen gebruiken voor het huidige of vervolgonderzoek, noch anoniem zullen delen voor open science-doeleinden. U kunt besluiten uw onderzoeksgegevens achter te houden totdat de onderzoeksresultaten zijn geaccepteerd voor publicatie, of totdat wij door anonimisering uw onderzoeksgegevens niet kunnen traceren.

Als u nog vragen heeft over dit onderzoek, kunt u contact opnemen met de onderzoekers, Rebecca Jacobse (r.jacobse@uu.nl) en Joris Jongen (j.c.jongen@uu.nl), van de Universiteit Utrecht. Als u klachten hebt over het onderzoek, kunt u contact opnemen met de klachtenfunctionaris, klachtenfunctionaris-fetcsocwet@uu.nl, van de Universiteit Utrecht. Door hieronder JA te selecteren, gaat u akkoord met het

volgende: Ik verklaar dat ik volledig ben geïnformeerd over het doel van dit onderzoek en de dataopslag en dat ik de kans heb om vragen te stellen. Ik ben tenminste 18 jaar oud en geef mijn toestemming voor mijn deelname aan dit onderzoeksproject. Ik begrijp dat mijn deelname vrijwillig is en dat ik op elk moment mijn deelname kan stoppen zonder hiervoor een reden te hoeven geven.