KADIR HAS UNIVERSITY

SCHOOL OF GRADUATE STUDIES

DEPARTMENT OF PSYCHOLOGY

# THE EFFECT OF THE 2023 TÜRKİYE – SYRIA EARTHQUAKE ON COOPERATIVE BEHAVIORS AND INTENTIONS

MELİH VAROL

MASTER OF ARTS THESIS

ISTANBUL, JULY, 2023

Melih Varol

Master of Arts Thesis

2023

# THE EFFECT OF THE 2023 TÜRKİYE – SYRIA EARTHQUAKE ON COOPERATIVE BEHAVIORS AND INTENTIONS

MELİH VAROL

ADVISOR: ASSOCIATE PROFESSOR ONURCAN YILMAZ

A thesis submitted to

the School of Graduate Studies of Kadir Has University

in partial fulfillment of the requirements for the degree of

Master of Arts in Psychology

Istanbul, July 2023

This thesis titled THE EFFECT OF THE 2023 TÜRKİYE – SYRIA EARTHQUAKE ON COOPERATIVE BEHAVIORS AND INTENTIONS submitted by MELİH VAROL, in partial fulfillment of the requirements for the degree of Master of Arts in Psychological Sciences is approved by

(Assoc. Prof. Onurcan Yılmaz) (Advisor)
(Kadir Has University)

(Prof. S. Adil Sarıbay)
 (Kadir Has University)

(Assoc. Prof.  Sinan Alper)
 (Yaşar University)

I confirm that the signatures above belong to the aforementioned faculty members.

_____

(Prof. Dr., Mehmet Timur Aydemir)

Director of the School of Graduate Studies

Date of Approval:

# DECLARATION ON RESEARCH ETHICS AND
# PUBLISHING METHODS

I, MELIH VAROL hereby declare

- that Master of Arts Thesis that I have submitted is entirely my own work and I have cited and referenced all material and results that are not my own in accordance with the rules;

- that this Master of Arts Thesis does not contain any material from any research submitted or accepted to obtain a degree or diploma at another educational institution;

- and that I commit and undertake to follow the "Kadir Has University Academic Codes of Conduct" prepared in accordance with the "Higher Education Council Codes of Conduct".

In addition, I acknowledge that any claim of irregularity that may arise in relation to this work will result in a disciplinary action in accordance with the university legislation.


Melih Varol


Date (27/07/2023)

# ACKNOWLEDGEMENT

and the others I have not been able to mention in this acknowledgment section. I also thank Adil Sarıbay and Sinan Alper for accepting to be part of the thesis jury.

Lastly, I would like to thank my family: Yalçın Varol, Ezgi Varol Kaya, Bedriye Varol, and Raşit Kaya, for their unwavering support. Without them and their sacrifices, I would never be able to achieve my goals.

As for me, this is only one step in my journey in life. There will be many challenges, victories, and defeats. Nevertheless, the only constant thing will be my will to challenge adversaries.

Melih Varol, July 2023.

THE EFFECT OF THE 2023 TÜRKİYE – SYRIA EARTHQUAKE ON
COOPERATIVE BEHAVIORS AND INTENTIONS

## ABSTRACT

Numerous theories have attempted to elucidate the intricate relationship between existential threats and political behaviors and attitudes; however, the existing body of research on this topic has not provided conclusive results, nor has it consistently supported any theory. To reconcile mixed findings in the literature, Eadeh and Chang (2020) adapted the Issue Ownership Model, originally derived from political sciences (Petrocik, 1996), to the political psychology literature. According to the Issue Ownership Model, diverse forms of threats (type, severity, etc.) can induce different political shifts (either toward conservative or liberal orientations) in different times, places, and contexts (Brandt et al., 2021). In this research, we conducted an online experiment to see the effects of an understudied threat, an earthquake, on cooperative behaviors and intentions and the moderating role of risk perceptions in a natural field context (i.e., before and after the 2023 Türkiye-Syria earthquake). We tested the effects of earthquake threat on the money-sharing behaviors in dictator and public goods games and the cooperation intentions in the morality as cooperation scale. Participants who had taken part in the pre-test before the earthquake were invited to participate again (which resulted in 388 participants), and they were randomly assigned to the earthquake manipulation and the control conditions. The results demonstrated a significant increase in cooperation behaviors and risk perceptions and decreased cooperation intentions after the earthquake. In contrast, no significant change was observed in generosity levels. Meanwhile, manipulation did not affect dependent variables probably because of the ceiling effect. Moral messages to mitigate the negative consequences of the threat and individual difference variables as potential moderators also did not affect dependent variables. The results support the idea that different types of threats lead to different psychological reactions.

**Keywords: Earthquake, threat, cooperation, generosity, prosociality**

# 2023 TÜRKİYE – SURİYE DEPREMİNİN İŞBİRLİĞİ DAVRANIŞLARI VE NİYETLERİNİN ÜZERİNDEKİ ETKİSİ

## ÖZET

Pek çok teori varoluşsal tehditler ile politik davranışlar ve tutumlar arasında olan karmaşık ilişkiye açıklama getirme teşebbüsünde bulunsa da alanyazında bulunan çalışmalar nihai bir sonuca ulaşamamış ve bulgular sistemli bir şekilde bir teoriyi desteklememektedir. Kuramlar arasındaki çelişkileri çözmek ve farklı tehditlerin politik ideoloji, tutum ve davranışları nasıl şekillendirdiğini incelemek amacıyla Eadeh ve Chang (2020) siyaset bilimi alanyazınında hali hazırda bulunmakta olan Soruna Vakıflık Modeli'ni (Petrocik, 1996) siyaset psikolojisi alanyazınına adapte etti. Soruna Vakıflık Modeline göre farklı şekildeki tehditler (tip, şiddet vs.) farklı zaman, mekan ve bağlamlarda farklı politik yöne doğru kaymalara (muhafazakarlık veya liberallik) sebep olabilir. Bu araştırmada, literatürde çok çalışılmayan bir tehdit tipi olan deprem tehditinin katılımcıların işbirliği davranışları ve niyeti üzerindeki etkisi ve deprem risk algısının düzenleyici etkileri doğal deney ortamında incelenmiştir (2023 Türkiye – Suriye depremleri öncesi ve sonrası). Çalışma kapsamında deprem tehditinin diktatör ve kamusal mallar oyunu ile ölçülen para paylaşma davranışı ve işbirliği olarak ahlak ölçeğinde ölçülen işbirliği niyeti üzerindeki etkisi incelenmiştir. Araştırma öncesi anket çalışmasına katılan katılımcılar bu çalışmaya davet edildi (Örneklem sonuç olarak 388 katılımcıdan oluşmaktadır.) ve deprem manipülasyonu ile kontrol koşullarına seçkisiz bir şekilde atandılar. 2023 Türkiye – Suriye depremleri ardından katılımcıların işbirliği davranışı ile risk algılarında artış gözlemlenirken işbirliği niyetinde azalma meydana geldiği saptanmıştır. Buna karşın depremin cömertlik davranışı üzerinde anlamlı bir etkisinin olmadığı saptanmıştır. Deney manipülasyonun bağımlı değişkenler üzerinde etkisinin olmadığı gözlemlenmiştir ve bu durumun tavan etkisinden kaynaklandığı düşünülmektedir. Ahlaki mesajların deprem tehditinin olumsuz etkilerini hafifletmediği ve bireysel farklılık değişkenlerinin potansiyel düzenleyici değişken olarak bağımlı

değişkenler üzerinde herhangi bir etkisinin olmadığı tespit edilmiştir. Sonuçlar farklı tip tehditlerin farklı psikolojik tepkilere yol açabileceği argümanını desteklemektedir.

**Anahtar kelimeler: Deprem, tehdit, işbirliği, cömertlik, prososyallik**

# TABLE OF CONTENTS

# LIST OF FIGURES

# LIST OF TABLES

# LIST OF ACRONYMS AND ABBREVIATIONS

**CPB: Compensatory Political Behavior**

**MSC: Motivated Social Cognition**

**IoM: Issue Ownership Model**

**PSM: Parasite-Stress Model**

**RLH: Reactive Liberal Hypothesis**

**TMT: Terror Management Theory**

**WEIRD: Western, Educated, Industrialized, Rich, Democratic**
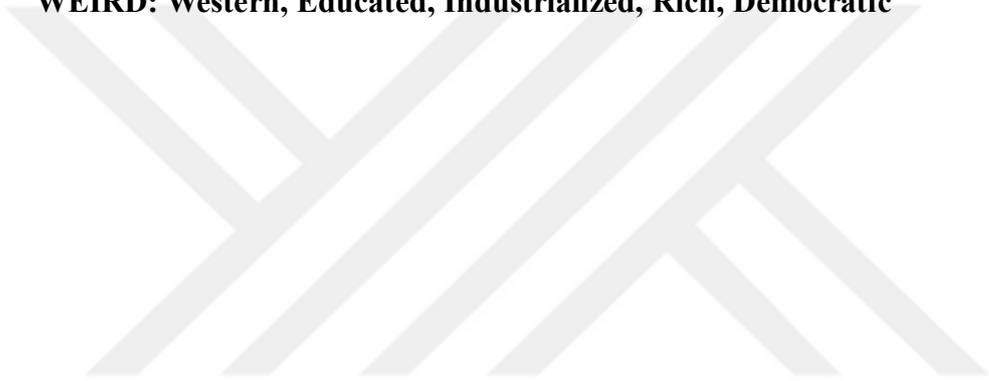
# 1. INTRODUCTION

Various studies have been conducted to understand the complicated relationship between threats, attitudes, and behaviors. While there is no consensus on how threats shape behaviors and attitudes, various theories make different predictions about the shifts that occur after coming across threats. Terror Management Theory (TMT) (Greenberg et al., 1986) suggests that terror threat leads people to hold onto their existing world views firmly, while Conservatism as Motivated Social Cognition Model (MSC) (Jost et al., 2003) argues that threats result in people becoming more politically conservative in general which includes increased hostility and distrust towards out-groups. Studies within the framework of the aforementioned theories have produced mixed findings and mostly focused on mortality salience and terror threats (Jakobsson & Blom, 2014; Landau et al., 2004; Pyszczynski et al., 2006). Taking a different approach, Issue Ownership Model (IOM) (Eadeh & Chang, 2020) suggests that the relationship between threats, attitudes, and behaviors varies based on the type of threats, context, time, place, and framing of the threat. While ambitious, its boundaries are unclear, and it has not been tested in many contexts with different threats. In our research, we mainly aimed to examine the effects of an understudied threat with a non-WEIRD population by examining the effects of the 2023 Türkiye – Syria earthquake and the earthquake manipulation (that we have developed for this study) on prosocial behaviors (cooperation and generosity behaviors) and attitudes (cooperation intentions) of Turkish citizens. Our data suggested that cooperation behaviors increased while cooperation intentions decreased, which points to a larger intention behavior gap in the literature. While we did not detect a significant increment in generosity behaviors, the trends suggest that further research might be able to detect such an increment. We also explored the possible effects of various moral messages on revision decisions in cooperation behaviors and the moderation effects of individual difference variables on the relationship between the earthquake and prosocial behaviors and intentions; however, we could not detect such effects. As we conducted a natural field experiment with a non-WEIRD sample and an understudied threat, we contributed to a larger literature on threats, attitudes, and behaviors by examining if our

findings aligned with the theoretical assumptions of TMT, MSC, and IOM. Our research findings did not align with MSC because the cooperation behaviors with anonymous participants increased after the earthquake, while MSC would have predicted an effect in the opposite direction. While it is tough to make predictions about TMT because of how left-skewed our sample is, we can suggest that our data might not support the theoretical assumptions of the TMT because it predicts an increased prejudice towards outgroups to protect one's worldview (Greenberg & Kosloff, 2008) which contradicts with our findings that show increased cooperation with anonymous participants. Furthermore, we observed a behavior-intention gap between cooperation attitudes and behaviors, which may further doubt TMT's theoretical assumptions. We should have observed uniform effects across all domains if threats influenced people to stick to their worldviews. Lastly, our research findings support IOM because it predicts different shifts based on the types of threats, contexts, and framings. Our data was in line with the studies that were conducted with populations that were less affected by natural disasters (Yonah, 2019) while also conflicting with the data from the populations that were directly affected by natural disasters (Akkayan et al., 2000; Simpson & Serafini, 2019). Nevertheless, to truly test IOM, it is necessary to conduct studies investigating the effects of different framings of the earthquake (such as blame attribution – whom to blame) on the prosociality of participants. Overall, this study contributes to a larger literature on the relationship between threats, attitudes, and behaviors by investigating the effects of an understudied threat in a non-WEIRD population and in a natural field context and suggests new directions on which boundary conditions to explore in future studies.

The threat can be defined as the possibility of harming an individual, a group, a society, or humanity. Every day, we face various environmental (e.g., scarcity, climate change, pandemic, earthquake, etc.) and societal (e.g., mass migration, terror, war, ostracism, etc.) threats from nature and culture. The threats shape how we perceive the world and feel and behave under different circumstances. Several studies investigated the relationship between threats, attitudes, and political behaviors (Crawford, 2017; Jost et al., 2003; Nail & McGregor, 2009); however, no consensus has yet to be established in the political psychology literature. Furthermore, the threats such as earthquakes, climate crisis, lack of accession to healthcare, and scarcity can also devastate people's lives. COVID-19,

Kahramanmaraş Earthquakes, the 2016 Turkish military coup d'état attempt, and the ongoing Turkish Economic Crisis, are a few examples that have had a devastating impact on Turkish society in the past few years. By exploring the effects of different threats in different times, contexts, and cultures, it is possible to have a broad understanding of how people think, feel, and behave under uncertainty and danger. As the research on the threat, attitude, and political behavior branches out to other cultures, we also have a clearer picture of what all people have in common and what sets us apart.

## 1.1 Religion, Politics, and Threat

Throughout history, humanity faced various threats and developed material and non-material solutions. Regarding material solutions, they have learned how to make fire against the danger of cold, crafted various tools against animal attacks, and cultivated agriculture to combat scarcity (Dalan - Polat, 2020). People also learned to work together to form alliances and communities against nature, other species, and other groups to benefit each other and solve issues arising from threats. As societies grew bigger, the threats also magnified and diversified. To combat threats, non-material solutions were adopted. Individuals must work together cohesively for a society to function and defend itself against threats. However, individuals also have self-interests which can hurt society in the long run. Religions and belief systems serve as a check on individual interests and bind people together to work together, as the alternative is divine punishment (Yılmaz et al., 2019). Many religions and belief systems exist because different societies face threats in other times and contexts, requiring other solutions. According to the Cultural Materialism Theory of anthropologist Marvin Harris (Lloyd, 1985), taboos and beliefs arise from environmental conditions. For example, eating pigs is forbidden in Islam because the dry Middle Eastern climate is incompatible with pigs who require constant moisturizing, and they are also hard to herd, making them more of a liability. Similarly, oxen are sacred in India because they are necessary for traction and milking. If they were slaughtered for meat consumption, scarcity would have become more prevalent in the long haul because milking and traction produce more food than meat. Therefore, Harris argues, beliefs and behaviors are shaped by our environmental conditions. While religions and belief systems shape our attitudes and behaviors and form cohesion in society, they

are inadequate for finding solutions to complex contemporary situations and threats. Complex societies consist of diverse people who often live together in varying environments; therefore, they require comprehensive and flexible solutions. Political ideologies, parties, and leaders emerge with the claim of solving problems caused by threats in different times, places, and contexts.

As societies grew and became more complex, political organizations have become necessary to solve issues arising from various threats. While in smaller communities (such as bands), problems between tribemates were solved via informal debates and agreements (McDowell, 2018), today, everyone cannot vote or debate on every issue directly. Therefore, in democratic societies, at regular intervals, citizens vote for candidates to represent them in national and local councils, which in turn vote on their constituents' behalf based on the ideological platform they follow (Boix, 2007). Political parties are structured organizations providing an ideological platform to solve contemporary issues (White, 2006). For instance, Table of Six was formed in Türkiye to establish a strengthened parliamentary system to solve the problems arising from the presidential system. All decision mechanisms were cumulated under the all-powerful presidential post (Berk, 2022). Similarly, in the United States of America, two mainstream parties offer contrasting platforms to solve issues. The Republican Party offers a conservative platform that includes preserving traditional values, opposition to abortion, implementing tax cuts, and anti-immigration policies (Republican Party Platform, 2016), while the Democratic Party emphasizes social justice, equality, and healthcare reforms (Democratic Party Platform, 2016). As different issues become more prevalent and essential, specific political platforms become preferable more than others. For instance, after 9/11, then US President George W. Bush was re-elected to a second term because of his conservative and hardline stance against terrorism and his military action in Iraq (Campbell, 2005). However, in 2020, former US President Donald Trump's failure to effectively combat the COVID-19 pandemic cost him his re-election bid against his challenger, now US President Joe Biden (Baccini et al., 2021). As exampled above, political psychology literature aims to understand how threats shape our attitudes and political behaviors and how they vary in different times, places, and contexts.

**1.2 Threats, Attitudes, and Political Behaviors**

**1.2.1 Terror management theory (TMT)**

As many studies have been conducted to understand the relationship between threats, attitudes, and political behaviors, some theories have become more dominant. Terror Management Theory (TMT) is one of the overarching theories in political psychology literature, and it has provided a framework for early experimental studies. According to TMT, the existence of threats makes people firmly hold onto their already-held beliefs and political attitudes (Greenberg et al., 1986). Threats remind people of their mortality and enhance death anxiety; therefore, people feel terrorized and try to ease their stress by trying to achieve symbolic (achieved through worldly accomplishments, such as having babies, creating successful businesses, or inventing something which will impact the lives of humanity) or literal (becoming more devout to religion to hold onto a belief that you will be rewarded in the afterlife) immortality (Dechesne et al., 2003; Lifshin et al., 2015). Furthermore, remembering mortality raises prejudice, negative stereotyping, and discrimination toward outgroups, raising ingroup biases and favoring national identity (Greenberg & Kosloff, 2008). Numerous cross-cultural studies in both WEIRD and non-WEIRD contexts, which were conducted before the open science revolution, allowing preregistering of the whole research protocol before any data collection, examined the hypotheses of TMT, yielding empirical support for its main predictions. For example, after mortality salience, Iranian students supported martyrdom attacks. The Iranian students were more likely to support pro-martyrdom causes in the manipulation group than in the control group (Pyszczynski et al., 2006). The second study of the same research demonstrated similar effects in an American sample; conservative students' support of lethal military measures increased after the morality salience manipulation, whereas the same effect was not observed among liberal students. Similarly, in an Israeli study conducted three months before the retreat of the Israeli forces from the Gaza Strip, right-wing Israeli students and Israeli residents in the Gaza Strip demonstrated higher levels of support for violent resistance against the retreat when they were primed with mortality (Hirschberger & Ein-Dor, 2006). Mortality salience also resulted in higher in-group

biases and identification (Castano et al., 2001), preference in favor of national items and currency (Jonas et al., 2005), and more positive assessment of a coreligionist compared to someone who identifies with another religion (Greenberg et al., 1990).

While the studies mentioned earlier supported the hypotheses of TMT, other studies visualize a complicated picture. After the 9/11 attacks, then US President Bush received an enormous boost to his approval ratings, reaching up to 90% immediately after the attacks (Gallup, 2022; Pew Research Center, 2008). In research conducted close to the 2004 US election, exposure to 9/11 stimuli and reminders of death resulted in the expansion of support towards then-US President George W. Bush and his anti-terror measures among conservatives and liberals (Landau et al., 2004). Furthermore, conflicting results of recent high-powered studies (Klein et al., 2019; Sætrevik & Sjåstad, 2019; Schindler et al., 2021; Chatard et al., 2020) cast further doubt on the validity of TMT. To account for issues arising from TMT, the Motivated Social Cognition Model (MSC) was proposed (Jost et al., 2003).

### 1.2.2 Motivated social cognition (MSC)

According to MSC, coming across threats leads to a conservative shift in our attitudes and political behaviors (Jost et al., 2003). Conservatism eases fears arising from uncertainty and ambiguity by defending society from change and protecting the social hierarchy. The study conducted by Landau et al. (2004) is an important example as it illustrates the conservative shift towards supporting then-US President George W. Bush and his foreign policy of both liberals and conservatives. Furthermore, Nail et al. (2009) conducted two studies before and after 9/11, showing the conservative shift of attitudes toward US President George W. Bush and rising military spending among conservatives and liberals, and moderates. Conservative change was also observed in survivors of the 9/11 attacks and increased patriotism and religiosity (Bonanno & Jost, 2006). In addition to 9/11 studies, further support for MSC was found in other countries after the terrorist attacks. After the Madrid attack, a conservative shift in attitudes and the rise of prejudice against Arabs and Jews were observed among Spanish participants (Echebarria-Echabe & Fernandez-Guede, 2006). In Türkiye, due to the high levels of terror threat and

uncertainty between the June and November 2015 elections, the incumbent conservative Justice and Development Party raised its vote share from 41 to 49.5% in just five months (Aytaç & Çarkoğlu, 2021).

However, other studies provided a different picture compared to the aforementioned results. In Lambert et al. (2010), the reminders of 9/11 only shifted the political attitudes concerning President Bush's military policies; however, the effects did not materialize in other aspects of his presidential policies. The Charlie Hebdo attacks in France (Solheim, 2019) and the Mumbai attacks in India (Finseraas & Listhaug, 2013) did not indicate an increase in negative attitudes toward immigration. Furthermore, in Norway, after an anti-immigration terrorist attack, Norwegian participants' attitudes toward immigration became more positive (Jakobsson & Blom, 2014). As neither MSC nor TMT could explain these findings, novel theoretical positions emerged.

### 1.2.3 Reactive liberal hypothesis (RLH)

Reactive Liberal Hypothesis (RLH) was proposed to reconcile the conflicting findings derived from MSC and TMT. According to this hypothesis, under threats and uncertainty, liberals are more inclined to adopt conservative values and policies. At the same time, we cannot observe similar trends among conservatives because they have already taken conservative values due to feeling under constant threat (Nail et al., 2009). In Nail et al. (2009), liberals showed in-group bias as much as conservatives (Study 1), became more cognitively conservative (dogmatism, inability to deal with uncertainty, and a stronger belief in having the "correct" world-view) (Study 2) and opposing gay rights as much as conservatives (Study 3). Furthermore, in a study that compared pretest and posttest scores of two different representative samples in the UK (Van de Vyver et al., 2015), the effects of the 7/7 terrorist attacks on the attitudes towards immigration and Muslims and the endorsement of different moral foundations were investigated. The results indicated a conservative shift among liberals as their prejudice levels against immigration and Muslims rose after the attacks, and their endorsement of the fairness foundation decreased. In contrast, their endorsement of the loyalty foundations increased. In contrast, among conservatives, no significant change was observed. It is argued that conservatives

and liberals observe the world similarly under threats, but in normal circumstances, liberals use cognitive energy to suppress those dispositions and value fairness and devalue loyalty (Haidt & Kesebir, 2010; Skitka, 2002). In other words, under high-stress conditions (such as terrorism), the cognitive load of liberals increases, and thus they make quick judgments and decisions similar to conservatives. Therefore, we observe sharper shifts among liberals towards conservatism.

## 1.3 Definition of Threats

The abovementioned theories and studies mainly focused on the relationship between the terror threat and political attitudes and behaviors. However, other threats shape how we perceive the world and behave under specific circumstances. Pandemics, earthquakes, political instabilities, tsunamis, and unrestrained immigration are some threats that influence how we think, observe and behave under particular times, places, and contexts. As there are a variety of threats and differentiating cultural and environmental circumstances, we can expect political attitudes and behaviors to shift in multiple and varying ways (Brandt et al., 2021). As classical theories such as TMT and MSC primarily focus on the terror threat, they cannot comprehensively explain how we are affected by different environmental and societal threats. In this section, the contemporary theories attempting to fill the gap in the literature will be described. These theories are Parasite Stress Model (PSM), Compensatory Political Behavior Model (CPB), and Issue Ownership Model (IoM).

### 1.3.1 Parasite stress model (PSM)

According to the Parasite Stress Model (PSM), cultural differences may be explained by the level of pathogen prevalence in an environmental zone (Murray et al., 2010). Disgust sensitivity is related to pathogen prevalence and protects people from dangerous materials and practices (such as zoophilia and necrophilia). A higher pathogen prevalence would result in a higher percentage of conformity to society and social norms. Therefore, PSM expects a higher level of social conservatism in societies and situations with higher

pathogen prevalence (Inbar et al., 2009). Pathogen prevalence is also correlated positively with collectivism and negatively associated with individualism. The correlation is more robust when historical pathogen prevalence in an area is considered (Fincher et al., 2008). Pathogen prevalence and disgust emotion also accompany in-group and out-group attitudes as it increases ethnocentrism and in-group attraction (Navarette & Fessler, 2006). Faulkner et al. (2004) conducted six studies to observe the potential differences in attitudes towards foreign immigrants vs. familiar immigrants from nearby societies. The studies demonstrated higher support for unfriendly policies and more negative attitudes toward foreign immigrants (i.e., African immigrants). Similar patterns were observed in a neurophysiology study where the participants who are more sensitive to unpleasant situations were more likely to identify as conservative and oppose pre-marital sex or same-sex marriage (Smith et al., 2011). While the relationship between conservative ideology and disgust sensitivity was demonstrated in previous research, the studies focused on the social groups (e.g., atheists or gays) opposed by the conservatives (Brandt et al., 2014; Inbar et al., 2009). However, when the social groups' liberals are usually distant toward are used (such as the military, Christian fundamentalists, and anti-abortion activists), liberals are just as willing to discriminate against (Iyengar & Westwood, 2015) and dislike perceived out-group members as conservatives (Brandt et al., 2014; Chambers et al., 2012). Furthermore, Eadeh and Chang's seminal study (2020) demonstrated a liberal shift when participants are primed with lacking accession to healthcare and air pollution threats. Therefore, we cannot conclude that health-related threats uniformly result in a conservative change.

### 1.3.2   Compensatory political behavior model (CPB)

Previous theoretical standpoints (TMT, MSC, and RLH) defined threats and conservatism too broadly. Therefore, they could not comprehensively explain the relationship between threats, political behaviors, and attitudes. The Compensatory Political Behavior Model (CPB) aims to define threats by differentiating them based on meaning (e.g., symbolic representation) and physical (e.g., predators) threats (Crawford, 2017). Meaning threats are abstract ones that threaten the beliefs and identities of people. For example, an election of someone outside your belief system may threaten you because you believe they can

take away your religious liberties. A previous study investigating the responses to meaning threats showed that conservatives and liberals respond similarly to meaning threats (e.g., Kosloff et al., 2010). In Kosloff et al. (2010), both liberal and conservative participants preferred a charismatic candidate who shared their political beliefs after mortality salience manipulation.

On the other hand, physical threats directly threaten the lives and health of people. Examples of physical threats include terrorist attacks, climate change, and pollution. According to CPB, conservatives respond more severely against physical threats than liberals (Smith et al., 2011). In Oxley et al. (2008), the participants who favored more conservative policies showed a higher level of responsiveness towards sudden noises and threatening images than those who favored liberal policies. Hypotheses of CPB had not received unanimous support, as in Nam et al. (2013). Conservative participants struggled more than liberal participants when tasked with writing an essay supporting the opposition political figures. Still, CPB is an essential model because it predicts different outcomes for different types of threats, unlike standard theories such as TMT and MSC. However, while CPB distinguished between types of threats (meaning vs. physical), it did not distinguish between cultural, economic, and ideological threats. A recent cross-cultural study (Brandt et al., 2021) was conducted with data from 56 territories suggesting a relationship between financial threats, left-wing economic politics, and violence threats with right-wing cultural beliefs.

While the CPB provides an explanatory framework for the reported findings, its reliance on a dichotomy between physical and meaning-based threats falls short in accounting for the wide array of diverse threats such as scarcity, terrorism, and social identity threats. However, an alternative theoretical standpoint exists in the current literature that not only elucidates these findings but also offers predictions encompassing a broad spectrum of threat types. The following section will delve into this theoretical framework.

### 1.3.3   Issue ownership model (IOM)

Issue Ownership Model (IOM) originated in the political science literature in the 1980s (Petrocik, 1996). According to this model, some parties/ideologies are perceived as more capable of handling problems (e.g., existential or societal threats such as economic crises, earthquakes, terrorist attack, mass migration, etc.) in certain areas. In contrast, in other areas, other parties/ideologies may be seen as more capable (Lefevere et al., 2015). For instance, in Europe, green parties are endorsed for their pro-environmental policies, socialist parties are supported for their social security policies, and right-wing parties are more prominent when there are immigration crises. In the United States of America, the Republican Party is traditionally perceived as more capable of handling national security issues (albeit it might be changing after January 6, 2021, Capitol riots) and preserving traditional values (Newport, 2014), while the Democratic Party is seen as more successful in health care, social security, protecting human rights and the environment-related issues (Saad, 2007). When a problem becomes prominent, the party, ideology, or coalition perceived as more capable will become more popular and supported by the public.

IoM was adapted to the political psychology literature to broaden the understanding of the relationship between threats, political attitudes, and behaviors. IoM was adapted to the political psychology literature in 2020 with Eadeh and Chang's seminal research. This research consists of three experiments that focus on the threats of losing access to healthcare (Experiment 1), air pollution (Experiment 2), and corruption in companies (Experiment 3). In all three experiments, a liberal shift was observed. This study is essential because most previous studies focused on terror (Jost et al., 2003) and pathogen threats (Smith et al., 2011), and a conservative shift was primarily observed. As IoM predicts different changes in political attitudes and behaviors based on time, context, and threat types, it might be able to fill the gap and explain the inconsistencies in the political psychology literature. Brandt et al. (2021) aimed to create a comprehensive explanation for the relationship between threats and political attitudes using World Values Survey data, and they found a liberal shift in economic values against economic threats and a conservative shift in social values against terror threats in line with IoM. This research is

critical for using data from 56 territories/countries and finding differences between countries. However, they cannot explain the reasons for reported differences and cannot imply a cause-effect relationship due to the correlational nature of the available dataset.

In her master's thesis, Aktar (2022) investigated the effects of terror and climate crisis threats on participants' political attitudes. Although this preregistered experiment tested the effects of two different threat types, the impact of the climate and terror threats, on political attitudes among left-wing and right-wing participants in an underrepresented culture (Türkiye), the results indicated that our experimental manipulations (e.g., semi-fabricated newspaper articles emphasizing relevant threats) failed to reliably activate risk perceptions in the domain of climate change and terrorism. The potential limitations of this preregistered replication may explain the null findings. First, in this study, resistance to change and opposition to equality subdimensions of conservatism (Sarıbay et al., 2017) were used to measure the political attitudes of the participants instead of a general political attitude scale. Second, the news articles used as manipulation materials in this study were not novel, in the terror manipulation group, terrorist attacks happened mostly between 2013-2016, while in the climate change condition, the news article mentioned figures from 2017 and 2018. However, the data collection happened in 2021, therefore, the information in the news article were relatively old and might be perceived as psychologically distant. When threats are psychologically distant, people's attitudes toward a specific issue are more symmetrical with their political attitudes (Alper et al., 2021). Lastly, the dependent measure relies on stable opinions which are formed over years, instead of contextualized opinions or actual behaviors (Sheeran & Webb, 2016; Talhelm et al., 2015; Yilmaz & Saribay, 2017) Nevertheless, as it has newly been adapted to political psychology literature, IoM has to be explored within different contexts, times, countries, and with various threats and stronger manipulations to understand the effectiveness and the boundaries of the model.

## 1.4 The Earthquake Threat

This section will outline and discuss the relevant literature about the present study. While political psychology and political science literature have generally focused on terror threats, the effects of environmental threats (e.g., natural disasters) have also been investigated in some studies. In 1965, Hurricane Betsy hit New Orleans, severely damaging properties and losing lives. Abney and Hill (1966) explored the effects of Hurricane Betsy on the mayoral race. While the incumbent mayor's voting share dropped by six percent, the participants did not praise or condemn the incumbent mayor for his role in combatting the effects of the hurricane. Furthermore, no significant difference was observed between the wet (the areas affected by the storm) and the dry (those not affected by the hurricane) areas. The effects can be explained by the participant's lack of knowledge about the responsibilities of hurricane prevention as participants were divided on who they thought was responsible for preparing the city for possible hurricanes. Additionally, incumbent Mayor Schiro's successful efforts to minimize the stresses of the hurricane might have mitigated the level of blame toward him. Similar research was conducted after Tropical Storm Allison to see its effects on the 2001 Houston mayoral race (Arceneaux & Stein, 2006). Although the incumbent mayor Lee Brown was narrowly re-elected, his vote percentage suffered a massive blow as it dropped from 67 percent to 51 percent. The participants who were more affected by the tropical storm and had higher knowledge about local politics were more likely to blame the mayor for the lack of possible flood preparations. Furthermore, the participants who blamed the mayor more than other levels of government were more likely to vote against the mayor. Carlin and Love (2014) investigated the effects of earthquakes on interpersonal trust in three countries: Chile (2010), El Salvador (2001), and Haiti (2010). The level of interpersonal trust was affected by the perception of the state's capability of responding to the stresses caused by the earthquake. As Haiti was a state with a weak social structure and secular institutions, the state was incapable of dealing with the effects of the earthquake, and interpersonal trust dropped the most. In El Salvador, the state was also incapable of effectively dealing with the earthquake. Therefore, interpersonal trust was also reduced there though the effects were not as high as in Haiti. However, in Chile, the earthquake

did not affect interpersonal trust as it is the strongest state among those countries in terms of strength of secular institutions. The differences within all three countries were also explored. In Chile, the political regions with a higher number of people who witnessed looting had a lower level of interpersonal trust than those with fewer people who witnessed looting. In El Salvador, the effects of the damage on interpersonal trust were mitigated among the participants who received aid from the government. In Haiti, interpersonal trust levels did not drop among the citizens who thought the government was efficient in providing services and responding to the stresses caused by the earthquake. Altogether, interpersonal trust depended on the perception of the efficiency of the state.

Various studies focused on risk perceptions and risk-taking behaviors after natural disasters. The research was conducted in Thailand four years after the Indian Ocean Tsunami to investigate the differences between the villages affected by the tsunami and those not (Cassar et al. 2017). The results demonstrated a difference in interpersonal trust, impatience, and risk aversion levels. The participants living in a village affected by the tsunami had higher impatience, interpersonal trust, and risk aversion than those not. However, as there were no pre-tsunami scores, it needs to be clarified that the differences were because of the tsunami rather than other communal differences. After the 1992 Earthquake in Erzincan, Karancı and Rüstemli (1995) investigated the risk perception differences between Erzincan and Ankara samples. They found higher stress and risk perception levels among the Erzincan sample than the Ankara sample. However, the preparedness levels among the Erzincan sample were low. The researchers suggested that the feeling of powerlessness may cause inadequate preparedness for future earthquakes. Some studies show mixed findings for risk aversion levels. A longitudinal research conducted after Hurricane Katrina demonstrated higher risk-loving levels among women evacuees shortly after the evacuation and higher risk-aversion levels a year later among women and long-term Houston residents (Eckel et al., 2009). The risk-taking differences were explained by the emotions as risk-loving gamble choices were related to alertness and determination right after the evacuation and risk-averse decisions to traumatic experiences and rising stress levels in the long term after the hurricane. After the 2011 Japan Earthquake, risk-loving behavior (such as gambling, drinking, and smoking) was

observed more among the male participants even after five years (Hanaoka et al., 2018). Lastly, after the 2011 Australian floods, the homeowners who were affected by the floods were more likely to make risk-loving decisions in gambling for a chance to get a large amount of money instead of a certain low amount of money compared to the homeowners who were not affected by the floods (Page et al., 2014). It is critical to scrutinize the boundary conditions to understand the changes in risk perception and risk-taking decisions under different circumstances.

Similar to our research, few studies aimed to explain the relationship between prosocial behaviors, attitudes, and natural disasters. The literature is divided into two contrasting explanations (Zaki, 2020). The first explanation suggests that people become more prosocial due to natural disasters and threats. Lim and DeSteno (2016) investigated the effects of past negative experiences (such as being a victim of natural disasters or violence) on feeling empathy towards disaster victims and donation behaviors. The results demonstrated a strong relationship between the level of past negative experiences and being able to feel compassion towards other people, which in turn predicted the level of donation to the Red Cross. De Juan et al. (2020) investigated the effects of the 2015 Nepal Earthquake on local cooperation levels. The results indicated that the earthquake reduced local conflict levels, and the effects were mitigated by governmental aid. The researchers reached this conclusion by comparing the data between the villages affected by the earthquake and those not. The towns affected by the earthquake saw reduced social conflicts within the city. However, the effects were mitigated and even reversed when the governmental aid was more substantial. Researchers explained this result by suggesting that governmental assistance reduces interpersonal trust and cooperation and creates more secrecy and conflict over the distribution of governmental resources.

The second explanation in the literature is that people become less prosocial after natural disasters (Zaki, 2020). After the İzmit and Düzce Earthquakes, the effects of the earthquake and governmental, non-governmental, and international aid had a similar impact on the dissolution of interpersonal helping (Akkayan et al., 2000). As the earthquake severely impacted most people, people could not help their friends, families, and neighbors, which resulted in a loss of trust. In addition to that, relying on outside help

created competition and further distrust among the people who lived in the earthquake areas. Furthermore, ethnographic research after the 2001 India and the 2010 Nepal earthquakes suggested that the initial higher levels of trust were destroyed as the government was not trusted as non-governmental and international aid took over the region (Simpson & Serafini, 2019). A Ph.D. thesis conducted by Yonah in 2019 suggests a possible reconciling approach between two explanations. In her research, she investigated the relationship between natural disasters and donation behavior in the US. She used the IRS (Internal Revenue Service) information to examine the donation behaviors, where income and tax return information are stored at a county level. Donation information is also stored in IRS returns. Natural disasters were examined by investigating the natural disaster information stored in NOAA (Storm Events Database of the National Centers for Environmental Information). The research results demonstrated a decrease in donation levels in counties damaged by natural disasters, while in close and far away counties, donation behaviors were increased. While this research potentially gives a potential answer to the question of the natural disaster and cooperation relationship, it is still necessary to conduct a variety of research with different methods (e.g., experiments) in different contexts to establish the causality and identify boundary conditions.

In the second part of this research, we also investigated the effect of moral messages to increase the cooperation behaviors of the participants as a within-subjects experiment. Various studies investigated the impact of different messages on cooperation and generosity in the literature. Research conducted as part of a master thesis (Schlimbach, 2013) investigated the effect of differently framed messages (positive vs. negative) on donation intentions. The results demonstrated that the negatively framed messages resulted in more donations than the positively framed messages. Furthermore, participants preferred contributing to more credible disaster relief organizations when a disaster was absent. In a research conducted in South Korea (Kim, 2018), the researcher investigated the relationship between message framing, empathy, perspective (first vs. third), and donation intentions. The results indicated that while donation intentions were predicted by empathy, negative message framing, and first-person perspective, there was no significant interaction effect of message framing and perspective. While framing

messages is vital in raising cooperation levels, it is also important to note the message's source. Across various studies, messages coming from healthcare professionals were rated as more credible in healthcare-related issues such as H1N1 (Lee & Park, 2016), HIV (Major & Coleman, 2012), and breast cancer (Smith et al., 2009). Similar to our research, some studies in the literature focused on the effects of moral messages on cooperative behaviors in the face of crises. Research conducted in the early and deadlier stages of the COVID-19 pandemic (Misiac & Turecek, 2023) in Indian and USA populations investigated the possible effects of the different moral messages on their pro-social intentions (following restriction measures) and pro-social behaviors (donating to a COVID-19 charity). Moral messages were created based on the types of cooperation (family, group, reciprocity, heroism, fairness, deference, and property) stated in the Morality as Cooperation theory (Curry et al., 2019). The results suggested that moral messages were more effective than non-moral messages in raising cooperation behaviors and intentions. These effects were observed strongly in the heroism messages. There were also differences between Indian and US populations. The reciprocity messages increased pro-social intentions, deference decreased pro-social intentions, and property messages decreased pro-social behaviors in the US sample. The characteristics of the US population can explain these findings as it is an individualistic society where freedom and property are valued. Grodeck and Schoenegger (2023) examined the effects of moral messages on donation behaviors in two different studies. The participants were randomly assigned into moral messages and control groups, and the moral messages differed based on their moral demandingness levels (low vs. high). The difference between the two studies was based on the source of the messages. In the first experiment, the researchers gave moral messages; in the second experiment, the moral messages were provided by a charity website. The results demonstrated a significant effect of moral messages on boosting donation behavior to charity. However, the demandingness levels of moral messages did not significantly affect donation behaviors. Lastly, Işler et al. (2020) examined the effects of moral messages on cooperation against COVID-19. The messages included social norms, utilitarian, conditional, unconditional deontological moral messages, and active and passive control messages. The results demonstrated a significant increase in cooperation behaviors across all moral messages instead of control messages as the participants put more money into the collective pool in the public goods game. The results

were significantly more robust among the unconditional–deontological moral message group. In our research, we implemented a similar research design where we explored the effects of moral messages (utilitarian, deontology - unconditional, social norms, or control) on public goods game revision decisions (cooperation behavior) as a within-subjects experiment (see Method section for the design).

## 1.5   The Present Study

In this study, we investigated the recent 2023 Türkiye – Syria Earthquakes' effects on generosity behaviors, cooperation behaviors, and intentions. This research focuses on some critical questions that can provide crucial information to mitigate the impact of possible natural disasters. Do earthquakes raise cooperation and generosity? Do moral messages have a significant effect on cooperation behaviors? The answers to these questions may provide the government and non-governmental organizations with some solutions about the psychological impact of the earthquake and how it can be utilized to solve problems arising from it.

While the literature sheds light on essential questions, some gaps still need to be explored. Previous research on the effects of earthquakes and natural disasters is mainly conducted after natural disasters. These experimental and ethnographic studies examined the impact of natural disasters by carefully observing the experiences of the victims and comparing the differences between affected and unaffected areas. However, it often needs to be clarified that the source of the differences is that they might not be caused by the earthquake itself but rather by other communal differences. Furthermore, empirical findings experimentally investigating the relationship between cooperation and earthquake threat is limited. Since it is not possible to give a precise answer based on current evidence in the literature, we have taken measurements before and after an actual earthquake to account for these uncertainties among the same sample. We have also used a stronger video-based earthquake manipulation to investigate the effects of the manipulation on participants' generosity behaviors and cooperation behaviors, and intentions before and after the earthquake. Lastly, we have explored the impact of moral messages on cooperation behaviors and the moderating effects of individual difference

variables collected before (i.e., risk perception, cognitive reflection, belief in a zero-sum game, scarcity, and political ideology) and during (empathy) our study.

Our preregistered hypotheses are as follows:

**H1:** Earthquake risk perceptions will increase after the 2023 Türkiye-Syria earthquakes (pre-test vs. post-test scores).

**H2:** Generosity behavior will increase after the 2023 Türkiye-Syria earthquakes (pre-test vs. post-test scores).

**H3:** Cooperation behavior will increase after the 2023 Türkiye-Syria earthquakes (pre-test vs. post-test scores).

**H4:** Cooperation intentions in morality as cooperation questionnaire (MAC-Q) will increase after the 2023 Türkiye-Syria earthquakes (pre-test vs. post-test scores).

**H5:** The effects in H1, H2, H3, and H4 will be stronger for those whose earthquake threat saliency will be experimentally heightened (vs. control).

# 2. METHOD

The whole research protocol was preregistered at the Open Science Framework (OSF) before any data collection. The pre-registration form, raw data, and data collection materials can be accessed at this link: https://osf.io/y928j.

## 2.1 Participants

The data was collected between 20th of April and 29th of April 2023. We contacted 1075 participants via email who recently attended another study before the 2023 Türkiye–Syria earthquakes. The participants are part of the MINT Lab's (https://www.moralintuitionslab.com) online data collection panel, receiving invitations for various studies. The invitations were sent to the participants who completed the economic games and the morality as cooperation scales (necessary for the confirmatory hypotheses), scarcity, belief in a zero-sum game, and cognitive reflection tests (CTR1 and CTR2). Out of 1075 invited participants, 411 of them attended the current study. As preregistered, we excluded the participants who did not complete the economic games. Therefore, 23 participants were excluded from the analyses, and the study's final sample consisted of 388 participants. As the sample size depended on how many participants participated in the previous study, we did not conduct a priori power analysis. After the data collection procedure, we conducted a sensitivity power analysis to determine the posthoc power of the sample for two-tailed mixed ANOVA analyses to test our confirmatory hypotheses. The sensitivity power analysis for repeated measures within factor analyses conducted to understand the changes before and after the earthquake (H1 – H4) indicated that our sample has a 99% power for repeated measures analyses. For the effects of manipulation (H5), our sample has 95% power. For repeated measures within-between interactions between the manipulation and earthquake, our sample has 99% power (n = 388, α = .05) to detect effects greater than $f^2$ = .15. For our exploratory analyses, we used sensitivity power analyses to calculate our power to understand the

effects of moral messages and moderating effects of individual difference variables on the relationship between prosocial behaviors and attitudes and earthquake. The sensitivity power analysis for one-way ANOVA indicated that we have 70% power to detect the effects of moral messages to detect effects greater than $f^2 = .15$, and sensitivity power analysis for a linear multiple regression indicated that we have 95% power to detect the moderator effects greater than $f^2 = .03$.

The participants had to complete the economic games to be included in the confirmatory analyses. The mean age of the sample is 30.04, and the participants are aged between 18 and 75. In this sample, 73,1% of the participants identified as a woman ($N = 277$), 24,8% as a man ($N = 94$), 1,3% as other than male or female ($N = 5$), and 0.8% did not indicate any gender identification ($N = 3$). More than half of the participants have completed their bachelor's degree (N = 203, 53,6%), with 70 participants also completing their master's degree (18,5%) and seven participants completing a doctorate (1,8%). One in five participants has a high school degree (N = 76, 20,1%), five participants have a middle school degree (1.3%), and four participants have an elementary school degree (1.1%). The participants rated their socioeconomic status between 1 (having the worst of everything: the least amount of money, the worst level of education, and the least prestigious job) and 10 (having the best of everything: the most amount of money, the best level of education and the most prestigious job). One hundred twenty-four participants (%32,7) rated their socioeconomic status as low (between 1-4), 186 participants rated their socioeconomic status as middle (%49.1), and 69 participants rated their socioeconomic status as high (between 7-10) (%18,2). The participants rated their religiosity ($M = 3.15$, $SD = 1.76$) and ideological attitudes ($M = 3.19$, $SD = 1.12$) between 1 (not religious/very left-wing) and 7 (very religious/very right-wing). Furthermore, the participants were asked to rate how much they ($M = 30.93$, $SD = 35.30$) and their relatives ($M = 29.26$, $SD = 36.07$) were affected by the 2023 Türkiye – Syria Earthquakes between 0 (I/my relatives were away from the earthquake zone, I/my relatives were not affected at all) and 100 (I/my relatives were very close to the earthquake zone, I/my relatives were involved very much).

**Table 2.1 Demographics**

|  | gender | age | education | SES | ideology |
|---|---|---|---|---|---|
| Missing | 9 | 9 | 9 | 9 | 9 |
| Mean | 1.298 | 30.003 | 4.702 | 5.195 | 3.187 |
| Std. Deviation | 0.533 | 9.428 | 1.140 | 1.546 | 1.127 |
| Skewness | 1.916 | 1.717 | -0.785 | 0.102 | 0.463 |
| Std. Error of Skewness | 0.125 | 0.125 | 0.125 | 0.125 | 0.125 |
| Kurtosis | 4.540 | 3.034 | 0.244 | 0.284 | 0.783 |
| Std. Error of Kurtosis | 0.250 | 0.250 | 0.250 | 0.250 | 0.250 |
| Minimum | 1.000 | 17.000 | 1.000 | 1.000 | 1.000 |
| Maximum | 4.000 | 75.000 | 7.000 | 10.000 | 7.000 |

## 2.2 Materials and Procedures

The participants, whose pretest scores are available, attended the study via Qualtrics. First, the participants were randomly assigned into the manipulation and the control conditions. The participants in the manipulation group watched a short video on earthquake footage, while the control group watched a short video about art and crafts. Then, all the participants completed the public goods game, the dictator game, and MAC – Q in random order. Then they were randomly separated into moral message conditions (utilitarian, deontology, social norms, or control) and were allowed to revise their decisions in the public goods game. Later, the participants completed the earthquake risk perception scale. Then, the participants completed the belief in a zero-sum game, scarcity, and empathy scales. Lastly, the participants filled out the demographic form, which includes questions about the participant's age, gender, socioeconomic status, religiosity, ideology, voting intention in the next presidential election, and the extent to which the participants and their relatives were affected by the 2023 Türkiye-Syria earthquakes.

### 2.2.1 Manipulation

The manipulation material in this study was inspired by the one used by Doğulu (2017) in her PhD thesis. In this research, participants were split into three conditions (system threat, earthquake threat and control) where they read a passage. In manipulation conditions, the passages were about Turkish people supposedly feeling discontent with worsening conditions in Türkiye while in the control condition, the passage was about recent fashion trends in Türkiye. The purpose of the manipulation was to investigate whether system threats activated the system justification beliefs in participants. However, while we were inspired by the use of earthquake manipulation and fashion control condition, we investigated the effects of earthquake manipulation on the cooperation behaviors and intentions, generosity behaviors and risk perceptions. Instead of using passages, we created approximately two 35 seconds videos. In the earthquake manipulation condition, the participants watched an earthquake footage with rocking and siren sounds (Can be viewed on https://osf.io/fr7cg), while in control condition, the participants watched a video about arts and crafts with drawing sounds (Can be viewed on https://osf.io/er2k3). As the aftermath of the earthquake was still strong, we made sure to abide by ethical guidelines and did not include any possible sounds or footages that could be triggering. We also gave the participants in the earthquake condition an option to leave the study before they watched the footage.

### 2.2.2 Dictator game

The Dictator Game measures the generosity levels of participants (Appendix A). At first, the participants have control of the total amount of money and can distribute it between themselves and other participants in any way they want. They can keep all the money to themselves, give it to the other participant, or split it between themselves and the other participant. The generosity scores are calculated based on the amount of money the participants decide to give to the other participant.

### 2.2.3 Public goods game

Public Goods Game measures the cooperation levels of participants (Appendix B). At first, the participants start the game with equal money. Then, they choose how much they want to transfer to the collective pool. The money in the collective pool is then multiplied by two and equally divided among the participants. The final amount of participants' cash is calculated by combining the money they decided to keep to themselves, and the money returned from the collective pool. The amount of money the participants transfer to the collective pool represent the cooperation scores.

### 2.2.4 Morality as cooperation (MAC – Q)

Morality as cooperation questionnaire (MAC-Q) measures the level of cooperation intentions of participants. The scale was developed by Curry et al. (2019) based on the morality as cooperation theory. The scale was adapted to the Turkish by Yılmaz et al. (2021) (Appendix C). The theory suggests that morality is a series of solutions to the problems people collectively face, and they cooperate to overcome those issues. Morality as cooperation scale has seven dimensions: family ($\alpha = .88$), group ($\alpha = .91$), reciprocity ($\alpha = .90$), heroism ($\alpha = .89$), fairness ($\alpha = .87$), deference ($\alpha = .85$), and property ($\alpha = .92$). The scale has 21 items, and three items represent each dimension. This study uses the total cooperation scores for the confirmatory analyses based on Yılmaz et al. (2021).

### 2.2.5 Moral Messages

To explore whether various moral messages (utilitarian, deontology, social norms, or control) affect cooperation behaviors, the participants were randomly assigned into one of four moral message conditions after the main experiment, and they read a sentence emphazing relevant moral principle they are assigned to (Appendix D). In the utilitarian message condition, the participants were encouraged to work together to maximize the collective benefit. If the participants gave high amounts of money to the collective good,

everyone would have more money. The normative value of helping will be reminded in the deontological message group. Helping is a good deed. Therefore, you should help other people. If you keep the money to yourself, your behavior is morally wrong. Participants will be made aware of other people's helping behaviors in the social norm condition. Other people are more likely to donate a large sum of money. Therefore, you should also donate money. In the control condition, the participants will be reminded that they are free to do what they wish to do with the money. Table 2.2. shows the message conditions.

**Table 2.2 Moral message conditions used in the experiment**

| Condition | Message |
|---|---|
| *"In the next page, you are going to read a message about the money distribution assignments you have participated in this study."* | |
| Social Norms | |
| *"In these types of situations, most people would share full amount of money or a part of the money."* | |
| Deontological | |
| *"Sharing more money with the other person is the right thing to do regardless of what they would do."* | |
| Utilitarian | |
| *"Sharing more money is the right thing to do because it will maximize the group benefit."* | |
| Control | |
| *"You can share a part of the money, full amount of the money or you can keep full amount of the money all to yourself."* | |

### 2.2.6 Objective and subjective risk perception scale

The objective and subjective risk perception scale measures the earthquake risk perceptions of the participants. It was recently developed (Velioğlu et al., 2023) and contains seven items (Appendix E). Objective risk perception (4 items, $\alpha = .86$) measures

the participants' risk assessment of their physical environment. In comparison, the subjective risk perception (3 items, $\alpha$ = .75) measures the participants' personal safety concerns in case of an earthquake. The items are rated between 1 (Completely disagree) and 7 (Completely agree). The average scores of each dimension will calculate the objective and subjective risk perception scores. A higher risk mean score indicates a higher risk perception.

### 2.2.7 Belief in a zero-sum game

Belief in a zero-sum game scale measures the zero-sum beliefs of the participants. The scale was developed by Różycka-Tran et al. (2015) (Appendix F). People with a high belief in the zero-sum game view the world as a battleground. When a person or a group benefits from a situation, the other people or groups must lose. Contrastingly, people with a low belief in the zero-sum game believe in compromises and mutual benefits. Therefore, they are more inclined to work together to solve problems. The scale is comprised of 8 items, and they are rated between 1 and 7. The mean score of the items indicates the level of belief in a zero-sum game.

### 2.2.8 Scarcity scale

The scarcity scale measures the level of financial concerns of the participants. The scale was developed by Lee et al. (2011) and adapted to the Turkish culture by Yılmaz et al. (2021) ($\alpha$ = .75) (Appendix G). The scale is comprised of 14 items, and they are rated between 1 (Completely disagree) and 4 (Completely agree). The mean score of the items is calculated and then reversed to create scarcity scores. A high scarcity score indicates a high level of scarcity perception.

### 2.2.9 Toronto empathy scale

The Toronto empathy scale measures participants' empathy levels by asking them about different scenarios (e.g., 'When someone else is feeling excited, I tend to get excited too.', 'When I see someone being taken advantage of, I feel kind of protective towards him\her.'). The scale was developed by Spreng et al. (2009) and adapted to the Turkish culture by Totan et al. (2012) ($\alpha = .79$) (Appendix H). The scale consists of 13 items, and they are rated between 1 (Not at all suitable for me) and 5 (Completely suitable for me). A high empathy score indicate a high level of empathy toward other people.

### 2.2.10 Demographic form

In the demographic form, the participants were asked to provide responses to several demographic questions. The questions included information about gender, age, education level, and socioeconomic status (1 = Having the least amount of money, the worst level of education, and most minor prestigious jobs; 10 = Having the most amount of money, the best education, and the most prestigious jobs), religiosity level (1 = Nonreligious; 7 = Very religious), and the city they live in.

### 2.2.11 Exploratory questions

The participants were asked about their voting intentions in the next Turkish presidential election. They were also asked to respond to risk perception questions, whether the 2023 Türkiye – Syria Earthquakes personally impacted them and their relatives.

## 2.3 Planned Analyses

Before the data collection, confirmatory and exploratory analyses were planned and pre-registered to the OSF. Confirmatory analyses test the effects of the 2023 Türkiye – Syria Earthquake and the threat manipulation on the generosity (dictator game) and cooperation (public goods game) behaviors of participants as well as their cooperation intentions (morality as cooperation). Exploratory analyses explored the effects of moral messages on the revision decisions of the participants in the public goods game as well as the possible moderating effects of risk perception, political orientation, cognitive reflection, belief in a zero-sum game, and scarcity scores collected before the study as well as the empathy scores collected during the study.

### 2.3.1 Data exclusion

The participants who did not complete the economic games (public good game and dictator game) were excluded from the analyses as preregistered.

### 2.3.2 Confirmatory analyses

First, we used the earthquake risk perception scores as a manipulation check. The manipulation check succeeded if risk perceptions were raised after the earthquake manipulation. To test confirmatory hypotheses, three 2 (manipulation: earthquake manipulation vs. control) x 2 (time: pretest vs. posttest) mixed ANOVA analyses were run on the public goods game, the dictator game, and the MAC – Q (Morality as cooperation questionnaire). After ANOVA analyses, post – hoc pairwise comparisons were run as preregistered.

### 2.3.3   Exploratory analyses

In addition to the confirmatory analyses, 2 (Experimental manipulation: earthquake vs. control) x 4 (moral messages: deontology, utilitarianism, social norms, or control) between-subjects ANOVA analyses were run to explore the interactions between the moral messages and the earthquake saliency on revision decisions in the public goods game. We also explored the possible moderating roles of individual difference variables (risk perception, political orientation, cognitive reflection, belief in a zero-sum game, scarcity, and empathy.).

# 3. RESULTS

## 3.1 Data analysis strategy

The data were analyzed on SPSS 25.0 and JASP 0.16.1.0. As it was preregistered in the open science framework (osf.io/y928j/), we excluded the participants who do not complete the economic games (N = 23). Confirmatory analyses were performed with the remaining participants (N = 388).

Data cleaning, assumption check, and analyses (confirmatory and exploratory) were run on SPSS, and analyses were reproduced in JASP to create the tables and figures we have used in this report. The description of the variables (Table 3.1.) and the correlations between the variables (Table 3.2.) are presented below. The dataset, analyses, and pre-registration form are in the osf.io/y928j/ files section.

**Table 3.1 Descriptive statistics of variables**

|  | Valid | Mean | Std. Deviation | Minimum | Maximum |
|---|---|---|---|---|---|
| Public Goods Game | 388 | 58.964 | 29.506 | 0.000 | 100.000 |
| Dictator Game | 388 | 36.425 | 26.176 | 0.000 | 100.000 |
| Morality as Cooperation | 385 | 62.779 | 17.542 | 0.000 | 100.000 |
| Objective Risk Perception | 384 | 5.113 | 1.622 | 1.000 | 7.000 |
| Subjective Risk Perception | 384 | 5.982 | 1.011 | 1.000 | 7.000 |
| Scarcity | 382 | 3.308 | 0.447 | 1.429 | 4.000 |
| Empathy | 382 | 4.325 | 0.514 | 2.538 | 5.000 |
| Zero Sum Game | 382 | 4.102 | 1.101 | 1.250 | 7.000 |

**Table 3.2 Correlation between variables**

| Variable | | Public Goods Game | Dictator Game | Morality as Cooperation | Objective Risk Perception | Subjective Risk Perception | Scarcity | Zero Sum Game | Empathy |
|---|---|---|---|---|---|---|---|---|---|
| 1. Public Goods Game | Pearson's r | — | | | | | | | |
| | p-value | — | | | | | | | |
| 2. Dictator Game | Pearson's r | 0.410 | — | | | | | | |
| | p-value | < .001 | — | | | | | | |
| 3. Morality as Cooperation | Pearson's r | -0.058 | -0.001 | — | | | | | |
| | p-value | 0.254 | 0.983 | — | | | | | |
| 4. Objective Risk Perception | Pearson's r | 0.087 | 0.009 | 0.122 | — | | | | |
| | p-value | 0.088 | 0.859 | 0.016 | — | | | | |
| 5. Subjective Risk Perception | Pearson's r | 0.024 | -0.061 | -0.109 | 0.299 | — | | | |
| | p-value | 0.633 | 0.234 | 0.032 | < .001 | — | | | |
| 6. Scarcity | Pearson's r | 0.023 | -0.062 | -0.145 | 0.078 | 0.417 | — | | |
| | p-value | 0.653 | 0.227 | 0.005 | 0.126 | < .001 | — | | |
| 7. Zero Sum Game | Pearson's r | -0.121 | -0.030 | 0.045 | 0.054 | -0.036 | 0.141 | — | |
| | p-value | 0.018 | 0.564 | 0.384 | 0.293 | 0.487 | 0.006 | — | |
| 8. Empathy | Pearson's r | 0.131 | 0.047 | -0.007 | 0.088 | 0.304 | 0.226 | -0.124 | — |
| | p-value | 0.011 | 0.359 | 0.888 | 0.087 | < .001 | < .001 | 0.015 | — |

## 3.1 Confirmatory Analyses

First, we ran the manipulation check to see if our manipulation worked as we intended. Then, we investigated whether participants' cooperative and generosity behaviors and cooperative intentions have increased after the 2023 Türkiye – Syria Earthquakes. We also examined the effects of the earthquake manipulation on participants' cooperative and generosity behaviors and cooperative intentions. Lastly, we investigated the possible interaction effects between the earthquake and the moral message manipulations on revision decisions in cooperative behavior.

## 3.1 Manipulation Check

A series of mixed ANOVA analyses were conducted to understand whether the 2023 Türkiye – Syria Earthquake and its manipulation have impacted participants' subjective and objective risk perceptions.

### 3.2.1.1 The effect of the 2023 Türkiye – Syria Earthquake and manipulation on objective risk perception

A 2 (test time: pre-test vs. post-test) x 2 (manipulation: earthquake vs. control) mixed design ANOVA on objective risk perception indicated no main effect of manipulation ($F(1, 382) = 1.007$, $p = .316$), test-time ($F(1, 382) = 0.018$, $p = .892$) and their interaction ($F(1, 382) = 1.443$, $p = .230$).
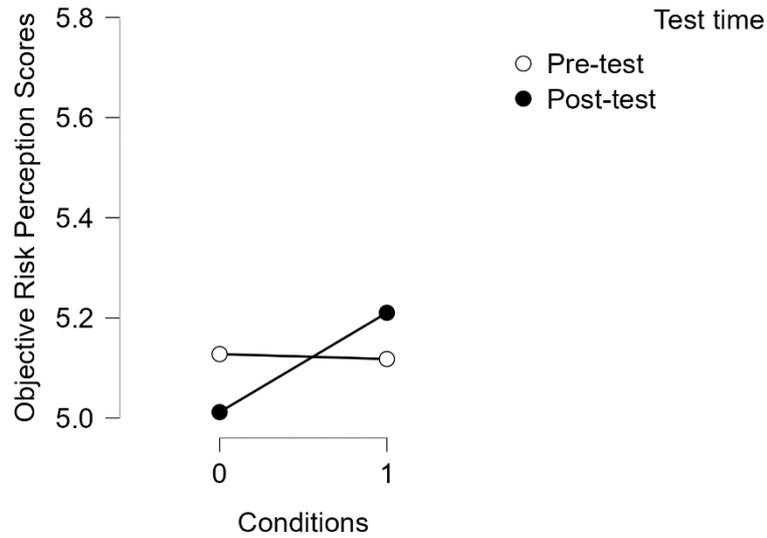
*0: Control condition 1: Manipulation condition*

**Figure 3.1 Mixed ANOVA for the manipulation check – Objective Risk Perception**

### 3.2.1.2 The effect of the 2023 Türkiye – Syria Earthquake and manipulation on Subjective Risk Perception

Another 2 (test time: pre-test vs. post-test) x 2 (manipulation: earthquake vs. control) mixed design ANOVA on subjective risk perception demonstrated a significant difference between pre-test and post-test scores ($F(1, 382) = 293.87$, $p < .001$, $\eta^2 = .44$). The participants' subjective risk scores increased after the earthquake ($M = 5.982$, $SD = 1.01$, 95% CI [5.88, 6.08]) than before the earthquake ($M = 5.092$, $SD = 0.80$, 95% CI [5.01, 5.17]). We did not detect a main effect of the earthquake manipulation ($F(1, 382) = 0.227$, $p = .634$) or the interaction between the test time and earthquake manipulation ($F(1, 382) = 0.884$, $p = .348$) on subjective risk perception scores, indicating that our manipulation did not increase risk perception probably because of the ceiling effect even in the control group.
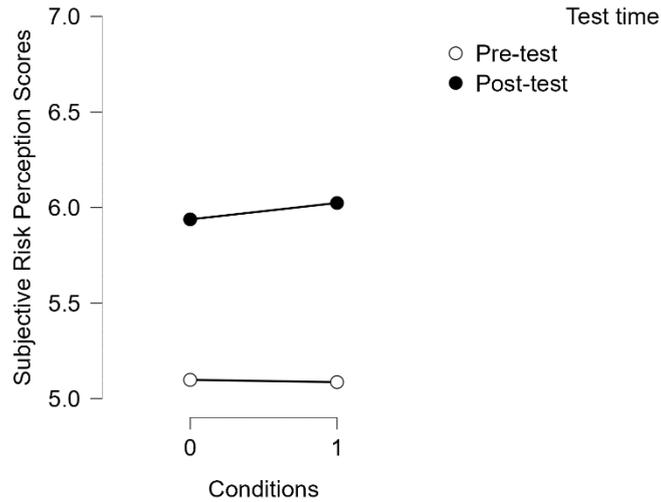
*0: Control condition 1: Manipulation condition*

**Figure 3.2 Mixed ANOVA for the manipulation check – Subjective Risk Perception**

### 3.2.1.3 The effect of the 2023 Türkiye – Syria earthquake and manipulation on total risk perception

Lastly, we examined the effects of the actual earthquake, manipulation, and the interaction between the earthquake and test time on total risk perception scores. The results of the 2 (test time: pre-test vs. post-test) x 2 (manipulation: earthquake vs. control) mixed design ANOVA indicated that the earthquake had a significant effect on the total risk perception scores ($F(1, 382) = 77.35, p < .001, \eta^2 = .17$). The participants' total risk perception scores are higher after the earthquake ($M = 5.547, SD = 1.08$, 95% CI [5.44, 5.65]) compared to their total risk perception scores before the earthquake ($M = 5.108, SD = 0.61$, 95% CI [5.05, 5.17]). Main effect of the manipulation ($F(1, 382) = 0.784, p = .376$) and the interaction effects between the test time and the manipulation ($F(1, 382) = 2.354, p = .126$) on the total risk perception scores could not be detected.
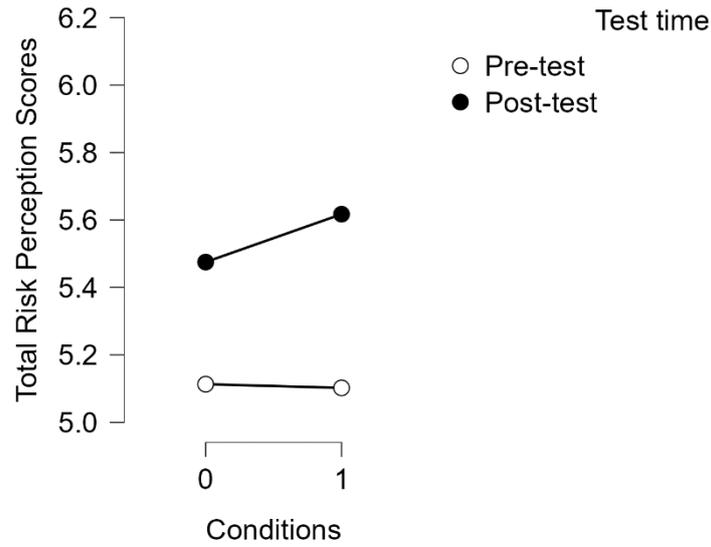
*0: Control condition 1: Manipulation condition*

**Figure 3.3 Mixed ANOVA for the manipulation check – Total Risk Perception**

### 3.2.2 The effect of the 2023 Türkiye – Syria earthquake on cooperative behavior

2 (test time: pre-test vs. post-test) x 2 (manipulation: earthquake vs. control) mixed ANOVA were conducted to investigate the effects of the 2023 Türkiye - Syria earthquake, the manipulation, and their interaction on cooperation behaviors. The results of the ANOVA indicated that the earthquake had a significant effect on the cooperation scores ($F(1, 388) = 12.72$, $p < .001$, $\eta^2 = .03$). The cooperation scores were higher after the earthquake ($M = 58.96$, $SD = 1.50$, CI [55.99, 61.88]) compared to before the earthquake ($M = 53.10$, $SD = 1.41$, CI [50.30, 55.86]). We could not detect a difference arising from the main effects of the manipulation ($F(1, 382) = 1.793$, $p = .181$) or the interaction between the manipulation and earthquake ($F(1, 382) = 0.035$, $p = .851$) on cooperation behavior scores.
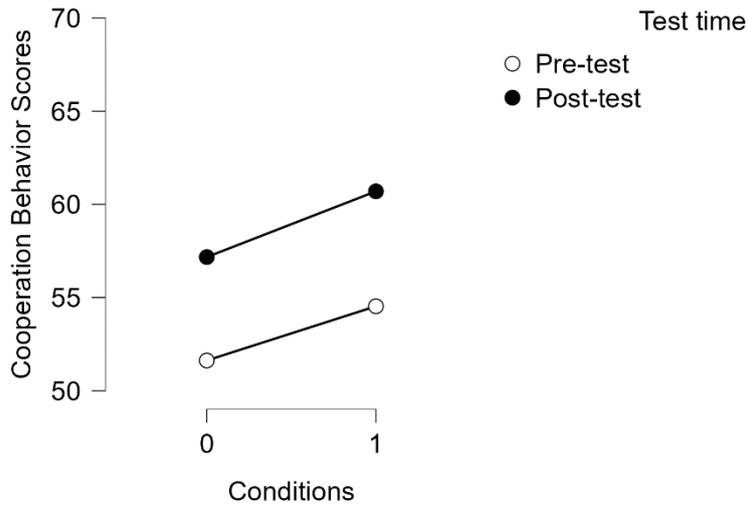
*0: Control condition 1: Manipulation condition*

**Figure 3.4 Mixed ANOVA – Cooperation Behavior**

### 3.2.3 The effect of the 2023 Türkiye – Syria earthquake on generosity behavior

To investigate the effects of the 2023 Türkiye – Syria Earthquake, manipulation, and the interaction between the 2023 Türkiye – Syria Earthquake and manipulation, 2 (test time: pre-test vs. post-test) x 2 (manipulation: earthquake vs. control) ANOVA was conducted. The ANOVA did not show a significant effect of the earthquake on generosity behaviors ($F(1, 386) = 3.64$, $p = .057$, $\eta^2 = .01$); however, trends suggest a possible increase in generosity behaviors after the earthquake ($M = 36.42$, $SD = 1.33$, 95% CI [33.81, 39.04]) compared to the generosity behaviors before the earthquake ($M = 33.37$, $SD = 1.32$, 95% CI [30.78, 35.95]). Main effect of manipulation ($F(1, 386) = 0.002$, $p = .964$) and earthquake and interaction effects ($F(1, 386) = 0.053$, $p = .817$) did not have a significant impact on generosity behaviors.
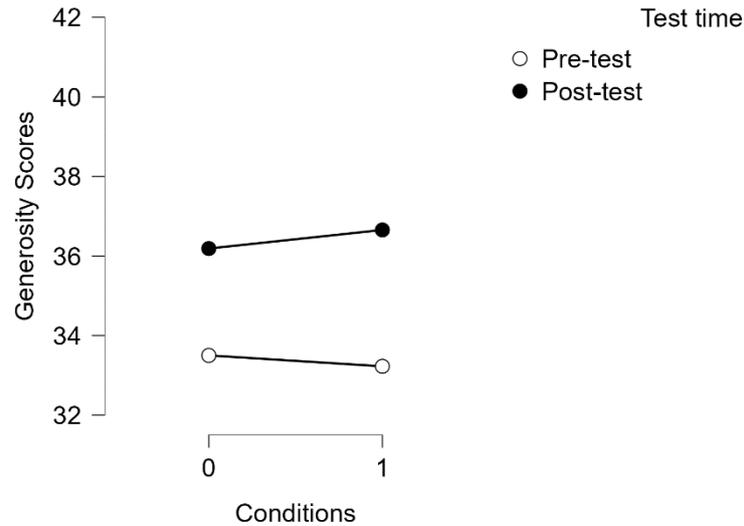
**Figure 3.5 Mixed ANOVA – Generosity Behavior**

### 3.2.4 The effect of the 2023 Türkiye – Syria earthquake on cooperative intentions

The effects of the 2023 Türkiye – Syria Earthquake, manipulation, and their interaction on cooperation intentions were examined with 2 (test time: pre-test vs. post-test) x 2 (manipulation: earthquake vs. control) mixed ANOVA. Based on ANOVA results, the participants' cooperation intentions had decreased after the earthquake ($M$ = 62.78, $SD$ = 0.90, CI [61.02, 64.54]) compared to their cooperation intentions before the earthquake ($M$ = 65.91, $SD$ = 0.80, CI [64.32, 67.48]), ($F(1, 383)$ = 11.57, $p$ = .001, $\eta^2$ = .03). Main effect of manipulation ($F(1, 387)$ = 0.030, $p$ = .862) and earthquake and interaction effects ($F(1, 387)$ = 0.697, $p$ = .404) did not have a significant impact on cooperation intentions.
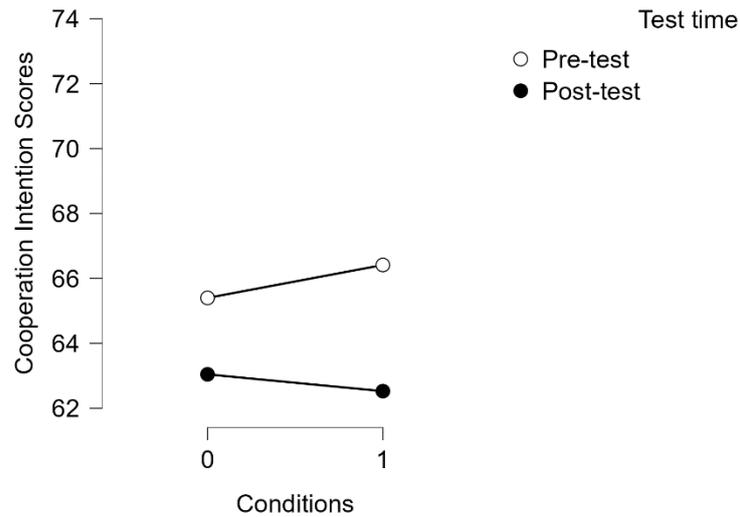
*0: Control condition 1: Manipulation condition*

**Figure 3.6 Mixed ANOVA – Cooperation Intentions**

## 3.3 Preregistered Exploratory Analyses

We investigated the potential moderating roles of individual differences variables (risk perception, political orientation, cognitive reflection, belief in a zero-sum game, empathy, and scarcity) that were collected before the main experiment on the relationship between the 2023 Türkiye – Syria Earthquake and the predicted variables (cooperation and generosity behaviors as well as cooperation intentions). We did not analyze the potential moderating roles of individual differences variables on the relationship between manipulation and dependent variables because the relationship between manipulation and dependent variables was non-significant, as reported above. Furthermore, we explored the differences in individual differences variables (scarcity and belief in a zero-sum game) between pre-test and post-test scores.

### 3.3.1 Moral messages

A one-way ANOVA explored the possible effects of moral messages on the participants' revision decisions in the public goods game (cooperation behavior). As a result of the one-way ANOVA, we could not detect a significant effect of the moral messages on the revision decisions of participants in the public goods game ($F(3, 377) = 0.173$, $p = .915$).
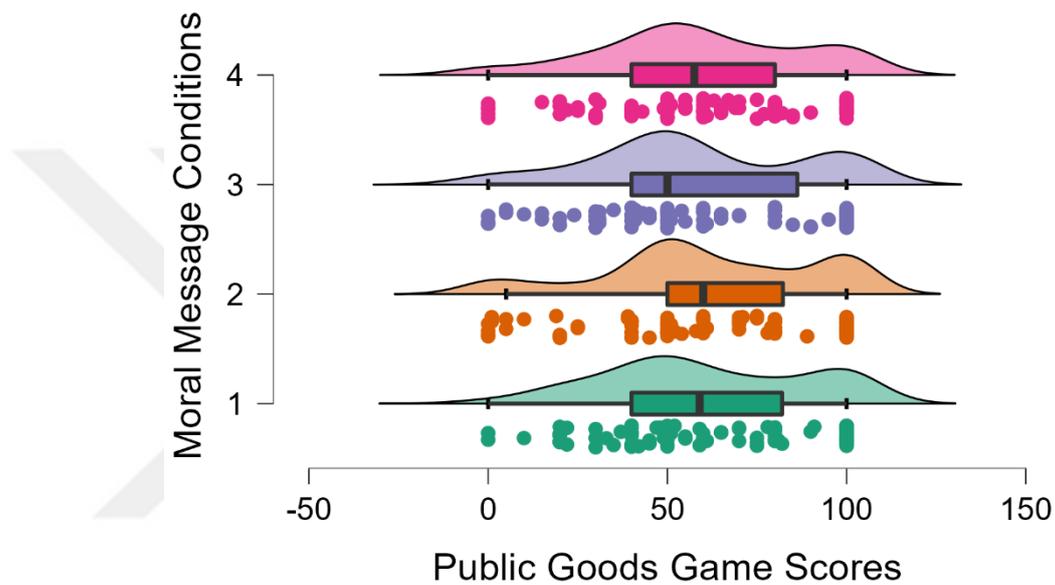


*1: Deontological message 2: Utilitarian message 3: Social norm message 4: Control message*

**Figure 3.7 Revision Decisions in Public Goods Game**

### 3.3.2 The effect of 2023 Türkiye – Syria earthquakes on zero sum beliefs

Paired sample t–test was used to analyze the differences in zero-sum game scores between the pre-test and post-test. The results indicated that there was no significant difference between pre-test ($M = 4.11$, $SD = 1.16$) and post-test ($M = 4.10$, $SD = 1.10$) scores in a zero-sum game ($t(381) = 0.204$, $p = .838$).
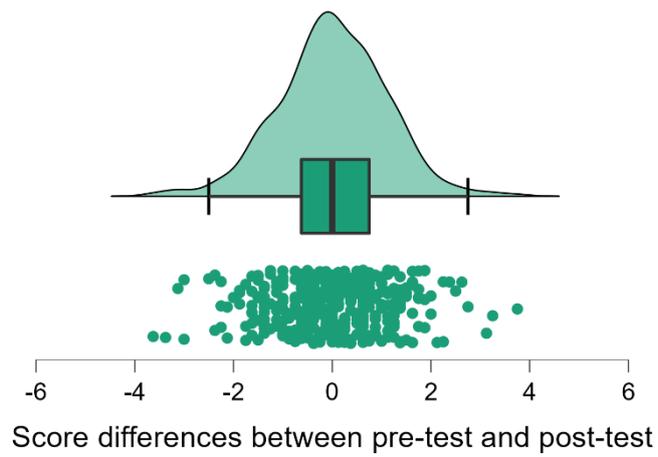
**Figure 3.8 Paired Sample T-Test – Zero-sum game**

### 3.3.3 The effects of 2023 Türkiye – Syria earthquakes on scarcity perceptions

Paired sample t-test was used to analyze the differences in scarcity scores between the pre-test and post-test. The results indicated that the scarcity perceptions increased after the earthquake compared to before the earthquake ($t(381) = -2.325$, $p = .021$).
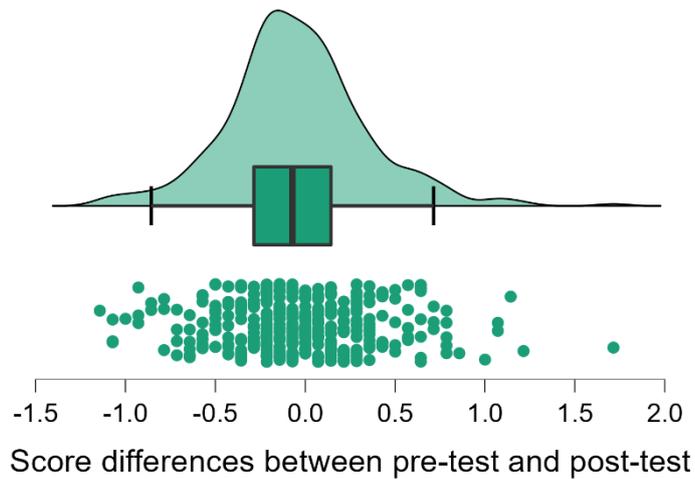


**Figure 3.9 Paired Sample T-Test – Scarcity**

**3.4 Moderating Effects**

A series of exploratory analyses were conducted to investigate the potential moderating roles of individual differences variables (scarcity, zero-sum game, empathy, cognitive thinking, and ideology) on the relationship between earthquake (pre-test vs. post-test) and dependent (generosity behaviors, cooperation behaviors, and intentions) variables. Individual difference variables scores were centered by their median scores, then split into two (low vs high) and coded as dummy variables. Then, we used the new variables as additional between-subjects variables. We investigated the interaction effects between the dummy variables and earthquake time (pretest and posttest) on our dependent variables (cooperation behaviors and intentions, generosity behaviors) with ANOVA analyses.

### 3.4.1 Mixed ANOVA analyses – cooperation behavior and moderating variables

The mixed ANOVA results did not indicate a moderating role of empathy ($F(1, 378) = 0.784$, $p = .377$), cognitive reflection ($F(1, 384) = 0.031$, $p = .861$), belief in a zero-sum game ($F(1, 384) < 0.001$, $p = .985$), scarcity ($F(1, 384) = 0.500$, $p = .480$) and ideology ($F(1, 384) = 0.753$, $p = .386$) on the relationship between 2023 Türkiye – Syria Earthquake and cooperation behavior as there were no interaction effects between dummy variables and the earthquake.

### 3.4.2 Mixed ANOVA analyses – generosity behaviors and moderating variables

The mixed ANOVA did not indicate a moderating role of empathy ($F(1, 378) = 1.803$, $p = .180$), cognitive reflection ($F(1, 384) = 0.436$, $p = .509$), belief in a zero-sum game ($F(1, 384) = 0.223$, $p = .637$), scarcity ($F(1, 384) = 1.212$, $p = .272$) and ideology ($F(1, 384) = 0.348$, $p = .556$) on the relationship between 2023 Türkiye – Syria Earthquake and generosity behavior as there were no interaction effects between dummy variables and the earthquake.

### 3.4.3 Mixed ANOVA analyses – cooperation intentions and moderating variables

The mixed ANOVA analysis results did not indicate a moderating role of empathy ($F(1, 378) = 0.254$, $p = .614$), cognitive reflection ($F(1, 381) = 3.042$, $p = .082$), belief in a zero-sum game ($F(1, 381) = 1.321$, $p = .251$), scarcity ($F(1, 381) = 1.621$, $p = .204$) and ideology ($F(1, 381) = 1.188$, $p = .276$) on the relationship between 2023 Türkiye – Syria Earthquake and cooperation intentions as there were no interaction effects between dummy variables and the earthquake.

# 4. DISCUSSION

The existing literature on the effects of threats on attitudes and behaviors mostly focused on terror threats and mortality saliency (Greenberg et al., 1986; Jost et al., 2003; Landau et al., 2004); other threats were understudied. Previous research also proposed a conservative shift regardless of the threat, time, and context; however, recent studies in the context of the Issue Ownership suggested otherwise (Brandt et al., 2021; Eadeh & Chang, 2020). According to this model, attitudes, and behaviors are shaped differently based on the types of threats, the context, and the time people come across the threats. For example, the immigration crisis may result in different political shifts in attitudes in US and Türkiye because the political landscape is vastly different in each country. The Democratic party in the US supports a liberal position on immigration, while the Republican party suggests limiting immigration (Dominguez, 2023). In contrast, the center-left party CHP in Türkiye opposes it as the party leader Kemal Kılıçdaroğlu based his second-round presidential candidacy on strict immigration policies. Therefore, testing the theory's boundaries and limitations in different cultural settings with various threats is critical to understand threats' potential effects and possible variations in different circumstances.

To have a broader perspective on the relationship between an understudied threat (earthquakes) and moral attitudes and behaviors in different cultural settings (Türkiye – a non-WEIRD country), we have conducted an online field experiment to observe the effects of the 2023 Türkiye – Syria Earthquakes. As we had data from a previous study, we had the opportunity to compare the pre-earthquake and post-earthquake scores in an experimental setting. This research mainly aimed to examine the effects of the 2023 Türkiye – Syria earthquakes and the earthquake manipulation on cooperation intentions, behaviors, generosity behaviors, and risk perceptions. The results indicated that the earthquake did increase cooperation behaviors while also decreasing cooperation intentions, suggesting a behavior–intention gap. While the results did not indicate a

significant rise in generosity behaviors, there was a positive trend that needs to be examined in future studies. A rise in subjective and total risk perception scores was observed, while a similar effect could not be detected on objective risk perceptions. No significant effect of earthquake manipulation was detected on any dependent variables. The moderating roles of individual difference variables (i.e., risk perception, cognitive reflection, belief in a zero-sum game, scarcity, and political ideology) on the relationship between independent and dependent variables were also investigated; however, no moderating effects were identified. Lastly, the effects of various moral messages were investigated, but no significant effect was detected. In short, the findings mainly supported our predictions on cooperative behaviors while found an opposite effect regarding the cooperative intentions, emphasizing behavior-intention gap.

This research also has wider implications for the literature on threat, attitude, and behavior. Our results conflicted with the standard social psychological theories of threat, such as MSC, as the earthquake resulted in the rise of cooperative behaviors instead of a conservative shift in behaviors (a decrease in cooperation with anonymous strangers) regardless of the type of threat. MSC predicts that threats result in rising prejudice and distrust against out-group members, and since the participants did work with strangers, the effects should have been in the opposite direction. The findings also conflict with TMT because it suggests an increased prejudice against outgroups to defend the person's worldview, while we found an increment in cooperation behaviors towards anonymous participants after the earthquake. Furthermore, the gap between intentions and behaviors in this study cannot be explained by TMT. We should have observed similar effects across all domains because of its theoretical assumption of sticking to worldview further after coming across threats. Nevertheless, our study has a very left-skewed sample; therefore, we could not conduct analyses investigating the relationship between ideology and prosociality, which makes it tough to rule out TMT. The study's results are mainly in line with the IOM as it suggests that the shifts in attitudes and behaviors are shaped by context, time, and place, so different types of threats (e.g., terror or earthquake) can affect moral behavior and intentions differently. Our sample mostly consists of participants outside of the earthquake zone; therefore, they were more likely to have the means to be prosocial towards other people compared to earthquake victims who are more impacted by the

economic struggles caused by the earthquake (Yonah, 2019). If we had conducted this study with a sample that consisted of earthquake victims, we might have seen an effect in the opposite direction in line with IOM. Nevertheless, to fully test IOM, it is necessary to conduct further studies with different framings of the earthquake, including blame attribution (framing responsibility to the national government, local governments, or simply blaming destiny) and the level of cooperation required (this is a local issue, a national issue, or a global issue).

## 4.1 Implications

This research is important because of its contributions and implications for literature. This is the first experimental study (that we know of) which was conducted in an ecologically valid environment after a real earthquake threat in a non-WEIRD sample. As we had conducted a previous study with the same variables with the same sample, we had the opportunity to compare the differences in scores before and after the 2023 Türkiye – Syria Earthquake. As we are working with the same sample, our argument is strengthened when we argue that the earthquake itself causes the differences. The previous studies mostly consist of non-experimental research designs; therefore, our research is important for identifying potential cause-effect relationships. Furthermore, previous studies mostly use self-reports in studying behaviors and attitudes, while we also used behavioral measurements (economic games) in addition to intentions (MAC-Q). Our results suggest that while cooperation intentions decreased after earthquake, the cooperative behaviors of participants increased as they put more money to the public good in the public goods game. This suggests that if we only used self-report measurements in line with the majority of the existing literature, we would have found an effect in the opposite direction. This is also known as the intention–behavior gap in the behavioral science literature (Sheeran & Webb, 2016), and our findings provide additional evidence for the need to use behavioral measurements in psychological research. In other words, our findings suggest that the meaning of actual behaviors and intentions are conflicting for the participants. Our findings also highlight possible limitations of the morality as cooperation scale. According to morality as cooperation theory, morality is a collection of cooperative solutions to everyday challenges, and it consists of seven types of morality

and their interactions. MAC – Q deriving from morality as cooperation theory aims to measure the cooperation intentions of participants. As its findings contradict economic games in our research, it may suggest that morality as cooperation scale is not valid for cooperation intentions. A recent study of our group also demonstrated weak relationships between MAC-Q and various moral behaviors such as cooperation and prosociality (Doğruyol et al., 2023). Lastly, despite null findings in the manipulation check results, we have developed a strong earthquake manipulation video that can be used in future studies, which is a methodological contribution to the literature. The absence of significant effects of our experimental manipulation in our study may be attributed to the experimental timing coinciding with a period of heightened salience of the earthquake event. The earthquake, which occurred on February 6, 2023, in Türkiye - Syria, was characterized by its severity, potentially leading to a lack of discernible differences in our findings, as even the control group displayed elevated risk perceptions. However, the ecologically valid setting of our experimental design demonstrated significant alterations in cooperative behaviors, intentions, and risk perceptions following the earthquake. Therefore, future research should aim to replicate the video manipulations on the same cohort of participants after a few months, assessing whether the effects of the manipulation can be observed in an environment where the threat of earthquake saliency has diminished.

According to the IOM, the context of threats is vital to understanding the effects of threats. Even with terror threats, different effects were observed in different studies. For instance, while some studies suggested a conservative shift toward foreign policies and national security (Landau et al., 2004; Nail et al., 2009) and an increased prejudice toward outgroups (Echebarria-Echabe & Fernandez-Guede, 2006), not all studies demonstrated similar results (Solheim, 2019; Finseraas & Listhaug, 2013). In Norway, after a terrorist attack by a far-right terrorist in 2011, attitudes toward immigrants became more positive (Jakobsson & Blom, 2014). According to MSC, all terror threats would result in a conservative attitude shift. The findings of Jakobsson and Blom's (2014) study suggest that the relationship between threats, attitudes, and behaviors is shaped by the framing of the threat, how people perceive the threat, and whom they blame for threats. As a terrorist did the attack with far-right xenophobic views, the citizens might have felt more solidarity

with immigrants as a reaction. Similarly, positive, and negative framing of earthquake might result in contrasting behaviors and attitudes. In our study, we aimed to investigate the effects of various moral messages on cooperative behaviors, however, we failed to find any significant effect. However, it doesn't necessarily mean that moral messages have no effect on prosocial behaviors as previous research on the effects of moral messages on cooperative behaviors found significant increment in such behaviors (Isler et al., 2020; Misiac & Turecek, 2023; Grodeck & Schoenegger, 2023). Therefore, in future earthquake studies, different types of moral message manipulations can be developed and tested. Another plausible explanation for our failure to detect the effects of moral messages could be that cooperative behavior had already increased in response to the earthquake. In a study by Isler et al. (2020), which employed the same moral messages, a significant effect was observed. However, their study focused on the threat of a pandemic, where the moral messages had a positive impact on enhancing cooperative behavior in the face of the negative circumstances associated with the pandemic. Given that our study investigated a different type of threat and cooperation was already heightened, it is possible that the moral messages did not yield additional effects, possibly due to a ceiling effect as in our experimental manipulation. Future research should aim to reexamine the mitigating effects of these messages on different threat types such as pathogens, terrorism, or economic crises, as these threats possess a higher potential to diminish cooperation in contrast to the earthquake threat. Furthermore, future studies should aim to attain a bigger sample to overcome possible issues arising from small power. As we only attained %70 power for one-way ANOVA to detect possible difference between moral message groups, we may not have enough power to detect such differences. Lastly, the characteristics of the research sample are critical to understand the effects of earthquakes. Our sample mostly consisted of people who do not live in an earthquake area; therefore, the effects we have observed in this research cannot be applied to earthquake victims. The results of this study can shed light on the question of how people react to being exposed to the news of earthquakes but not how earthquakes affect the people who live through the harsh effects of earthquakes firsthand. Studies with a sample that focuses on earthquake victims need to be conducted to answer that question. Previous studies in the literature indicate that the communities impacted by natural disasters were less likely to cooperate and trust each other (Akkayan et al, 2000; Simpson

& Serafini, 2019; Yonah, 2019). The possible negative effects of earthquakes on local communities can be investigated by using economic games within earthquake-affected communities and comparing the effects with similar communities unaffected by earthquakes. Alternatively, employing different framings to explore whether the effects of the earthquake threat on cooperation are perceived as local or global can provide an empirical avenue for addressing a similar research question. The cooperative tendencies, especially toward in- and out-groups, may vary depending on whether they view the earthquake threat as localized or having broader country-level implications.

## 4.2 Limitations and future directions

The most important limitation of the study is the failure of the manipulation. At the start of the survey, the participants were randomly assigned into the manipulation and the control groups. The participants in the manipulation group watched earthquake footage with earthquake and siren sounds for approximately 30 seconds. In contrast, the control group watched a video about arts and crafts (with sound) for a similar amount of time. We investigated whether watching earthquake footage impacted participants' prosocial behaviors and attitudes. While we could not find differences because of manipulation, the lack of effects might not necessarily mean our manipulation was ineffective. As the data collection procedures happened between 20th to 29th April 2023, just over two months after the earthquakes (6th of February 2023), the population was still subjected to excessive number of media about the effects of earthquakes which were more powerful and unsettling than our manipulation video. Therefore, the participants regardless of their assigned condition were already under a high level of earthquake threat. As a result, the participants generally had a very high-risk perception score after the earthquake, and it is unlikely to raise the scores further, regardless of any manipulation we could develop in a survey experiment as discussed above. This problem is explained by the ceiling effect in science, where the participants already score high on a test; therefore, it is very unlikely to measure the independent variable's effects on the dependent variables. The earthquake manipulation should be tested after the effects of the 2023 Türkiye – Syria Earthquake diminishes. We can also develop stronger manipulations to solve the problem arising from the possible ineffectiveness of the manipulation. As the earthquake traumatized millions

of citizens across the country regardless of where they lived, we took additional measures to abide by ethical guidelines. We made sure not to include any sensitive footage (such as mourning people or crippled earthquake victims) or sound (such as crying and yelling voices) that could be triggering for people. We also included a triggering warning for the participants in the earthquake condition where they were informed that they were about to watch earthquake footage. If they thought they could be triggered or harmed by watching the video, they could decide to end their participation in the study. While ethically necessary, the aforementioned factors might have contributed to our inability to find significant effects arising from the manipulation. In future studies, the limitations of the manipulation should be reassessed to ensure the right balance is achieved between ethical considerations and experiment effectiveness based on the current situation.

Another limitation of the study arises from the small sample size. As we had a within-subject design, we had the opportunity to overcome the challenges arising from individual differences between participants; therefore, we had a enough power. We achieved approximately 95% power for $f^2$ = .03. However, $f^2$ values for our moderation analyses were usually below .001; therefore, there was not enough power to detect moderator effects. Our sample's power seems insufficient to examine interactive effects successfully. Therefore, we failed to find any moderating role of individual differences variables. Moreover, we only attained %70 power for one-way ANOVA to detect differences between moral message groups, which is not enough to detect possible differences. In future studies, a larger sample size should be aimed to examine the possible moderating effects of individual differences variables on the relationship between threats, behaviors, and attitudes and the effects of moral messages on cooperation behaviors.

Furthermore, we do not know the possible differences in cooperation behaviors against anonymous partners as in the current research and in - or out-groups. In this study, the participant was told that they could cooperate with anonymous participants by contributing any amount of money of their choice to the group. Would the amount of money they contributed to the group change if they imagined they were working with

their relatives, the earthquake victims, or immigrants? This potential avenue should be further studied in future studies to extend the findings here.

Future studies should also aim to attain a larger sample to study the possible moderating roles of individual difference variables. Future studies should also aim to work with earthquake victims to examine their experience and how that experience shapes their prosocial behaviors, intentions, and perceptions about social life. As it was observed in different studies, the effects of earthquakes differ based on whether the participants were affected by the disaster or were close observants (Akkayan et al., 2000; Yonah, 2019). It is also important to examine the different framings of earthquakes (local vs. global) to truly test IOM because IOM predicts that different framings of threats result in different shifts in attitudes and behaviors. Furthermore, future studies should explore the effects of earthquakes on different groups' attitudes and behaviors and investigate how they differ. Our sample mainly consisted of people who intended to vote for Kemal Kılıçdaroğlu in the 2023 presidential election (%80.5). Therefore, the results might have differed with a sample that was more skewed towards supporting Recep Tayyip Erdoğan. Lastly, future studies can examine blame attribution of the fallout of the earthquake as depending on whom they blame (the government, the local governments, conspiracy theories or their fate), and who they think can solve the issues, the shifts in attitudes and behaviors may differ.

### 4.3 Conclusion

Overall, this study has made significant theoretical and methodological contributions to the literature. First, we have developed an earthquake manipulation without any verbal cue that can be used in future studies in any language to test the possible effects of earthquakes on attitudes and behaviors. While we could not find any effects arising from the earthquake manipulation, that might be due to the ongoing effects of the 2023 Türkiye – Syria Earthquakes even in the control group. Therefore, it is necessary to test the manipulation in a context where the earthquake threat is not salient. Second, we conducted a natural online field experiment by comparing participants' scores before and after a real earthquake, which makes our research externally valid. To our knowledge, no

other research used a repeated measures design involving a real-life earthquake. Therefore, this research may guide governments, NGOs, and other researchers in understanding the effects of earthquakes on behaviors and attitudes especially in non-WEIRD cultures.The research also provided evidence for the idea that not all threats are equal in terms of their effects and different contexts result in different shifts in prosociality as our findings were similar to the populations who were less affected by natural disasters while its results contrasted with studies that focused on the participants who were directly affected by natural disasters in line with IOM. However, more studies should be conducted in different times, places, framings and contexts with different types of threats to establish boundary conditions.

# REFERENCES

Arceneaux, K., & Stein, R. M. (2006). Who is held responsible when disaster strikes? The attribution of responsibility for a natural disaster in an urban election. *Journal of Urban Affairs, 28*(1), 43-53.

Abney, F. G., & Hill., L. B. (1966). Natural disasters as a political variable: The effect of a hurricane on an urban election. *The American Political Science Review, 60*(4), 974–81.

Akkayan, T., Kırımlı, Y., & Polat, T. (2000). *Deprem yardımlarından yararlananların değerlendirme raporu*. İstanbul Üniversitesi Edebiyat Fakültesi Yayınları.

Aktar, B. (2022). *The effect of type of threat on political ideology*. (Unpublished master thesis) İstanbul: Kadir Has University.

Alper, S., Yılmaz, O., & Sarıbay, S. A. (2021). How do cognitive styles influence political attitudes? Joint consideration of dual-process model and construal level theory. *The psychology of political behavior in a time of change* In (1st edition) (177–193). Switzerland: Springer International Publishing

Aytaç, S. E., & Çarkoğlu, A. (2021). Terror attacks, issue salience, and party competence: Diagnosing shifting vote preferences in a panel study. *Party Politics, 27*(4), 755–766. https://doi.org/10.1177/1354068819890060

Baccini, L., Brodeur, A., & Weymouth, S. (2021). The COVID-19 pandemic and the 2020 US presidential election. *Journal of Population Economics, 34*, 739–767

Boix, C. (2007). The emergence of parties and party systems. C. Boix & S. Stokes (Ed.), (1st edition) In *Oxford Handbook of comparative politics* (499-500). Oxford: Oxford University Press

Bonanno, G. A., & Jost, J. T. (2006). Conservative shift among high-exposure survivors of the September 11th terrorist attacks. *Basic and Applied Social Psychology, 28*, 311–323.

Brandt, M. J., Turner-Zwinkels, F. M., Karapirinler, B., Van Leeuwen, F., Bender, M., Van Osch, Y., & Adams, B. (2021). The association between threat and politics depends on the type of threat, the political domain, and the country. *Personality and Social Psychology Bulletin*. https://doi.org/10.1177/014616722094618

Brandt, M. J., Reyna, C., Chambers, J. R., Crawford, J. T., & Wetherell, G. (2014). The Ideological-Conflict Hypothesis: Intolerance Among Both Liberals and Conservatives. *Current Directions in Psychological Science*, *23*(1), 27–34.

Campbell, J. E. (2005). Why Bush won the presidential election of 2004: Incumbency, ideology, terrorism, and turnout. *Political Science Quarterly, 120*(2), 219-241.

Carlin, R. E., Love, G. J., & Zechmeister, E. J. (2014). Trust shaken: Earthquake damage, state capacity, and interpersonal trust in comparative perspective. *Comparative Politics, 46*(4), 419-453.

Castano, E., Yzerbyt, V., Bonacossa, A., Paladino, M. P., & Sacchi, S. (2001). I belong therefore I exist: Ingroup identification, ingroup entitativity, and ingroup bias. Personality and *Social Psychology Bulletin, 32*(4), 601–621. https://doi.org/10.1111/j.1467-9221.2011.00822.x

Cassar, A., Healy, A., & Von Kessler, C. (2017). Trust, risk, and time preferences after a natural disaster: experimental evidence from Thailand. *World Development, 94*, 90-105.

Cesur, S. (2018). Haidt'in ahlaki temeller kuramı. (1st edition) In: *Âhlakın sosyal psikolojisi* (177-204). İstanbul: Pales Yayınları.

Chambers, J. R., Schlenker, B. R., & Collisson, B. (2013). Ideology and Prejudice: The Role of Value Conflicts. *Psychological Science, 24*(2), 140–149. https://doi.org/10.1177/0956797612447820

Chatard, A., Hirschberger, G., & Pyszczynski, T. (2020). A Word of Caution about Many Labs 4: If You Fail to Follow Your Pre-registered Plan, You May Fail to Find a Real Effect. https://doi.org/10.31234/osf.io/ejubn

Crawford, J. T. (2017). Are conservatives more sensitive to threats than liberals? It depends on how we define threat and conservatism. *Social Cognition, 35*(4), 354–373. https://doi.org/10.1521/soco.2017.35.4.354

Curry, O. S., Mullins, D. A., & Whitehouse, H. (2019). Is it good to cooperate? Testing the theory of morality-as-cooperation in 60 societies. *Current Anthropology, 60*(1), 47-69.

Dechesne, M., Pyszczynski, T., Arndt, J., Ransom, S., & Sheldon, K. M. (2003). Literal and symbolic immortality: The effect of evidence of literal immortality on self-esteem striving in response to mortality salience. *Journal of Personality and Social Psychology, 84*(4), 722-737.

De Juan, A., Pierskalla, J., & Schwarz, E. (2020). Natural disasters, aid distribution, and social conflict–Micro-level evidence from the 2015 earthquake in Nepal. *World Development, 126*, 104715.

Dalan Polat, G. (2020). Kültürel evreler: Avcılıktan yerleşik hayata geçiş. F. Durul (Ed.), İnsanın tarih yolculuğu (1st edition) In: (61-84). İstanbul: Yeditepe Üniversitesi Yayınevi.

Democratic Party Platform (2020). Retrieved from https://democrats.org/where-we-stand/party-platform/ on 4th of April, 2023.

Doğulu, C. (2022). *A terror management perspective to system justification in disaster context: The case of earthquakes in Turkey* (Unpublished PhD thesis) Ankara: Middle East Technical University.

Dominguez, N. (2023). American immigration policy and the Us-Mexico border crisis. *Paper*

*presented at the Harvard model congress.* Boston: Harvard University.

Eadeh, F. R., & Chang, K. K. (2020). Can Threat Increase Support for Liberalism? New Insights Into the Relationship Between Threat and Political Attitudes. *Social Psychological and Personality Science, 11*(1), 88–96. https://doi.org/10.1177/1948550618815919

Eckel, C. C., El-Gamal, M. A., & Wilson, R. K. (2009). Risk loving after the storm: A Bayesian-Network study of Hurricane Katrina evacuees. *Journal of Economic Behavior & Organization, 69*(2), 110-124.

Echebarria-Echabe, A., & Fernandez-Guede, E. (2006). Effects of terrorism on attitudes and ideological orientation. *European Journal of Social Psychology, 36*, 259–265.

Finseraas, H., & Listhaug, O. (2013). It can happen here: The impact of the Mumbai terror attacks on public opinion in Western Europe. *Public Choice, 156*(1-2), 213-228. https://doi.org/10.1007/s11127-011-9895-7

Fincher, C. L., Thornhill, R., Murray, D. R., & Schaller, M. (2008). Pathogen prevalence predicts human cross-cultural variability in individualism-collectivism. *Proceedings of The Royal Society, 275*, 1279-1285.

Faulkner, J., Schaller, M., Park, J. H., & Duncan, L. A. (2004). Evolved disease-avoidance mechanisms and contemporary xenophobic attitudes. *Group Processes & Intergroup Relations, 7*(4), 333–353. https://doi.org/10.1177/1368430204046142

Gallup (2022). Presidential Approval Ratings -- George W. Bush. Retrieved from https://news.gallup.com/poll/116500/presidential-approval-ratings-george-bush.aspx on 6th of April, 2023.

Greenberg, J., & Kosloff, S. (2008). Terror management theory: Implications for understanding prejudice, stereotyping, intergroup onflict, and political attitudes. *Social and Personality Psychology Compass, 2*(5), 1881–1894. Doi: 10.1111/j.1751-9004.2008.00144.x

Greenberg, J., Pyszczynski, T., Solomon, S., Rosenblatt, A., Veeder, M., & Kirkland, S. (1990). Evidence for terror management II: The effects of mortality salience on reactions to those who threaten or bolster the cultural worldview. *Journal of Personality and Social Psychology, 58*, 308–318

Greenberg, J., Pyszczynski, T., Solomon, S. (1986). The Causes and Consequences of a Need for Self-Esteem: A Terror Management Theory. In: Baumeister, R.F. (eds) *Public Self and Private Self. Springer Series in Social Psychology*. Springer, New York, NY. https://doi.org/10.1007/978-1-4613-9564-5_10

Grodeck, B., & Schoenegger, P. (2023). Demanding the morally demanding: Experimental evidence on the effects of moral arguments and moral demandingness on charitable giving. *Journal of Behavioral and Experimental Economics, 103*, 101988.

Hanaoka, C., Shigeoka, H., & Watanabe, Y. (2018). Do risk preferences change? Evidence from the great East Japan earthquake. *American Economic Journal: Applied Economics, 10*(2), 298-330.

Hirschberger, G., & Ein-Dor, T. (2006). Defenders of a Lost Cause: Terror Management and Violent Resistance to the Disengagement Plan. Personality and *Social Psychology Bulletin, 32*(6), 761–769. doi:10.1177/0146167206286628

Inbar, Y., Pizarro, D. A., Knobe, J., & Bloom, P. (2009). Disgust Sensitivity Predicts Intuitive Disapproval of Gays. *Emotion, 9*(3), 435–439. https://doi.org/10.1037/a0015960

Iyengar, S., & Westwood, S. J. (2015). Fear and Loathing across Party Lines: New Evidence on Group Polarization. *American Journal of Political Science, 59*(3), 690–707. https://doi.org/10.1111/ajps.12152

İşler, O., Gachter, S., Yılmaz, O., & Maule, A. J. (2020). Do the right thing regardless of what others do: Nudging cooperation with moral and social messages against the COVID-19 threat. (Unpublished study)

Jakobsson, N., & Blom, S. (2014). Did the 2011 terror attacks in Norway change citizens' attitudes toward immigrants?. *International Journal of Public Opinion Research, 26*(4), 475-486. https://doi.org/10.1093/ijpor/edt036

Jonas, E., Fritsche, I., & Greenberg, J. (2005). Currencies as cultural symbols – An existential psychological perspective on reactions of Germans toward the Euro. *Journal of Economic Psychology, 26*, 129–146

Jost, J. T., Glaser, J., Kruglanski, A. W., & Sulloway, F. J. (2003). Political Conservatism as Motivated Social Cognition. *Psychological Bulletin, 129*(3), 339–375. https://doi.org/10.1037/0033-2909.129.3.339

Kim, M. K. (2018). Which Story Is More Worth It? The Effect of Narrative Perspective and Message Framing on Empathy and Intent to Donate, (Unpublished Ph.D. thesis).

Klein, R. A., Cook, C. L., Ebersole, C. R., Vitiello, C. A., Nosek, B. A., Hilgard, J., … & Ratliff, K. A. (2019, December 11). Many Labs 4: Failure to Replicate Mortality Salience Effect With and Without Original Author Involvement. https://doi.org/10.31234/osf.io/vef2c

Kosloff, S., Greenberg, J., Weise, D., & Solomon, S. (2010). The effects of mortality salience on political preferences: The roles of charisma and political orientation. *Journal of Experimental Social Psychology, 46*(1), 139–145. https://doi.org/10.1016/j.jesp.2009.09.002

Landau, M. J., Solomon, S., Greenberg, J., Cohen, F., Pyszczynski, T., Arndt, J., Miller, C. H., Ogilvie, D. M., & Cook, A. (2004). Deliver us from evil: The effects of mortality salience and reminders of 9/11 on support for President George W. Bush. *Personality and Social Psychology Bulletin, 30*(9), 1136–1150. https://doi.org/10.1177/0146167204267988

Lambert, A. J., Scherer, L. D., Schott, J. P., Olson, K. R., Andrews, R. K., O'Brien, T. C., & Zisser, A. R. (2010). Rally Effects, Threat, and Attitude Change: An Integrative Approach to Understanding the Role of Emotion. *Journal of Personality and Social Psychology, 98*(6), 886–903. https://doi.org/10.1037/a0019086

Lee, H., & Park, S. (2016). Third person effect and pandemic flu: The role of severity, self-

efficacy, and message source. *Journal of Health Communication, 21*, 1244-1250.

Lefevere, J., Tresch, A., & Walgrave, S. (2015). Introduction: Issue Ownership. *West European Politics, 38*(4), 755–760. doi:10.1080/01402382.2015.1039375

Lifshin, U., Weise, D., Soenke, M., & Greenberg, J. (2015). The effect of literal and symbolic immortality beliefs on perceptions of end-of-the-world scenarios. Arizona: Arizona University. Unpublished article.

Lim, D., & DeSteno, D. (2016). Suffering and compassion: The links among adverse life experiences, empathy, compassion, and prosocial behavior. *Emotion, 16*(2), 175–182. doi:10.1037/emo0000144

Lloyd, K. E. (1985). Behavioral Anthropology: A review of Marvin Harris' cultural materialism. *Journal of Experimental Analysis of Behavior*, *43*, 279-287.

Major, L. H., & Coleman, R. (2012). Source credibility and evidence format: Examining the effectiveness of HIV/AIDS messages for young African Americans, *Journal of health communication, 17*(5), 515-531.

McDowell, P. (2018). Political Anthropology: A cross-cultural comparison. N. Brown, L. T. Gonzalez, & T. McIlwrait (Ed.), *Perspectives: an open introduction to cultural anthropology* (2nd edition). American Anthropological Association.

Misiak, M., Curry, O. S., & Tureček, P. (2023) Moral Messaging: Testing a Framing Technique during a Pandemic. *Basic and Applied Social Psychology, 45*(1), 38-48, DOI: 10.1080/01973533.2023.2174868

Murray, D. R., Trudeau, R., & Schaller, M. (2011). On the origins of cultural differences in conformity: four tests of the pathogen prevalence hypothesis. *Personality and Social Psychology Bulletin 37*(3) 318–329

Nail, P. R., & McGregor, I. (2009). Conservative shift among liberals and conservatives following 9/11/01. Social Justice Research, 22(2–3), 231–240. https://doi.org/10.1007/s11211-009-0098-z

Nam, H. H., Jost, J. T., & Van Bavel, J. J. (2013). "Not for All the Tea in China!" Political Ideology and the Avoidance of Dissonance-Arousing Situations. *PLoS ONE, 8*(4). https://doi.org/10.1371/journal.pone.0059837

Navarrete, C. D., & Fessler, D. M. (2006). Disease avoidance and ethnocentrism: The effects of disease vulnerability and disgust sensitivity on intergroup attitudes. *Evolution and Human Behavior, 27*(4), 270-282. https://doi.org/10.1016/j.evolhumbehav.2005.12.001

Newport, F. (2014). Republicans expand edge as better party against terrorism. Gallup website. Retrieved from news.gallup.com/poll/175727/republicans-expand-edge-better-party-against-terrorism.aspx on 8th of May 2023.

Oxley, D. R., Smith, K. B., Alford, J. R., Hibbing, M. V., Miller, J. L., Scalora, M., … & Hibbing,

J. R. (2008). Political Attitudes Vary with Physiological Traits. *Science, 321*(5896), 1667–1670. doi:10.1126/science.1157627

Page, L., Savage, D. A., & Torgler, B. (2014). Variation in risk seeking behaviour following large losses: A natural experiment. *European Economic Review, 71,* 121-131.

Petrocik, J. R. (1996). Issue ownership in presidential elections, with a 1980 case study. *American Journal of Political Science, 40*, 825–850.

Pyszczynski, T., Abdollahi, A., Solomon, S., Greenberg, J., Cohen, F., & Weise, D. (2006). Mortality salience, martyrdom, and military might: The great satan versus the axis of evil. *Personality and Social Psychology Bulletin, 32*(4), 525–537. https://doi.org/10.1177/0146167205282157

Republican Party Platform (2020). Retrieved from https://int.nyt.com/data/documenthelper/7019-republican-platform/cc2c15a0e1b432d6964b/optimized/full.pdf in 4th of April 2023.

Różycka-Tran, J., Boski, P., & Wojciszke, B. (2015). Belief in a Zero-Sum Game as a Social Axiom: A 37-Nation Study. *Journal of Cross-Cultural Psychology, 46*(4), 525–548. https://doi.org/10.1177/0022022115572226

Saad, L. (2007). Democratic party winning on issues, December 7. Retrieved from http://news.gallup.com/poll/103102/democratic-party-winning-issues.aspx on 8th of May 2023.

Saribay, S. A., Olcaysoy, I., & Yilmaz, O. (2017). The relationship between conservatism and opposition to equality and resistance to change at the personal and societal levels. *Turkish Psychological Articles, 20*, 24-41.

Saribay, S. A., & Yilmaz, O. (2018). Relationships between core ideological motives, social and economic conservatism, and religiosity: Evidence from a Turkish sample. *Asian Journal of Social Psychology, 21*(3), 205–211. https://doi.org/10.1111/ajsp.12213

Sætrevik, B., & Sjåstad, H. (2019). Failed pre-registered replication of mortality salience effects in traditional and novel measures. https://doi.org/10.31234/osf.io/dkg53

Schindler, S., Reinhardt, N., & Reinhard, M.A. (2021). Defending one's worldview under mortality salience: Testing the validity of an established idea. *Journal of Experimental Social Psychology, 93*. https://doi.org/10.1016/j.jesp.2020.104087

Schlimbach, H. J. (2013). How disaster relief organizations solicit funds: the effects of disaster presence, message framing, and source credibility on an individual's intention to donate. (Unpublished master thesis)

Sheeran, P., & Webb, T. L. (2016). The intention–behavior gap. *Social and personality psychology compass, 10*(9), 503-518.

Skitka, L. J., Mullen, E., Griffin, T., Hutchinson, S., & Chamberlin, B. (2002). Dispositions, scripts, or motivated correction? Understanding ideological differences in explanations

for social problems. *Journal of Personality and Social Psychology, 83*(2), 470–487. https://doi.org/10.1037/0022-3514.83.2.470

Simpson, E., & Serafini, M. (2019). Earthquake citizens: Disaster and aftermath politics in India and Nepal. In M. Holbraad, B. Kapferer, & J. F. Sauma (Eds.). In *Ruptures: Anthropologies of discontinuity in times of turmoil* (pp. 193–217). London, UK: UCL Press. https://eprints.soas.ac.uk/31263/.

Smith, S. W., Nazione, S., LaPlante, C., Kotowski, M. R., Atkin, C., Skubisz, C. M., & Stohl, C. (2009). Topics and sources of memorable breast cancer messages and their impact on prevention and detection behaviors. *Journal of Health Communication, 14*(3), 293-307.

Smith, K. B., Oxley, D., Hibbing, M. V., Alford, J. R., & Hibbing, J. R. (2011). Disgust Sensitivity and the Neurophysiology of Left-Right Political Orientations. *PLoS ONE 6*(10): e25552. doi:10.1371/journal.pone.0025552

Solheim, Ø. B. (2019). Are we all Charlie? How media priming and framing affect immigration policy preferences after terrorist attacks. *West European Politics, 44*(2), 204-228. https://doi.org/10.1080/01402382.2019.1683791

Spreng, R. N., McKinnon, M. C., Mar, R. A., & Levine, B. (2009). The Toronto Empathy Questionnaire: scale development and initial validation of a factor-analytic solution to multiple empathy measures. *Journal of Personality Assessment, 91*(1), 62–71. https://doi.org/10.1080/00223890802484381

Totan, T., Doğan, T., & Sapmaz, F. (2012). The Toronto Empathy Questionnaire: Evaluation of psychometric properties among Turkish university students. *Egitim Arastirmaları-Eurasian Journal of Educational Research, 46*, 179-198

White, J. K. (2006). What is a political party? In: *Handbook of Party Politics* (1st edition) (5-15). London: SAGE

Van de Vyver, J., Houston, D. M., Abrams, D., & Vasiljevic, M. (2016). Boosting belligerence: How the July 7, 2005, London bombings affected liberals' moral foundations and prejudice. *Psychological Science, 27*(2), 169-177. https://doi.org/10.1177/0956797615615584

Velioğlu, İ., Varol, M., Bayrak, F., Doğulu, C., Alper, S., Doğruyol, B., İşler, & Yılmaz, O. (October, 2022). Subjective and objective risk perception of earthquake and morality as cooperation. *Paper presented at the 21st annual meeting of the National Psychology Conference*, Doğuş University, İstanbul.

Yilmaz, O., Harma, M., & Doğruyol, B. (2021). Validation of Morality as Cooperation Questionnaire in Turkey, and its relation to prosociality, ideology, and resource scarcity *European Journal of Psychological Assessment, 37*(2), 149-160 (SSCI)

Yilmaz, O., Sevi, B., & Bahçekapili, H.G. (2019). Moralizing Gods and the rise of civilization. In: Shackelford T., Weekes-Shackelford V. (Eds.), *Encyclopedia of Evolutionary Psychological Science*. Springer, Cham.

Yonah, H. (2019). Major Life Changing Events and Prosocial Behavior: Terrorism, Mass shootings, Natural disasters, Immigration and Philanthropy. (Unpublished P.h.D. thesis)

Zaki, J. (2020). Catastrophe Compassion: Understanding and Extending Prosociality Under Crisis.*Trends in Cognitive Sciences, 24*(8), 587-589.

# APPENDIX A

**Dictator Game**

Şimdi, araştırmaya katılımınız karşılığında kazanacağınız hediye çekinden bağımsız olarak ekstra bir hediye çekilişine katılacaksınız. Çekiliş sonunda kazanacak katılımcıların her birine 100 TL değerinde ekstra hediye çeki verilecektir. Lütfen çekilişle ilgili aşağıdaki kuralları dikkatlice okuyunuz.

Şu anda araştırma kapsamında başka bir katılımcıyla etkileşim kurmak için rastgele atanmış durumdasınız. Kimliğiniz, çalışma sırasında ve sonrasında diğer katılımcıya tamamen gizli tutulacaktır. Çekilişi kazanmanız durumunda size 100 TL verilecek, diğer katılımcıya ise herhangi bir para verilmeyecektir. Sizden bu 100 TL'nin ne kadarını kendinize ayıracağınıza ve ne kadarını diğer katılımcıya vereceğinize karar vermenizi istiyoruz.

100 TL'nin tamamını ya da bir miktarını diğer katılımcıya verdiğiniz taktirde, verdiğiniz miktar gerçekten diğer katılımcıya aktarılacak ve kendinize ayırdığınız miktar ise size gönderilecektir. Eğer para vermemeyi seçerseniz de 100 TL'nin tamamı size gönderilecektir. Paranın ne kadarını diğer katılımcıya vereceğinize ve ne kadarını kendinize ayıracağınıza karar verdiğinizde etkileşim sona erecektir.

Bu çalışmada aldatmaca yoktur. Diğer katılımcı gerçekten vardır. Kendinize ayıracağınız para gerçekten size ödenecek, diğer katılımcıya vereceğiniz para ise gerçekten ona aktarılacaktır.

100 TL'nizin ne kadarını diğer katılımcıya vermek istersiniz?
Diğer katılımcıya verilecek miktar: 0 ----------------------- 100

# APPENDIX B

**Public Goods Game**

Araştırmanın bu bölümünde katılımcılar rastgele dört kişilik gruplara ayrılmış durumdadır. Sizden grubunuzla birlikte bir projeye katılmanız istenmektedir. Şu anda dört kişilik grubunuzun bir üyesi olarak projede rol almaktasınız.

Araştırmaya katılımınız karşılığında kazanacağınız hediye çekinden bağımsız olarak, ek bir çekilişle belirlenecek iki gruptaki katılımcılara bu proje görevi sonucunda elde edecekleri miktar tutarında gerçekten hediye çeki verilecektir. Proje görevi sırasında grubunuzun bu hediye çekini kazandığını düşünerek hareket ediniz.

Projede, siz de dahil olmak üzere her bir grup üyesine başlangıç olarak 100 TL verilmiş durumdadır. Sizden bu 100 TL'nin ne kadarını projenize katkı olarak vereceğinizi ve ne kadarını kendinize ayıracağınızı belirlemeniz istenmektedir. Proje kurallarına göre sonuçta elde edebileceğiniz miktar farklılık gösterebilmektedir. Bu yüzden aşağıda ve bir sonraki sayfada anlatılan kuralları dikkatlice okuyunuz. Bu çalışmada herhangi bir aldatmaca yoktur ve çekilişi kazanmanız durumunda verdiğiniz karar sonucunda elde edeceğiniz para gerçekten size ödenecektir. Lütfen kararınızı verirken, bunun gerçek bir karar olduğunu düşünerek veriniz.

Projeye katkınız 0 TL ile 100 TL arasındaki herhangi bir değer olabilir: Paranızın hiçbirini, hepsini veya bir miktarını ortak havuza yatırabilirsiniz. Katılımcıların verecekleri kararlar birbirlerinden gizli tutulacaktır.
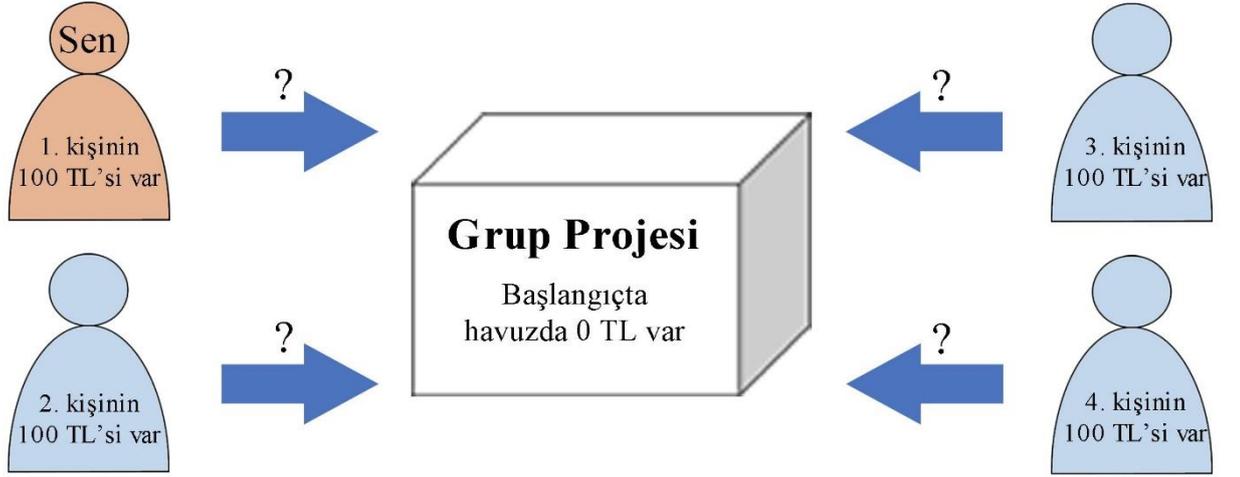
Projeden elde edilecek kazanç ise şu şekilde hesaplanacaktır:

Dört katılımcının havuza yaptığı katkı toplanacak, havuzdaki para ikiyle çarpılacak ve grubunuzun projeden elde ettiği toplam kazanç oluşacaktır.



Bu toplam kazanç eşit olarak dört katılımcıya bölünecektir.

Bu durumda sizin kazancınız, proje havuzundan elde ettiğiniz miktar ve başlangıçtaki paranızdan elinizde kalan miktarın toplamına eşit olacaktır.
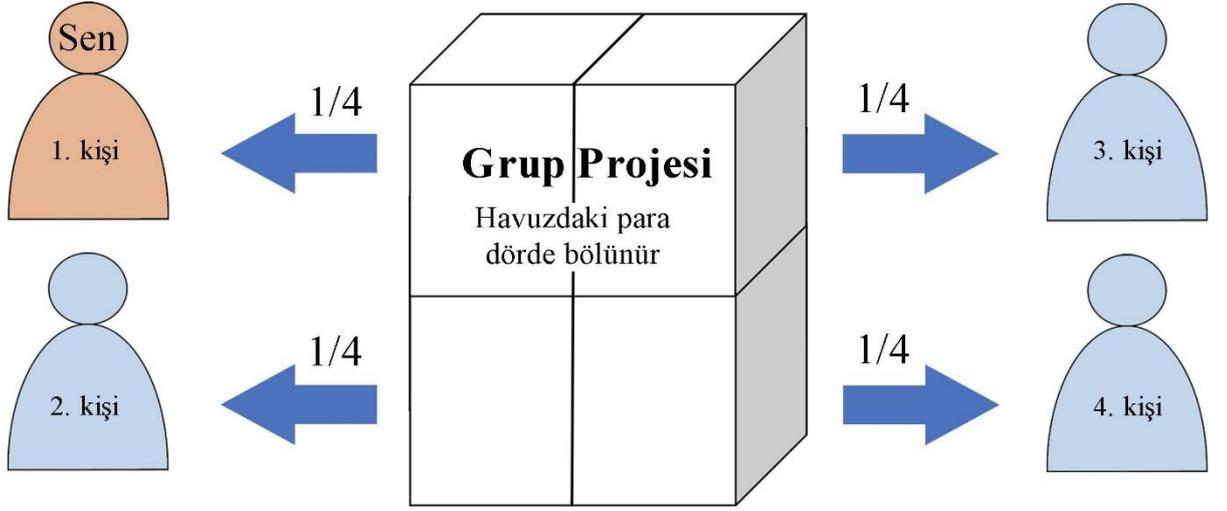
Size vermiş olduğumuz 100 TL'nin ne kadarını grup projesindeki ortak havuza vermek istiyorsunuz?

Havuza verilecek miktar: 0 ----------------------- 100

**Morality as Cooperation Scale**

Bir şeyin doğru veya yanlış olup olmadığına karar vermenizde aşağıda verilen düşünceler ne derecede etkilidir? Lütfen cevaplarınızı yandaki skalayı kullanarak derecelendiriniz (*0-100*; *hiç bir şekilde alakalı değildir, pek alakalı değildir, biraz alakalıdır, orta derecede alakalıdır, çok alakalıdır, kesinlikle alakalıdır*).

**Aile**

Birisinin ailesini korumak için hareket edip etmediği

Birisinin ailenin bir üyesine yardım edip edip etmediği.

Birisinin hareketinin ailesine olan sevgisini yansıtıp yansıtmadığı

**Grup**

Birisinin kendi grubuna yardımcı olacak bir şekilde davranıp davranmadığı

Birisinin kendi grubunun bir üyesine yardım edip etmediği.

Birisinin bir topluluğu birleştirmek için çalışıp çalışmadığı.

**Karşılıklılık**

Birisinin daha önceden yapmayı kabul ettiği bir şeyi yapıp yapmadığı

Birisinin verdiği sözü tutup tutmadığı

Birisinin güvenilebilecek biri olduğunu kanıtlayıp kanıtlamadığı

**Kahramanlık**

Birisinin kahramanca davranıp davranmadığı

Birisinin sıkıntılı bir durum karşısında cesaret gösterip göstermediği

Birisinin cesur olup olmadığı

**İtaat**

Birisinin otorite sahibi kişilere saygı gösterip göstermediği

Birisinin emirlere itaatsizlik edip etmediği

Birisinin otoriteye saygı gösterip göstermediği

**Adalet**

Birisinin en iyi parçayı kendisi için ayırıp ayırmadığı

Birisinin kayırmacılık yapıp yapmadığı

Birisinin diğerlerinden daha fazla alıp almadığı

**Mülkiyet**

Birisinin başka birinin malına zarar verip vermediği

Birisinin kendisine ait olmayan bir şeyi alıp almadığı

Birisinin mülkiyetinin zarar görüp görmediği

**Moral Messages**

Bir sonraki sayfada, önceki sayfalarda katılmış olduğunuz para paylaştırma görevleriyle ilgili bir mesaj okuyacaksınız. Sonraki sayfaya geçerek mesajı okuyabilirsiniz.

"Karşı tarafa daha çok para aktarmak karşı tarafın yapacağı şeyden bağımsız olarak doğru olan davranıştır."

"Karşı tarafa daha çok para aktarmak toplam grup kazancının artması anlamına geleceğinden doğru olan davranıştır."

"Bu tip durumlarda paranızın tamamını ya da bir kısmını karşı tarafa aktarmak çoğu kişinin yapacağı bir davranıştır."

"Paranızın bir kısmını ya da tamamını paylaşabilir ya da tamamını kendi elinizde tutabilirsiniz."

**Risk Perception Scale**

Aşağıda depremler hakkında çeşitli ifadeler yer almaktadır. Lütfen her bir ifadeyi dikkatlice okuyarak bunlara ne düzeyde katılıp katılmadığınızı ölçek üzerinde belirtiniz. (1 = Kesinlikle Katılmıyorum; 7 = Kesinlikle Katılıyorum)

Yaşadığım konumda yıkıcı bir deprem meydana gelebilir.

Yaşadığım şehrin deprem açısından riskli bir bölgede olduğu düşünüyorum.

Oturduğum evin deprem açısından riskli bir bölgede olduğunu düşünüyorum.

Çalıştığım (ya da eğitim aldığım) yerin deprem açısından riskli bir bölgede olduğunu düşünüyorum.

Yıkıcı depremler olma ihtimali gereğinden fazla abartılıyor.

Eğer büyük bir deprem gerçekleşirse fazla zarar göreceğimi düşünmüyorum.

Depremler benim veya yakınlarımın güvenliği ile ilgili bir tehdit oluşturmuyor.

# APPENDIX F

**Belief in a Zero-Sum Game**

Aşağıdaki ifadelere ne düzeyde katılıp katılmadığınızı ölçek üzerinde belirtiniz.

(1 = Kesinlikle Katılmıyorum; 7 = Kesinlikle Katılıyorum)

Bazı insanların başarıları genellikle başkalarının başarısızlığıdır.

Eğer bir kişi zenginleşiyorsa, bir başkası fakirleşiyor demektir.

Hayat öyle tasarlanmıştır ki biri kazanırken diğerleri kaybetmek zorundadır.

Çoğu durumda, farklı insanların çıkarları birbirleriyle uyuşmaz.

Hayat tenis oyunu gibidir: Bir kişi ancak diğerleri kaybettiğinde kazanır.

Bazı insanlar fakirleştiğinde bu diğer insanların zenginleşmesi anlamına gelir.

Biri başkaları için çok şey yaptığında kendisi kaybeder.

Azınlığın refahı, çoğunluğun zararı pahasına elde edilir.

# APPENDIX G

**Scarcity Scale**

Aşağıda çeşitli ifadeler yer almaktadır. Lütfen her bir ifadeyi dikkatlice okuyarak bunlara ne düzeyde katılıp katılmadığınızı ölçek üzerinde belirtiniz.

(1 = Kesinlikle Katılmıyorum; 4 = Kesinlikle Katılıyorum)

Oldukça lüks bir hayat yaşayacak kadar gelirim vardır.

Gelirimi tamamen kaybetmem durumunda darda kalmamı önleyecek kadar birikmiş param vardır.

Son model bir araba alabilecek kadar zengin olacağıma eminim.

İleride lüks bir müstakil evde yaşayacak kadar gelirim olacağını düşünüyorum.

Artan benzin fiyatları beni hiç endişelendirmiyor

İhtiyacı olan bir arkadaşıma 1000 TL vermek bana yük olmaz.

İhtiyacım olmayan keyfi harcamalar yapmaya yetecek kadar gelirim var.

Birden tüm gelirimi kaybetsem bile, şimdiki hayat standardımı koruyabilirim.

İleride yaşanabilecek olumsuzlukları düşünüp aşırı harcamalar yapmaktan kaçınırım.

Bazen almak isteyip, yeteri kadar param olmadığı için alamadığım şeyler olur.

Emlak fiyatları ne kadar artarsa artsın, bir gün ev sahibi olabileceğimi düşünüyorum.

İleride hem kendi evimi geçindirecek, hem de ailemin masraflarını karşılayacak kadar gelirim olacağını düşünüyorum.

Para, nasıl bir hayat yaşayacağımızı pek etkilemez.

Sürekliliği olan bir gelire sahip olmam pek de önemli değildir

**Toronto Empathy Scale**

Lütfen aşağıdaki ifadelerin size ne kadar uyup uymadığını ölçek üzerinde belirtiniz.

(1 = Hiç Uygun Değil; 5 = Tamamen Uygun)

Diğer insanların başına gelen talihsizlikler beni çok etkilemez.

Birisine saygısızca davranıldığını görmek, beni üzmez.

Yakınımdaki bir insan mutlu olduğunda bundan etkilenmem.

İnsanların daha iyi hissetmesini sağlamaktan mutluluk duyarım.

Bir arkadaşım sorunları hakkında konuşmaya başladığında konuyu değiştirmeye çalışırım.

İnsanlar üzgün olduklarında hiçbir şey söylemeseler bile onların üzgün olduklarını anlayabilirim.

Sağlıklarına özen göstermeyip ciddi hastalıklara yakalanan insanlara acımam.

Birisi ağladığında sinir olurum.

Başka insanların nasıl hissettikleri beni gerçekten hiç alakadar etmez.

Üzgün bir insan gördüğümde ona yardım etmek için güçlü bir istek duyarım.

Birisine haksızca davranıldığını gördüğümde, ona hiç acımam.

İnsanların mutluluktan dolayı ağlamasını saçma bulurum.

Birisinin kullanıldığını gördüğümde, onu koruma isteği hissederim.

# APPENDIX I

**Demographics**

Şimdi size demografik bilgileriniz hakkında çeşitli sorular yöneltilecektir. Lütfen aşağıdaki soruları yanıtlayınız.

Cinsiyetiniz?

Kadın  Erkek  Diğer  Belirtmek İstemiyorum

Yaşınız (sayı ile)?

Hangi şehirde yaşıyorsunuz?

En son tamamladığınız eğitim seviyesi nedir?

İlkokul  Ortaokul  Lise  Önlisans  Lisans  Yüksek Lisans  Doktora

Aşağıdaki merdivenin Türkiye'deki insanların sosyo-ekonomik açıdan bulunduğu seviyeleri temsil ettiğini düşünün.



Merdivenin tepesindekiler (10) her şeyin en iyisine (örneğin; en çok paraya, en iyi eğitime ve en saygın mesleklere) sahip insanlardır. Merdivenin en altındakiler (1) ise en kötü koşullara (örneğin; en az paraya, en az eğitime ve en az saygın mesleklere) sahip insanlardır.

Merdivende daha yüksek bir konuma sahip olmanız en tepedeki insanlara daha yakın olduğunuz, daha aşağıda olmanız ise en alttaki insanlara daha yakın olduğunuz anlamına gelmektedir.

Kendi koşullarınızı düşünecek olursanız, bu merdivende kendinizi hangi konuma yerleştirirsiniz?

Lütfen aşağıdaki kutucuğa sayı ile belirtiniz.

Kendinizi ne kadar dindar tanımlıyorsunuz?

(1 = Hiç Dindar Değil; 7 = Çok Dindar)

Kendinizi ne kadar solcu ya da sağcı tanımlıyorsunuz?

(1 = Çok Solcu; 7 = Çok Sağcı)

Lütfen Kahramanmaraş depremlerinden ne kadar etkilendiğinizi 0 (deprem bölgesine uzaktım ve hiç etkilenmedim) ile 100 (deprem bölgesine çok yakındım ve çok etkilendim) arasında bir sayı ile değerlendiriniz.

Lütfen Kahramanmaraş depremlerinden yakın akrabalarınızın ne kadar etkilendiğini 0 (deprem bölgesine yakın akrabam yok ve hiç etkilenmediler) ile 100 (deprem bölgesine çok yakın olan akrabalarım var ve çok etkilendiler) arasında bir sayı ile değerlendiriniz.

Mayıs ayında yapılacak olan Cumhurbaşkanlığı seçiminde hangi adaya oy vermeyi düşünüyorsunuz?

Kemal Kılıçdaroğlu  Recep Tayyip Erdoğan  Muharrem İnce  Sinan Oğan

# CURRICULUM VITAE
# MELIH VAROL

## EDUCATION

Kadir Has University – Istanbul, Turkey

**M.A.** Psychological Sciences (September 2021 – Present)

**Thesis:** The effect of the 2023 Türkiye – Syria Earthquake on cooperative behaviors and intentions

**GPA:** 4.00/4.00 (a high honor)

Istanbul University – Istanbul, Turkey

**B.A**. Anthropology (September 2021 – Present)

**CGPA:** 3.85/4.00 (a high honor)

Istanbul University – Istanbul, Turkey

**B.A**. Psychology (September 2016 – August 2020)

**GPA:** 3.77/4.00 (Graduated with high honors)

## NATIONAL CONFERENCE PROCEEDINGS

Velioğlu, İ., Varol, M., Bayrak, F., Doğulu, C., Alper, S., Doğruyol, B., İşler, & Yılmaz, O. (October, 2022). Subjective and objective risk perception of earthquake and morality as cooperation. Paper presented at the 21st annual meeting of the National Psychology Conference, Doğuş University, İstanbul.

## PUBLICATIONS IN NATIONAL JOURNALS

Atik, Ş., & Varol, M. (2019). Investigation of university students with respect to gender identity and sexual orientation within the context of Schweder's big three ethics. IBAD Sosyal Bilimler Dergisi, Special Issue, 232-243. Doi: 10.21733/ibad.613674

## OTHER PUBLICATIONS

Varol, M. (2021). The relation of mental disorders and crime: Schizophrenia example. ONTO

Online Psikoloji Dergisi, 20, 28-34. [In Turkish]

Varol, M. (2019). A debate of objectivity and subjectivity: knowledge, individual, and
    society.

ONTO Online Psikoloji Dergisi, 17, 20-24. [In Turkish]

Varol, M. (2019). A critical approach to family. Mor Psikoloji, 3, 22-26. [In Turkish]

## GRANTS, HONORS & SCHOLARSHIPS

2022-current: TUBITAK1001: "Cooperation and the Threat of Earthquake" – Project
Grant

2021-2023: Kadir Has University Full Tuition Waiver for the master's degree

## TEACHING EXPERIENCES

**Kadir Has University Psychology Department (Since January 2022)**

I have taken the role of overseer in seven undergraduate exams. My assignments
included observing the exam process, distributing the exam papers, checking student
ids, ensuring students are seated according to the covid19 protocols, assisting students
when they had any issues, and delivering the exam papers to the professor after the
exam ended.

## RESEARCH EXPERIENCES

**Kadir Has University MINT Lab (September 2021 – now)**

In MINT Lab, I have been part of a 1001 project named "Cooperation and the Threat of
Earthquake." In this research, I have developed manipulations and the Qualtrics form,
written the pre-registration form, proposed hypotheses, collected data, and
communicated with the participants. Furthermore, I have attended book reading sessions
and offered anthropological explanations to debate questions. Lastly, I have done
presentations at bi-weekly MINT Lab research meetings.

**Istanbul University Social Psychology Department (January – May 2019)**

I have voluntarily helped IU social psychology department on several projects. In these
projects, I did the literature review and transcription of data. I was also part of a team
that worked with a research assistant on her Ph.D. dissertation (construction of
Womanhood and Motherhood). In this project, I transcribed interviews and participated
in a group workshop on grounded theory.

The topics I have worked on with the social psychology department: Voluntary childlessness, political psychology, and morality in children.

**GRADUATE PROJECTS, POSTERS & PROPOSALS**

**PROPOSALS**

The effect of framing different types of threats on political ideology (2022)

Examining the helping behavior in 18- and 30-month-old children (2022)

Is the reminiscence bump universal? Unstable countries example (2021)

The relationship between humor, attractiveness, and long-term relationships (2021)

**UNDERGRAD PROJECTS, POSTERS & PROPOSALS**

**PROJECTS**

Istanbul University sociology students' assessment of discrimination (2020)

Analyzing passenger behaviors in M5 Üsküdar – Çekmeköy metro line based on equilibrium theory (2019)

Examining ideological differences in the context of Bandura's moral disengagement theory (2019)

Investigation of participants with respect to gender and sexual orientation within the context of Shweder's big three ethics theory (2019)

Evaluation of children's moral concept and development (2018)

Examination of hopelessness level between genders using the Beck hopelessness scale (2018)

**POSTERS**

Evaluation of university students' correlation of academic performance with circadian rhythms (2019)

**PROPOSALS**

Changing the attitudes about animals with mere exposure effect (2020) The social construction of manhood and masculinity in Turkey (2020) Prejudice and discrimination towards obese people (2020)

**SKILLS**

Microsoft Office

SPSS

JASP

JAMOVI

Psytoolkit: Online survey and experiment coding toolkit

R: Beginner - Operational knowledge about some tasks related to research, such as conducting basic/multiple regression, sampling, bootstrapping, data visualization, data wrangling, and hypothesis testing

G* Power: Power analysis

MPlus: Structural Equation Modelling & Factor Analysis

## LANGUAGES

Turkish (Native Language)

English (Advanced – C1)

Spanish (Pre-Intermediate – A2)