KADIR HAS UNIVERSITY
SCHOOL OF GRADUATE STUDIES
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HOW DOES MORAL FRAMING AFFECT ENVIRONMENTAL ATTITUDES: A NON-WESTERN REPLICATION

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ASSOC. PROF. ONURCAN YILMAZ

MASTER'S THESIS

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ACCEPTANCE AND APPROVAL

This study, titled **HOW DOES MORAL FRAMING AFFECT ENVIRONMENTAL ATTITUDES: A NON-WESTERN REPLICATION** , prepared by **DİLARA ÇAVDAR**, was deemed successful with the **UNANIMOUS VOTING** as a result of the thesis defense examination held on the **26 JULY 2021** and approved as a **MASTER'S DEGREE THESIS** by our jury.

JURY: SİGNATURE

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Yukarıdaki imzaların adı geçen öğretim üyelerine ait olduğunu onaylarım.

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AOT: Actively Open-Minded Thinking

MFT: Moral Foundations Theory

MFQ: Moral Foundations Questionnaire

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ABSTRACT

There is a difference in the endorsement of moral foundations between individuals from the political right and left. This difference was used for studying attitudinal and behavioral differences between political poles in varying issues, such as climate change. However, most of this literature consists of correlational studies, and experimental uses of moral foundations are limited. Moral foundations were also used to create framed messages, a technique called moral framing. Some studies morally framed climate change messages in terms of individualizing vs. binding foundations or care vs. sanctity foundation to investigate the effectiveness of morally framed messages on conservatives and liberals. However, these studies were not preregistered, and conducted on WEIRD samples. We aim to replicate a moral framing effect based on moral foundations on an under-represented, Turkish sample. We directly applied the procedure of Feinberg and Willer (2013; Study 3) and then added additional measures. Participants received a care or sanctity framed text or a control text, then they indicated how much they felt disgust and completed the environmental attitudes scale. Afterward, they received a manipulation check measure, an actual donation intention question as an indicator of environmental behavior, a psychological distance measure and an actively open-minded thinking measure as potential moderators. We replicated the findings regarding political orientation, and partially replicated the findings regarding disgust. The sanctity frame significantly interacted with political orientation on environmental attitudes: the sanctity frame was more effective on conservative participants in promoting pro-environmental attitudes. In addition, actively open-minded thinking had a moderating effect, such that sanctity condition was more effective on participants with moderate or lower AOT. Psychological distance only had a main effect. Finally, reading a care or sanctity frame predicte higher donation intention, compared to the control group; however, political orientation did not have a moderating effect on donation intention.

Keywords: climate change beliefs, political polarization, moral foundations theory, moral framing

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ÖZET

Politik olarak sağ ve sol yönelimli bireylerin benimsediği ahlaki temeller farklılık göstermektedir. Bu farklılık, farklı politik görüşlerden insanların ayrıştığı konulardaki (örn. iklim değişikliği) tutum ve davranış değişikliklerinin araştırılmasında kullanılır. Ancak ahlaki tutumlar kuramının literatürdeki deneysel uygulamaları sınırlı olup, bu konulardaki çalışmalar çoğunlukla korelasyonel araştırmalardan oluşur. Ahlaki temeller, ahlaki çerçeveleme denilen teknikle, çeşitli mesajların çerçevelenmesi için kullanılır. İklim değişikliği ile ilgili mesajları ahlaki olarak çerçevelemeyi amaçlayan bazı çalışmalar, çerçevelemeyi kimi zaman bireyselleştirici (individualizing) ve bağlayıcı (binding) temeller üzerinden, kimi zaman da bakım (care) ve kutsallık (sanctity) temelleri üzerinden yapmaktadırlar. Ancak bu çalışmaların çoğu ön-kayıtlı (preregistered) değildir ve batı toplumlarında yürütülmüştür. Bu çalışmada, ahlaki temellere dayalı bir ahlaki çerçeveleme etkisinin, literatürde fazla temsiliyeti olmayan bir örneklem üzerinde tekrarlanması amaçlanmaktadır. Feinberg ve Willer'ın (2013; Study 3) deneysel prosedürü aynen uygulanmış ve ek olarak bazı değişkenler eklenmiştir. Katılımcılar, bakım temelli, kutsallık temelli, ya da kontrol haber metinlerinden birini okuduktan sonra, iğrenme duygusunu ne ölçüde hissettiklerini belirtip, çevreye dair tutumlar ölçeği doldurmuşlardır. Sonrasında katılımcılara manipülasyon kontrolü ölçümü, çevreyle ilgili bağış niyeti sorusu, psikolojik mesafe ölçümü ve aktif açık düşünme ölçümü verilmiştir. Orijinal çalışmanın politik tutumun ahlaki çerçeveleme üzerindeki moderatör rolü replike edilmiş, iğrenme duygusuyla ilgili bulguların ise bir kısmı replike edilebilmiştir. Kutsallık temelli çerçevelemenin, sağ yönelimli katılımcılar üzerinde, çevreye yönelik olumlu tutumları arttırmada daha etkili olduğu bulunmuştur. Ek olarak, aktif açık düşünmenin de moderatör olarak anlamlı etkisi çıkmış, kutsallık çerçevesinin orta ve düşük seviyede aktif açık düşünme eğilimi belirten katılımcılarda daha etkili olduğu bulunmuştur. Psikolojik mesafenin moderatör etkisi olmamakla birlikte, çevreye dair tutumları anlamlı olarak yordamıştır.

Çevreyle ilgili bağış niyeti ise politik yönelimden etkilenmeyip, bakım veya kutsallık çerçevelenmiş metinlerden anlamlı bir şekilde etkilenmiştir.

Anahtar Sözcükler: iklim değişikliği tutumları, politik polarizasyon, ahlaki temeller kuramı, ahlaki yeniden çerçeveleme

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1. INTRODUCTION

Until recently, psychological perspectives on morality were dominated by Kohlberg's theory (Kohlberg & Kramer, 1969) which anticipates three developmental stages of morality. According to Kohlberg's account, each stage is an advancement on the previous one. One of the main assumptions of this account is that moral judgments result from analytical thinking processes. According to that, when we encounter an event, we form moral judgments based on analytical/rational thinking processes, although the intuitive responses are also involved. However, the assumption that moral attitude formation is a rational process has been challenged recently.

First, Haidt (2001) proposed the social intuitionist model. Contrary to Kohlberg, this model suggested that moral judgments are intuitively formed. Then, Haidt and colleagues proposed Moral Foundations Theory (MFT; Haidt & Graham, 2007; Haidt & Graham, 2007) by building on previous moral accounts (Gilligan, 1982; Kohlberg, 1973; Shweder et al., 1997) with insights from anthropologic studies of morality (e.g., Shweder et al., 1997). MFT was groundbreaking in the study of morality for several reasons. Unlike previous theories, MFT takes the social intuitionist model as a basis and denies Kohlberg's model with hierarchical stages. According to MFT, moral judgments are formed based on evolved intuitions, and then these intuitive judgments are justified using analytical reasoning. Moral dumbfounding studies provide evidence for the social intuitionist account (Haidt et al., 2000). It also criticizes previous models for being western-focused, that they take only western values as a basis for morality such as care and fairness. Kohlberg (1973) takes fairness as the basis, and Gilligan (1982) focuses on care; however, MFT expands the scope of morality by including group-based foundations such as authority, loyalty, and sanctity.

According to MFT (Haidt & Graham, 2007; Haidt et al., 2009), morality is guided by five different foundations: care, fairness, loyalty, authority, and sanctity. Care foundation is about protecting and taking care of the weak and not doing harm. Fairness foundation

points to the tendency to detect disharmonizing free-riders of a group, and punishing them for eliminating selfishness and restoring the cooperation within the group. Loyalty foundation is about protecting and favoring one's own group and being faithful to it. Authority foundation is based on one's tendency to form and recognize hierarchical social structures. Finally, the sanctity foundation is based on one's tendency for being pure, both physically and spiritually, which in turn leads to the feeling of disgust, which is adaptive in the ancestral environment since humans need to avoid viruses and parasites in order to survive. These five foundations can be explained from an evolutionary point of view and point to a need to function as groups and survive. Therefore, one of the claims of the theory is that these five foundations are universal although the culture has some role in determining which foundations will be endorsed under which conditions (Graham et al., 2013). In order to test the universality argument, some studies tested the validity of these foundations cross-culturally. Iurino and Saucier (2020) tested the short version of the Moral Foundations Questionnaire in 27 countries around the world spanning five continents. They extracted data from the Survey of World Views (at least $n > 99$ for each country) , and tested the cross-cultural stability of the five-factor model predicted by Moral Foundations Theory. The results failed to find any evidence for the cross-cultural stability argument. However, Doğruyol et al. (2019) also investigated the validity of five moral foundations using data from Many Labs 2 project (Klein et al., 2018) involving 7263 participants across 30 countries. In contrast to Iurino and Saucier (2020), they found that the five-factor model showed a good fit to the overall data involving WEIRD and non-WEIRD samples (including Turkey) and therefore provided the first evidence in favor of the cross-cultural stability argument. Finally, Yalçındağ et al. (2019) adapted MFQ to Turkish and tested it on three different Turkish samples (two student samples and one community sample). Similarly, they found support for the five-factor model in all three samples. Therefore, there is some evidence that these foundations can be found in each culture in varying degrees, including Turkey.

In addition to its empirical backing for the universality argument, one of the reasons MFT gained so much research attention is that it offers explanations for differences between

political groups in terms of moral values. In fact, because of its explanatory power, MFT is widely used in the field of political psychology. Care and fairness comprise individualizing foundations as they are related to personal rights, and loyalty, authority, and sanctity comprise binding foundations as they are associated with group attachment (Graham et al., 2009). These foundations have been found to be related to political orientation. Liberals endorse only individualizing foundations as the core of morality, while conservatives see both individualizing and binding foundations as morally relevant (Graham et al., 2009; Haidt & Graham, 2007).

Moreover, this difference in the endorsement of foundations manifests itself in forming attitudes about social and political issues. Liberals and conservatives view certain subjects, especially the ones that are politically polarized, from different perspectives, based on the moral foundations they endorse (Haidt, 2012; Haidt & Graham, 2007). For instance, Koleva et al. (2012) found a link between arguing against or for several polarized issues (such as same-sex relationships, stem-cell research, death penalty, global warming, etc.) and the moral foundations endorsed. After content analyzing several news articles about stem cell research and a survey study, Clifford and Jerit (2013) found that those who argue for and against use a different moral language and they emphasize different moral foundations in their arguments.

Since the political polarization has been found to be linked with the endorsement of different moral foundations (e.g., Clifford & Jerit, 2013; Feinberg & Willer, 2015; Koleva et al., 2012; Kraft, 2018), they were used as framing technique in decreasing polarization in the previous literature (e.g., Day et al., 2014; Feinberg & Willer, 2013, 2015). Framing can be defined as organizing the content of a message to be in line with a specific meaning (Scheufele & Iyengar, 2012; Tversky & Kahneman, 1981). Previous research indicated that moral framing is found to be effective on several political issues (Bloemraad et al., 2016; Feinberg & Willer, 2015; Franks & Scherr, 2019; Simon & Gilliam, 2013). For instance, some framings of climate change or environment-related messages increase the support for climate change of conservatives (Feygina et al., 2010; McCright et al., 2016; Whitmarsh &

Corner, 2017). Content can also be morally framed based on moral concerns (Lakoff, 2004), and MFT can be used as a basis for moral framing. In general, when it comes to social issues, messages from liberal sources were framed with individualizing foundations while messages from conservative sources relied on binding foundations (Feinberg & Willer, 2013, 2015; Graham et al., 2009; Haidt & Graham, 2007; Voelkel & Brandt, 2019). In a topic where two parties support or oppose an issue based on the endorsement of different moral foundations, framing one's viewpoint using the other party's favored foundations could be a powerful persuasion strategy. However, most of the studies previously used MFT as the theoretical basis are correlational. A limited number of studies tested moral foundations experimentally (e.g., Wright & Baril, 2011; Yilmaz et al., 2016; Yilmaz & Saribay, 2017) but there is some dispute about the replicability of some of these studies (cf., Wright & Baril, 2011 and Isler, Yilmaz & Dogruyol, 2021). The current study aims to provide an experimental test of the moral framings based on MFT on a highly polarizing subject, climate change and pro-environmental attitudes.

1.1 Why Climate Change is Important

Climate change is a severe threat that requires action and results from human activity (Doran & Zimmerman, 2009; IPCC, 2018; Oreskes, 2004; Watts et al., 2019). Empirical findings suggest that the earth's temperature will increase to the degrees that threaten humankind, and human activity is very likely the reason for this increase (IPCC, 2018; Watts et al., 2019). The greenhouse gas emissions caused mainly by industrialized countries result in an increase in the earth's temperature. Many agree that human activity had adverse effects on the environment and climate (IPCC, 2018). At least 95% of the scientific evidence converges on its causes and risks, determined by the investigation of expert opinions and publications produced by climate scientists. (Cook et al., 2013). However, there has been skepticism as to whether climate change is real (e.g., Gallup, 2019; Gallup, 2016). Some believe that climate change is not a serious threat and it is occurring naturally instead of due to human activity, (Pew Research Center, 2015). Therefore, those who are skeptical of anthropogenic (i.e., caused by humans) climate

change might see the efforts to mitigate climate change as exaggerated. In this section, how insights from social psychology could help the climate crisis will be explained. Studies that investigate either climate change or environment-related attitudes (two highly-correlated variables that are often used interchangeably in the previous literature) are reviewed.

Psychologists studied the determinants and antecedents of environmental attitudes and climate change related beliefs since increasing people's engagement with the environment and concern for climate change is critical to deal with the climate change crisis. At first, researchers thought that climate change skepticism could be due to a lack of knowledge (i.e., scientific literacy). Further research revealed that political orientation predicted climate change attitudes beyond knowledge (Kahan et al., 2011; Nisbet et al., 2015). Similarly, a study analyzing two national surveys in the US shows that the political polarization persists, even when knowledge about climate change and education level were controlled (Malka et al., 2009). Some even argue that considering the persistence of polarization, climate change is considered one of the key issues that separate Republicans from Democrats (Nisbet, 2009). In fact, cross-lagged analysis of longitudinal data indicates that voting behavior predicted climate change beliefs and not the other way around (McCrea et al., 2016).

Similarly, Kahan et al. (2011) found that among the public, attitudes on climate change are determined more by one's identification with a political party rather than scientific literacy. In their meta-analysis, Hornsey et al. (2016b) found that the two largest correlates of climate change beliefs were political affiliation and ideological beliefs. In the US, Republicans are known to express more skepticism on climate change, as opposed to Democrats, which was empirically supported by recent public poles. For instance, the Pew Research Center Poll in 2015 showed robust evidence for the difference between Republicans and Democrats on the perceived seriousness of climate change.

Moreover, the polarization of climate change seems to increase over time (Bolsen & Shapiro, 2018; Dunlap et al., 2016; McCright & Dunlap, 2011). In fact, an early poll on

climate change conducted by Gallup Organization in 1989 found that Republicans and Democrats were equally worried about global warming. However, there was a 27% gap between supporters of two parties in 2001 and 42% in 2010 in terms of worrying about climate change. McCright and Dunlap (2011) investigated the change in climate change attitudes using Gallup Poll data from 2001 to 2010. They found that liberals and Democrats were less skeptical of and more concerned about climate change compared to conservatives and Republicans. Bliuc et al. (2015) found that Democrats were more likely to believe in climate change and be concerned about it, while Republicans were more skeptical of climate change. Moreover, they found that the difference between liberals and conservatives increased over time. In an early study, Hindman (2009) analyzes telephone interviews conducted by Princeton Survey Research International in 2006 with over 7000 participants and found that political ideology predicts climate change skepticism better than education. Coan and Holman (2008) investigated the role of several factors on voting for an environmental initiative, including political affiliation, resident country's economic well-being, and several demographics (age, education, line of work, etc.). They found that political orientation was the strongest predictor of voting behavior.

Other studies compared countries on environmental and climate change related attitudes. Olofsson and Öhman (2006) investigated environmental concerns in North American (Canada and USA) and Scandinavian (Sweden and Norway) countries with the data from The International Social Survey Program in the year 2000. Although there were differences in the overall level of environmental concern among different regions (Scandinavian countries exhibited greater concern), the two groups of countries were similar in that political affiliation predicted environmental attitudes (indicated by liberals expressing greater environmental concern). Ziegler (2017) conducted a survey study in the USA, Germany, and China with a total of 3400 participants. They looked at climate change related attitudes consisting of general belief in climate change, belief in human-made climate change, support for pro-climate change policies, and willingness to purchase eco-friendly products. Results indicated that being a left-winger is a stronger predictor of climate change related attitudes in these three countries.

There are preliminary findings from Turkey as well. A poll study consisting of interviews with 2745 individuals from 29 cities (the margin of sampling error is +/- 1.7 for CI =95%) shows that 60% of Turkish population is worried about the effects of climate change (İklim Haber & Konda Araştırma ve Danışmanlık, 2019). In addition, the poll indicates a difference between left-leaning and right-leaning party affiliations in terms of perceived effects of climate change [58-70% for CHP (Republican People's Party, main opposition party) and HDP (People's Democratic Party, the party of predominantly Kurdish minority), % 40-43 for AKP (Justice and Development Party, ruling party) and MHP (Nationalist Movement Party, a right-oriented, nationalist, and pro-goverment party)]. However, Ergun and Rivas (2019) used interview data from the 2015 Global Attitudes Survey from Pew Research Center (margin of sampling error is +/-4.3) and ran a hierarchical linear regression analysis to investigate the predictive power of ideology on the climate change concerns; however, they failed to find any relationship between ideological orientations and climate change concerns. In addition, Mostafa (2017) used survey data from environmental modules of the World Values Survey between 2005 and 2009, and investigated climate change beliefs in six Islamic countries, including Turkey, and found that only left-wing orientation is positively related to concerns for climate change. Overall, there is no clear evidence that climate change beliefs in Turkey are as polarized as they are in the US and Europe. Conflicting findings in these studies might be due to measurement tools used, sampling procedures, and sample characteristics.

1.2 How Can MFT Benefit the Problem of Climate Change

Researchers aim to develop experimental methods to mitigate the polarization in climate change and environmental attitudes using framing technique. One of the framing techniques in the literature was to induce emotions in participants in order to increase risk perception about climate change and support for climate change action. Both negative (e.g., fear) and positive (e.g., hope) emotions were used as frames in past literature (Feldman & Hart, 2016; Markowitz & Shariff, 2012; Nabi et al., 2018; Smith & Leiserowitz, 2014;

Tannenbaum et al., 2015). Tannenbaum et al. (2015) found an effect of the fear emotion on changing attitudes about climate change. Moreover, others found that messages with negative connotations increase concern for climate change and support for climate change action (Hornsey & Fielding, 2016; Schwartz & Loewenstein, 2017; Skurka et al., 2018). For instance, Smith and Leiserowitz (2014) found that worry and hope, but not fear, was associated with pro-environmental attitudes about climate change and energy policies. Fear perception was also found to be related to a higher intention to act eco-friendly (Nolan, 2010). On the other hand, Hornsey et al. (2016a) failed to find an effect of fear-framed messages on climate change skepticism.

Nabi et al. (2018) manipulated threat (threat vs. no threat) and outcomes of environmental policies (benefit vs. cost) and measured emotional responses and attitudes toward climate change policies. They found that perception of hope mediated the effectiveness of benefit framed messages. Feldman and Hart (2018) framed energy policies in different ways and investigated their effect on liberals and conservatives (see also Feldman & Hart, 2016). They found that perceived benefits (inducing hope) and costs moderated the role of the frames, such that the frame types were more effective on conservatives. However, Hornsey et al. (2016a) found that hope-framed messages did not increase support for climate change action. Markowitz and Shariff (2012) advise the use of positive emotions by emphasizing the positive impact of climate change action. On the other hand, Chapman et al. (2017) argue that using emotions as a persuasion strategy is not ideal in pragmatic and theoretical ways. Overall, these studies with emotion-induction produced mixed results, and they is a need for future empirical tests.

Another framing technique used in previous studies is to convey scientific consensus messages. Those who are skeptical of climate change often argue that there is no scientific consensus on climate change. Subjective perception of scientific consensus is important as one of the major determinants of belief in climate change since it underpins climate change skepticism (Hornsey et al., 2016b). There is also a divide between supporters of two political identities, such that conservatives and Republicans indicate a lower perception of a

scientific consensus on climate change (McCright et al., 2013). There are studies showing that scientific consensus increases climate change belief and support for action. Bolsen et al. (2014) test the effect of norm vs. science-framed messages on beliefs about climate change, support for climate change policies, and willingness to act pro-environmentally. Norm frame implied skepticism over human-caused climate change, while science frame implied a consensus among scientists on the effects of climate change. In addition to finding that Democrats scored higher, in general, on the pro-environmental attitudes than the Republicans, results showed that the framed messages, including the scientific consensus message, decreased the difference between partisans. Moreover, Brewer and McKnight (2017) had one group of participants watch a news program criticizing media for presenting imbalanced information on climate change and informing about the scientific consensus on the subject (experimental group), and one group of participants watching a news program on an unrelated topic (control group). They found that the experimental group expressed less skepticism of climate change. Deryugina and Shurchkov (2016) gave one group of participants a message explaining the consensus among scientists on climate change, another group a message about consensus on climate change with less precise information, and the third group of participants did not receive any message (control group). They found that messages with information about scientific consensus improved the participants' opinions on climate change; however, the messages were not effective in promoting support for climate change policies or donation intention to an environmental charity. There were also no significant association between ideological orientation and environmental attitudes. Moreover, they measured participants' attitudes after 6-months to test the stability of the effect, yet they failed to find any evidence. Van der Linden et al. (2017) also found that providing messages about the scientific consensus on climate change significantly influenced the perception of consensus. Although liberals and conservatives scored similarly, the consensus message was slightly more effective on conservatives. On the other hand, Kahan (2016) re-analyzed the data of van der Linden et al. (2017), including the data they did not report, and found that, in terms of climate change belief and support for climate change policy, there was no difference between experimental and treatment groups. Ma et al. (2019) created frames for scientists' consensus on climate

change and targeted frames (e.g., about religiosity or free-market). According to their results, the consensus frame did not influence participants' opinions about climate change; on the other hand, targeted messages were effective. Myers et al. (2015) found that giving participants messages about scientific consensus with quantitative information, compared to messages with non-quantitative information, increased participants' perception of scientific consensus (Study 1), and presenting participants information about scientific consensus after asking them their judgment of the consensus also improved their perception of the scientific consensus on climate change (Study 2). However, they did not measure attitudes about climate change, despite showing effectiveness for the consensus message. Overall, the effect of the consensus framing on climate change and environmental attitudes is inconclusive, although they seem to improve consensus perception. For studies looking at the effect of consensus framing on political groups, some of the studies show differences in the effectiveness according to political orientation (e.g., Bolsen et al., 2014), while others did not find a difference between political groups (e.g., Deryugina & Shurchkov, 2016). Therefore, the effectiveness of consensus messages for dealing with climate change skepticism needs more testing.

Another technique used for framing climate change is to emphasize certain parts of climate change mitigation policies, such as highlighting that a policy results in decreased air pollution or increased employment opportunities (Aklin & Urpelainen, 2013), or emphasizing the source of the policy and who endorses it (e.g., Fielding et al., 2020). Druckman (2001) found that when talking about an energy policy, highlighting its public health benefits and employment opportunities created by it increases the support for that policy. A partisan effect was also observed: when the policy was proposed by a legislator whose political affiliation was the same with the participant, support for the policy was higher (i.e., Republicans supported policies that are proposed by Republican legislators more). Hardisty et al. (2010) investigated the effect of different wordings while discussing energy policies. In their study, participants read an explanation of a policy framed either as tax or offset and measured whether potential consumers buy a plane ticket with a carbon price. When the carbon price was framed as an offset rather than tax, consumers were more

likely to buy a ticket. Feldman and Hart (2018) also framed the outcomes of four carbon-energy policies that aim to reduce carbon emission. The outcomes used in the framings were a decrease in climate change, a decrease in air pollution, or a decrease in energy reliance. Policy support of liberals and moderates did not show a difference as a function of frames; however, conservatives were less supportive of the policies when the framing, designed to decrease climate change, was used. This implies a motivated reasoning process for climate change related issues on the conservatives' part.

However, for the source of a policy, findings can be regarded as mixed. For example, Fielding et al. (2020) presented participants with messages about a certain policy that is supported by either Republicans or Democrats. They found that the support was higher when the policy was supported by the ingroup. In addition, unlike Republicans, Democrats were more sensitive to the messages that aligned with their political values. Ehret et al. (2018) investigated a real-life situation, a policy initiative in Washington, and found that partisans supported the policy more when their affiliated party endorsed it. On the other hand, Bolsen et al. (2019) did not find a consistent effect of the source. When the participants were given a message about how climate change will affect national security, the military as the message source was found to be more persuasive. However, when the message was about a threat to the environment, Republican party members as the message source were also effective. Interestingly, introducing climate scientists as the message source was not found to be effective. Zhou (2016) also experimentally manipulated message content and source (Republican vs. Democrat) and found no effect at all.

It was argued that messages containing environment-related messages are usually ideologically framed in a way that is more in line with liberal values than conservative ones (Feinberg & Willer, 2013; Feygina et al., 2010; Kidwell et al., 2013). Bowen et al. (2018) argued that Republicans do not argue against climate change; rather, they argue against Democrats. According to their panel study and interviews with former congress members, partisans tended to support similar policies when it was proposed by the political party they affiliated with. For instance, Feygina et al. (2010) found that system justifying tendencies

were predicted by political orientation and patriotism, and denial of climate change and pro-environmental behavior was predicted by political orientation, patriotism, and system justifying tendencies. They also found that political conservatism was associated with higher system justifying tendencies (Study 1 & 2). Then, to test the effect of system justification experimentally, they gave participants either a system preservation message or a control message. For participants with high system justification tendencies, pro-environmental tendencies were higher in the system preservation condition. However, for those with low system justification tendencies, the two conditions did not make a difference (Study 3). This indicates when environmental behavior was framed as a way of protecting the existing situation, high system justifiers were likely to show more intention to act pro-environmentally. Considering that conservatives are more likely to engage in system justification, framing climate change issues as preserving the natural state of the earth might increase support for climate change mitigation methods.

It is also possible that conservatives' skepticism of climate change could be partially due to the fact that climate change messages in media conflict with their moral values. Clayton et al. (2013) gave participants text that describes damages caused by climate change with one of the three framings: harm to people, harm to animals, harm to a particular zoo animal, and an additional control text. They found that political orientation correlated with the perception of who might be harmed by climate change (health of individuals, state of the economy, wildlife, etc.) and perception of who should take responsibility for climate change mitigation (government, other countries, organizations, etc.). Overall, framing climate change with injustice emphasis created weaker responses on conservatives. Considering that concern about justice is a more liberal value, media coverage of climate change as a justice issue may not resonate with conservatives. Feinberg and Willer (2013) also found similar results. In Study 1, they divided participants into three groups and gave them texts as manipulation. In one group, the text mentioned recycling plastic waste, the other text mentioned not recycling plastic waste, and the control text did not mention plastic waste at all. They found that, unlike conservatives, liberals rated this as a moral issue. In Study 2, they analyzed the content of newspaper op-eds and YouTube videos with

an environmental subject. They investigated which of the five foundations was more prominent in those and found that care foundation was more prevalent than other four foundations.Their findings support the assumption that media coverage of climate change is covered in a way that is more in line with liberal values.

In short, it can be concluded from a review of framing studies that the framing techniques that do not take political orientation into account are either inefficient or produce inconsistent findings. Therefore, any intervention that aims to decrease climate change skepticism and increase pro-environmental attitudes should consider political polarization. On the other hand, moral foundations framings are promising because they allow one to tailor messages that could resonate with different political ideologies.

Some studies use moral frames to improve environmental attitudes. Feinberg and Willer (2013) tested the effect of either care or sanctity focused environmental messages on liberals and conservatives' pro-environmental attitudes (N = 308). They gave participants one of the three news articles: framed with care foundation, sanctity foundation, or control. After reading the articles, participants answered how much they felt five emotions (including disgust) and a scale of environmental attitudes. They ran a multiple regression analysis followed by a simple-slope analysis and found that conservatives in the sanctity frame condition scored higher on the pro-environmental attitudes compared to the care frame and the control condition. However, there was no difference for liberal participants across conditions. conservative and liberal participants scored similarly in the sanctity condition in terms of environmental attitudes, while in care and neutral condition conservatives scored lower than liberals. They also found a moderating effect for the disgust emotion. Overall, the sanctity condition resulted in higher feelings of disgust. When scores of more conservative participants were investigated, they found that conservatives felt more disgust in sanctity condition compared to care condition, while for more liberal participants, the two conditions did not make a difference. There are also other studies testing the effect of messages framed with individualizing and binding foundations on environmental attitudes. For example, Day et al. (2014) created framed messages for each

of the five foundations and applied these frames to five social issues, including climate change. In Study 1 (N = 628), these framed texts reflected conservative stances on the issue, while in Study 2 (N = 713), the texts reflected liberal stances. In Study 1, conservatives' existing attitudes strengthened in response to authority and sanctity frames while in Study 2, liberals' existing attitudes strengthened in response to harm and fairness frames. Therefore, they found an effect on the moral frames. Wolsko et al. (2016) ran a similar study to Feinberg and Willer; however, instead of care and sanctity foundations, they used individualizing and bindings foundations for framing messages. In Experiment 1 (N = 185), participants read one of the three short paragraphs: framed with individualizing foundations, framed with binding foundations, and the control. They took an environmental conservation measure to indicate the likelihood of performing certain behaviors such as recycling, saving energy, etc., and a scale on climate change attitudes. Liberals scored higher than conservatives in the individualizing and the control conditions. However, liberals and conservatives performed similarly on the binding condition. Liberals' scores did not differ across three conditions; on the other hand, conservatives scored higher on the binding condition than the individualizing condition and the control condition. Experiment 2 (N = 187) tested these effects on a different sample and included an additional measure of donation intention to an environmental organization. They replicated the findings of Experiment 1. For the donation intention, liberals and conservatives did not differ in individualizing condition but, liberals scored lower in the binding condition. Overall, liberals scored lower in the binding condition compared to liberals in the individualizing condition and the control condition, while conservatives scored higher on the binding condition than the individualizing and the control condition. Finally, in Experiment 3 (N = 97), they excluded the control condition and only tested the individualizing and the binding frames. They also included a measure about perceived message strength, which was administered right after reading the message. The effects from previous experiments were again replicated. In addition, they found that liberals perceived the binding frame less impressive than the individualizing frame, while conservatives perceived both frames equally impressive. In another study, Wolsko (2017; Experiment 1) tested the effect of the individualizing and the binding frames on a composite score of climate change attitudes,

conservation intention, and connectedness to nature. The results were similar to the previous findings. Conservatives scored higher, and liberals scored lower when they were in the binding condition. Kidwell et al. (2013) also investigated the effects of moral frames on a behavioral outcome: recycling behavior. First, they developed messages with either individualizing or binding foundation, consisting of a flyer with two short paragraphs explaining why one should recycle, and a picture about recycling. They tested these messages to ensure that they do not manipulate anything other than individualizing or binding foundation related values. In their study, they collected data from 348 households whose recycling garbage is weighed every week. The amount of recycling for the first five weeks created the baseline recycling score of each house. Then each household received one of the three messages on a monthly basis: message with binding foundation, the message with individualizing foundation, and the control message. Their recycling garbage was measured for another nine weeks. Finally, they were given a political orientation measure. The analysis revealed that individualizing message increased recycling behavior in liberals, and the binding message increased recycling behavior in conservatives. Finally, Hurst and Stern (2020) tested the effect of the message content (framed with individualizing vs. binding) and message source (conservative vs. liberal) on energy preferences. In a pilot study, they created environmental messages with individualizing and binding foundations. In the first experiment, there were three conditions as messages (the individualizing frame, the binding frame, or the neutral) and three conditions for message source (the liberal source, the conservative source, or the control source), which comprised six experimental groups. Then, participants were asked to respond to several questions about quitting fossil fuels as an energy source (Study 1; $N = 631$) and concerns about fossil fuels and behavioral intentions (Study 2). Overall, concern for fossil fuels was greater for conservatives who received the binding frame, and this effect was even stronger when the message source was also conservative. Unlike other studies described above, Hurst and Stern (2020) preselected a nearly equal number of liberal and conservative participants. However, this study has an important limitation despite having the strength of recruiting an equal number of conservative and liberal participants: the framed texts they used were confounded. The text with individualizing frame includes expressions like “oil and coal

pollute our air and water" and "exposing all living things to harmful toxins", however, pollution and exposure to toxins are themes more related to the concept of purity and sanctity, which are components of binding foundations. Moreover, the text with the binding frame has a patriotic emphasis. Although the concepts of loyalty and belongingness are part of binding foundations, the patriotic tone can have an effect beyond the scope of binding foundations, especially among liberals. Therefore, the effect of the frame cannot be isolated to the binding frame. Others had also some limitations, such as having small sample sizes. However, the most important limitation of these studies was that they are not preregistered. There is only one preregistered study conducted by Sachdeva et al. (2019). Based on the investigation of an environmental campaign (Study 1), they assumed that environmental issues are more often discussed within the purity and group-identity themes and tested the effect of purity framed messages. Participants were given either purity framed or ecocentric messages (Study 1 & 2). Then they were given a measure about willingness for pro-environmental behavior. Findings revealed that participants in the purity frame condition scored higher than the participants in the ecocentric condition. However, this study is not in the scope of our interest since it did not have a political orientation measure (so was unable to compare liberal and conservative participants), and did not have a true control condition.

1.3 Individual Differences in Framing

Individual differences are found to play a role in moderating the effectiveness of framing manipulations (Borah, 2011; Chong & Druckman, 2007). In the current study, individual differences in political affiliation, actively open-minded thinking, and psychological distance are tested for their moderating effect. In the next section, why these variables are chosen as the potential moderators of the moral framing effect of environmental attitudes are explained.

1.3.1 Political orientation

The political polarization in the domain of climate change is very pronounced in Western democracies and well-supported by empirical findings (Antonio & Brulle, 2011; Dunlap et al., 2016; Hornsey et al., 2016b; McCright & Dunlap, 2011; van der Linden et al., 2017). Political orientation was found to moderate the influence of framed texts on environmental attitudes in Feinberg and Willer's groundbreaking study (2013). However, there is a dearth of empirical investigation on whether climate change is a polarized issue in Turkey, and existing studies also produced mixed findings (Ergun & Rivas, 2019; İklim Haber & Konda Araştırma ve Danışmanlık, 2019; Mostafa, 2017). Therefore, while replicating the study of Feinberg and Willer (2013), we also attempted to reconcile the mixed findings regarding the role of political orientation on environmental attitudes in Turkey.

1.3.2 Actively open-minded thinking

Another potential moderator is actively open-minded thinking (AOT). AOT is a reasoning style defined by re-considering one's existing beliefs in the face of contradicting evidence (Baron, 2008). It is also related to information processing and persuasion (Feldman et al., 2012; Holbert & Hansen, 2006). Those who are low on AOT tend to show resistance when faced with change (Jost & Hunyady, 2005; Sinatra et al., 2011) and are less likely to change their already established beliefs (Kruglanski et al., 1993).

AOT has been found to be related with political positioning (Baron, 2019). Some research suggests that lower AOT is associated with higher levels of social and economic conservatism (e.g., Yilmaz & Saribay, 2017). Considering that conservatism predicts attitudes on several social issues, AOT could play a role in attitude formation among partisans, especially when there are competing opinions. There are some studies investigating the role AOT plays in framing effects. Mandel and Kapler (2018) found a relationship between several cognitive style measures, including AOT, on judgments on Tversky and Kahneman's (1981) and responses to Asian Disease Problem, although the effects of the cognitive style measures were quite small. On the other hand, it was rarely studied for the beliefs about climate change and the environment. Among a few studies,

Nisbet et al. (2013) found a significant framing effect for climate change beliefs, which was moderated by open-mindedness. Lower open mindedness indirectly predicted (through mediation) lower support for climate change mitigation policies. Panno et al. (2018) also found that the need for cognitive closure, a construct similar to and highly related with open-mindedness, predicted more self-reported environmental behavior, and this relation was mediated by conservatism. Although the evidence is scarce, AOT potentially could be a factor that influences the effectiveness of climate change interventions. Therefore, in the current study, we added AOT as a potential moderator to provide findings on its role in climate change attitudes as well.

1.3.3 Psychological distance

Psychological distance is another variable we employed as a potential moderator. The construct of psychological distance was derived from Construal-Level Theory and can be defined as the perception of how distant is something from one's self in various aspects, which results in a more abstract representation (Trope & Liberman, 2010). The distance can be perceived in terms of time, space, social proximity, and likelihood (Liberman & Trope, 2008). Findings indicated that climate change is perceived as distant in those dimensions (Milfont, 2010). For instance, one study conducted in the US found that mental representation of global warming contains polar and melting glaciers, which are locationally distant to participants (Leiserowitz, 2006). However, it was also suggested that climate change beliefs are affected by the level of psychological distance (Singh et al., 2017). These studies showing that people living in coastal regions or experienced coastal floods are less skeptical of climate change and show greater support for mitigation actions (Milfont et al., 2014; Spence et al., 2011). Some studies experimentally manipulated psychological distance by giving participants messages about local effects of climate change compared to the global impacts and found that cueing local effects increased engagement with the climate change (Jones et al., 2017; Scannell & Gifford, 2013). Yet, other studies imply that the relationship between psychological distance and climate change attitudes varies under certain conditions. For instance, Spence et al. (2012) suggest that

climate change is distant on the space dimension, but not on the others. Another study found that spatial and time distance were not effective on policy support, but there was a significant effect when the political orientation was taken as a moderator (Rickard et al., 2016). Chu and Yang (2018) found that when outcomes of climate change are framed as spatially close, political polarization in climate change beliefs decreased. Based on these findings, the psychological distance variable was considered as a potential moderator in the current study. Most of the previous studies investigating the relationship between psychological distance and climate change skepticism measured only spatial and temporal distance. However, we also included the social distance dimension. Since we framed messages in terms of morality, reading a message with a moral language used by the ingroup political party may trigger the social distance dimension. Therefore, we explored the potential moderating effects of three dimensions of psychological distance.

1.4 Addressing the Current Issues in Psychological Science

There are certain issues of psychological research that have received great attention recently. The field of social psychology was one of the front runners of these issues. Researchers identified the problem that made psychological findings in general, social psychological findings in particular, less reliable and sought solutions. New practices have been developed to increase the quality of psychological studies. The way of conducting research has been reformed. This thesis was prepared to keep these concerns in mind. One of the core values that drive this research was to aiming at providing reliable knowledge. Here, how this study regards the current issues of social psychology and how it seeks to contribute to the existing literature is explained.

1.4.1 Replication crisis

Over the last decade, the concern for replicability of psychology studies has increased dramatically. As the number of studies that fail to replicate previously found effects increase, the research practices of the psychological studies came under question. A more

important explanation for the replication crisis was the questionable research practices, which was manifested by not being completely open with the methodology and being flexible in the research processes. Flexibility in the execution of the study can allow researchers to, knowingly or unknowingly, manipulate the results of a study. This flexibility can include stopping data collection arbitrarily (known as p-hacking), not disclosing all measures to collect data deliberately, not reporting specific analysis, including and excluding certain variables, re-writing hypotheses after the analyses. For instance, Simmons et al. (2011) ran simulated experiments along with a few actual experiments. They showed that finding evidence that confirms the proposed hypothesis is, in fact, more convenient than finding evidence that contradicts the researcher's expectations. More interestingly, it turned out that some of these questionable research practices have been encouraged by academic authorities in the past. For instance, Kerr and Harris (1998) informally interviewed with several psychological scientists, and 52% of the respondents stated that editors and reviewers suggested changing the introduction in a way that confirms the results of the study. O'Boyle et al. (2014) compared several dissertations and publications derived from those, and observed that some of the non-significant findings reported in the dissertations were left out in the publishings, and hypotheses were re-written.

Another explanation for this high rate of published false-negative results was that the conclusions are influenced by the researcher's expectations from a particular study.
To objectively evaluate the quality of published psychology studies, Francis (2014) extracted articles with at least four experiments from *Psychological Science* published in 2009-2012. Then he ran a test for excess success via probability of experimental success and reported significant results, and found that 36 of the 44 studies were biased.

Several studies were also conducted to test the replicability of the initial classical findings in psychological science. In the first Many Labs project (Klein et al., 2014), replication studies of 13 well-supported studies were conducted. Thirty-six research labs involving 6344 participants as a total, from varying countries participated in this large-scale

collaborative effort. While 10 of these effects were replicated successfully, 3 of them failed to replicate. These results imply that even the most robust and reliable findings may not be replicable. Following this, different Many Labs projects continued for a varying selection of previous findings. Replication attempts for more recent findings produced a lower reproducibility rate than the classical findings (e.g., Many Labs 3; Ebersole et al., 2016). In 2015, a collaboration, led by Nosek and included 269 researchers, was conducted (Open Science Collaboration, 2015). They run 100 experiments to replicate the findings from studies published in three psychology journals with the highest impact. The experiments were high-powered, and the majority of them had power of .90 or more. Although in the original studies, 97% of the results were significant, in replication attempts, less than half of the studies (38%) produced significant results. The effect sizes in the replication studies were also smaller than the effect sizes in the original studies. This large-scale collaboration showed that even with identical materials and procedures, some effects might fail to replicate easily. Another collaboration was the Reproducibility Project, where each research lab conducted a replication study for one of the 100 previous findings. Only 34% of the significant original studies were significant in the replications. Along with such large-scale collaborations, the number of studies conducted by individual research laboratories to replicate a specific finding through Registered Replication Reports (RRR) also increased. RRRs are introduced by the journal *Perspectives on Psychological Science*, and in 2017 the rate of successful replications from these reports was one in third (Spellman et al., 2017).

This replication crisis and questioning of research practices resulted in a movement called Open Science, which aims to improve research practices and create more reliable knowledge. Until recent times, replication attempts did not receive any attention because they were not considered important, and it was pretty hard to publish replication studies. Therefore, the number of replication studies was few (Makel et al., 2012). However, with the open science movement, the replication attempts start becoming the main outlet for most of the psychological scientists. One of the main principles of science is that it is self-correcting. A piece of knowledge that is assumed to be true could be falsified by other

findings and rejected. Therefore, because science is self-correcting, replication of the initial findings is at the core of scientific research (Broad & Wade, 1982). In other words, to create reliable knowledge, results that turned out significant should be re-tested (Nosek et al., 2012). In this regard, close replications play an essential role. Close replications require mimicking the method of the original study as identical as possible. There might certainly be differences from the original research that are out of our control. But some of those differences are beneficial, such as using a different sample (Schmidt, 2009).

The importance of practicing open science principles forms the basis of the thesis. With the urgency of the climate change problem, many researchers attempted to understand underlying reasons for climate change skepticism and investigated how to decrease it. Some successful interventions were developed (e.g., Feinberg & Willer, 2013); however, to ensure their reliability, they need to be replicated. One such intervention is to use moral frames to eliminate climate change skepticism resulting from motivated partisan reasoning. Different studies showed a significant effect of moral frames (Feinberg & Willer, 2013; Kidwell et al., 2013; Wolsko et al., 2016); however, none of them has been attempted to be replicated in a high-powered, preregistered experiment. Therefore, in the current study, we aim to replicate a moral framing effect by improving some of the methodological limitations of the original research (Feinberg & Willer, 2013).

1.4.2 WEIRD problem of the psychology

Another issue that draws attention recently is how representative is many of the psychology findings. As discussed in the previous section, researchers' own experiences influence their attitudes, expectations, and research practices (O'Boyle et al., 2014; Simmons et al., 2011). At the same time, the sample of research may hold attitudes and characteristics that are specific to that sample. Culture has been found to influence cognitive and behavioral processes (Nisbett & Masuda, 2003; Nisbett et al., 2001). Investigation of findings from behavioral sciences indicates that experimental effects vary across populations (Henrich et al., 2010). However, psychological research often fails to consider cultural differences.

For a long time, anthropologists proposed a distinction between WEIRD and non-WEIRD societies (Henrich et al., 2010). "WEIRD" is a term used for societies that are Western, educated, industrialized, rich, and democratic. Considering psychology literature is mainly built up from North American and European societies, there are questions about the generalizability of these studies to non-WEIRD samples including Turkey. For instance, 96% of the studies in the psychology journals with the highest rankings recruit WEIRD samples (Arnett, 2008). More interestingly, a cross-cultural comparison shows that findings from non-WEIRD populations act like outliers in some cases. Examples of psychological effects in the domain of morality that vary across populations include moral reasoning, perception of fairness, and cooperation (Henrich et al., 2010). Therefore, not considering contextual factors could reduce the theoretical powers of psychological theories (Brady et al., 2018). For instance, earlier findings indicated a positive relationship between self-esteem and well-being (Zeigler-Hill, 2013). However, studies from the East Asian population indicated that this inference was not always valid since Eastern cultures had a different understanding of the self, and in general, they had lower self-esteem and higher self-criticism (Heine et al., 1999; Lerner, 2004).

Another example of why research solely based on WEIRD samples is problematic is the fundamental attribution error. This cognitive bias was a consistent finding in WEIRD samples (e.g., Trope, 1986). However, a cross-cultural investigation suggested that dispositional attribution was more common in Western societies, while situational attribution was more common in Eastern cultures (Miller, 1984). This finding was then replicated by other researchers (e.g., Morris & Peng, 1994), indicating that findings from non-WEIRD populations are valuable to assess the effect of a finding or an intervention, especially in the domain of an urgent issue like climate change.

The climate change literature is largely Western focused. Even the studies that conduct cross-cultural comparisons usually compare Western countries with each other (e.g., Olofsson & Öhman, 2006; Ziegler, 2017). Although moral foundations proposed by MFT

were tested across many countries, there is not much evidence on the experimental use of the foundations. Climate change is a global problem that threatens all regions of the world in different ways. Mitigating climate change and developing adaptation strategies requires collaboration at an international level. Therefore, it is essential to develop interventions that are effective in varying populations.

The studies that used moral framing on climate change and environmental attitudes, that were explained in previous sections, are mostly based on WEIRD samples (e.g., Day et al., 2014; Feinberg & Willer, 2013; Hurst & Stern, 2020; Kidwell et al., 2013; Sachdeva et al., 2019; Wolsko, 2017; Wolsko et al., 2016). In the current study, we tested a moral framing effect in a non-WEIRD, predominantly Muslim sample (Turkey), whose opinions on the climate change and environment may not depend on the intuitions as much as it does in WEIRD societies. Regarding studies that morally frame climate change, Turkish sample is different from the WEIRD samples in two ways: First, to our knowledge, no previous study clearly demonstrated that climate change beliefs are politically polarized in Turkey. Even if they were, political polarization might not be as stark as in the US or European countries. In addition, there are minor differences in terms of endorsement of the moral foundations across different ideologies (Yalçındağ et al., 2019). Thus, this study also allows us to compare results from WEIRD samples who are highly polarized on the climate change with results from a non-WEIRD sample such as Turkey whose opinions about climate change are less affected by a partisan bias.

1.4.3 Attitude-behavior gap

The use of self-report measures and scales where participants indicate their attitudes and intentions is common in social psychological research. This raised questions about whether these findings based on self-report measures of attitudes and intention reflect actual behaviors of the participants in real-life situations. Behavioral measures are pretty rare in social psychology research as they are challenging to implement.

Attitude-behavior gap is a more prominently discussed issue in the field of environmental and consumer psychology, and it is called the attitude-behavior gap (Babutsidze & Chai, 2018; Carrington et al., 2014). There is evidence that, although their self-reported attitudes are in favor of protecting the environment, their behavioral indicators of pro-environmental actions do not match the level of their attitudes (Babutsidze & Chai, 2018). For instance, Flynn et al. (2009) found that participants' attitudes toward hydrogen energy did not match their desire to change their energy usage behaviors. Barr (2006) also founds that, although participants expressed willingness to lower their waste, waste minimization at the region where participants were recruited was not high around the time study was conducted.

Considering the inadequacy of self-report attitude measures, we added a behavioral intention measure to the current study. Participants were asked if they were to win the lottery of a certain amount (being informed that they will be entering a lottery in exchange for completing this question), what amount of this price they would consider donating to an environmental organization. In a meta-analysis of studies on intention-behavior difference, Sheeran (2002) found that intentions account for a relatively small amount of variance in behaviors (28%). On the other hand, in another meta-analysis, Gollwitzer and Sheeran (2006) found that contextualized intentions (i.e., specified intentions in terms of time and place) tend to be more predictive of actual behaviors, in contrast to generalized intentions. This implies that a question asking about the intention of donating money earned from a lottery draw in which participants actually participated in is more predictive than a question asking if they would consider donating to a charity in the future. Therefore, adding this donation question in addition to an environmental attitudes scale provides insights about participants' actual pro-environmental behaviors.

1.5 The Current Study

The current study aimed to replicate Study 3 of Feinberg and Willer’s foundational study (2013). We aim to contribute to the literature in several ways: First, we attempted to replicate a possible intervention technique for increasing public concern for climate change,

which is essential to deal with the climate crisis. One crucial challenge for dealing with climate change is that it is a highly polarized issue, creating disagreement between partisans. This creates disputes for both public opinions about climate change and mitigation policies and for party members who are in control of developing policies and regulations for climate change mitigation. A moral framing method such as the one used in Feinberg and Willer could eliminate partisan polarization and improve positive attitudes toward climate change. However, such an effect should be thoroughly investigated for its efficacy to be used as an intervention. There are some studies investigating the impact of moral framing on environmental and climate change related attitudes (Day et al., 2014; Feinberg & Willer, 2013; Hurst & Stern, 2020; Kidwell et al., 2013; Sachdeva et al., 2019; Wolsko, 2017; Wolsko et al., 2016). However, these studies were not preregistered, had small sample sizes, or framing texts they used were confounded. To eliminate these limitations, we designed a high-powered, preregistered experiment where apparent confounds in initial tests were eliminated. In addition, this study provides an example of the experimental use of moral foundations proposed by MFT. Thirdly, we recruited a sample from an underrepresented country, Turkey. Since polarization about the climate change and endorsement of foundations are different than they are in Western countries (Ergun & Rivas, 2019; Mostafa, 2017; Yalçındağ et al., 2019), the findings can provide cross-cultural evidence for the efficacy of the moral framing effect, which then allow for drawing conclusions about its generalizability. Finally, in addition to replication attempt in this study, we tested the moderating effect of two moderators. Previous findings suggest that AOT and psychological distance are constructs that are influential in framing manipulations (e.g., Nisbet et al., 2013; Spence et al., 2012). Moderating effects of both variables in the relationship between moral framing and environmental attitudes help to explain the underlying mechanisms of how people form attitudes about environmental issues and enable researchers to develop intervention techniques with better efficacy. The findings from the current study can provide insight on the role of AOT in overcoming politically polarized judgments and the influence of the perception of psychological distance on environmental attitudes. Finally, in addition to one used in Feinberg and Willer (2013) and to many other studies that used a form of environmental attitudes scales (e.g.,

Dunlap et al., 2000; Hurst & Stern, 2020; Wolsko et al., 2016; Wolsko, 2017), we introduced a new outcome measure of environmental attitudes.

Same as Feinberg and Willer, we have participants read one of three news articles, one framed with care foundation, one framed with sanctity foundation, and one designed as control. We expected that the care frame would result in higher pro-environmental attitudes in general. We also expected that the effect of frames would interact with participants' political orientation. Based on previous findings, our hypotheses are as follows:

> *H_1*. We expect that the care frame will be more effective in increasing pro-environmental attitudes compared to the sanctity frame or the control.
> *H_2*. We expect that the care frame will have a stronger effect on pro-environmental attitudes for politically less conservative people compared to the other conditions.
> *H_3*. We expect that the sanctity frame will have a stronger effect on pro-environmental attitudes for politically more conservative people, compared to the other conditions.
> *H_4*. Political conservatism will be negatively associated with pro-environmental attitudes.

In addition to these confirmatory hypothesis tests, we also employed several exploratory analyses. As in the original work, we administered the same emotion measures and analyzed disgust as a potential moderator as well. We also explored the moderator role of AOT and psychological distance. Finally, the environmental donation as an outcome measure was analyzed exploratorily.

2. METHODS

2.1 Overview

We directly applied the procedure of Feinberg and Willer's (2013) Study 3. Participants were randomly assigned to one of the three conditions (the sanctity, the care, or the control frame), presented in the form of news articles. Then, they were asked to respond to one additional moderator (emotions) and one outcome measure (environmental attitudes) from the original study. After those, we give additional measures for another outcome (environmental donation intention), two moderators (AOT and psychological distance) and one manipulation check (MFQ). We aimed at running a high-powered experiment. One limitation was that we were not able to recruit equal numbers of politically left and rightwing-oriented participants because we have no tool to prescreen potential participants' political orientation in Turkey. Therefore, we were not able to overcome this limitation that also exists in previous studies.

This study was previously preregistered, including details of the method, procedure, and planned analysis prior to any data collection (osf.io/bxnfu). The data is uploaded to the OSF, where details about methods and procedures can also be found.

2.2 Participants

In their original study, Feinberg and Willer (2013, Study 3) recruited 308 participants. In our replication, we aimed to recruit a larger sample. A power analysis was run using G*Power software (Faul, Erdfelder, Buchner, & Lang, 2009) for 2-predictor multiple regression analysis. We assumed a small effect size (f^2 = .02), set alpha at .05 and power at .95. We estimated our target sample size to include at least 791 complete submissions.

We recruited participants in two ways. First, data were collected using advisor's laboratory's panel of participants that consists of e-mail addresses of more than 2000 people who agreed to be informed about studies previously. Second, the study was conveyed through social media channels, including Twitter, Facebook groups, personal contacts, etc. As compensation, a lottery draw for gift cards is conducted for the participants who completed the study.

The survey of the study was created and distributed through Qualtrics. The survey included all the measures listed under the Materials section. Participants were randomly assigned to one of the three experimental conditions by Qualtrics. The survey took approximately 5 to 10 minutes. The data collection started on the 18th of June and finished on the 29th of June. The link of the survey was opened by 840 people. However, 141 of those responses were incomplete, meaning that they were lacking answers on the dependent variables. Since it would not be possible to run analyses without the DV measure, incomplete data were excluded from the analyses as preregistered. Therefore, the sample size consisted of 699 active participants. This number is slightly below what the power analysis suggested. However, because of the time constraints and the COVID-19 pandemic, we were not able to continue data collection. We ran a sensitivity analysis using G*power (Faul et al., 2009) and found that N = 699 is large enough to detect effects greater than f^2 = .02 with 95% power and .05 alpha level.

The sample characteristics are as follows, noting that most questions on the demographic form were not forced choice, and some participants did not provide their demographic information. The participants had a mean age of 28, ranging from 18 to 63 years old (SD = 9.34). Seventy-four percent of the participants were female (N = 501), 25% was male (N = 173), and 1% identified as "Other" (N = 6). Almost half of the participants were university graduates (49%, N = 334), followed by high school and associate degree graduates (33%, N = 223). Sixteen percent of the participants had graduate-level education (N = 108), and 2% had education lower than high school (N = 15). Socio-economic status of the participants

was as follows: 82% middle SES (*N* = 560), 12% low SES (*N* = 82), 6% high SES (*N* = 38)[1]. Sample characteristics are presented in Table 2.1.

Table 2.1 Sample Characteristics

	Age	Sex	Education Level	SES	Religiosity	Political Orientation
N	570	680	680	680	680	680
Mean	28.3	1.27	6.48	5.31	2.92	2.99
Median	25.0	1.00	7.00	5.00	3.00	3.00
Standard deviation	9.35	0.465	1.25	1.51	1.74	1.31
Minimum	18.0	1	1	1	1	1
Maximum	63.0	3	9	10	7	7

2.3 Planned Analysis

The analyses are divided into two categories as confirmatory and exploratory.

2.3.1 Confirmatory analysis

The confirmatory analysis included a multiple regression analysis. We used the dummy coded manipulation variable as the main IV, single item political orientation measure as the moderator, and the continuous measure of pro-environmentalism as the DV.

[1] SES of participants were asked on a scale from 1 to 10. 1-3 indicated low SES, 4-7 middle SES, and 8-10 high SES.

2.3.2 Exploratory analysis

First, our second dependent variable, environmental donation intention, was tested. A multiple regression analysis was run where we used dummy coded frames as IV, political orientation as the moderator, and environmental donation intention as the DV. We also tested actively open-minded thinking and psychological distance as moderators.

In the confirmatory analysis, a composite score of the environmental attitudes scale was used. This scale consists of three subscales: pro-environmental attitudes, support for pro-environmental legislation, and belief in global warming. We also explored whether there is any difference among the three subscales.

In the original study, they gave participants an emotion measure including disgust. Therefore, another multiple regression analysis was run to see whether groups differ in disgust scores, entering experimental conditions (care, sanctity, control), disgust scores, and the interaction of the two. We also explored whether actively open-minded thinking and psychological distance might be treated as potential moderating variables.

Different than the original study, we added attention check questions for each news article. We identified the participants who failed the attention check question. However, we did not exclude these participants in the confirmatory analysis not to violate random assignment procedure. As an exploratory analysis, we also ran the same analysis when excluding those who failed at the manipulation check. We aim to see whether the effect of the frames still holds when inattentive participants are excluded.

We also added an additional manipulation check measure: the care and sanctity subscales from Moral Foundations Questionnaire (Form B). A one-way ANOVA with three levels (framed news articles: care, sanctity, control) was run to see whether groups differ in care and sanctity domains.

2.4 Materials and Procedure

The survey of the experiment was created through Qualtrics. Participants were randomly assigned to one of the three framing conditions with a news article (care frame, sanctity frame, or control). After reading the news article, they were asked to respond to a moderator measure, which was an emotion question that asks how much participants felt some emotions. Then, they were asked to respond to two outcome measures. First, they completed a scale about environmental attitudes. Then, they completed the second outcome measure of donation intention. Following that, an attention check question was given, followed by actively open-minded thinking and psychological distance measures. The order of the actively open-minded thinking and psychological distance scales was counter-balanced. Finally, the demographic form was presented. In the end, they were asked to leave an e-mail address for its use in announcing the lottery results if they wish to join the lottery. They were debriefed on the following page, and the study was concluded.

All of the items in the questionnaires were in randomized order. Since this was a close replication, the order of the measures, until the Environmental Attitudes Scale, were the same with that of the original study. We added two extra measures of psychological distance and actively open-minded thinking, and the order of these two measures was counter-balanced. Until the demographic form, all of the scales and questions were forced choice, meaning that participants had to provide a response to move on to the next page. Demographics form and the e-mail address field could be left blank. The only exception was the political orientation question. Since it is one of the main predictors, the political orientation item was set to be forced choice.

2.4.1 Experimental frames

There were three types of framing. The news article with the care frame describes the harm to the environment caused by humans and its adverse effects and how we can stop harming and start caring for our environment. The news article with the sanctity frame describes

contamination of the environment, its impact on our bodies and how to decontaminate. Finally, there was a control news article about a neutral subject, the history of neckties. These news articles were requested from and sent by the leading author in the original article. All three news articles also contain three pictures related to the content of the article, which were also taken from the original study. Then, texts were translated into Turkish.

In the care frame condition used in the original study, one of the sentences included the phrase "dumping of waste and chemicals." Since dumping of waste is more frequently used within the sanctity context, we excluded this phrase from the care frame in order to eliminate any confounding effect. Other than this, no change was made to the texts of the framings.

2.4.2 Emotions

After reading one of the news articles, participants were asked to respond to a scale, ranging from 0 (Not at all) to 6 (Very much), measuring how much they felt five emotions (disgust, worry, sadness, happiness, and curiosity). In the original study, they asked participants about all of the six emotions. However, they only analyzed the disgust scores. The same was applied in the current study.

2.4.3 Environmental attitudes

For environmental attitudes, the participant answered 11 items, 3 for pro-environmental attitudes (α = .79 in the original scale), 5 for support for pro-environmental legislation (α = .91 in the original scale), and 3 for belief in global warming (α = .93 in the original scale). The response scale ranged from 1 (strongly disagree) to 5 (strongly agree). A composite score of these subscales was computed. These measures were taken from Feinberg and Willer (2013) and translated (and back-translated) to Turkish for this study. The Turkish version of the scale revealed satisfactory internal consistency (11 items, α = .84). A

composite score of the scale was used for the analysis. In this scale, higher scores indicate higher levels of pro-environmental attitudes.

2.4.4 Environmental donation intention

To see whether care and sanctity conditions increase the endorsement of related moral foundations, participants were given the care and sanctity subscales of the Moral Foundations Questionnaire, Part B (Graham et al., 2011), consisting of 6 items on a scale from 1 (not at all relevant) to 6 (extremely relevant). Reliability scores of the subscales were as follow: care = .64, sanctity = .82 (Graham et al., 2011). The scale was adapted to Turkish by Yilmaz et al. (2016). We found a reliability score of .49 for three items care subscale of MFQ, .71 for the three items sanctity subscale of MFQ. Higher scores indicate higher endorsement of the foundation.

2.4.5 Moral foundations questionnaire

To see whether care and sanctity conditions increase the endorsement of related moral foundations, participants are given the care and sanctity subscales from the second section of the Moral Foundations Questionnaire (Graham et al., 2011), consisting of 6 items on a scale from 1 (not at all relevant) to 6 (extremely relevant). Reliability scores of the subscales are as follow: care = .64, sanctity = .82. The scale is adapted to Turkish by Yilmaz et al. (2016). We found a reliability score of .49 for three items care subscale of MFQ, .71 for the three items sanctity subscale of MFQ. Higher scores indicated higher endorsement of the foundation.

2.4.6 Actively open-minded thinking

Actively open-minded subscale from the Comprehensive Thinking Scale was administered. This scale was developed by Newton et al. (2021) based on existing scales that measure various thinking styles. Actively open-minded subscale consists of 6 items on a scale from

1 (strongly disagree) to 6 (strongly agree). The scale was adapted to Turkish by Bayrak, Dogruyol, Alper, and Yilmaz (2021). We found a reliability score of .89 for the six items AOT subscale of the Comprehensive Thinking Scale. Higher scores indicate a lower capacity to engage in actively open-minded thinking.

2.4.7 Psychological distance

Psychological distance measure developed by Spence et al. (2012) was used. The scale consists of four subscales: temporal distance, spatial distance, social distance, and uncertainty. Three of them (temporal, spatial, social) were used in the current study, comprising a total of 4 items. The uncertainty subscale was excluded since it measures very similar constructs that the environmental attitudes scale already captures. The items were translated (and back-translated) to Turkish for this study. The Turkish version had a reliability of .48 (5 items). A low reliability score for this scale is sensible considering that the sub-factors of psychological distance are not necessarily closely tied. One might think that climate change is already happening (indicating lower temporal distance), although she or he does not expect to be directly affected by the outcomes (socially distant). There were two reverse items in the scale. We recoded those and computed a composite score in the direction that higher scores indicate higher perceived psychological distance.

2.4.8 Demographic form

Participants completed a demographic form, including an item asking political ideology on a scale from 1 (extremely left-winger) to 7 (extremely right-winger).

2.4.9 Debriefing

After completing the demographic form, participants were asked to provide an e-mail address if they wish to join the lottery. They were informed that the e-mail address will only be used for sending gift vouchers and that the e-mail addresses will not be recorded.

Then, on the next page, they saw a text that thanks them for their contribution to the study. Finally, they were told that they could contact the researcher after the 1st of August if they would like to learn more about the study.

2.5 Control Measures

To check whether participants read the news articles carefully, an attention check question with multiple choice asking what was the subject of text they have read on a previous page was given to the participants after completing the outcome measures.

2.6 Data Exclusion

As preregistered, duplicate submissions and the data with incomplete answers on environmental attitude measures were excluded from the analysis.

To check whether participants read news articles carefully, an attention check question was added after each news article. The attention check questions ask about what was the topic of the article. Participants who incorrectly answered attention check questions were removed from the data as an exploratory analysis. But the main confirmatory analyses did not use that exclusion criterion not to violate the random assignment procedure.

3. RESULTS

3.1 Data Analysis Strategy

The analyses are conducted on Jamovi 1.8.4 (The Jamovi Project, 2021). As preregistered, data without complete DV measure (Environmental Attitudes Scale) is defined as incomplete and excluded from the dataset (N = 141). Analyses are conducted and reported based on this dataset. Afterward, outliers are removed from the data, and analyses were repeated. These repeated analyses without outliers are reported as exploratory analyses to not violate the random assignment of participants.

Assumption of the regression analyses are also controlled using Jamovi. The variables are checked for normality, collinearity, linearity, and homoscedasticity. For the regression analyses, assumption checks are met unless stated otherwise under the analysis section.

Data, analyses we run, and the outcomes can be found in the Jamovi file on osf.io/bxnfu. Descriptive statistics of outcome and moderator variables are presented in Table 3.1. Correlations among outcome and moderator variables can be seen in Table 3.2.

3.2 Confirmatory Analyses

Whether experimental groups differed on care and sanctity subscale scores (manipulation check), and whether political orientation moderated the role of moral frames on environmental attitudes is analyzed.

3.2.1 Manipulation check

A one-way ANOVA with three levels (framed news articles: care, sanctity, control) was run on the composite scores of care and sanctity subscales. The ANOVA did not yield a significant effect for sanctity subscale, $F(2, 686) = 1.89$, $p = .15$, $\eta^2p = .005$. There was no significant difference between groups for the care subscale as well, $F(2, 686) = 2.81$, $p = .06$, $\eta^2p = .008$. Overall, experimental groups who read news articles with either care, sanctity, and neutral frame did not show a difference in their scores on care and sanctity subscales of MFQ, raising concerns for the effectiveness of the manipulation.

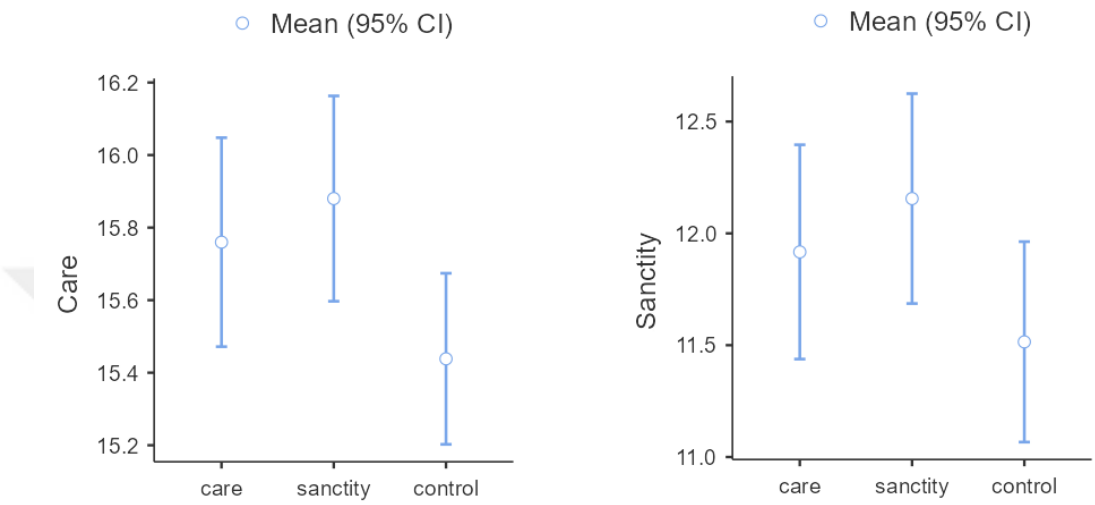

Figure 3.1 Care and Sanctity subscale scores of experimental groups

Table 3.1 Descriptive Statistics of Variables

	Environmental Attitudes	Donation Intention	Political Orientation	Disgust	AOT	Psychological Distance	MFQ_Care Subscale	MFQ_Sanctity Subscale
N	699	698	680	699	685	685	689	689
Mean	4.62	50.5	2.99	3.43	2.64	9.43	5.23	3.95
Median	4.73	50.0	3.00	3	2.50	9	5.33	4.00
Standard deviation	0.383	33.1	1.31	1.93	1.06	2.90	0.692	1.19
Minimum	2.18	0.00	1	1	1.00	5	1.00	1.00
Maximum	5.00	100	7	7	6.00	19	6.00	6.00
Skewness	-1.65	0.243	0.579	0.249	0.637	0.590	-1.32	-0.344
Kurtosis	4.44	-1.12	0.648	-1.12	0.0550	0.146	3.17	-0.565

Note. * $p < .05$, ** $p < .01$, *** $p < .00$

Table 3.2 Zero-Order Correlations Among Variables

	1	2	3	4	5	6	7	8
1. Environmental Attitudes	—							
2. Donation Intention	0.213 ***	—						
3. Political Orientation	-0.155 ***	-0.059	—					
4. Disgust	0.079 *	0.105 **	-0.003	—				
5. AOT	-0.088 *	0.040	0.277 ***	0.061	—			
6. Psychological Distance	-0.417 ***	-0.094 *	0.232 ***	0.031	0.166 ***	—		
7. MFQ Care Subscale	0.300 ***	0.214 ***	-0.053	0.046	0.072	-0.126 ***	—	
8. MFQ Sanctity Subscale	0.127 ***	0.098 **	0.311 ***	0.116 **	0.342 ***	0.124 **	0.237 ***	—

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

3.2.2 Frame condition differences in environmental attitudes

A multiple regression analysis was run to investigate how environmental messages with moral frames affect environmental attitudes for politically right and left-oriented participants. We created dummy-coded variables for care frame and sanctity frame conditions. Then, these dummy variables, political ideology measure, and interaction of each dummy variable with political ideology were entered as predictors, and the composite score of environmental attitudes was entered as the outcome measure.

There was a predictive power of political orientation (β = -0.15, $p < .001$, $f^2 = .157$), supporting Hypothesis 4. In contrast to our initial expectation in Hypothesis 1, sanctity frame (β = 0.09, $p = .040$), but not care frame (β = 0.06, $p = .161$), has a direct, albeit weak, effect on environmental attitudes. The interaction of care frame condition and political orientation was not significant (β = 0.07, $p = .095$) in contrast to Hypothesis 2. However, the interaction between sanctity frame condition and political orientation significantly predicted environmental attitudes (β = 0.10, $p = .025$, $f^2 = .084$), supporting Hypothesis 3. Simple slope analysis comparing participants in the sanctity condition indicated that sanctity has no significant effect on left-wing participants ($b = -0.01$, $p = 0.886$) but has significant effect on moderates ($b = 0.07$, $p = .040$) and conservatives ($b = 0.15$, $p = .002$). The overall model had an adjusted R^2 of .013.

Table 3.3 Multiple Regression: Predictors of dummy-coded care condition, dummy-coded sanctity condition, and political orientation on environmental attitudes as dependent variable

			95% Confidence Interval					
Names	**Estimate**	**SE**	**Lower**	**Upper**	**β**	**df**	**t**	**p**
(Intercept)	4.6231	0.0140	4.59556	4.6506	0.0000	674	329.67	< .001
Care frame	0.0480	0.0342	-0.01914	0.1152	0.0610	674	1.40	0.161
Sanctity frame	0.0707	0.0344	0.00321	0.1382	0.0894	674	2.06	0.040

Table 3.3 Multiple Regression: Predictors of dummy-coded care condition, dummy-coded sanctity condition, and political orientation on environmental attitudes as dependent variable

			95% Confidence Interval					
Names	**Estimate**	**SE**	**Lower**	**Upper**	**β**	**df**	**t**	**p**
Political Orientation	-0.0437	0.0107	-0.06471	-0.0226	-0.1540	674	-4.07	< .001
Care ✻ Political orientation	0.0431	0.0258	-0.00757	0.0939	0.0718	674	1.67	0.095
Sanctity ✻ Political orientation	0.0593	0.0264	0.00741	0.1111	0.0982	674	2.24	0.025

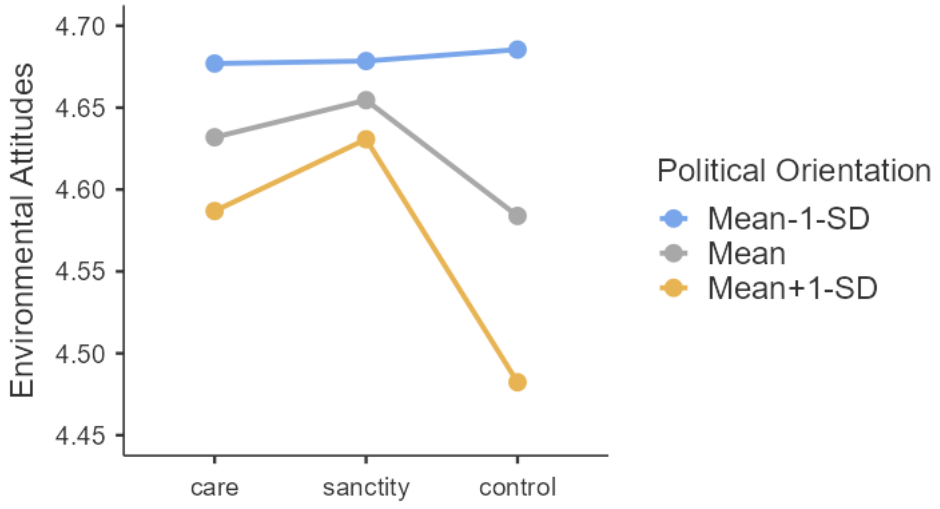

Figure 3.2 Effects of political orientation and experimental condition (care, sanctity, control) on environmental attitudes. Political orientation is represented with separate lines, scores one standard deviation below the mean represent less conservative, and one standard deviation above the mean represents more conservative political orientation

3.3 Exploratory Analyses

The moderating role of disgust, AOT, and psychological distance is analyzed for the outcome measure of environmental attitudes. The confirmatory analyses (whether political orientation moderated the role of moral frames on environmental attitudes) are repeated for the outcome measure of environmental attitudes. The confirmatory analysis

is rerun without those who failed at attention check, and controlled for the sex variable. Finally, confirmatory and exploratory analyses with environmental attitudes scores as the outcome are rerun without outliers, and changes in the findings reported.

3.3.1 Frame condition difference in environmental attitudes subscales

The Environmental Attitudes Scale consisted of three subscales. These three subscales were exploratorily investigated as separate outcomes. For the Support for Pro-Environmental Legislation subscale, only political orientation had a predictive power ($\beta = -0.15$, $p < .001$; overall adjusted $R^2 = .025$). For the Belief in Global Warming subscale, political orientation ($\beta = -0.11$, $p = .003$) and the interaction of sanctity frame and political orientation ($\beta = 0.09$, $p = .034$) had significant effects (overall adjusted $R^2 = .015$). Similar effects were observed when the Pro-Environmental Attitudes subscale was used as an outcome measure (adjusted $R^2 = .026$). Political orientation ($\beta = -0.12$, $p < .001$) and sanctity frame ($\beta = 0.11$, $p = .014$) significantly predicted Pro-Environmental Attitudes subscale. The interactions of care frame and political orientation ($\beta = 0.10$, $p = .021$) and sanctity frame and political orientation ($\beta = 0.09$, $p = .043$) were also significant. The care frame had stronger effects on conservatives, whereas sanctity frame was more effective for moderates and conservatives.

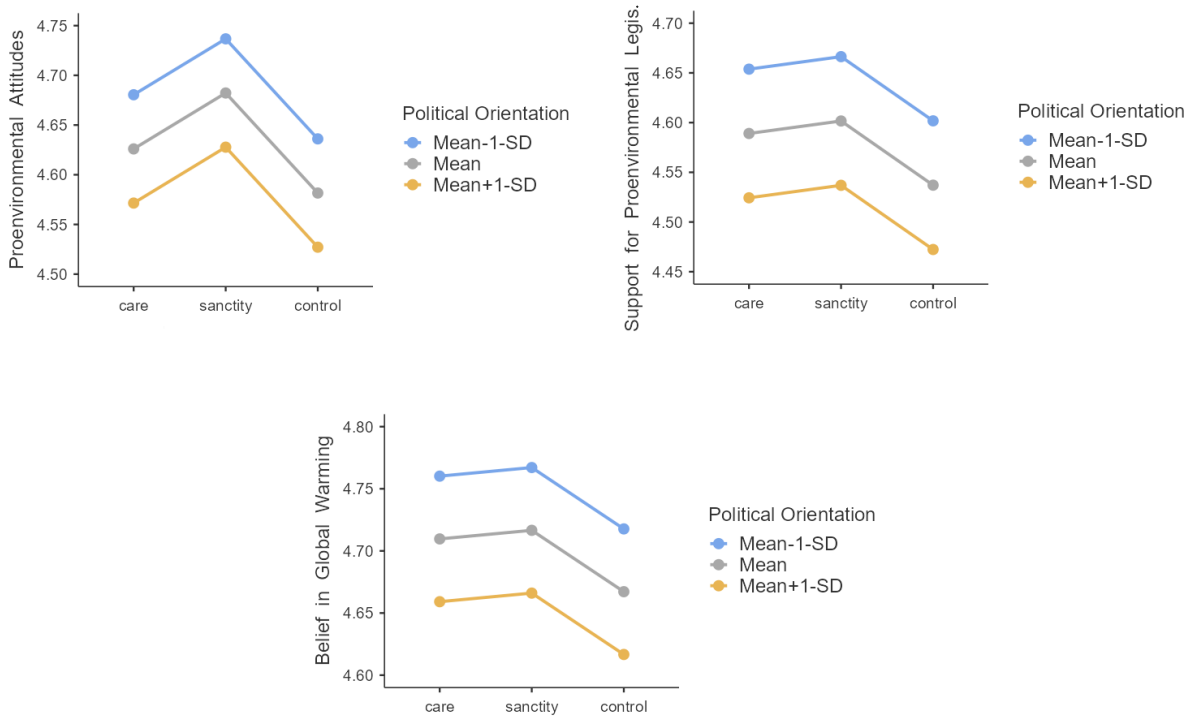

Figure 3.3 Effects of political orientation and experimental condition (care, sanctity, control) on proenvironmental attitudes, support for proenvironmental legislation, and belief in global warming. Political orientation is represented with separate lines, scores one standard deviation below the mean represent less conservative, and one standard deviation above the mean represents more conservative political orientation

3.3.2 Moderating role of disgust

A multiple regression analysis was run with dummy-coded variables of care and sanctity, disgust scores, and the interactions of care frame and disgust and sanctity frame and disgust as predictors of environmental attitudes. This analysis revealed no significant effect (see Table 3.5).

Table 3.4 Multiple Regression: Predictors of dummy-coded care condition, dummy-coded sanctity condition, and disgust on environmental attitudes as dependent variable

			95% Confidence Interval					
Names	**Estimate**	**SE**	**Lower**	**Upper**	**β**	**df**	**t**	**p**
(Intercept)	4.6178	0.01514	4.58808	4.6475	0.0000	690	304.9990	< .001

Table 3.4 Multiple Regression: Predictors of dummy-coded care condition, dummy-coded sanctity condition, and disgust on environmental attitudes as dependent variable

			95% Confidence Interval					
Names	**Estimate**	**SE**	**Lower**	**Upper**	**β**	**df**	**t**	**p**
Disgust	0.0117	0.00783	-0.00364	0.0271	0.0593	690	1.4986	0.134
Care	0.0435	0.03689	-0.02888	0.1160	0.0536	690	1.1805	0.238
Sanctity	0.0709	0.03768	-0.00310	0.1449	0.0867	690	1.8810	0.060
Disgust ✻ Care	0.0113	0.01898	-0.02596	0.0486	0.0269	690	0.5957	0.552
Disgust ✻ Sanctity	-3.67e−4	0.01933	-0.03833	0.0376	-8.68e−4	690	-0.0190	0.985

Then, as an exploratory analysis, we looked at the disgust scores of the three groups with a one-way ANOVA. The results yielded a significant results, $F(2, 693) = 1.89$, $p < .001$, $\eta^2p = .084$. Tukey post-hoc test also revealed significant differences. Participants in the care frame condition ($M = 3.70$, $SD = 1.88$) scored higher than the those in the control condition ($M = 2.67$, $SD = 1.84$; $p < .001$). Similarly, participants in the sanctity frame condition ($M = 3.97$, $SD = 1.84$; $p < .001$) had higher scores than the control condition. However, there was not a significant difference between the care frame and the sanctity frame conditions.

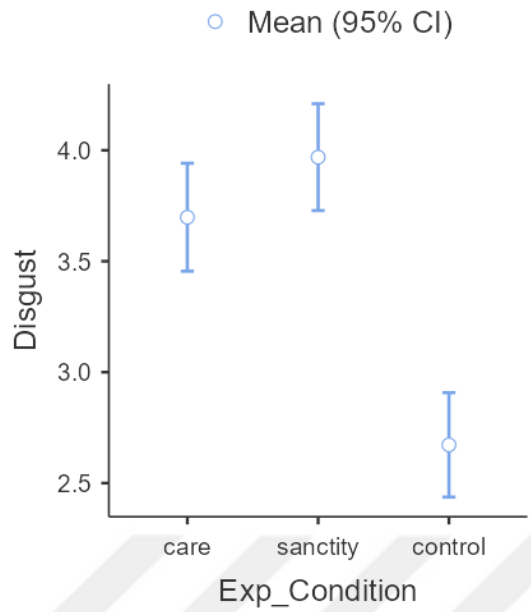

Figure 3.4 Disgust scores of experimental groups

3.3.3 The effects of moral frames on environmental donation intention

A multiple regression analysis was run with dummy-coded variables of care and sanctity, political orientation, and the interactions of care frame and political orientation and sanctity frame and political orientation as predictors on environmental donation intention.

There was not any predictive power of the political orientation (β = -0.06, p = .111), however, the direct effects of care frame (β = 0.13, p = .003, f^2 = .07) and the sanctity frame (β = 0.12, p = .008, f^2 = .10.) was significant (See Table 3.4). The interactions between care frame and political orientation (β = 0.04, p = .321) and sanctity frame and political orientation (β = 0.01, p = .820) was not significant.

Table 3.5 Multiple Regression: Predictors of dummy-coded care condition, dummy-coded sanctity condition, and political orientation on environmental donation intention as dependent variable

			95% Confidence Interval					
Names	**Estimate**	**SE**	**Lower**	**Upper**	**β**	**df**	**t**	**p**
(Intercept)	50.266	1.263	47.79	52.745	0.0000	674	39.813	< .001
Political orientation	-1.538	0.965	-3.43	0.357	-0.0608	674	-1.594	0.111
Care	9.044	3.080	3.00	15.092	0.1288	674	2.936	0.003
Sanctity	8.296	3.094	2.22	14.371	0.1176	674	2.681	0.008
Care ✻ Political orientation	2.308	2.326	-2.26	6.874	0.0431	674	0.992	0.321
Sanctity ✻ Political orientation	0.540	2.378	-4.13	5.210	0.0100	674	0.227	0.820

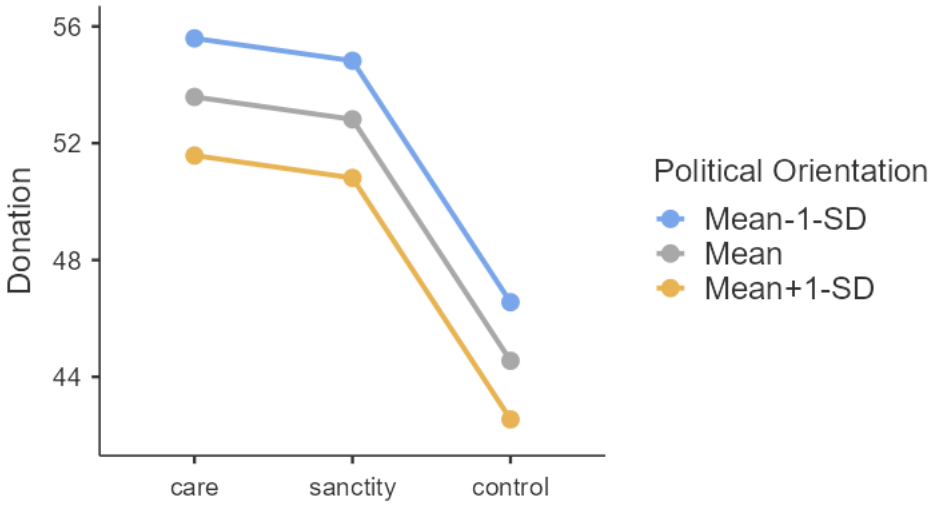

Figure 3.5 Effects of political orientation and experimental condition (care, sanctity, control) on environmental donation intention. Political orientation is represented with separate lines, scores one standard deviation below the mean represent less conservative, and one standard deviation above the mean represents more conservative political orientation

3.3.4 Moderating role of actively open-minded thinking

A multiple regression analysis was run with dummy-coded variables of care and sanctity, AOT scores (composite score of the AOT subscale of Comprehensive Thinking Scale), and the interactions of care frame and AOT and sanctity frame and AOT as predictors on environmental attitudes.

AOT had a significant predictive effect (β = 0.10, p = .006, f^2 = .089). The care frame (β = 0.06, p = .137) and the interaction of care frame and AOT (β = -0.06, p = .163) did not produce significant effects. On the other hand, effect of the sanctity frame (β = 0.09, p = .032, f^2 = .083) and the interaction of sanctity frame and AOT (β = -0.15, p < .001, f^2 = .134) were significant. Simple slope analysis indicated that sanctity had no significant effect on participants with high AOT (b = -0.05, p = .346), while it was significant for those with moderate (b = 0.08, p = .032) or lower AOT scores (b = 0.20, p < .001; See Table 3.6).

Table 3.6 Multiple Regression: Predictors of dummy-coded care condition, dummy-coded sanctity condition, and AOT on environmental attitudes as dependent variable

			95% Confidence Interval					
Names	**Estimate**	**SE**	**Lower**	**Upper**	**β**	**df**	**t**	**p**
(Intercept)	4.6199	0.0143	4.59184	4.6480	0.0000	679	323.28	< .001
Care frame	0.0519	0.0348	-0.01648	0.1203	0.0646	679	1.49	0.137
Sanctity frame	0.0753	0.0350	0.00660	0.1440	0.0933	679	2.15	0.032
AOT	0.0371	0.0136	0.01046	0.0637	0.1039	679	2.73	0.006
Care ✻ AOT	-0.0478	0.0342	-0.11498	0.0194	-0.0631	679	-1.40	0.163
Sanctity ✻ AOT	-0.1152	0.0329	-0.17970	-0.0507	-0.1514	679	-3.51	< .001

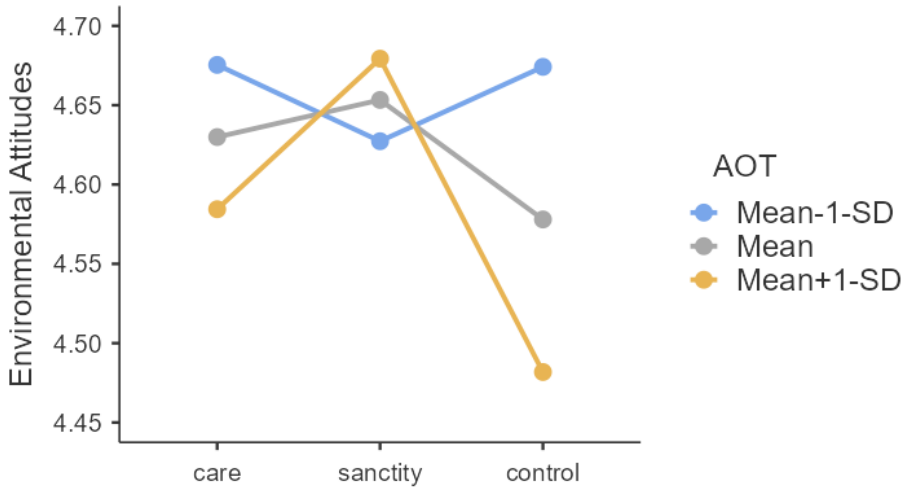

Figure 3.6 Effects of AOT and experimental condition (care, sanctity, control) on environmental attitudes. AOT is represented with separate lines, scores one standard deviation below the mean represent lower AOT, and one standard deviation above the mean represents higher AOT tendency.

3.3.5 Moderating effect of psychological distance

The overall psychological distance scale had low reliability (.48, five items). As a result, it was concluded that there is no point in interpreting psychological distance as a single construct. Instead, subscales of psychological distance were separately investigated as moderators. Dummy-coded variables of care and sanctity, psychological distance (three subscales are entered as moderators in separate analyses), and the interactions of care frame and psychological distance and sanctity frame and psychological distance were entered as predictors on environmental attitudes.

First, the spatial distance dimension was analyzed (see table 3.7), and the results showed that spatial distance had a significant predictive effect (β = -0.43, $p < .001$, $f^2 = .47$). Care frame (β = 0.04, $p = .348$) and sanctity frame (β = 0.07, $p = .089$) did not have significant effects, as well as interaction of spatial distance with care (β = 0.05, $p = .191$) and sanctity frame (β = 0.08, $p = .051$).

Table 3.7 Multiple Regression: Predictors of dummy-coded care condition, dummy-coded sanctity condition, and spatial distance on environmental attitudes as dependent variable

			95% Confidence Interval					
Names	**Estimate**	**SE**	**Lower**	**Upper**	**β**	**df**	**t**	**p**
(Intercept)	50.811	0.146	50.52425	51.098	0.0000	679	348.033	< .001
Care Frame	0.334	0.356	-0.36430	1.033	0.0373	679	0.940	0.348
Sanctity Frame	0.610	0.358	-0.09305	1.314	0.0677	679	1.704	0.089
Spatial Distance	-1.479	0.120	-1.71418	-1.243	-0.4260	679	-12.326	< .001
Sanctity ✻ Spatial Distance	0.570	0.292	-0.00246	1.143	0.0770	679	1.955	0.051
Care ✻ Spatial Distance	0.382	0.292	-0.19105	0.955	0.0520	679	1.309	0.191

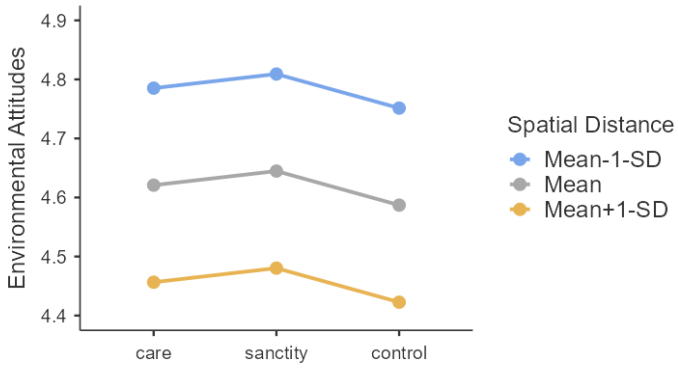

Figure 3.7 Effects of spatial distance and experimental condition (care, sanctity, control) on environmental attitudes. Spatial distance is represented with separate lines, scores one standard deviation below the mean represent lower distance, and one standard deviation above the mean represents higher distance perception.

Then, the moderator role of temporal distance was analyzed (see table 3.8). Temporal distance was a significant predictor (β = -0.28, p < .001, f^2 = .288), as well as the sanctity frame (β = 0.10, p = .019). On the other hand, care frame (β = 0.06, p = .137), interaction of care frame and temporal distance (β = 0.05, p = .268), and interaction of sanctity frame and temporal distance (β = 0.03, p = .488) was not significant.

Table 3.8 Multiple Regression: Predictors of dummy-coded care condition, dummy-coded sanctity condition, and temporal distance on environmental attitudes as dependent variable

			95% Confidence Interval					
Names	**Estimate**	**SE**	**Lower**	**Upper**	**β**	**df**	**t**	**p**
(Intercept)	4.6178	0.0141	4.5901	4.6455	0.0000	679	327.452	< .001
Care Frame	0.0512	0.0344	-0.0163	0.1187	0.0629	679	1.490	0.137
Sanctity Frame	0.0811	0.0346	0.0132	0.1490	0.0989	679	2.346	0.019
Temporal Distance	-0.0787	0.0104	-0.0991	-0.0582	-0.2769	679	-7.544	< .001
Sanctity ✻ Temporal Distance	0.0178	0.0257	-0.0326	0.0682	0.0294	679	0.693	0.488
Care ✻ Temporal Distance	0.0280	0.0253	-0.0216	0.0776	0.0466	679	1.109	0.268

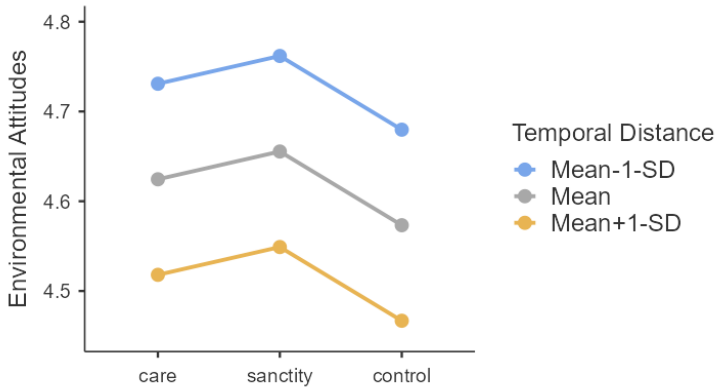

Figure 3.8 Effects of temporal distance and experimental condition (care, sanctity, control) on environmental attitudes. Temporal distance is represented with separate lines, scores one standard deviation below the mean represent lower distance, and one standard deviation above the mean represents higher distance perception.

Finally, the moderating role of social distance was analyzed (see table 3.9). Social distance had a significant predictive effect (β = -0.21, p < .001, f^2 = .214). Sanctity frame (β = 0.10, p = .021) had also a significant effect; however, care frame (β = 0.07, p

= .119) did not. The interactions of social distance and care frame (β = 0.08, *p* = .088), and social distance and sanctity frame (β = 0.07, *p* = .090) were not significant.

Table 3.9 Multiple Regression: Predictors of dummy-coded care condition, dummy-coded sanctity condition, and social distance on environmental attitudes as dependent variable

			95% Confidence Interval					
Names	**Estimate**	**SE**	**Lower**	**Upper**	**β**	**df**	**t**	**p**
(Intercept)	4.6180	0.01432	4.58990	4.6461	0.0000	679	322.44	< .001
Care Frame	0.0545	0.03489	-0.01403	0.1230	0.0669	679	1.56	0.119
Sanctity Frame	0.0813	0.03511	0.01233	0.1502	0.0991	679	2.31	0.021
Social Distance	-0.0567	0.00994	-0.07624	-0.0372	-0.2133	679	-5.71	< .001
Sanctity ✻ Social Distance	0.0411	0.02423	-0.00643	0.0887	0.0725	679	1.70	0.090
Care ✻ Social Distance	0.0423	0.02476	-0.00634	0.0909	0.0751	679	1.71	0.088

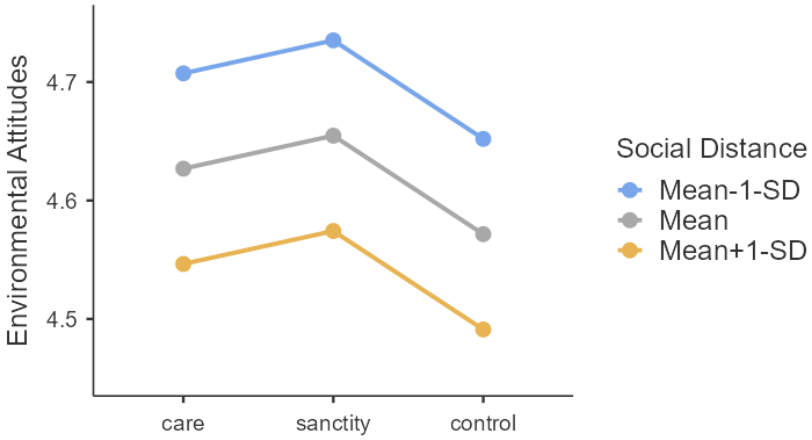

Figure 3.9 Effects of social distance and experimental condition (care, sanctity, control) on environmental attitudes. Social distance is represented with separate lines, scores one standard deviation below the mean represent lower distance, and one standard deviation above the mean represents higher distance perception.

3.3.6 Attention check questions

After completing the outcome measures, participants were given an attention check question about the news article they had read. In the analyses above, we did not exclude those who answered the attention check question incorrectly not to violate the random assignment procedure. We explored whether the results held when inattentive participants were excluded from the analyses. There were 19 cases with wrong attention check answers. When we reran the confirmatory analyses, the results remained constant.

3.3.7 Outliers

A descriptive analysis was run to check whether the sample was normally distributed. There was a skewness in the negative direction for environmental attitudes scores (-1.65), with a kurtosis of 4.44. The other variables seemed to be normally distributed. Outlier analysis was performed for the environmental attitudes scores. Z scores were computed. An outlier was determined as a score that falls outside of the range of 3 Z scores in both directions. There were nine outliers on the negative side, which were excluded from the data set. After that, skewness and kurtosis values on environmental attitudes were found acceptable.

Confirmatory analyses with the environmental attitudes measure as outcome were reanalyzed without outliers to see whether the results still hold. In this analysis, sanctity frame ($\beta = 0.06$, $p = .177$) and the interaction of sanctity frame and political orientation ($\beta = 0.07$, $p = .127$) lost their significance on environmental attitudes although they were significant in the confirmatory tests. There was no significant effect of the disgust in the confirmatory tests on environmental attitudes; however, without outliers, disgust turned out to have a significant predictive effect ($\beta = 0.08$, $p = .041$).

For the moderating role of AOT, the results revealed that direct effect of sanctity frame lost its significance ($\beta = 0.06$, $p = .189$). Sanctity frame and AOT interaction also lost significant ($\beta = 0.01$, $p = .806$). Finally, the main effect of social distance ($\beta = 0.05$, $p = .164$), and temporal distance ($\beta = 0.06$, $p = .189$) disappeared. However, the main effect of spatial distance was still significant ($\beta = 0.10$, $p = .012$)

Overall, the moderating role of the political ideology disappeared when outliers were removed, as well as the moderating role of AOT. Though, AOT was still a significant moderator.

3.3.8 Controlling for sex

Our sample largely consisted of female participants (74%)**.** Previous research has been shown that there are gender differences in environmental attitudes and behaviors (Vicente-Molina et al., 2018; Zelezny et al., 2000). Most of the research finds that females show greater concern for the environment. To explore whether this sex imbalance drove our results, we analyzed the confirmatory analysis controlling for sex. Hierarchical regression analysis is run, predicting environmental attitudes while controlling for sex. In the first step, sex was a significant predictor (β = -0.08, *p* = 008). In the second step, sex remained significant (β = -0.08, *p* = 008). Care frame did not have a significant effect (β = 0.05, *p* = .410); sanctity frame also did not have a significant predictive power (β = 0.07, *p* = 287). In the third step, sex was still significant (β = -0.08, *p* < 007). Care frame and political orientation interaction did not produce a significant effect (β = 0.04, *p* = .113); however, sanctity frame and political orientation interaction was significant (β = 0.06, *p* = .036). In sum, findings consisted when sex was taken into account. The moderating effect of political orientation on the sanctity frame was significant regardless of sex (See Table 3.10).

Table 3.10: Hierarchical Regression Analysis

Environmental Attitudes

	Step 1	Step 2	Step 3	Adjusted R^2
Demographics				.009**
Sex	-.082**	-.085**	-.081**	
Direct Effects				.040***
Care		.052	-.069	
Sanctity		.074*	-.091	
Political Orientation		-.044***	-.076***	
Interactions				.007***

Care ✻ Political Orientation	.041
Sanctity ✻ Political Orientation	-.056*

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

4. DISCUSSION

4.1 Overview of the Findings

In the current study, we attempted to replicate Study 3 of Feinberg and Willer (2013), where participants were given news articles with a care frame, sanctity frame, or neutral topic (control group) and asked to respond to an environmental attitude scale. Overall, we found that the sanctity frame increased pro-environmental attitudes in general, indicating a main effect of the sanctity frame, and had stronger effects on moderates and conservatives, indicating a significant frame by ideology interaction. Additionally, we tested two other moderators and found that AOT was a significant moderator of the moral frames on environmental attitudes. The sanctity frame increased the scores of participants with moderate or lower AOT scores. Subscales of psychological distance did not have a moderating effect; however, they had a main effect. Higher spatial, temporal or social distance predicted lower environmental attitudes. Political orientation did not moderate the effect of moral frames on environmental donation intention; however, care and sanctity frames increased the amount of donation intention.

Our first hypothesis was that the care frame would be more effective in increasing pro-environmental attitudes. However, this hypothesis was not supported. The care frame did not have any significant effect when the outcome was environmental attitudes. We also hypothesized that the care frame would be more effective on more liberal participants (Hypothesis 2), and the sanctity frame would be more effective on more conservative participants (Hypothesis 3). The care frame interacted with political orientation on neither environmental attitudes nor environmental donation intention; therefore, it does not support Hypothesis 2. However, Hypothesis 3 was supported. There was a significant interaction between the sanctity frame and political orientation on environmental attitudes, but not on environmental donation intention. The sanctity frame did not affect the environmental attitudes scores of less conservative participants; however, it has significant effects on moderates and conservatives. Finally, we predicted that political orientation would be negatively associated with environmental attitudes in Hypothesis 4. This hypothesis was also supported, as political orientation

significantly predicted environmental attitudes. As participants become more conservative, their pro-environmental attitude scores decreased.

The main goal of this research was to replicate Study 3 of Feinberg and Willer (2013) in a Turkish sample. They found that the sanctity frame had stronger effects on more conservative participants; however, there was no difference for liberal participants in across experimental conditions. We found a similar pattern: sanctity frame interacted with political orientation; more conservative participants had higher scores. But there was no interaction for more liberal participants. Our findings converge with similar previous studies that found higher scores for conservatives on sanctity/binding frame conditions (Hurst & Stern, 2020; Wolsko et al., 2016; Wolsko, 2017). Feinberg and Willer (2013) also found differences across experimental groups for disgust scores (participants in the sanctity condition reported higher disgust) and that more conservative participants felt higher levels of disgust in the sanctity condition. We found a similar difference across experimental groups, the care frame and the sanctity frame group had higher disgust scores than the control group. However, we failed to find a moderating effect of disgust on environmental attitudes, unlike Feinberg and Willer (2013).

Our findings of disgust indicated that reading an article about the environment, either framed with care or sanctity foundation, increased the feeling of disgust. However, there was no difference between the care and the sanctity groups. This could be because the framed news articles were not successful in differentiating the effect of the sanctity frame from the care frame, which also converges with the failed manipulation check results.

In addition, we added a manipulation check measure to see whether the framed news articles actually activate the care and sanctity foundations. However, the manipulation check analysis was not significant, implying that the framed articles did not create the desired effect. It is noteworthy that the reliability of the care subscale was very low in line with the previous literature (Yilmaz et al., 2016). Therefore, it may not be appropriate to interpret the effectiveness of manipulations based on this unreliable

outcome measure. Also, there were other measures between news articles and the manipulation check measure in the current research, which could be another reason why the manipulation check failed.

The findings of environmental attitudes and environmental donation intention did not go parallel with each other. Left-wing political orientation predicted pro-environmental attitudes, and moderated the effect of sanctity condition. However, when the outcome was environmental donation intention, the direct effect of political orientation and the moderating role of it on the effect of frames on environmental attitudes was not significant. In any case, frames had a considerable impact on the donation intention, such that care and sanctity frames resulted in an increase in donations. Wolsko et al. (2016) also included a donation intention measure in their study (Experiment 2 and 3). They asked participants what percent of the reimbursement they earned for completing the survey they are willing to donate to a specific environmental organization, including the information that the donation would be made for them anonymously for the amount they stated in the question. Their question has some differences from ours: they gave the name of a specific environmental organization, and they provided more detailed information on how the donations would be made. On the other hand, we were not able to specify a politically neutral organization name because most of the organizations might currently imply specific political positions in Turkey (as pro vs. anti-government). In addition, we implied that participants would make the donation themselves. For the environmental donation question, Wolsko et al.'s (2016) findings indicate that political orientation was a moderator on the effect of the binding frame but not for the individualizing frame condition. More conservatives scored higher, and less conservatives scored lower in the binding condition. We failed to find similar findings. In our data, political orientation did not have any effect on donation intention. However, being in the care frame or in the sanctity frame condition increased the amount of intended donation. This difference could be due to cross-cultural differences. Wolsko et al. (2016) conducted their study on a Western sample, while ours was in Turkey, where opinions about climate change are not as politically polarized as Western countries (Ergun & Rivas, 2019; Mostafa, 2017; Yalçındağ et al., 2019). Another possibility is that our donation intention question was not as contextualized as the question of

Wolsko et al. (2016). Since we did not specify which organization the money would be donated to, participants could have assumed any organization. Although attitudes about the environment and climate change are widely measured, measures about behavioral indicators are scarce. Therefore, incentivized measures similar to the environmental donation question need to be further tested in different samples spanning both WEIRD and non-WEIRD countries. Another future direction would be to investigate how contextual cues, such as the environmental organization, affect participants' responses. Finally, the inconsistent findings between behavioral and attitude measures might indicate that there is in fact a divergence between attitudinal and behavioral measures. If the aim is to develop effective communication techniques to deal with climate change, behavioral measures can be given priority in future research. In other words, future studies that use behavioral measures and compare them with attitudes are needed.

We also tested the roles of two additional moderators of the effect of moral frames on pro-environmental attitudes. AOT had a significant moderating effect on pro-environmental attitudes when the message was framed with sanctity foundation, but not with care foundation, compared to the control condition. Sanctity frame was more effective on participants with moderate and low AOT scores. AOT indicates a tendency to evaluate alternative opinions even though they contradict their existing views (Baron, 2008). Therefore, it is an important construct to consider when investigating attitude change. Based on the definition, one might expect that participants with higher AOT would be more affected by moral frames. However, our findings indicated that the sanctity frame increased the environmental attitudes scores of participants with moderate or lower AOT scores. These findings are contrary to previous studies. Nisbet et al. (2013) found that lower AOT predicted lower support for climate change mitigation policy. Panno et al. (2018) found an effect for the need for cognitive closure in a similar direction to Nisbet et al. (2013). One explanation could be that those with higher AOT already open to new perspectives, and introducing the topic (climate change) with moral frames which either fit or do not fit with existing moral values did not create an additional effect. For those with moderate and lower AOT, on the other hand, the moral frame could be initiating a reflective thinking process. Another explanation could be that since AOT tends to be lower in conservatives (e.g., Baron,

2017; Yilmaz & Saribay, 2017), and conservatives are more affected by the sanctity frame according to our findings, conservative participants in our data might have driven our results (that sanctity frame was more effective on those with lower or moderate AOT). Although the interaction between the sanctity frame and AOT on pro-environmental attitudes is one of the original contributions of the current research, it requires confirmation in future confirmatory tests.

The second moderator we tested was psychological distance. Psychological distance indicates the perception of how far away a certain phenomenon is. In our experiment, we measured three dimensions of psychological distance: spatial, temporal, and social distances. The psychological distance measure was taken from Spence et al. (2012). However, the measure had a very low reliability value, which prevented us from using it in the analyses. Theoretically, subscales of psychological distance do not necessarily correlate with each other. A phenomenon could be perceived as distant in one dimension and not in the other. Therefore, we decided to analyze subscales separately instead of analyzing a composite psychological distance score. Analyses indicated that all three of the psychological distance scales were significant predictors of environmental attitudes; however, neither of them interacted with political orientation. For the three distance measures, pro-environmental attitude scores decreased as the perceived distance increased. In other words, having the perception that climate change is distant in terms of time and location was related to lower pro-environmental attitudes. This is in line with previous studies indicating that lowering spatial or temporal distance improves positive attitudes about the environment and climate change (Chu & Yang, 2018; Jones et al., 2017; Rickard et al., 2016; Scannell & Gifford, 2013). The novelty of our finding is that we measured social distance as well, which then predicted pro-environmental attitudes. Social distance has not been measured in previous studies that investigate environmental or climate change attitudes. Our findings indicate that social distance could also be relevant for environmental attitudes. However, more studies are needed to investigate the relationship between moral framing and social distance.

Among the moderators we analyzed, the largest effect sizes belonged to the subscales of psychological distance: spatial distance had a high effect size, and temporal and social

distance had moderate effect sizes. The construct of psychological distance is sensitive to the contextual cues by its nature. External events can influence the perceived distance on different dimensions. For instance, residents of Turkey experienced some natural events linked with climate change around the time of data collection, such as the heavy mucilage in the Sea of Marmara and floods in several regions. News about these events was prevalent at the time of our data collection. Therefore, one reason for such a high effect size for the spatial distance could be that people were already aware that climate change was affecting their close environments. Temporal distance also had a medium to large effect size, which could be explained by the recency of climate change related natural events. Similarly, social distance had a moderate effect size, indicating that social distance could be as influential as temporal and social distance. Another moderator on environmental attitudes with a moderate effect size was political orientation. This is another indicator that political attitudes are a considerable predictor of environmental attitudes in Turkey as well. Our last moderator, AOT, also had a small to moderate effect size; however, its interaction with the sanctity frame had a small effect size, raising concerns about its real-life implications.

At last, many of our significant findings disappeared when the outliers were removed. The findings that lost their significance without outliers were also the findings with small effect sizes. For instance, the effect of sanctity and its interaction with political orientation lost their significance. Similarly, when the outcome was environmental donation intention, the only significant effects of care and sanctity frame disappeared when outliers were excluded. The same pattern was observed in other analyses as well; small effects lost significance when analyzed without outliers, raising additional concerns about their real-life implications.

4.3 Limitations

Although its merits, our study had certain limitations. First, we were not able to recruit an equal number of liberal and conservative participants. For this to be possible, we needed to prescreen participants' political orientation before they join the study; however, that was not possible for Turkish context. Second, we could not reach the

sample size we predicted in the power analysis before conducting the study. We had limited time for data collection during the COVID-19 pandemic and had to close the survey before reaching the required sample size proposed in our preregistration. Although this caused a slight decrease in the power of the study, the observed power analysis still indicated a high power with the acquired sample size (more than 90%). Third, our sample was not equally distributed on sex. This was important since previous studies showed gender differences in environmental attitudes and behavior, most of the time females showing greater concern (Vicente-Molina et al., 2018; Zelezny et al., 2000). Therefore, we controlled for sex in order to understand whether this imbalance in the distribution of sex impacted our results. Fortunately, our results were still significant when sex was taken into account. Finally, there was a ceiling effect on the environmental attitude scores. Since the majority of the scores were cumulated in the higher portion, average scores acted like outliers. There could be a few reasons for the ceiling effect. It could be that our sample had a greater environmental concern than usual. Another possibility is that the measurement tool was inadequate. The Environmental Attitudes Scale developed by Feinberg and Willer (2013) was not previously tested for its psychometric properties. Although it seems to have a face validity, the scale lacks questions about some of the key issues that divide climate change skeptics and supporters, such as scientific consensus on climate change. Further studies should improve the existing scale or attempt to conceptually replicate the moral framing effect with different scales as an outcome measure.

4.4 Future Directions

We replicated Study 3 of Feinberg and Willer in Turkey. Further replication attempts using non-WEIRD samples are needed, and previous moral framing effects using WEIRD samples also need to be replicated in preregistered experiments. We provided exploratory evidence on how AOT and psychological distance can moderate the effect of moral framing on pro-environmental attitudes. To our knowledge, there were not any previous studies on how these two constructs take place in the relationship between moral framing and environmental attitudes. Therefore, replication studies on these two moderators are also needed.

Although we had significant findings, they were weak and had small effect sizes. Our findings clearly point to an inadequacy of the manipulation techniques and the outcome measures. Therefore, one important improvement would be to increase the effectiveness of the framed messages. For the current study, one problem with framed messages could be that there were problems with their Turkish translations. We had difficulty while translating the framed text because the direct translation of texts sounded unnatural. We tried to make it more compatible with the Turkish syntax without losing the meaning in the original texts. However, it is also possible that the texts had their own inadequacies, and they were not written well enough to activate framed foundations. For instance, the text of the care frame was more focused on the environment itself, while the text of the sanctity frame had a more self-focus. The care frame emphasized the harms to the environment and nature, yet the sanctity frame was more focused on the environment's effects on people's bodies. Future studies should try to improve the validity of the manipulations and outcome measures.

4.5 Conclusions

Our study attempted to contribute to the existing open science discussions by providing a non-Western replication and extension of a previous finding using WEIRD participants. We believe that replicating existing findings, where all of the experimental procedures were previously planned and conducted with transparency as in the current research, is an important step for producing reliable knowledge. Overall, we attempted to replicate a psychological finding, as well as a potential intervention technique for climate change, in a preregistered, high-powered experiment in Turkey. The current study is also one of the few pre-registered studies that experimentally test the moral framing effect. In any case, the previous studies investigating the role of framing on climate change beliefs predominantly relied on Western samples. More specifically, we could not find any previous study using moral framing on environmental attitudes that was conducted in a non-WEIRD sample. Therefore, our findings also contribute to the literature by providing data from an underrepresented sample. Finally, we provided data for the discussion of the "intention-behavior gap" in the social sciences. Behavioral

measures are not widely used in social psychological studies, despite the evidence showing differences between attitudes and behaviors. We had other novel findings as well, and our results point to some improvements that can be made on framing manipulations. We are hoping to see our results being replicated with preregistered studies across different populations.

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APPENDIX A: INFORMED CONSENT

Bu araştırma Kadir Has Üniversitesi'nden Doç. Dr. Onurcan Yılmaz'ın danışmanlığında, Yüksek Lisans öğrencisi Dilara Çavdar'ın yüksek lisans tezi kapsamında gerçekleştirilmektedir. Araştırmanın amacı iklim değişikliğine dair tutumlar ve ahlaki yargılar arasındaki ilişkinin araştırılmasıdır.

Araştırmaya katılım tamamen gönüllülük esasına dayalıdır. Size sunulan ankette kişisel kimliğinizi belirleyebilecek herhangi bir soru bulunmamaktadır. Sorulara vereceğiniz yanıtlar anonim olarak tutulacak ve yalnızca bilimsel araştırmalar için kullanılacaktır. Ankette size rahatsızlık verebilecek herhangi bir soru bulunmamaktadır. Fakat yine de herhangi bir nedenle kendinizi kötü hissetmeniz durumunda çalışmayı dilediğiniz an yarıda bırakabilirsiniz.

Araştırma yaklaşık 15 dakika sürmektedir. Araştırmayı tamamlayan katılımcılar, yapacağımız 10 adet 100 TL değerinde Migros hediye çeki çekilişine katılmaya hak kazanacaklardır. Buna ek olarak, soruları yönergelere uygun olarak tamamlayan katılımcılar fazladan yapılacak 10 adet 50 TL ve 5 adet 100 TL değerinde hediye çeki çekilişlerine katılmaya hak kazanacaklardır. Çekilişe katılmak için araştırmanın sonunda bir e-mail adresi vermeniz istenecektir.

Araştırmaya katıldığınız için şimdiden teşekkür ederiz. Merak ettiğiniz sorular olması durumunda daha detaylı bilgi edinmek için Dilara Çavdar ile dilaracavdarr@gmail.com adresinden iletişime geçebilirsiniz.

Araştırmaya katılmak istiyorsanız lütfen aşağıdaki "Kabul ediyorum" seçeneğini tıklayınız ve bir sonraki sayfaya geçiniz. "Kabul ediyorum" seçeneğini tıklayarak bu onam formunu okuduğunuzu, anladığınızı ve araştırmaya katılmayı kabul ettiğinizi belirtmiş olacaksınız.

- o Kabul ediyorum.
- o Çalışmadan ayrılmak istiyorum.

APPENDIX B: DEMOGRAPHICS FORM

1. Yaşınız ? (Sayı ile):
2. Cinsiyetiniz ?:
    - o Kadın
    - o Erkek
    - o Diğer

3. En son tamamladığınız eğitim seviyesi nedir?
    - o İlkokul
    - o Ortaokul
    - o Lise
    - o Ön lisans
    - o Lisans
    - o Yüksek lisans
    - o Doktora

4. Aşağıdaki merdivenin Türkiye'deki insanların ekonomik açıdan bulunduğu seviyeyi 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.

5. Kendinizi ne kadar dindar tanımlıyorsunuz?

Hiç dindar değil 1 – 7 Çok dindar

6. Kendinizi ne kadar solcu ya da sağcı tanımlıyorsunuz?

Sol 1- 7 Sağ

7. Araştırmaya katıldığınız için teşekkür ederiz.

Katılımınız karşılığında size hediye çekinizi iletebilmemiz için lütfen aşağıdaki forma e-posta adresinizi giriniz. 100 ve 50 TL değerlerindeki Migros Hediye Çeki e-posta adresinize iletilecektir. Hediye çekini tüm Migros, 5M Migros, Macrocenter, MigrosJet ve internet üzerinden yapacağınız Sanal Market alışverişlerinizde kullanabilirsiniz. *E-posta adresiniz hiçbir şekilde kayıt altına alınmayacak yalnızca tek seferlik hediye çeki gönderimi için kullanılacaktır. Eğer hediye çeki almak istemiyorsanız bu bölümü boş bırakarak bir sonraki sayfaya geçebilirsiniz.

Bilgilendirme: Araştırmaya katıldığınız için teşekkür ederiz. Araştırmayla ilgili daha fazla bilgi sahibi olmak isterseniz 1 Ağustos 2021 tarihinden sonra dilaracavdarr@gmail.com adresinden iletişim kurabilirsiniz.

APPENDIX C: NEWS ARTICLES

A.1 News Article of Care Frame Condition

Çevreye Verdiğimiz Zararı Durdurmalıyız

Günümüzde, doğal habitatımızı korumak ve çevrenin bakımını önemsemek önceden hiç olmadığı kadar önemli bir hale geldi. Yaşadığımız yerlere çeşitli şekillerde zarar vermekteyiz. Bu yüzden dünya üzerinde yarattığımız yıkımı durdurmak için önleyici adımlar atmamız gerekmektedir.

İnsanlar dünyanın her yerinde durmaksızın ağaçları kesmektedir. Bunun sonucunda dünya üzerindeki ormanlar yok edilmekte ve sayısız hayvan ve bitkinin ölümüne neden olunmaktadır. Öyle ki, her gün 150 farklı türün neslinin tükendiği tespit edilmiştir. Verilen bu zararın insanlar için dolaylı yoldan olumsuz etkileri de olacaktır. Örneğin, yok edilen çoğu bitki türü ilaç üretiminde kullanıldığından bitki türlerinin yok edilmesi ilaç üretiminin zorlaşmasına neden olabilir.

Göl ve denizlerdeki insan faaliyetleri milyarlarca deniz canlısının ölümüne sebep olmuştur. Dünyanın bazı bölgelerinde, milyonlarca değerli canlı türüne ev sahipliği yapan mercan rezervlerinin %70'inin, insan faaliyetleri sebebiyle tamamen yok olduğu bilinmektedir.

Endüstri ve motorlu araçların yol açtığı karbon salınımı, solunum problemleri ve kanser riskine sebep olur. Bu nedenle

insanlar için de fazlasıyla zararlıdır. Karbon salınımı aynı zamanda asit yağmurlarına sebep olmakta ve bitki ve hayvan yaşamına zarar vermektedir.

Kısa sürede fayda sağlamayı amaçlayan çiftçilik uygulamaları toprağın üst katmanlarının erozyonuna sebep olmakta ve önceden verimli olan toprakların verimsiz çöllere dönüşmesine yol açmaktadır. Dünya genelinde, toprakların çoraklaşması sonucu gıda üretiminin zorlaşması, açlık ve kıtlığa sebep olmaktadır.

İyi haber ise, içinde yaşadığımız çevreye verdiğimiz zararı durdurabilir ve çevrenin daha fazla yozlaşmasının önüne geçebiliriz. Geri dönüşüm, enerji tasarruflu cihazların tercih edilmesi ve motorlu taşıtların daha az kullanılması bile çevre için büyük farklar yaratabilir. Çevreye önem veren her insan, insanların sebep olduğu zararlı etkilerin önüne geçebilir. Çevrenin bakımını önemsemek ve gelecek nesillere canlı bir doğa bırakmak herkesin ortak amacı olmalıdır.

A.2 News Article of Sanctity Frame Condition

Çevre Kirliliğini Durdurmalıyız

Doğal yaşam alanlarımızı kirlilikten korumak önceden hiç olmadığı kadar önemli bir hale geldi. Etrafınız doğal güzelliklerle çevriliyken içinize çektiğiniz havanın ferahlığını ve gördüğünüz manzaranın temizliğini hisseder, doğanın tümüyle el değmemiş bir yönü olduğunu fark edersiniz. Bu yönü korumak ve ormanların, içme suyunun ve gökyüzünün temiz kalmasını sağlamak oldukça önemlidir.

Yaşadığımız alanlardaki kirliliğe karşı dikkatli olmalıyız çünkü çevrenin kirlenmesi kaçınılmaz olarak bizleri ve bedenlerimizi de kirletir. Kirli su içtiğimizde, toksik maddeler barındıran bölgelere yakın yaşadığımızda ya da kirli ve dumanlı havayı soluduğumuzda vücudumuzu da kimyasal parçacıklar ve patojenlerle kirletmiş oluruz. Pek çok şehirde hava kirliliği yüzünden canlı ve berrak mavi gökyüzü, kirli gri bir renge bürünmüştür. Kimyasal parçacıklar yiyeceklerimiz, cildimiz ve ciğerlerimiz dahil her yere sızmış durumdadır.

Soluduğumuz pis hava vücutlarımıza girip birer parçamız haline gelmektedir. Geri dönüştürmediğimiz atıklar yaşadığımız yerleri kötü kokuya boğan çöp dağlarına dönüşmektedir. Milyarlarca ton çöpün şehir arazilerine yerleştirilmesi, toksik kimyasalların su kaynaklarına sızmasına ve filtrelenmiş suların bile kirlenmesine neden olur. Ormanların yok olması, bir zamanlar el değmemiş bereketli toprakları çorak ve kirli arazilere dönüştürmektedir.

İyi haber ise, içinde yaşadığımız çevreyi korumak ve kirliliği azaltarak onu tekrar temiz hale getirmek için harekete geçebiliriz. Geri dönüşüm, enerji tasarruflu cihazların tercih edilmesi ve motorlu taşıtların daha az kullanılması bile büyük bir fark yaratabilir. Kirliliği azaltmak, yaşadığımız alanlardaki doğallık ve güzellikleri korumamıza

yardımcı olur. Çevrenin temizliğini önemsemek ve gelecek nesillere kirlenmemiş bir doğa bırakmak herkesin ortak amacı olmalıdır.

A.3 News Article of Control Condition

Erkekler Neden Kravat Takar?

Bu sorunun cevabı tarihe bakarak bulunabilir. Kravatların ortaya çıkması bir savaşın sonucudur ve yüzyıllar öncesine gider. 1660'da Hırvatistan'da (o zaman Avusturya-Macaristan İmparatorluğu'nun bir parçasıdır) bir askeri birlik, Osmanlı ordusuna karşı kazandıkları bir zaferi kutlamak için Paris'e gider. Birlikteki askerle, savaş kahramanları olarak, dış görünümüne düşkünlüğüyle bilinen hükümdar XIV. Louis'e tanıtılır. Bu birlikteki subaylar boyunlarının etrafına parlak renkli, ipekten yapılmış mendiller takmaktadır. Muhtemelen Roma faskalyasından kalmış olan ve o dönemde hatiplerin ses tellerini sıcak tutmak için boyunluk olarak giydiği bu mendiller kralın ilgisini cezbeder. O kadar ki, kral 'Kraliyet Kravatları' isimli bir bölük kurarak bu boyunlukları bir kraliyet nişanesi haline getirir. Kibrin saltanatı! Böylece "kravat" kelimesi, Hırvat kelimesinin İngilizce karşılığı olan "Croat" kelimesinden türemiş olur.

Bu yeni trendin İngiltere'ye ulaşması çok uzun sürmez. Çok geçmeden, boynunun etrafına bir mendil sıkıştırmak şık giyinmenin bir gerekliliği haline gelir - ne kadar süslü o kadar iyi. O zamanlarda kravatlar o kadar yükseğe takılır ki erkekler tüm vücutlarıyla dönmeden başlarını döndüremez hale gelirler. Hatta bazı eski raporlarda kravatların kalınlıklarıyla kılıç darbelerini durdurabileceği bile söylenir. O dönemde sınırsız çeşitte kravat üretilmekte ve her türden kravat yüksek talep görmektedir: püsküllü kravatlar, ekoseli şallar, kurdeleden fiyonklar, dantel ve işlemeler…

Peki kravatların günümüze kadar popülerliğini kaybetmemesi açıklanabilir? Yıllarca, moda tarihçileri ve sosyologları, görünür bir işlevi olmayan tek erkek giyim unsuru olan

kravatların modasının geçeceğini öngörmüşlerdi. Belki de kravatlar geçmişten gelen bir geleneğin parçası olarak varlığını devam ettirmektedir. Dünyada ve işyerlerinde liderler kravat takmaya devam ettiği sürece, genç yöneticiler takım elbise ve kravat trendini devam ettirecek ve kravatlar toplantı odalarının vazgeçilmezi olacaktır.

APPENDIX D: ENVIRONMENTAL ATTITUDES SCALE AND ENVIRONMENTAL DONATION QUESTION

D.1 Environmental Attitudes Scale

Aşağıdaki ifadelere ne ölçüde katılıp katılmadığınızı belirtiniz.
1= Kesinlikle Katılmıyorum, 2= Katılmıyorum, 3= Ne katılıyorum ne katılmıyorum, 4= Katılıyorum, 5= Kesinlikle Katılıyorum.

1. Çevreyi korumak önemlidir.
2. İnsanlar tarafından çevreye salınan sera gazı miktarının azaltılması önemlidir.
3. Çevrenin korunması, diğer politik ve sosyal konularla karşılaştırıldığında en önemli olanlardan biridir.
4. Çevreyi korumayı hedefleyen devlet uygulamalarını genellikle desteklerim.
5. Atmosfere çok fazla sera gazı yayan firmaların cezalandırılmasına yönelik mevzuatları genellikle desteklerim.
6. Çevreyi korumaya yönelik yasalar çıkarmayı öncelik haline getiren bir adaya oy verirdim.
7. Firmalar, çevreye yaydıkları sera gazı miktarından sorumlu tutulmalıdır.
8. Çevreyi korumak siyasetçiler için en öncelikli konu olmalıdır.
9. Küresel ısınmaya insanların sebep olduğuna inanıyorum.
10. Küresel ısınma üstesinden gelmemiz gereken büyük bir sorundur.
11. Küresel ısınmanın insanlık için yıkıcı etkileri olacaktır.

D.2 Environmental Donation Intention Question

Bu soruyu tamamlarsanız fazladan bir çekilişe daha katılmaya hak kazanacaksınız. Bu çekilişle 5 kişiye 100 TL değerinde hediye çeki verilecektir.
Şu anda çekiliş sonucunda kazandığınız 100 TL'niz olduğunu düşünün. Bu paranın ne kadarını kendiniz için ayırır, ne kadarını iklim değişikliğine karşı insanları korumak için faaliyet yürüten bir kuruluşa bağışlarsınız?
Lütfen aşağıdaki skala üzerinde 100 TL'nizin ne kadarını iklim değişikliğine karşı insanları koruyan bir kuruluşa bağışlamak istediğinizi belirtiniz.

APPENDIX E: EMOTION MEASURE

Aşağıdaki duyguları ne derecede hissettiğinizi 0’dan (Hiç) 6’ya (Çok fazla) kadar olan ölçekte belirtiniz.

1. İğrenme
2. Endişe
3. Üzüntü
4. Mutluluk
5. Merak

APPENDIX F: ATTENTION CHECK QUESTIONS

Attention check question of care framed news article:

Yukarıda okuduğunuz metin ne hakkındadır?

- o Hayvanların yaşam alanları nasıl yok oluyor
- o Çevreye ne şekillerde zarar veriyoruz ve bunu nasıl durdurabiliriz.
- o Endüstri ve motorlu araçların karbon salımı
- o Ağaçlandırmanın faydaları

Attention check question of sanctity framed news article:

Yukarıda okuduğunuz metin ne hakkındadır?

- o Hayvanların yaşam alanları nasıl yok oluyor
- o Çevreyi ne şekillerde kirletiyoruz ve bunu nasıl durdurabiliriz.
- o Endüstri ve motorlu araçların karbon salımı
- o Ağaçlandırmanın faydaları

Attention check question of control news article:

Yukarıda okuduğunuz metin ne hakkındadır?

- o Osmanlı ve Avusturya-Macaristan İmparatorlukları arasındaki savaş
- o Kravatlar nasıl erkek giyiminin bir parçası haline geldi
- o Hırvatistan'ın tarihi
- o Moda tarihçileri ve sosyologları hangi konular üzerine çalışır

APPENDIX G: CARE AND SANCTITY SUBSCALES OF MORAL FONDATIONS QUESTIONNAIRE (FORM B)

Lütfen aşağıdaki cümleleri okuyunuz ve bunlara katılıp katılmadığınızı belirtiniz.
0…kesinlikle katılmıyorum; 1…katılmıyorum; 2…pek katılmıyorum; 3…biraz katılıyorum; 4…katılıyorum; 5…kesinlikle katılıyorum

Care subscale:

1. Acı çekenlere şefkat duyabilmek en önemli erdemdir.
2. Birisinin yapabileceği en kötü şeylerden biri savunmasız bir hayvana zarar vermektir.
3. Bir insanı öldürmek hiçbir zaman haklı bir hareket olamaz.

Sanctity subscale:

1. Hiç kimseye zarar vermese de insanlar iğrenç şeyler yapmamalıdırlar.
2. Bazı hareketleri doğal olmadıkları için yanlış olarak nitelendiririm
3. İffet çok önemli ve değerli bir erdemdir.

APPENDIX H: ACTIVELY OPEN-MINDED SUBSCALE FROM COMPREHENSIVE THINKING SCALE

Lütfen aşağıdaki ifadelere ne ölçüde katıldığınızı veya katılmadığınızı belirtiniz.
1= Kesinlikle katılmıyorum; 6= Kesinlikle katılıyorum

1. Karşıt kanıtlar sunulsa bile kendi inançlarına sadık kalmak önemlidir.
2. Bir şeyin doğru olup olmadığını hissetmek kanıttan daha önemlidir.
3. Sırf kanıtlar sahip olduğum inançlarla çelişiyor diye, bu inançlarımın yanlış olduğu anlamına gelmez.
4. Görüşlerinizle çelişen kanıtlar söz konusu olabilir, fakat bu görüşlerinizi değiştirmeniz gerektiği anlamına gelmez.
5. Doğru olduğuna inandığınız bir şeye karşı somut kanıtlar olsa bile, değer verdiğiniz inançları sürdürmek sorun değildir.
6. Konu ne olursa olsun, doğru olduğuna inandığınız şey, inançlarınızla çelişen kanıtlardan daha önemlidir.

APPENDIX I: PSYCHOLOGICAL DISTANCE SCALE

Lütfen aşağıdaki ifadelere ne ölçüde katılıp katılmadığınızı belirtiniz.

1= Kesinlikle katılmıyorum; 5= Kesinlikle katılıyorum

1. Bulunduğum yerel bölgenin iklim değişikliğinden etkilenmesi oldukça olası.
2. İklim değişikliği çoğunlukla bana uzak bölgeleri etkileyecek.
3. İklim değişikliğinin etkileri muhtemelen benim gibi insanlar üzerinde büyük olacak.
4. İklim değişikliğinin etkilerinin Türkiye'de ne zaman hissedilmeyece başlanacağını düşünüyorsunuz?

İklim değişikliğinin etkilerinin Türkiye'de ne zaman hissedilmeye başlanacağını düşünüyorsunuz?

Etkilerini çoktan hissetmeye başladık 1 – 7 Hiçbir zaman

CURRICULUM VITAE

DİLARA ÇAVDAR

EDUCATION

Kadir Has University – İstanbul, Turkey

M.A. Psychological Sciences (2019-present)

GPA: 3.56

Middle East Technical University – Ankara, Turkey

B.A. Psychology (2013-2019)

GPA: 3.41

Exchange student at University of Klagenfurt, Austria (Fall 2018)

RESEARCH EXPERIENCE

Research Assistant, Özyeğin University – İstanbul, Turkey (2019-present)

Project Title: From Incivility to Harassment, Workplace Maltreatment: Consequences in the Cultural Context and Interventions

Psychology Department, Prof. Dr. H. Canan Sümer

Responsibilities: My administrative duties are managing budget expenses (contact with suppliers, arranging purchases), following the project timeline to make sure we are progressing accordingly, keeping record of meetings and progressions, and arranging meeting and enabling coordination. My research related duties are assisting qualitative and quantitative analysis, processing raw data, data cleaning, creating surveys in online survey platforms, etc.

Research Assistant, Moral Intuitions Research (MINT) Laboratory – İstanbul, Turkey (2019 present)

Lab Website: https://www.moralintuitionslab.com

Responsibilities: Participating research project run by the lab, following recent literature, assisting undergraduate research assistants, contributing events organized by the lab.

TEACHING EXPERIENCE

Teaching Assistant, *Kadir Has University* – İstanbul, Turkey (Fall 2020)

PSY 533 - Advanced Selected Topics in Social Psychology

Responsibilities: Helping the instructor with class exams and assignments, assisting students with their course work by preparing tutorials and providing feedback.

Teaching Assistant, Kadir Has University – İstanbul, Turkey (2019-present)

Psychology Department

Responsibilities: Helping faculty members with class exams and assignments when needed.

Assistant Student, METU Disability Support Office – Ankara, Turkey (Fall 2016)

Responsibilities: Helping to a visually impaired student with the coursework of French 102 class, translating course material to a format that is suitable for student to study on

WORK EXPERIENCE

Intern, Bursa Metropolitan Municipality Social Services Branch Office Social Assistance Department – Bursa, Turkey (Summer 2017)

Responsibilities: Helping social workers with home visits, assisting citizens with their applications, helping the psychologist of the Disabled Services Unit.

Intern, Harput Holding Human Resources – Bursa, Turkey (Summer 2016)

Responsibilities: Organizing and updating office documents, attending interviews and business meetings for the observation.

Assistant Student, METU Culture and Convention Center – Ankara, Turkey (Fall 2016)

Responsibilities: As an attendant, watching the exhibitions to make sure that guest are obeying the exhibition rules, and selling tickets for the events that took place in the center and welcoming audiences before the events.

Language Tutor, Freelance

Responsibilities: I provide tutorship for English, for elementary school children to support their school curriculum, or for adults to improve their English skills to intermediate level.

GRANTS, HONOURS, SCHOLARSHIPS

- The Scientific and Technological Research Council of Turkey (TÜBİTAK) – Graduate-Level Research Assistant Scholarship (2019-present)
- Kadir Has University – Graduate School Psychological Sciences Program Tuition Waiver
- Erasmus+ Exchange Scholarship – October 2017 to February 2018

PUBLICATIONS

Çavdar, D. (2019). Kültürel psikolojide kültür kavramının yeri üzerine (The concept of culture in cultural psychology). Psikoloji ve Toplum, 7.

Acar, P., & Cavdar, D. (ongoing). Kötücül kurumlar: Kötü muamelenin kurumsallaşmış hali [Malicious institutions: Mistreatment in an institutionalized form]. In Sumer, C., Acar, P., & Ok, B.A. (Eds), *Mistreatment at work.*

EXTRACURRICULAR ACTIVITIES

- II. Social Psychology Conference Organization Committee, December 2019
- Ödül Işıtman Ceramics Studio, October 2015 to January 2019

EXAMINATIONS

TOEFL IBT (Test Date: October 10, 2020)

Total: 107

Reading: 30

Listening: 29

Writing: 25

Speaking: 23

LANGUAGES

- English – C1 level
- German – A2 (certificate from University of Klagenfurt)
- French – A1