

Religious Identity and Climate-Sustainable Behavior

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Abstract

What motivates individual action on climate change? The study focuses on the potential influence of religious identities. It employs a laboratory experiment to investigate how priming religious identity affects individuals' donation behaviors to climate versus non-climate charities in a dictator game setting. In contrast with expectations, this study finds no significant evidence that an increase in religious identity salience influences religious individuals' donation to climate, nor does it affect overall charitable donation behaviors, when demographic factors and perceptions about charity are controlled. Although failing to establish a causal relationship between religious identity and climate-sustainable behavior or a linkage between religious identity and pro-social behavior, this research marks an innovative attempt to use experimental economics methodology to study factors that shape individual responses to the global climate challenge.

JEL classification: C91; D64; Q54; Z12

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1 Introduction

With the 2015 Paris Agreement setting the long-term temperature goal to limit the global temperature increase to less than 2°C above pre-industrial levels, individual decisions matter to tackling the global climate challenges now and in the future (UN, n.d.). Human-driven greenhouse gas emissions from electricity generation, transportation, agriculture, manufacturing, and other sectors are intensifying the burden to meet the climate target and exacerbating the severity of climate change (Ritchie et al., 2020). Adopting climate-friendly practices has been crucial not only for the health of the planet but also for the achievement of a robust economy and a just society globally.

Reaching climate goals requires a better understanding of factors that motivate people to transit towards more sustainable, climate-friendly behaviors. This knowledge can inform governments, international associations, and non-governmental organizations to design policies to encourage positive climate action. At the individual level, experimental research has found various personal identities to be relevant to pro-social behaviors, including gender/sex (Eagly, 2009), religion (D. Benjamin et al., 2016), race/ethnicity (D. J. Benjamin et al., 2010), and nationality (Ben-Ner et al., 2009). Meta-analyses have also found that personal and social identities can have a strong influence on people’s environmental attitudes, beliefs, and behaviors (Fielding and Hornsey, 2016; Vesely et al., 2021).

This study centers on the potential influence of religious identities on climate-sustainable behaviors. Religious institutions have long been considered as leading authorities and important societal actors in shaping social and moral values (D. Benjamin et al., 2016; Feldhaus et al., 2022). Much research on theological and prescriptive literature has found religious beliefs playing a significant role in people’s climate attitudes and behaviors and, in the past decade, much social scientific research has started using empirical evidence to demonstrate the relationship (Veldman et al., 2012; Jenkins et al., 2018). This study employs a laboratory experiment to investigate if religious identities affect people’s understanding of and response to climate change. It assesses such influence through a particular economic behavior - the act of charitable donations on climate.

The study derives its hypothesis from the cross-religion difference in climate perspectives evidenced in national surveys. The 2015 Climate Change in the American Mind report investigating global warming beliefs, attitudes, risk perceptions, policy preferences, and related moral values of three major groups of American Christians – Catholics, non-evangelical Protestants, and evangelical Christians – found that Catholics have the highest percentage of agreement (69%) with the statement “global warming is happening”, as compared with Americans as a whole (63%), non-evangelical Protestants (62%), and

evangelicals (51%) (Leiserowitz et al., 2009). Furthermore, Catholics are also the most likely to agree that climate change is anthropogenic (57%) and that climate change is driven by human activities, compared with all Americans (52%), non-evangelical Protestants (50%), and evangelicals (41%) (Leiserowitz et al., 2009). However, such correlations are subject to confounding variables. Religious demographics can intersect with factors that determine people’s access to scientific knowledge about climate or factors that influence public views on climate issues (Layman, 1997; Lehrer, 2004; Schieman et al., 2003), such as political affiliation (Dunlap and McCright, 2008), geographic location (Tremblay and Dunlap, 1978; Arcury and Christianson, 1993; Weckroth and Ala-Mantila, 2022), socioeconomic status (Ballew et al., 2020), and education background (Poortinga et al., 2019; Ballew et al., 2020).

This study builds upon the descriptive correlations to ascertain a potential causal role of religious identities in influencing climate-related donation preferences through an experimental design. The experiment, applying a psychological priming technique, investigates whether increase in religious identity salience affects individuals’ climate contributions in a charity dictator game.² It consists of two stages: in the first stage, the subjects are randomly assigned to either a control group with a neutral prime, or a group where their religious identities will be primed. In the second stage, the subjects are asked to complete a charity dictator game which asks about their willingness to donate money to support specific causes: climate versus generic. The study uses non-religious subjects as a control to test the efficacy of religious priming, and uses non-climate charities as a control to assess the contextual effects attributed to religious identities. The study tests for difference between the percentage of donations to climate charities and the percentage of donations to non-climate charities for subjects in the religion-prime condition as compared with subjects in the control group to see if religious identity salience affects individuals’ charity contributions to climate change.

The results fail to capture a significant causal impact of religious identity on climate-sustainable behaviors. When demographic factors and perceptions about the charity are controlled, no statistically significant evidence suggests that priming religious identity impacts religious individuals’ donations to climate charities, nor does it impact donations to charities in general.

However, the findings also suggest that rather than religious identity, perceptions about the charity — particularly the level of trust in the charity — are strong factors that shape people’s climate donation behaviors and charitable donation behaviors. There are statistically significant correlations suggesting that an increase in trust in the charity increases both the subject’s likelihood to donate and donation percentage. Such

²The study was approved by Duke Campus IRB (Protocol #2024-0199) and pre-registered on AsPredicted.org (#161447).

positive relationships exist for both donations to climate and for charitable donations in general. An exploratory analysis of the experimental data reveals that perceptions about the importance of the charity's cause, the trust in the charity, and the perceived need for additional resources are all highly correlated with individuals' political affiliations.

The rest of the paper is structured as follows. Section 2 presents an overview of relevant literature and previous studies. Section 3 explains the theoretical framework of identity utility and priming in economics. Section 4 describes the experimental design and sample statistics. Section 5 shows the empirical specifications that guide the analysis. Section 6 discusses the results. Section 7 shows results from exploratory analysis of the experimental data. Section 8 acknowledges the limitations. Section 9 concludes and offers suggestions for future work.

2 Literature Review

2.1 Identity in the Lab

Economists are interested in elucidating the interplay between *identity* —“a person’s sense of self”—and economic behaviors. Akerlof and Kranton (2000) introduce the utility function to describe people’s preferences in terms of both standard utility about “a person’s tastes for goods, services, or other economic outcomes” and identity utility deriving from alignment with the social categories (i.e., religion, gender, and occupation) to which the individual belongs. Empirical research to demonstrate causal relationships between identities and economic behaviors requires overcoming difficulty in clarifying the endogenous and exogenous determinants that shape the decision-making process. To do so, researchers use the experimental psychology method to artificially create exogenous variation in one channel through which factors of interest could be tested, using the *priming* technique. Priming one’s identity can temporarily increase *identity salience*, which is defined as the strength of one’s affiliation with that identity category. It therefore causes one’s behavior to shift toward the category’s shared norms, reflecting the causal relationship from the identity to the behavior. For example, D. J. Benjamin et al. (2010) asks students whether they live with roommates of the same race or different race as a prime on racial identity. They then measure the subjects’ risk and time preferences and compare results for those in the race-salience condition with those in the control condition. Their finding suggests that racial identities affect individuals’ risk- and time- preferences — as native blacks become more risk-averse while whites become more patient when they are primed on their social identities. Such methodology experimentally manipulates the identity salience through the priming, and the random assignment of the control group and priming group ensures that all behavioral differences between the two groups result from the situational cues. In this way, priming allows researchers to study the economic consequences of identities in the lab.

2.2 Priming Religious Identities

Prior work in economics has utilized the priming instrument to investigate the relationship between religious identities and pro-social economic behaviors. Shariff and Norenzayan (2007) first apply God concepts to the sentence-unscrambling paradigm of Srull and Wyer (1979) and use it as a priming instrument. They examine the tendency to pro-social behavior in a classic dictator game setting where they observe that priming God concepts increase the money subjects left for anonymous strangers. They intentionally prime the concept in an implicit manner to avoid subjects consciously reflecting on these religious concepts, which can lead to experimenter bias. D. Ben-

jamin et al. (2016) replicate the priming instrument and further extend the scope of economic behaviors. They discover that religious identities are correlated with and likely shape individual public good contributions among Protestants, despite the fact that no significant priming effects are observed on dictator game generosity. Some research utilizes other religious priming techniques in more explicit ways. For example, Feldhaus et al. (2022) conduct a field experiment by surveying visitors of the German Catholic Convention. Their study reveals that a supporting signal by the Catholic institution — specifically reminding participants of Pope Francis’s encyclical “Laudato Si”³ — results in a notable 56% increase in donations toward climate causes. However, such explicit priming could introduce suspicions as participants can easily recognize the study’s religious focus. On the other hand, some researchers also apply subliminal or contextual instruments to prime religious identity, such as conducting the experiment inside or in view of religious buildings, despite that these priming instruments face more difficulty to conduct and demonstrate robustness in effect (Shariff et al., 2015).

Questions arise on whether religious priming instruments are reliable for revealing the causal impact of religious identities. Shariff et al. (2015) conduct a meta-analysis by studying the results of 92 studies with 11,653 participants. They observe a small-to-moderate effect of all types of religious priming (explicit, implicit, subliminal, contextual). Their analysis also highlights statistically significant differences in the effects of religious priming between religious and non-religious participants — that the impact of priming on non-religious participants is negligible. In light of this finding, the current study uses non-religious participants as a control to test the religious priming effect, which the study hypothesizes differential behaviors between religious and non-religious participants, all else equal.

2.3 Dictator Game on Charitable Giving

The classic dictator game is a two-person setting where one player is the dictator who decides on a split of the money between the two players, whereas the other player can only passively accept the allocation (Forsythe et al., 1994). In this situation, a rational, self-interested dictator should keep all the money and, therefore, not offer any money to the recipient. However, prior research finds that real-world dictators are not, on average, “selfish” but rather willing to share money with the recipient, a phenomenon

³In 2015, Pope Francis announced an encyclical on ecology, *Laudato Si*, said that climate change is real and mainly “a result of human activity.” In the letter, the Pope stated, “For human beings . . . to destroy the biological diversity of God’s creation; for human beings to degrade the integrity of the earth by causing changes in its climate, by stripping the earth of its natural forests or destroying its wetlands; for human beings to contaminate the earth’s waters, its land, its air, and its life — these are sins.” Standing from a perspective grounded with scientific and religious references, the Pope joined the urge for climate action (Pope Francis, 2015).

which is referred to as generosity (Haley and Fessler, 2005; Engel, 2011).

Later studies extend this game into a charity context, called the charity dictator game, where the recipient in the classic dictator game is a charity, and the dictator allocates how much to keep and how much to donate.⁴ Eckel and Grossman (1996) first introduces the charity dictator game in a laboratory-based experiment. They find that an increase in the trustworthiness of the recipient, from an anonymous player to a legitimate charitable organization, accordingly increases generosity as reflected in higher average giving. In a later study, Li et al. (2011) employ a real donation experiment to compare giving to government agencies and private charities for four different causes (Cancer Research, Disaster Relief, Education Enhancement, Parks and Wildlife) at three scale levels (national, state, and local). Their findings suggest that people’s willingness to donate differs by charity causes, where the probability of giving is significantly higher for Cancer Research and Disaster Relief than for Education Enhancement and Parks and Wildlife. Such design enables further investigation into the intricacies of charity-specific factors that influence donation behaviors.

Inspired by this approach, the current study adopts a similar design as Li et al. (2011). It conducts a comparative analysis of charitable giving to climate charities versus non-climate, generic charities. By doing so, the study aims to test whether variations in donation behaviors can be specifically attributed to preferences related to the climate focus of the charity.

2.4 Religious Identities and Climate-Sustainable Behaviors

The hypothesis of the study is grounded in a body of theological literature. The literature has laid out theological and prescriptive lines from each faith, which imply that certain religious groups are more likely to promote climate action than others. Veldman et al. (2012) and Kilburn (2014) list two theological origins of un-environmental notions in Christian religious fundamentalism, in particular literalism in the Bible and of the world in Genesis.⁵ First, as explained in Lynn White’s (1967) thesis, the Judeo-Christian religious belief system justifies a mastery-over-nature orientation in Genesis, where dominion is seen as the right to dominate and to possess absolute control over the entire earth (White, 1967; Veldman et al., 2012; Kilburn, 2014). A second theological explanation of end-time beliefs (also called *dispensationalism*) — that Jesus will return

⁴Cartwright and Thompson (2023) gives a comprehensive overview of the application of dictator game experiments to study charitable giving. They find variants of charity dictator game experiments in terms of source of endowment (Earned or Windfall), mechanism of donating (Benchmark, Matched, or Rebate), price of giving, the anonymity of decision (Observed or Anonymous), etc. (Cartwright and Thompson, 2023).

⁵According to the United States Conference of Catholic Bishops, Genesis is the first book of the Pentateuch (first five books of the Bible), the first section of the Jewish and the Christian Scriptures.

to earth soon — is also a factor preventing long-term environmental protection, as beliefs in Jesus significantly reduce support for governmental actions and international climate policies (Veldman et al., 2012; Kilburn, 2014). This logic states that the idea of anthropogenic climate change, that humans impact the natural climate cycle, is incompatible with faith that God controls the end of the world (Veldman et al., 2012). This body of theological literature is the foundation for why the present study hypothesizes a causal impact from religious identity on sustainable behavior is plausible.

Many empirical studies have explored the association between religious identities and climate-sustainable behaviors. The results are mixed.⁶ Some studies find that Christian affiliation is often negatively correlated with pro-environmental beliefs and behaviors (Guth et al., 1995; Arli et al., 2023; Cui et al., 2015), some find no significant differences across different affiliations (Hayes and Marangudakis, 2000), and some find positive associations for some religious beliefs (Owen and Videras, 2007). Few studies seek to establish a causal link between religious identities and different categories of charitable causes. The reasons are twofold. On one hand, isolating the impact of one single demographic characteristic from the myriad of social, cultural, psychological, or environmental factors that shape decision-making can be extremely challenging (Orellano et al., 2020). On the other hand, donating to a charity of specific causes is motivated by the utility of donation itself, and the utility of contributing to a particular charitable cause. Studies find that donations in charity dictator games can be attributed to warm glow, an egoistic motivation where utility solely comes from the act of giving (Crumpler and Grossman, 2008; Luccasen and Grossman, 2016). As an illustration, a person who gains satisfaction mainly from donating behavior, irrespective of the charitable cause, should find equal satisfaction from donating to a health charity, an education charity, or an environmental charity. In contrast, an environmentalist might gain utility from contributing to climate charity because they are committed to climate actions. They could achieve a similar level of utility through other mechanisms besides charitable donations, like reducing energy usage and recycling plastics, which are all beneficial for tackling climate challenges to some extent.

Among the existing literature, two streams of studies are very aligned with the topic of this present study in exploring religious identities, pro-social behaviors, and climate-sustainable behaviors. The first stream combines demographic data with survey results and uses structural equation modeling (SEM) to test for direct or indirect impacts of religious identities on climate-sustainable behaviors. In the context of the United States, Clements et al. (2014) use nationally representative data to explore the impact of being Christian, the level of religiosity, and the denominations on environmental concerns.

⁶Orellano et al. (2020) has a comprehensive review on the influence of religion on sustainable consumption at the individual level.

They find non-religious respondents more pro-environmental, with stronger perceived environmental dangerousness, greater willingness to pay or sacrifice for the environment, and performing more private environmental behaviors (for example, reusing and recycling) under demographic controls on gender, ethnicity, age, education, income, employment status, and political affiliation. However, their results about the influence of religiosity on environmental concerns are not consistently significant across the three aspects of environmental behaviors they measure, among which only a positive impact on private environmental behaviors is discovered. They also fail to demonstrate significant differences in environmental concerns among Catholics, Mainline Protestants, and Evangelical Protestants on these three aspects of environmental concerns. Research also shows divided results among countries of different religious beliefs (Agudelo and Cortes-Gómez, 2021; Karimi et al., 2022; Minton et al., 2015; Owen and Videras, 2007)

The second stream of studies uses priming intervention with field experiment as illustrated earlier in Feldhaus et al. (2022). Another experiment in Germany conducted by Engler et al. (2019) executed a two-stage online experiment using a writing task priming instrument to see if priming respondents' religious identities impacts customer-stated preferences for more renewable electricity contracts. However, their results are ambiguous: they fail to capture a significant priming effect on green electricity mixes at all significance levels, while only a statistically significantly negative religious priming effect is noticed for the stratified sample of high religiosity.⁷

The present study builds upon the second stream and contributes to the literature in three ways. It is the first attempt to use a laboratory setting to study religious identity's impact on climate-sustainable behaviors in the United States. Second, the study adds to the existing body of literature that applies Shariff and Norenzayan (2007)'s religious priming instrument to study pro-social behaviors by investigating climate-sustainable behaviors. By introducing authentic charities into the experiment, the study provides a richer context to observe people's donation behaviors in a laboratory setting. Evolving from the classical dictator game to the charity dictator game, the present study examines if people's generosity is conditional on the actual beneficiaries. Finally, the present study involves actual monetary stakes. Instead of relying on self-reported preferences as in Engler et al. (2019), the decision that the participants make in the experiment will impact their monetary compensation, a closer approximation to what happens in real life as people pay a premium for being sustainable. The actual monetary stakes in this study ensure that the subjects reveal genuine economic choices, offering a more accurate reflection within the laboratory setting.

⁷Engler et al. (2019) also note that the significance disappears as they further stratify this subsample into high religiosity (3 out of 5) and very high religiosity (4-5 out of 5)

3 Theoretical Framework

Adapted from Akerlof and Kranton (2000)'s identity utility function, D. J. Benjamin et al. (2010) stated that individual chooses action x that maximizes the utility U

$$U = -(1 - w(s))(x - x_0)^2 - w(s)(x - x_c)^2 \quad (1)$$

where x_0 denotes the individual's preferred choice in the absence of identity considerations under standard utility, x_c denotes the choice that is normative for members of the social category C . $w(s)$ is the weight placed on the norm for social category C in the person's decision ($0 \leq w(s) \leq 1$). s indicates identity salience, which is also the strength of category affiliation. It is assumed that $w(0) = 0$ and $w' > 0$. This utility function states that disutility results from both deviations from preferred choice $x - x_0$ and social norms $x - x_c$, weighted by respective significance in the individual's decision-making.

When an individual is primed on their identity related to social category C , s is temporarily increased by $\varepsilon > 0$. Therefore, the primed individual puts higher weight $w(s + \varepsilon)$ on actions that are normative for social category C in their utility function. Essentially, the prime makes the social identity C more salient to the individual, and the social norms of the category C become more important in the individual's decision-making. The primed decisions by the individuals are thus more consistent with the social norms of the category.

The first-order condition of the utility function provides the preferred optimal action x^* of the individual.

$$x^* = (1 - w(s))x_0 + w(s)x_c \quad (2)$$

In this equation, the optimal action $x^*(s)$ equals the weighted average of the preferred action without identity considerations (x_0) and the preferred action under category norm (x_c). Therefore, higher the strength s is, the higher $w(s)$ put to x_c , and the closer $x^*(s)$ is to x_c . Thus, an experiment can use the behavioral effect of priming to reveal the marginal behavioral effect of increasing the strength of identity salience s .

The direction of the priming effect is reflected by $x^*(s + \varepsilon) - x^*(s)$, which can be approximated by

$$x^*(s + \varepsilon) - x^*(s) \approx \frac{dx^*}{ds}\varepsilon = w'(s)(x_c - x_0)\varepsilon \quad (3)$$

In the assumption, $\varepsilon > 0$ and $w' > 0$, so the sign of $x_c - x_0$ essentially determines the direction of the priming effect. According to D. Benjamin et al. (2016), the external

validity is ensured as long as the sample population has the same sign of $x_c - x_0$ as the general population, regardless of the differences in strength of category affiliation before the prime (s), relative weights of standard versus identity preferences ($w(\cdot)$), and preferred action under standard preferences (x_0).

4 Data and Methodology

4.1 Main Experiment Procedure

Part 1 - Sentence Unscrambling Task

For the first section, the priming instrument used in this experiment is designed by Shariff and Norenzayan (2007). It is a sentence-unscrambling task where participants are asked to drop the irrelevant word in a five-word group and rearrange the remainder to form a four-word sentence. The task has ten questions with five words per question. Participants are assigned randomly either to the *Religious*-prime treatment or the *Neutral*-prime treatment. In the *Religious*-prime condition, participants are presented with ten word groups containing implicit religious themes; in the *Neutral*-prime condition, participants complete ten normal sentences unscrambling. For example, participants in the *Religious*-prime condition are given the word group “felt she eradicate spirit the.” One possible answer to this question is that the participant should identify that the word “eradicate” is extraneous and type in the unscrambled sentence as “she felt the spirit.” The experiment for this study used here applies the same word groups (ten word groups for each condition) that Shariff and Norenzayan originally designed for the priming instrument. Participants are asked to finish all ten groups before proceeding to the next section.

Part 2 - Money Allocation Decision

Participants receive an additional \$0.25 endowment and are asked if they are willing to donate some portion of the endowment to a specified charity. Participants are randomly assigned to either the *Climate* condition or the *Generic* condition. In the *Climate* condition, the specified charity is climate-focused; in the *Generic* condition, it is a random charity from one of three causes (education, children, and health). Six climate charities are selected for the experiment (namely, The Climate Reality Project, Natural Resource Defense Council, Environmental Defense Fund, Carbon180, Friends of the Earth US, and Greenpeace Fund). Six non-climate charities are selected, including two education-focused charities (Teach for America and The Education Trust), two children-focused charities (Boys & Girls Club of America and UNICEF USA), and two health-focused charities (American Heart Association and American Cancer Society). All selected charities are 501(c)(3) organizations with at least 70% of their expenses dedicated to program services.⁸

⁸According to the Internal Revenue Service (IRS), 501(c)(3) organizations are “organized and operated exclusively for religious, charitable, scientific, testing for public safety, literary, educational, or other specified purposes and that meet certain other requirements are tax-exempt under Internal Revenue Code Section 501(c)(3).” (IRS, 2023)

Participants are given a short description of the nonprofit and are prompted to provide the percentage of the \$0.25 endowment they donate to charity in a slider question (See Appendix C). It is then reinforced that any amount they designate is actually donated to the charity upon completion of the experiment, and that they can retain any un-donated portion.

Part 3 - Post-experimental Questionnaire

The post-experimental questionnaire has two parts. In the first part, participants answer several questions regarding the decision they made in Part 2. They are required to rate their the perceived importance of the charity’s cause (*Important*), trust in the charity (*Trust*), and the perceived need for additional resources (*Need*).⁹ These questions are selectively adopted from those of Li et al. (2011)’s experiment. All ratings are expressed in ordinal terms on a scale of 1 to 5, with 1 indicating the least agreement, and 5 indicating the highest.¹⁰

Finally, the subject is asked to complete a post-experimental survey on their religiosity and religious affiliation along with other demographic information, including age, gender, education level, income level, state of residence, and political affiliation. These variables are recorded to control for potential confounding variables and to help interpret the results in a broader context.

With both the priming game (Part 1) and the charity dictator game (Part 2), the experiment results in a 2×2 between-subject design (see Figure 1). Four variables are thereby collected: the percentage of *Generic* donations among *Neutral*-primed and *Religious*-primed participants; and the percentage of *Climate* donations among *Neutral*-primed and *Religious*-primed participants.

⁹There is one additional question for participants in the climate group asking their level of agreement on the statement that “climate change is caused by human activities (*Human*).”

¹⁰Participants are allowed to opt out of the question. All opt-out responses are treated as missing values.

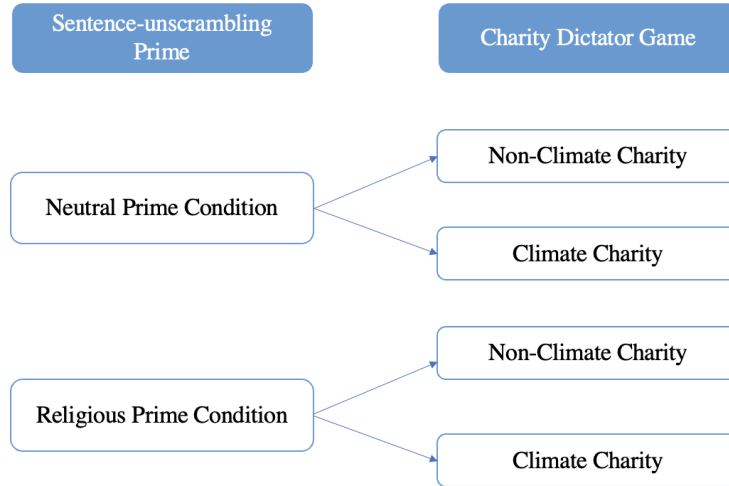


Figure 1: Four Combinations for Assigned Conditions

4.2 Main Experiment Sample

The experiment was programmed as an online survey through Qualtrics. It was fielded on Prolific on 13 Feb 2024, 1:00 PM - 4:08 PM targeting 1000 subjects from the United States. The data was collected in two separate batches at the same time to ensure sufficient representation of the religious population. The survey applied Prolific’s pre-screeners so that one batch recruited 600 subjects with Christian affiliation and the other batch recruited 400 agnostic/atheist subjects, based on their self-reported Prolific profile information. The survey also restricted the qualifications so that subjects must be fluent in English, with a previous Prolific approval rate larger than 98% and more than 10 previous submissions on Prolific. Subjects that have participated in the two pilot experiments are also excluded.

Subjects were told they would receive a fixed payment for completion of \$1.5 and possible bonus payments. In total, 1029 subjects participated in the survey, among whom 29 subjects were automatically excluded from the sample by the Prolific platform due to incomplete or timed-out responses. The average payment actually received is \$1.66 (s.d. 0.98), and the median participation time is 5 minutes 55 seconds for the religious batch and 4 minutes 52 seconds for the non-religious batch, which aligns with the Prolific platform standard.

4.3 Data Cleaning

Raw data were downloaded from Qualtrics and imported into STATA. The 29 subjects with incomplete or timed-out responses are dropped, therefore leaving a raw sample of 1000. From the raw sample, 53 subjects are excluded because they completed the survey abnormally slowly (time spent to complete the survey is more than two standard deviations larger than the average), leaving us a sample of 947.

The study identifies the subjects with mismatch and low-quality responses that could potentially hurt the robustness of the findings. First, it cross-references the religious affiliation information between what subjects submitted in the pre-screener versus what subjects reported in the survey. For example, if the subject has stated “Atheist/Agnostic” in the pre-screener while reported “Catholic” in the survey, it is considered a “Mismatch” and excluded from the sample. 18 mismatches are found out of the 947 subjects. Second, 16 out of the 947 responses are labeled as “Low Performance” based on their performance in the sentence-unscrambling tasks. The excluded subjects either failed to construct more than five coherent sentences that demonstrated effort, or did not drop the irrelevant word as instructed. Both “Mismatch” and “Low Performance” subjects are excluded in later analysis. The final sample of the study includes 914 subjects.

Two additional variables are re-coded. First, based on reported religious affiliation, the study re-codes a binary variable (*If_Religious*) to differentiate subjects that are religious versus not religious. All text-entry responses for subjects who selected “Other” are re-coded. In total, there are 881 observations for the *If_Religious* variable (33 missing values).¹¹ Among them, 371 subjects are not religious, whereas the remaining 510 subjects are religious. Second, the study generates a binary variable (*If_Donate*) to represent if the subject donates any percentage to the assigned charity. No missing value exists for the *If_Donate* variable.

4.4 Balance of Treatments

The final sample is almost well balanced concerning the prime condition (See Table 1) and charity assignment condition (See Table 2). Between the religious-primed and neutral-primed subjects, the percentage of democrats is the only one that is on the borderline statistical difference at the 5% significance level. The sample is perfectly balanced between the climate charity and the generic charity condition.

Subjects in either of the two conditions exhibit almost identical characteristics: average age is slightly above 40 years old; gender is almost equally divided between male and female; around three quarters are self-identified as white; around half of them

¹¹All 33 subjects who selected “Prefer not to answer” were re-coded as missing values.

lean more to the democratic party; slightly below half of them come from a household with more than \$75,000 annual income; slightly above half of them have achieved a Bachelor’s degree; slight above one-fifth of them attend religious services at least once per week; and the average time to complete the study is around six minutes.

Table 1: Main Experiment Subject Randomization by Prime Group

	Religious Prime	Neutral Prime	All	t-tests
Average age	40.97	42.30	41.63	$p = 0.1496$
% female	53.6	50.33	51.97	$p = 0.3237$
% white	70.39	75.78	73.07	$p = 0.0679$
% democrat	53.41	46.89	50.17	$p = 0.0500$
% annual household income > \$75,000	38.20	42.38	40.29	$p = 0.2044$
% who achieved Bachelor’s degree	54.8	56.19	55.49	$p = 0.6733$
% who attend religious services at least once per week	22.3	21.12	21.71	$p = 0.6705$
Average time to complete the study (seconds)	371.08	351.41	361.29	$p = 0.0704$
N	459	455	914	
% N	50.22	49.78	100	

Table 2: Main Experiment Subject Randomization by Charity Group

	Climate Charity	Generic Charity	All	t-tests
Average age	41.22	42.05	41.63	$p = 0.3679$
% female	51.21	52.72	51.97	$p = 0.6472$
% white	72.63	73.51	73.07	$p = 0.7648$
% democrat	49.45	50.89	50.17	$p = 0.6663$
% annual household income > \$75,000	40.04	40.53	40.29	$p = 0.8818$
% who achieved Bachelor’s degree	53.08	57.89	55.49	$p = 0.1446$
% who attend religious services at least once per week	19.19	24.22	21.71	$p = 0.0679$
Average time to complete the study (seconds)	359.23	363.32	361.29	$p = 0.7065$
N	455	459	914	
% N	49.78	50.22	100	

4.5 Relevant Outcome Variables

Table 3 shows summary statistics for the main outcome variables. The average donation percentage point is 36.04, with substantial variation as reflected by the high standard deviation ($sd = 38.99$). Mean donation percentage to climate charity is 31.56, whereas the mean donation percentage to generic charity is 40.48. Result from one-tailed t-test confirms that donation percentages to generic are significantly higher than those to climate charities ($p = 0.0003$).

The average likelihood to donate is 0.62. Overall, the average likelihood to donate is lower for climate charities (0.57) than for generic charities (0.68). One-tailed t-test supports this difference as statistically significant ($p = 0.0005$).

Ratings on the perceived importance of the charity’s cause (*Important*), trust in the charity (*Trust*), and the perceived need for resources (*Need*) all have mean above the mid-point (3 out of 5): mean ratings are 4.59 for Importance (between “Agree” and “Strongly Agree”), 3.61 for Trust (between “Neither Trust nor Distrust” and “Somewhat Trust”), and 3.83 for Need (between “Moderate Resource” and “Significant Resource”).

Table 3: Summary Statistics of Donation and Perception

Variable	Obs	Mean	Std. Dev.	Min	Max
Donation Percentage	914	36.04	38.99	0	100
Climate Donation Percentage	455	31.56	37.43	0	100
Generic Donation Percentage	459	40.48	40.02	0	100
<i>If_Donate</i>	914	0.62	0.49	0	1
<i>If_Donate_Climate</i>	459	0.57	0.50	0	1
<i>If_Donate_Generic</i>	455	0.68	0.49	0	1
Important	909	4.59	0.93	1	5
Trust	884	3.61	1.09	1	5
Need	812	3.83	1.15	1	5

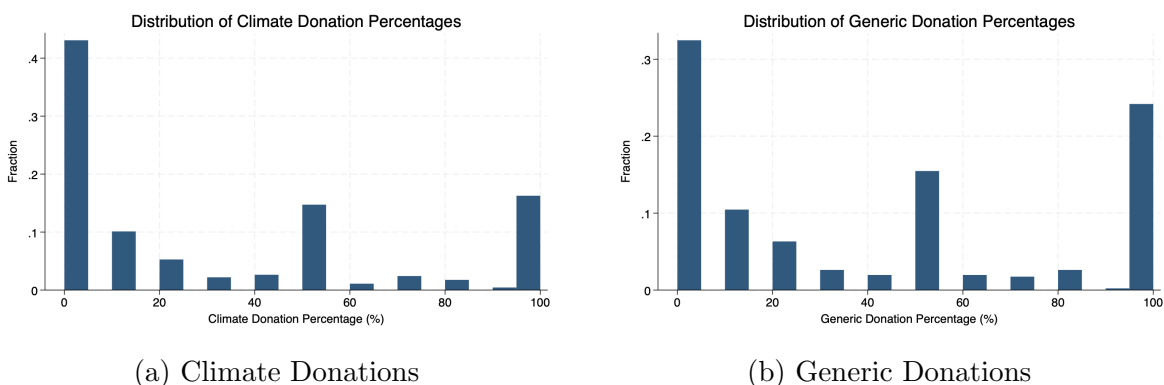


Figure 2: Histograms of Donations by Charity Group

Figure 2 shows that subjects’ donation percentages are most likely to be among donate nothing (0%), donate half (50%), and donate all (100%). By the Kolmogorov–Smirnov test, the study rejects that the frequency distributions of donation percentages are the same among religious and non-religious subjects ($p = 0.004$) (See Table 4). Similarly, the frequency distributions of donation percentages are statistically significantly different in the Climate condition versus the Generic condition ($p = 0.012$) (See Table 5). In contrast, the result in Table 6 shows that the distribution of donation between the

two prime conditions does not yield significant differences ($p = 0.828$). The study later sets up regression models to further test the priming effects.

Table 4: Kolmogorov–Smirnov Test for Equality of Distribution (Religious Identity)

Smaller group	D	p-value
Not Religious	0.1193	0.002
Religious	-0.0475	0.380
Combined K-S	0.1193	0.004

Table 5: Kolmogorov–Smirnov Test for Equality of Distribution (Charity Group)

Smaller group	D	p-value
Generic	0.0000	1.000
Climate	-0.1062	0.006
Combined K-S	0.1062	0.012

Table 6: Kolmogorov–Smirnov Test for Equality of Distribution (Prime Group)

Smaller group	D	p-value
Neutral Prime	0.0414	0.457
Religious Prime	-0.0233	0.780
Combined K-S	0.0414	0.828

4.6 Summary Statistics

Table 7 shows the summary statistics of the final sample between religious subjects and non-religious subjects. Results from t-tests for differences in means show that religious and non-religious subjects are virtually identical in terms of mean gender distribution (% female), ethnicity (% white), annual household income (% above \$75,000), an education level (% with a Bachelor’s degree). In contrast, t-tests yield statistically significant differences between religious and non-religious subjects in terms of age, political affiliation, and average time to complete the study. The religious sample is, on average, older, less likely to be democrats, and spends a longer time to complete the study.

Results from two-tailed t-tests fail to capture statistically significant differences between religious and non-religious subjects on donation percentage, climate donation percentage, or generic donation percentage. Religious and non-religious participants are almost identical in terms of giving on climate issues and giving in general in the laboratory charity dictator game setting.

Table 7: Main Experiment Subject Characteristics by Religious Identity

	Non-religious	Religious	All	t-tests
Average age	37.23	45.27	41.89	$p = 0.0000$
% female	50.94	53.14	52.21	$p = 0.5203$
% white	76.49	71.12	73.37	$p = 0.0757$
% democrat	68.83	37.64	50.73	$p = 0.0000$
% annual household income > \$75,000	37.85	42.26	40.42	$p = 0.1919$
% who achieved Bachelor's degree	56.87	55.88	56.3	$p = 0.7700$
% who attend religious services at least once per week	0	38.37	22.11	$p = 0.0000$
Average time to complete the study (seconds)	313.49	393.84	360.00	$p = 0.0000$
Average climate donation percentage	32.38	31.15	31.69	$p = 0.7332$
Average generic donation percentage	40.90	40.83	40.86	$p = 0.9852$
Average donation percentage	36.47	36.20	36.31	$p = 0.9185$
N	371	510	881	
% N	42.11	57.89	100	

5 Empirical Specification

The primary objective of the study is to explore if religious identity salience affects individuals' charity contributions to climate change. To achieve this, the study tests whether (1) the percentage of *Climate* donations varies between religious participants receiving *Religious*-prime and those receiving *Neutral*-prime, and whether (2) the difference between percentage of *Climate* donations and percentage of *Generic* donations varies between *Religious*-primed religious participants and *Neutral*-primed religious participants.

Hypothesis 1 The percentage of *Climate* donations varies between *Religious*-primed participants and *Neutral*-primed participants.

The study wants to test if the religious prime affects participants' behaviors if they are religious. It expects religious-primed participants' behaviors to be more aligned with their religious norms in a way that reflects the level of support for climate issues, as religious norms offer explanations of the human-nature relationship that is relevant to the climate discussion. Therefore, among religious participants, the study expects a difference between climate donations for participants who receive religious primes and those who receive neutral primes.

The study runs a regression with interaction to test Hypothesis 1.

$$\begin{aligned} \text{Climate_Donation}_i = & b_0 + b_1 \text{If_Religious}_i + b_2 \text{Prime}_i \\ & + b_3 \text{If_Religious}_i \times \text{Prime}_i + \lambda X_i + \varepsilon_i \end{aligned} \quad (4)$$

where *Climate_Donation* is the percentage of endowment donated when subject i is assigned to a *Climate* charity, X_i are controls on age, gender, education level, income level, state of residence, and political affiliation, and ε_i is the error term.

The coefficient b_1 captures the descriptive relationship between being religious and how much the subject donates to a climate charity; b_2 captures the religious prime's impact on a non-religious subject; b_3 captures the marginal effect of the religious prime on how much a religious subject donates to a climate charity. Under Hypothesis 1, the study tests if b_3 is statistically significantly different from zero.

Hypothesis 2 The difference between percentage of *Climate* donations and percentage of *Generic* donations varies between *Religious*-primed religious participants and *Neutral*-primed religious participants.

To test Hypothesis 2, we further establish a three-way interaction model,

$$\begin{aligned}
Donation_Pct_i = & \beta_0 + \beta_1 If_Religious_i + \beta_2 Prime_i + \beta_3 Climate_i \\
& + \beta_4 If_Religious_i \times Prime_i \\
& + \beta_5 Climate_i \times Prime_i \\
& + \beta_6 If_Religious_i \times Climate_i \\
& + \beta_7 Climate_i \times Prime_i \times If_Religious_i + \lambda X_i + \varepsilon_i \quad (5)
\end{aligned}$$

where *Donation_Pct* is the percentage of endowment donated by subject *i*, X_i are controls on age, gender, education level, income level, state of residence, and political affiliation, and ε_i is the error term.

In the regression, *Prime_i* is the dummy variable that indicates if the participants have received a religious prime, *Climate_i* is the dummy variable which indicates if the participants are assigned to the climate group, and *If_Religious* is a dummy specifying if the subject is religious. Therefore, β_0 is the expected donation to a *Generic* charity for a non-religious, *Neutral*-primed subject; β_1 is the marginal effect of being religious to the percentage of donations, while the subjects are *Neutral*-primed and assigned with a *Generic* charity; β_2 is the marginal effect if the non-religious subject received *Religious*-prime, while still being assigned to a *Generic* charity; and β_3 is the marginal effect if the non-religious, *Neutral*-primed subject is assigned to a *Climate* charity. The three two-way interaction terms test the moderating effect of being religious, being *Religious*-primed, and being assigned to *Climate* charity to donation percentages. β_4 estimates the additional change in donation percentage for a religious individual who received *Religious*-prime; β_5 estimates if *Religious*-prime has an additional impact to donation percentages if the non-religious subject is assigned to a *Climate* charity; β_6 captures the additional donation a religious subject would give if they are assigned with a *Climate* charity. Finally, the β_7 coefficient of the three-way interaction term $Climate_i \times Prime_i \times If_Religious_i$ sheds light on the additional impact if a subject is religious, received *Religious*-prime, and is assigned to a *Climate* charity. The expected donation of such an individual would be the sum of all coefficients.

The significance of β_2 , β_4 , β_5 , and β_7 will determine if the *Religious*-primes create differential impacts on subjects' donation behaviors. To test Hypothesis 2, the study focuses on β_7 . If β_7 is statistically significantly different from zero, it indicates that there is a causal relationship between subjects' religious identities and climate-sustainable behavior since the *Religious*-primes have significant impacts on religious subjects' donations to *Climate* charities.

6 Results

6.1 Priming Effect on Climate Donation

The mean climate donation percentage and likelihood to donate to the climate charity across the Religious prime and Neutral prime condition is shown in Figure 3. The study conducts paired-sample, two-tailed t-tests to compare the means of climate donations from the two Prime Groups (*Religious* versus *Neutral*) by pooling religious and non-religious samples. Neither of them shows a significant effect of religious priming on how much a subject donates to the assigned climate charity ($p = 0.9991$ and $p = 0.6812$, respectively). The mean climate donations are not statistically different for the two Prime Groups across the entire sample ($p = 0.8076$). The study also performs proportion tests on the mean likelihood that a subject donates to the climate charity. It fails to reject that the religious priming has no impact on the likelihood of donating to climate charity across the entire ($p = 0.3790$), religious ($p = 0.5857$), and non-religious ($p = 0.7979$) sample.

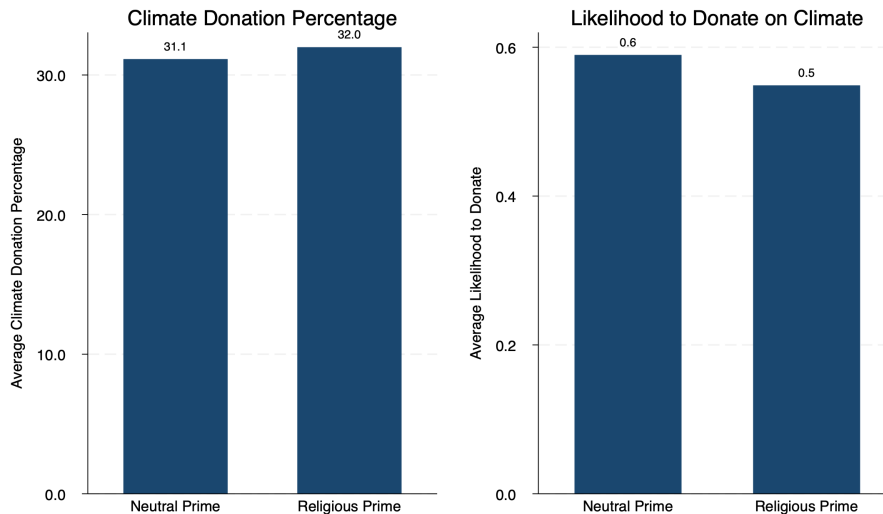


Figure 3: Mean Climate Donation Percentage and Likelihood to Donate on Climate Across Prime Group

Regression results in Table 8 also fail to demonstrate a significant priming effect on climate donation. The coefficient b_3 of *Religious* \times *Climate* is not statistically significantly different from zero. Thus, the effect from the religious prime is neither significant in predicting the likelihood of donation to climate, or the percentage of donation, when controlling for the demographic factors. The regression results suggest a higher likelihood to donate and a higher donation percentage on climate predominantly among subjects who are female or of higher age.

Table 8: Regression on Climate Donation

	Likelihood to Donate on Climate		Climate Donation Percentage	
	(1)	(2)	(3)	(4)
Main				
Religious	0.250 (0.112)	0.183 (0.382)	0.0182 (0.997)	-2.307 (0.703)
Religious Prime	-0.0742 (0.599)	-0.142 (0.493)	-0.0366 (0.993)	-2.566 (0.680)
Religious \times Religious Prime		0.125 (0.648)		4.531 (0.563)
Control				
Age	0.0111* (0.050)	0.0113* (0.047)	0.416** (0.008)	0.420** (0.008)
Female	0.396** (0.006)	0.401** (0.005)	8.111* (0.048)	8.283* (0.045)
Education	-0.0353 (0.487)	-0.0364 (0.472)	-0.0491 (0.972)	-0.0649 (0.963)
Income	-0.00178 (0.974)	-0.00155 (0.978)	-1.255 (0.452)	-1.231 (0.460)
Constant	-0.934 (0.181)	-0.897 (0.204)	6.797 (0.779)	7.967 (0.744)
Political Affiliation Fixed	Yes	Yes	Yes	Yes
Ethnicity Fixed	Yes	Yes	Yes	Yes
State Fixed	Yes	Yes	Yes	Yes
Observations	408	408	428	428
Adjusted R^2			0.035	0.033
χ^2	61.14	61.71		

P-values in parentheses.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

This effect is also insignificant for specific religious groups when the study replaces the *If_Religious* dummy with a categorical variable *Religion* to indicate the subject's religious affiliation (See Table 13 in Appendix A). The religious prime does not generate statistically significant differential impacts across subjects of different religious affiliations.

There are multiple implications of such findings. It could be because the *Religious*-prime might be too implicit to activate the religious norms or because the religious norms don't extensively address climate concerns and, therefore, are less influential on climate-related behaviors. Since previous meta-analyses have documented the efficacy of the *Religious*-prime (Shariff et al., 2015), the above results suggest that the way religious identities are activated may not be impactful enough to evoke a change in climate donations. Despite that, the results of the presently study are consistent with the previous experiment by Engler et al. (2019) that also yields insignificant religious priming effect on climate donations.

6.2 Priming Effect on Climate Donation with Perception Controlled

To understand the determinants of climate donation, the study adds into the model three additional control variables: (i) perceived importance of charity cause (*Important*), trust in charity (*Trust*), and perceived need for resources (*Need*). Regression results are shown in Table 9.

The specification does not detect any significant priming effect on religious subjects' likelihood to donate or the donation percentage to climate charity. The absence of a statistically significant coefficient of the *Religious* \times *ReligiousPrime* interaction suggests no evidence for a causal impact from religious identity to climate-sustainable behavior — since making religious identity more salient through the prime does not influence how likely and how much people donate to climate charities.

The result shows that trust in charity has a very strong and positive effect on both the likelihood to donate to climate ($p < 0.001$ as shown in model (2)) and climate donation percentage ($p < 0.001$ as shown in model (4)). In addition to that, among the demographic controls, age coefficients remain statistically significant, showing that older people are more likely to donate and donate more on climate. Females consistently show a higher propensity to donate, yet they do not necessarily donate more when the perceptions are controlled.

The results suggest that while religious norms are relevant to climate beliefs, these notions do not necessarily translate into actions for or against climate movements. The study doesn't yield evidence suggesting that individual donations to climate differ across their religious backgrounds, nor does it change when religious identities are primed. Nevertheless, the trustworthiness of the charity is a significant contributing factor to motivating individual climate donations. Higher levels of trust are associated with more donations to charities. In Section 6.2, the study continues the evaluation by benchmarking *Climate* donations to *Generic* donations to see if there is a differential pattern across charity causes.

Table 9: Regression on Climate Donation, Condition on Perception

	Likelihood to Donate on Climate		Climate Donation Percentage	
	(1)	(2)	(3)	(4)
Main				
Religious	0.183 (0.382)	0.135 (0.619)	-2.307 (0.703)	-2.879 (0.657)
Religious Prime	-0.142 (0.493)	-0.120 (0.638)	-2.566 (0.680)	0.920 (0.888)
Religious \times Religious Prime	0.125 (0.648)	0.0967 (0.777)	4.531 (0.563)	-0.777 (0.924)
Important		0.223* (0.043)		0.982 (0.660)
Trust		0.634*** (0.000)		12.94*** (0.000)
Need		0.0507 (0.566)		3.591 (0.065)
Control				
Age	0.0113* (0.047)	0.0181** (0.006)	0.420** (0.008)	0.449** (0.004)
Female	0.401** (0.005)	0.384* (0.029)	8.283* (0.045)	5.646 (0.183)
Education	-0.0364 (0.472)	-0.0615 (0.326)	-0.0649 (0.963)	0.165 (0.912)
Income	-0.00155 (0.978)	0.00885 (0.887)	-1.231 (0.460)	-0.729 (0.657)
Constant	-0.897 (0.204)	-3.908*** (0.000)	7.967 (0.744)	-44.64* (0.044)
Political Affiliation Fixed	Yes	Yes	Yes	Yes
Ethnicity Fixed	Yes	Yes	Yes	Yes
State Fixed	Yes	Yes	Yes	Yes
Observations	408	344	428	365
Adjusted R^2			0.033	0.196
χ^2	61.71	120.4		

P-values in parentheses.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

6.3 Priming Effect on Donation

The study examines if religious priming causes a change in donation on climate relative to donation on non-climate causes in Table 10. As shown in models (3) and (6), the study fails to capture any statistically significant coefficient (β_7) of the *Climate* \times *ReligiousPrime* \times *Religious* interaction term for both extensive (likelihood to donate) and intensive margin (donation percentage). Such a finding indicates that the religious prime doesn't yield a differential impact on religious subjects' propensity to donate and donation percentage to climate charities. Model (3) shows significance at 5% level on the interaction term *Religious* \times *ReligiousPrime* (β_4) when predicting the likelihood to donate. A significantly negative coefficient indicates that religious participants, after being primed on their religious identities, are actually showing a decrease in propensity to donate. Such finding contradicts with the tendency of pro-sociality that Shariff and Norenzayan (2007) finds in the classic dictator game setting, where religious-primed subjects generally offer more money to their counterparts. The negative effect appears significant only on the propensity to donate while insignificant on donation percentage, a similar null effect as D. Benjamin et al. (2016) documents in religious subjects' giving in classic dictator game setting. Since the present study applies a charity dictator game setting, the study hypothesizes that multiple underlying motivations might shape people's donation decisions. The study explores three potential motivation channels (Importance, Trust, and Need) in Section 6.4.

The regression results in Table 10 yield interesting findings on the relationship between religious identities and donation behaviors. First, being religious is consistently associated with a higher likelihood to donate across models (1) - (3) controlling for demographic factors. However, in models (4) - (6), results show that such a higher likelihood to donate doesn't necessarily mean a higher percentage of donation, as no significant relationship exists between religious identities (*Religious*) and donation percentage. Second, results also show that donation behaviors are likely correlated with charity causes, as both models (1) and (4) show that subjects are less likely to donate and donate less when assigned to a *Climate* charity. Yet, such significance disappears for likelihood to donate and decreases for donation percentage when interaction terms are added to the specifications.

Table 10: Regression on Donation

	Likelihood to Donate			Donation Percentage		
	(1)	(2)	(3)	(4)	(5)	(6)
Main						
Religious	0.348** (0.001)	0.533** (0.002)	0.687*** (0.001)	0.518 (0.867)	3.110 (0.552)	6.378 (0.284)
Religious Prime	-0.0299 (0.748)	0.179 (0.292)	0.365 (0.070)	-1.043 (0.698)	3.105 (0.549)	7.234 (0.249)
Climate	-0.328*** (0.000)	-0.151 (0.373)	0.0213 (0.915)	-10.05*** (0.000)	-10.59* (0.039)	-6.634 (0.276)
Religious \times Religious Prime		-0.208 (0.267)	-0.536* (0.047)		-6.476 (0.247)	-13.37 (0.099)
Climate \times Religious Prime		-0.188 (0.326)	-0.539 (0.058)		-0.718 (0.896)	-8.639 (0.313)
Religious \times Climate		-0.159 (0.401)	-0.467 (0.079)		1.301 (0.812)	-5.413 (0.485)
Climate \times Religious Prime \times Religious			0.629 (0.096)			13.71 (0.210)
Control						
Age	0.0134*** (0.000)	0.0133*** (0.000)	0.0135*** (0.000)	0.357*** (0.001)	0.355*** (0.001)	0.359*** (0.001)
Female	0.282** (0.003)	0.279** (0.003)	0.286** (0.002)	7.697** (0.005)	7.719** (0.005)	7.859** (0.004)
Education	0.0197 (0.588)	0.0226 (0.534)	0.0226 (0.534)	0.116 (0.910)	0.123 (0.904)	0.136 (0.895)
Income	0.0383 (0.292)	0.0341 (0.351)	0.0349 (0.340)	0.572 (0.595)	0.540 (0.617)	0.553 (0.610)
Constant	-0.929* (0.041)	-1.114* (0.017)	-1.216** (0.010)	21.50 (0.150)	19.99 (0.188)	17.64 (0.248)
Political Affiliation Fixed	Yes	Yes	Yes	Yes	Yes	Yes
Ethnicity Fixed	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed	Yes	Yes	Yes	Yes	Yes	Yes
Observations	855	855	855	866	866	866
Adjusted R^2				0.057	0.056	0.056
χ^2	109.8	110.8	114.3			

P-values in parentheses.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

6.4 Priming Effect on Donation with Perception Controlled

Regression results in Table 11 fail to arrive at significant coefficients for the *Climate* \times *ReligiousPrime* \times *Religious* interaction term to establish a causal impact of religious identities on climate donation behaviors. None of the interaction terms are significant in the perception-controlled specifications (2),(4), and (6). In addition to that, the statistically significant coefficient of *Religious* that represents the effect of being religious on the likelihood to donate disappears from model (1) to model (2). The decrease in magnitude and significance level suggests that the inclusion of control variables captures aspects of donation motivation that earlier have been attributed to religious identities.

The analysis shows that, among the three controlled perceptions, the trust in charity (*Trust*) and the perceived need for resources (*Need*) are significant predictors of the subject's likelihood to donate and the donation percentage in all model specifications (1) — (6). The coefficients are all positive under at least 1% level of significance, when demographic factors such as age, gender, education, income level, political affiliation, ethnicity, and state of residence are controlled. This finding suggests that the higher the level of trust the subject has in the assigned charity or the higher perception of the need for resources, the subject has a higher likelihood to donate and a higher donation percentage to charity.

In contrast, a higher level of importance a subject places on the charity cause doesn't mean a subject necessarily donates more to the charity. An insignificant coefficient on *Important* in model (4) suggests such finding. An increase in perceived importance doesn't necessarily translate into an increase in donation percentage, despite that there is a relatively small increase in likelihood to donate. The mean of 4.59 out of 5 suggests that there is a possible ceiling effect since the distribution of ratings is skewed to the left (Šimkovic and Träuble, 2019).

Table 11: Regression on Donation, Condition on Perception

	Likelihood to Donate		Donation Percentage		Donation Pct	Donate
	(1)	(2)	(3)	(4)	(5)	(6)
Main						
Religious	0.687*** (0.001)	0.428 (0.059)	6.378 (0.284)	-0.306 (0.959)	-10.90 (0.107)	-12.42 (0.075)
Religious Prime	0.365 (0.070)	0.351 (0.141)	7.234 (0.249)	4.843 (0.433)	0.0284 (0.997)	-3.355 (0.635)
Climate	0.0213 (0.915)	0.125 (0.614)	-6.634 (0.276)	-7.140 (0.275)	-10.38 (0.173)	-12.99 (0.110)
Religious \times Religious Prime	-0.536* (0.047)	-0.220 (0.480)	-13.37 (0.099)	-6.829 (0.383)	-4.929 (0.578)	-1.059 (0.906)
Climate \times Religious Prime	-0.539 (0.058)	-0.484 (0.152)	-8.639 (0.313)	-2.132 (0.805)	4.517 (0.665)	10.77 (0.316)
Religious \times Climate	-0.467 (0.079)	-0.0925 (0.780)	-5.413 (0.485)	3.290 (0.679)	2.779 (0.770)	7.399 (0.452)
Climate \times Religious Prime \times Religious	0.629 (0.096)	0.269 (0.549)	13.71 (0.210)	2.888 (0.791)	1.848 (0.890)	-6.967 (0.610)
Important		0.157* (0.046)		-0.568 (0.710)		-1.162 (0.664)
Trust		0.484*** (0.000)		11.63*** (0.000)		7.568*** (0.000)
Need		0.212*** (0.000)		6.855*** (0.000)		6.291** (0.002)
Control						
Age	0.0135*** (0.000)	0.0130** (0.004)	0.359*** (0.001)	0.249* (0.018)	0.150 (0.199)	0.0985 (0.398)
Female	0.286** (0.002)	0.384*** (0.001)	7.859** (0.004)	7.638** (0.005)	4.247 (0.172)	4.322 (0.173)
Education	0.0226 (0.534)	0.0124 (0.772)	0.136 (0.895)	0.197 (0.848)	-0.461 (0.693)	-0.0973 (0.936)
Income	0.0349 (0.340)	0.0362 (0.378)	0.553 (0.610)	0.557 (0.594)	-0.304 (0.799)	-0.578 (0.633)
Constant	-1.216** (0.010)	-4.600*** (0.000)	17.64 (0.248)	-45.45** (0.004)	82.69*** (0.000)	20.34 (0.425)
Political Affiliation Fixed	Yes	Yes	Yes	Yes	Yes	Yes
Ethnicity Fixed	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed	Yes	Yes	Yes	Yes	Yes	Yes
Observations	855	744	866	758	539	494
Adjusted R^2			0.056	0.227	0.041	0.115
χ^2	114.3	210.2				

P-values in parentheses.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

The above specification fails to document a significant priming effect and, therefore, suggests that there is less likely a causal relationship between religious identities and climate-sustainable behaviors or a casual relationship between religious identities and pro-social donation behaviors. However, charitable donation behaviors — how likely people donate and how much they donate — are very related to people’s trust in charity and the perceived need for resources. While findings in Section 6.2 suggest that trust is positively correlated with donation to climate charity, the above finding further suggests that enhanced perceptions of trust and need are positively associated with higher donations in general. In Section 7, the study conducts an exploratory analysis to investigate factors that correlate with *Important*, *Trust*, and *Need* based

on demographic data collected in the survey.

6.4.1 Robustness Check: Donation Percentage If Choose to Donate

In models (5) and (6) of Table 11, the study also explores how the model predicts the donation percentage conditional on subjects choosing to donate. The regression results indicate that *Trust* and *Need* remain as strong predictors in the specifications, with positive coefficients indicating more donations from donors with higher levels of trust in the charity, and more donations from donors with stronger perceptions that the charity needs additional resources. None of the social and demographic factors appear to be significant predictors, including age and gender, which have been significant predictors in models (1) — (4).

6.4.2 Robustness Check: Interaction Between Perception and Charity Cause

In Table 14 (See Appendix B), the study introduces an interaction between the perceptions and the charity cause. Regression results yield no significant coefficients for the interactions for the *Climate* \times *Important*, *Climate* \times *Trust*, and *Climate* \times *Need* interaction terms. Such a finding reflects that the effects of *Trust*, *Important*, and *Need* on the likelihood or percentage of donations do not differ significantly between climate and generic charities. At the same time, coefficients of *Trust* and *Need* remain statistically significant, which indicates that a higher level of trust in charity and a perceived need for resources are positively related to how likely and how much a subject donates — regardless of the charity’s cause.

7 Exploratory Analysis: Difference in Perception

This section explores the factors that explain the observed differences in reported levels of *Important*, *Trust*, and *Need* among subjects. The study hypothesizes that the perceptions might be correlated with their religious identity, the cause of the assigned charity, and many other demographic factors that shape the subjects' identities. The regression results are summarized in Table 12.

In models (1) (3) (5), the results show that political affiliation is a consistently strong predictor of *Important*, *Trust*, and *Need*. Compared with Democrats, Republicans rate the importance of charity causes lower by 0.607 points, exhibit 0.561 points less trust in charities, and perceive less need for additional resources by 0.608 points, all on a 5-point scale. Similarly, the relationships are statistically significant for Independents despite being less pronounced. Models (2) (4) (6) include an additional interaction term (*Political Affiliation* \times *Climate*) to examine whether the differences in perceptions across political affiliations are contextual based on charity causes. The regression results show that the coefficients for *Political Affiliation* become smaller and reduce or even lose their significance when the interaction is introduced. The statistically significant negative coefficients of *Republican* \times *Climate* indicate that Republicans' perceptions of *Important*, *Trust*, or *Need* for climate charities have significantly lower ratings relative to Democrats. They consider climate change significantly less important (-1.093), climate charities less trustworthy (-0.447), and additional resources less necessary for climate charities (-0.689). These coefficients are substantial in relative size, considering their impacts on 5-point scale ratings.

The coefficients of *Religious*, *Climate*, and their interaction term *Religious* \times *Climate* show interesting changes after the *Political Affiliation* \times *Climate* interaction is introduced. As shown in model (1), the interaction term *Religious* \times *Climate* has a statistically significant negative coefficient of -0.599 on individual perception of the importance of the charity cause (*Important*). The coefficient of the interaction reduces its significance but remains significant at 5% level in model (2) to which *Political Affiliation* \times *Climate* interaction is added. Individual perception about the importance of climate change issues is consistently negatively correlated with people's religious identities - being religious is associated with a lower level of importance given to climate issues. This finding suggests that religious individuals may prioritize other charity causes over climate compared with non-religious individuals. Another statistically significant coefficient is a positive one for *Religious*. However, the significance disappears in model (2). Once political affiliation is controlled with interaction on climate, religious identity appears to be a less relevant factor for the subject's rating on the importance of generic charity causes (Health, Education, Children)

The absence of statistically significant coefficients of *Religious* \times *Climate* in models (3) (4) (5) (6) indicates that being religious has no statistically significant relationship with the level of trust people have in the climate charity and their perception of climate charities' needs for additional resources. Additionally, the absence of statistically significant coefficients for *Religious* suggests that religious identity does not result in a differential impact on trust in generic charities or perceived need for resources among generic charities. Rather than religious identity, the climate focus of the charity and the political affiliation of the subject are stronger predictors of the level of trust in charity. Model (4) shows a statistically significant negative coefficient of *Climate* (-0.296), reflecting that subjects generally give less trust to climate charities. Similarly, the perceptions of the need for additional resources is significantly associated with the climate focus of the charity through its interaction with political affiliation. Older subjects generally perceive a greater need for resources in charitable organizations. When these social and demographic factors are controlled, no significant correlation is found between religious identity — and its interaction with the charity being climate-focused — on people's perceptions of the charity.

Table 12: Regression on Perceptions

	Important		Trust		Need	
	(1)	(2)	(3)	(4)	(5)	(6)
Main						
Religious	0.181** (0.008)	0.000991 (0.987)	0.214 (0.052)	0.128 (0.263)	0.0640 (0.602)	-0.0456 (0.720)
Climate	-0.104 (0.144)	0.0788 (0.233)	-0.355** (0.001)	-0.296** (0.010)	0.0605 (0.630)	0.154 (0.227)
Religious \times Climate	-0.599*** (0.000)	-0.264* (0.021)	-0.198 (0.186)	-0.0464 (0.767)	-0.277 (0.104)	-0.0698 (0.700)
Control						
Age	-0.000672 (0.766)	-0.000652 (0.770)	0.00292 (0.314)	0.00314 (0.283)	0.00914** (0.004)	0.00919** (0.004)
Female	0.108 (0.063)	0.0902 (0.110)	-0.00282 (0.970)	-0.00950 (0.898)	0.0562 (0.503)	0.0473 (0.572)
Education	0.00620 (0.812)	0.0141 (0.577)	0.0436 (0.140)	0.0455 (0.122)	-0.0539 (0.112)	-0.0519 (0.122)
Income	0.00522 (0.825)	0.00766 (0.741)	0.0203 (0.475)	0.0225 (0.431)	-0.0206 (0.530)	-0.0186 (0.569)
Ethnicity (Ref: White)						
Hispanic, Latino or Spanish origin	0.0249 (0.859)	0.0285 (0.836)	-0.232 (0.124)	-0.221 (0.145)	-0.0315 (0.859)	-0.00943 (0.958)
Black or African American	0.194* (0.023)	0.245** (0.005)	0.234 (0.051)	0.257* (0.034)	0.263* (0.044)	0.307* (0.021)
Asian	-0.141 (0.201)	-0.0732 (0.501)	-0.0787 (0.612)	-0.0502 (0.747)	-0.321 (0.101)	-0.274 (0.159)
American Indian or Alaska Native	0.374 (0.153)	0.333 (0.279)	-0.992 (0.143)	-0.990 (0.151)	0.604 (0.341)	0.539 (0.379)
Middle Eastern or North African	0.112 (0.508)	0.0842 (0.464)	0.267 (0.128)	0.252 (0.142)	-0.0789 (0.868)	-0.0985 (0.835)
Native Hawaiian or Other Pacific Islander	-0.0935 (0.494)	-0.170 (0.273)	0.932*** (0.000)	0.902*** (0.000)	0.455* (0.047)	0.420 (0.077)
Other	0.196 (0.148)	0.182 (0.164)	-0.276 (0.105)	-0.286 (0.082)	0.119 (0.632)	0.124 (0.614)
Prefer not to answer	0.0988 (0.695)	-0.0159 (0.952)	-0.650* (0.022)	-0.566 (0.192)	-0.0884 (0.720)	-0.114 (0.642)
Political Affiliation (Ref: Democrat)						
Republican	-0.607*** (0.000)	-0.0563 (0.405)	-0.561*** (0.000)	-0.335* (0.038)	-0.608*** (0.000)	-0.268 (0.106)
Independent	-0.342*** (0.000)	-0.0480 (0.522)	-0.325*** (0.001)	-0.196 (0.117)	-0.408*** (0.000)	-0.265 (0.058)
Other	-0.112 (0.547)	-0.385 (0.078)	-0.549* (0.025)	-0.896** (0.001)	-0.592* (0.045)	-1.040** (0.002)
None	-0.612* (0.011)	-0.224 (0.348)	-0.340 (0.137)	-0.320 (0.440)	-0.520 (0.101)	0.104 (0.845)
Prefer not to answer	0.0692 (0.689)	-0.0592 (0.720)	-0.557** (0.004)	-0.610** (0.002)	-0.114 (0.688)	-0.176 (0.552)
Political Affiliation \times Climate (Ref: Democrat \times Climate)						
Republican \times Climate		-1.093*** (0.000)		-0.447* (0.050)		-0.689** (0.009)
Independent \times Climate		-0.593*** (0.000)		-0.262 (0.146)		-0.289 (0.179)
Other \times Climate		0.535 (0.056)		0.722 (0.081)		0.879 (0.071)
None \times Climate		-0.648 (0.107)		-0.0609 (0.901)		-0.924 (0.150)
Prefer not to answer \times Climate		N/A		N/A		N/A
Constant	5.014*** (0.000)	4.879*** (0.000)	3.348*** (0.000)	3.288*** (0.000)	3.610*** (0.000)	3.483*** (0.000)
State Fixed	Yes	Yes	Yes	Yes	Yes	Yes
Observations	861	861	839	839	774	774
Adjusted R^2	0.177	0.223	0.102	0.105	0.068	0.078

P-values in parentheses.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

8 Limitations

8.1 Missing Manipulation Check

Given the insignificant priming effects almost across all groups, it is hard to tell if the study’s priming instrument is effective. D. Benjamin et al. (2016) utilize an identity elicitation task to see if the religious identities are successfully activated through the priming. The study decides not to employ such a task since it might inadvertently activate other types of identities (social or cultural). Although meta-analysis by Shariff et al. (2015) shows that the instrument has effective cognitive activation to produce robust effects on various pro-social measures, its applicability in the present study can still be questionable.

8.2 Missing Values and Use of Likert Scale

The present study applies a 5-point Likert scale to measure a subject’s perception of the assigned charity and its charity cause (*Important*, *Trust*, and *Need*). Subjects are also allowed to select “unsure” to opt out of the question. In the study, a substantial number of subjects, 102 out of 914, opted out of the *Need* question. In comparison, only a small number of subjects opted out of the *Important* and *Trust* questions (5 and 30 out of 914, respectively). All opt-out decisions are treated as missing values in the final analysis. Framing of the question is one possible reason that more respondents opt out of the *Need* question (Tanujaya et al., 2022): *Important* and *Trust* questions are framed as the level of agreement, whereas the *Need* question asks respondents directly the estimated quantity of additional resources. The current study considers the Likert scale to be sufficient to capture the directional effect these perceptions have on donation decisions. Nonetheless, a large number of missing responses to the *Need* question suggests the possible presence of response bias (Grimm, 2010). Respondents may be inclined to conceal their attitudes about resource needs for the charity, especially if they believe reporting a low resource need would be less socially desirable.

8.3 External Validity

An experimental setting is hard to capture all the complexities of real-world decision-making. Cartwright and Thompson (2023) state that the results of the charity dictator game should be generalized in caution beyond the experimental setting. In the present experiment, subjects donate around 30% to a climate charity and 40% to a generic charity. It is important to note that the absolute level of generosity should not be generalized in a natural setting, while the relative differences are more indicative of

what could happen outside the lab.

In addition, it is worth acknowledging that while Feldhaus et al. (2022) use willingness to support environmental causes as a proxy for sustainable behaviors, Clements et al. (2014) argue that religiosity can have differential influence on various aspects of environmental protection activities, such as perceived environmental dangerousness (from air pollution, pesticides and chemicals, water pollution, industrial contamination, etc.), willingness to pay or sacrifice (such as paying higher prices or taxes to protect the environment), and private environmental behaviors (such as reducing drive, reusing water, and reducing energy usage). The present study aligns with the results from Clements et al. (2014) in willingness to pay or sacrifice indicators. Yet, it should be noted that some other possible sustainable behaviors may not be directly linked to climate donation.

9 Conclusion

The present study applies identity theory to investigate in a laboratory setting whether religious identity has a causal linkage with charitable donation related to climate issues — a proxy for sustainable behavior. Through a 2×2 between-subject design, the study explores if the increase in religious identity salience impacts the extensive and intensive margin of pro-environmental behaviors, in terms of the likelihood to donate and the percentage of donated endowment. The study also explores if there is a relative difference in donations to charities of different causes to separate the pro-social aspect of sustainable behaviors, therefore investigating if the climate context matters for people’s decision-making.

The main results do not yield a significant priming effect on climate donation when controlling for demographic factors (including age, gender, ethnicity, education, income level, and state of residence) and perceptions (perceived importance of charity cause, trust in charity, and perceived need for resources). Neither the likelihood of donations to climate change issues nor the donation percentage to the assigned climate charity show significant differences between religious-primed and neutral-primed participants. The study also does not detect any differential patterns among different religious groups, a similar result as that of Engler et al. (2019)’s study.

The study fails to establish a significant priming effect when the study compares donations to climate charities with donations to generic charities. When controlling for demographic factors, religious prime yields a negative effect among the religious population on the likelihood to donate — a tendency that contradicts what Shariff and Norenzayan (2007) finds that religious-primed participants are more generous in giving in the classic dictator game setting. However, the priming effect is not statistically significant for donation percentage. In addition, after perceptions about importance, trust, and need are controlled, the study finds no evidence of religious priming effect on the likelihood to donate or donation percentage, a similar finding as that of D. Benjamin et al. (2016)’s classic dictator game setting.

Despite insignificant casual influence, the study documents a descriptive relationship between religion, climate, and donation. Being religious is associated with a higher likelihood to donate, and the relationship remains significant even when political beliefs and other demographic factors are controlled. People are also significantly less likely to donate to a climate charity than non-climate one, and they, on average, donate 10 percentage points less than the amount they choose to give to generic charities.

The study further notices that when the perceived importance of the charity cause, trust in charity, and perceived need for resources are controlled, the significance and relative size of the correlation between religious identities and the likelihood to donate

that the study finds earlier disappear. Trust in charity is significantly positively correlated with the likelihood to donate and donation percentage to climate charity; on the other hand, trust and perceived need for resources are also positively associated with a higher likelihood to donate and higher donation percentage regardless of the cause of the charity. The study then realizes that the determinants of whether people choose to donate and how much people donate to climate are less likely to be people's religious identities, but rather the perceptions of the charity, particularly about the trustworthiness of the charity.

In the exploratory analysis, the study explores demographic data collected in the survey to examine descriptive relationships with the perceptions on importance, trust, and need. The study notices that, when political affiliation and its interaction with climate are controlled, religious people give less importance to climate change issues relative to non-religious people. People generally give less trust in climate charities relative to generic ones. Among all demographic factors, political affiliation is found to have a significant impact on the three perceptions. Republicans consistently have lower perceptions of the importance of climate change, have lower trust in climate charities, and consider fewer resources necessary for climate charities compared with Democrats.

Although the study fails to establish a causal relationship between religious identity and climate-sustainable behavior, or a linkage between religious identity and pro-social behavior, the present study represents an interdisciplinary attempt to use experimental economics methodology to understand factors that shape decision-making in a more controlled setting. The findings shed light on the fact that the difference in religious beliefs is not likely the determining factor in shaping how individuals act in response to climate, but rather it is the trust in doing good that matters. This study suggests future research to use this methodology to explore additional factors that might shape people's decision-making on climate issues. It also prompts a re-examination of existing communication strategies, emphasizing the need to integrate knowledge-sharing and trust-building as fundamental components to garner public support for climate initiatives.

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Appendix A

Table 13: Regression on Climate Donation with Religious Group

	Likelihood to Donate on Climate		Climate Donation Percentage	
	(1)	(2)	(3)	(4)
Main				
Religion (Ref: Atheist/agnostic)				
Catholic	0.275 (0.179)	0.258 (0.345)	3.121 (0.558)	1.860 (0.803)
Evangelical Protestant	0.278 (0.247)	0.0839 (0.773)	-2.545 (0.694)	-6.326 (0.435)
Mainline Protestant	0.288 (0.172)	0.389 (0.183)	0.611 (0.919)	4.144 (0.637)
Other	-0.0249 (0.934)	0.525 (0.253)	-1.650 (0.827)	-0.634 (0.950)
Prefer not to answer	0.520 (0.207)	0.678 (0.291)	5.504 (0.610)	-5.430 (0.717)
Religious Prime	-0.0840 (0.542)	-0.0757 (0.720)	0.144 (0.971)	-0.776 (0.903)
Religion \times Religious Prime (Ref: Atheist/agnostic \times Religious Prime)				
Catholic \times Religious Prime		0.0253 (0.947)		2.251 (0.827)
Evangelical Protestant \times Religious Prime		0.546 (0.224)		10.23 (0.379)
Mainline Protestant \times Religious Prime		-0.189 (0.613)		-7.302 (0.514)
Other \times Religious Prime		-0.929 (0.129)		-2.300 (0.871)
Prefer not to answer \times Religious Prime		-0.226 (0.788)		16.78 (0.411)
Control				
Age	0.0102 (0.065)	0.0100 (0.070)	0.395* (0.011)	0.404** (0.009)
Female	0.403** (0.004)	0.399** (0.006)	7.461 (0.063)	7.895 (0.055)
Education	-0.0431 (0.398)	-0.0429 (0.405)	-0.165 (0.906)	-0.120 (0.932)
Income	-0.0124 (0.819)	-0.0178 (0.747)	-1.482 (0.370)	-1.641 (0.327)
Constant	-0.819 (0.238)	-0.711 (0.322)	10.88 (0.658)	12.31 (0.623)
Political Affiliation Fixed	Yes	Yes	Yes	Yes
Ethnicity Fixed	Yes	Yes	Yes	Yes
State Fixed	Yes	Yes	Yes	Yes
Observations	421	421	442	442
Adjusted R^2			0.030	0.023
χ^2	65.31	72.73		

P-values in parentheses.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Appendix B

Table 14: Regression on Donation, Condition on Perception About Climate Charity

	Likelihood to Donate			Donation Percentage		
	(1)	(2)	(3)	(4)	(5)	(6)
Main						
Religious	0.687*** (0.001)	0.428 (0.059)	0.436 (0.058)	6.378 (0.284)	-0.306 (0.959)	-0.525 (0.929)
Religious Prime	0.365 (0.070)	0.351 (0.141)	0.338 (0.164)	7.234 (0.249)	4.843 (0.433)	4.156 (0.502)
Climate	0.0213 (0.915)	0.125 (0.614)	1.276 (0.147)	-6.634 (0.276)	-7.140 (0.275)	15.36 (0.432)
Religious × Religious Prime	-0.536* (0.047)	-0.220 (0.480)	-0.200 (0.529)	-13.37 (0.099)	-6.829 (0.383)	-6.289 (0.422)
Climate × Religious Prime	-0.539 (0.058)	-0.484 (0.152)	-0.482 (0.155)	-8.639 (0.313)	-2.132 (0.805)	-1.673 (0.847)
Religious × Climate	-0.467 (0.079)	-0.0925 (0.780)	-0.142 (0.668)	-5.413 (0.485)	3.290 (0.679)	3.118 (0.695)
Climate × Religious Prime × Religious	0.629 (0.096)	0.269 (0.549)	0.254 (0.574)	13.71 (0.210)	2.888 (0.791)	2.616 (0.810)
Important		0.157* (0.046)	0.306* (0.036)		-0.568 (0.710)	1.567 (0.701)
Trust		0.484*** (0.000)	0.442*** (0.000)		11.63*** (0.000)	10.97*** (0.000)
Need		0.212*** (0.000)	0.305*** (0.000)		6.855*** (0.000)	9.442*** (0.000)
Climate × Important			-0.165 (0.341)			-1.385 (0.759)
Climate × Trust			0.0958 (0.479)			1.101 (0.710)
Climate × Need			-0.179 (0.118)			-5.107 (0.054)
Control						
Age	0.0135*** (0.000)	0.0130** (0.004)	0.0130** (0.004)	0.359*** (0.001)	0.249* (0.018)	0.245* (0.020)
Female	0.286** (0.002)	0.384*** (0.001)	0.367** (0.002)	7.859** (0.004)	7.638** (0.005)	7.453** (0.008)
Education	0.0226 (0.534)	0.0124 (0.772)	0.0129 (0.763)	0.136 (0.895)	0.197 (0.848)	0.185 (0.857)
Income	0.0349 (0.340)	0.0362 (0.378)	0.0377 (0.363)	0.553 (0.610)	0.557 (0.594)	0.571 (0.585)
Constant	-1.216** (0.010)	-4.600*** (0.000)	-5.508*** (0.000)	17.64 (0.248)	-45.45** (0.004)	-62.61** (0.008)
Political Affiliation Fixed	Yes	Yes	Yes	Yes	Yes	Yes
Ethnicity Fixed	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed	Yes	Yes	Yes	Yes	Yes	Yes
Observations	855	744	744	866	758	758
Adjusted R^2				0.056	0.227	0.228
χ^2	114.3	210.2	220.2			

P-values in parentheses.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Appendix C Experiment on Qualtrics

Key for reading Appendix 1:

- Horizontal lines represent page breaks. In Qualtrics, participants will move on from one page to the next by clicking a button at the bottom. They cannot return to previous pages.
- Italicized text indicates survey logic or notes to the IRB reader.
 - Italicized text and headings will not be displayed as text in the survey.
 - Some numbers will be defined and written as variables using italicized text.
 - The conditions will be indicated using italicized text.

C.1 Instruction and Consent

You are invited to participate in an economic experiment concerning how people make choices.

Key Information:

This research study is part of the undergraduate thesis project of a Duke University student.

For completing the study, you will be paid $Y[\$ 1.5*$ *adjusted according to platform standards*]. We will ask you to perform a sentence-unscrambling task, make decisions on money allocation, and answer some demographic questions. You can additionally receive a bonus payment depending on your choices in the survey. This study should take about $[T *$ *adjusted to the actual average time to take the study estimated to be between 6 and 8 minutes*] to complete.

We will not ask your name at any point during the study, so your responses can never be connected to you. Data collected in this study (without your [Prolific/Mturk] ID) may be shared with other researchers or used for future research purposes.

Your participation is voluntary. You can withdraw at any time by closing the survey. However, to receive your completion code for payment, you must reach the last screen.

In accordance with platform policies, we may reject your work if the HIT was not completed correctly or the instructions were not followed.

We know of no risks resulting from participating in the study.

If you have questions about this research, you can send a message to the researchers via [Prolific/Mturk]. If you have any questions concerning your rights as a participant in this research study, you can contact the Duke University Campus Institutional Review Board at campusirb@duke.edu, referencing Protocol ID#2024-0199.

Please indicate below whether you consent to take part in this study.

- Yes, I consent to take part in this study.
 - No, I do not consent to take part in this study.
-

If “No, I do not consent to take part in this study” then:

As you do not wish to participate in this study, please **return** your submission on [Prolific/Mturk] by selecting the “Stop without completing” button.

Else:

Please enter your [Prolific/Mturk] ID here: *[text entry]*

Welcome! Thank you for participating in this study. The study will have two parts:

1. Completing a sentence-unscrambling task
2. Answering some questions

Each part should take about 3-5 minutes. Altogether, the survey should take about 10 minutes to complete.

During the survey, there may be opportunities to obtain bonus money, which you would receive in addition to the fixed payment of for completing the survey.

Please read each question carefully. It is important that you remove any potential distractions (e.g. phone, music, watches, email).

C.2 PART 1: Sentence-Unscrambling Task

Participants will be randomly assigned to either the neutral-prime condition, or the religion-prime condition.

In this task, you will be presented with 10 groups of five words. Your task is to drop one irrelevant word from each group and rearrange the remaining words to form a coherent four-word sentence. There will be ten such groups in total.

Example of question:

Apples red delicious are fruits → ***Red apples are delicious.***

The order of these questions will be randomized. The Qualtrics program will randomly order the word groups. For each question, participants will see a text-entry box after

the question where they can type their answer.

Please drop one irrelevant word and rearrange the remaining words to form a coherent four-word sentence.

Neutral-prime condition:

- (1) fall was worried she always;
- (2) shoes give replace old the;
- (3) retrace good have holiday a;
- (4) more paper it once do;
- (5) send I over it mailed;
- (6) saw hammer he the train;
- (7) yesterday it finished track he;
- (8) sky the seamless blue is;
- (9) predictable he shoes his tied;
- (10) prepared somewhat I was retired.

Possible unscrambled sentences are as follows:

- (1) *she always was worried;*
- (2) *replace the old shoes;*
- (3) *have a good holiday;*
- (4) *do it once more;*
- (5) *I mailed it over;*
- (6) *he saw the hammer/train;*
- (7) *he finished it yesterday;*
- (8) *the sky is blue;*
- (9) *he tied his shoes;*
- (10) *I was somewhat prepared.*

Religion-prime condition:

- (1) felt she eradicate spirit the;
- (2) dessert divine was fork the;
- (3) appreciated presence was imagine her;
- (4) more paper it once do;
- (5) send I over it mailed;
- (6) evil thanks give God to;
- (7) yesterday it finished track he;
- (8) sacred was book refer the;
- (9) reveal the future simple prophets;
- (10) prepared somewhat I was retired.

Possible unscrambled sentences are as follows:

- (1) *she felt the spirit;*
- (2) *the dessert was divine;*
- (3) *her presence was appreciated;*
- (4) *do it once more;*
- (5) *I mailed it over;*

- (6) give thanks to God;
 - (7) he finished it yesterday;
 - (8) the book was sacred;
 - (9) prophets reveal the future;
 - (10) I was somewhat prepared.
-

C.3 PART 2: Questions

In this section, you will be given \$0.25 and asked to allocate this money between yourself and a real charity. You will indicate what percentage of this money you wish donate on a scale like the one below. The money you allocate to the charity will actually be **given** to it, and you will **keep** the rest.

0 10 20 30 40 50 60 70 80 90 100

The nature of the designated charity will vary based on the experimental condition:

1. *if randomly assigned to the non-climate condition (NON-CLIMATE condition), the subject will be present with one non-climate charity, which could be a health-, education-, or children-focused charity.*
 2. *If randomly assigned to the climate condition (CLIMATE condition), the subject will be present with one climate-focused charity.*
-

*Sample of **Non-Climate** Group Allocation:*

You are matched with **Teach for America (TFA)**, an education nonprofit that works to address underachievement in American public school and education inequities. They run programs to recruit, train, and match teachers to schools, and cultivate leader candidates to districts and state agencies.

You must divide \$0.25 between this organization and yourself. The money you allocate to the charity will actually be **given** to it, and you will **keep** the rest.

Please indicate the percentage of endowment you want to donate.

0 10 20 30 40 50 60 70 80 90 100

Sample of *Climate* Group Allocation:

You are matched with **The Climate Reality Project**, a climate nonprofit that involves in education and advocacy related to climate change. They run campaigns in reducing emission, calling out greenwashing, financing just transition, and aims to help reach true net-zero carbon emission by 2050.

You must divide \$0.25 between this organization and yourself. The money you allocate to the charity will actually be **given** to it, and you will **keep** the rest.

Please indicate the percentage of endowment you want to donate.

0	10	20	30	40	50	60	70	80	90	100
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The full list of organizations and their descriptions can be found in Appendix D.

For participants in the climate group:

1. To what extent do you agree or disagree that climate change is an **important** issue?
(1 = strongly disagree, 5 = strongly agree, 0 = unsure)
2. To what extent do you agree or disagree that climate change is caused by **human activities**?
(1 = strongly disagree, 5 = strongly agree, 0 = unsure)
3. How much do you **trust** [** the paired organization*] in executing climate actions?
(1 = strongly distrust, 5 = strongly trust, 0 = unsure)
4. How many additional resources do you think [** the paired organization*] **needs** in order to provide better climate campaigns and initiatives?
(1 = little resource, 5 = lots of resource, 0 = unsure)

For participants in the education group:

1. To what extent do you agree or disagree that quality education is an **important** issue?
(1 = strongly disagree, 5 = strongly agree, 0 = unsure)

2. How much do you **trust** [** the paired organization*] in executing education programs?
(1 = strongly distrust, 5 = strongly trust, 0 = unsure)
3. How many additional resources do you think [** the paired organization*] **needs** in order to provide better education campaigns and initiatives?
(1 = little resource, 5 = lots of resource, 0 = unsure)

For participants in the children group:

1. To what extent do you agree or disagree that supporting children's well-being and welfare is an **important** issue?
(1 = strongly disagree, 5 = strongly agree, 0 = unsure)
2. How much do you **trust** [** the paired organization*] in executing children-focused programs?
(1 = strongly distrust, 5 = strongly trust, 0 = unsure)
3. How many additional resources do you think [** the paired organization*] **needs** in order to provide better children-focused campaigns and initiatives?
(1 = little resource, 5 = lots of resource, 0 = unsure)

For participants in the health group:

1. To what extent do you agree or disagree that good health and wellbeing is an **important** issue?
(1 = strongly disagree, 5 = strongly agree, 0 = unsure)
2. How much do you **trust** [** the paired organization*] in executing programs in health research and disease prevention?
(1 = strongly distrust, 5 = strongly trust, 0 = unsure)
3. How many additional resources do you think [** the paired organization*] **needs** in order to enhance their programs in health research and disease prevention?
(1 = little resource, 5 = lots of resource, 0 = unsure)

-
1. What year were you born? [*drop-down years, or "prefer not to answer"*]

2. How would you describe yourself?
 - Male
 - Female
 - Non-binary
 - Prefer to self-describe: [text entry]
 - Prefer not to answer
3. What best describes your ethnic origin?
 - White
 - Hispanic, Latino or Spanish origin
 - Black or African American
 - Asian
 - American Indian or Alaska Native
 - Middle Eastern or North African
 - Native Hawaiian or Other Pacific Islander
 - Other (Please specify)
 - Prefer not to answer
4. What is the highest level of school you have completed or the highest degree you have received?
 - Less than high school degree
 - High school graduate (high school diploma or equivalent including GED)
 - Some college but no degree
 - Associate degree in college (2-year)
 - Bachelor's degree in college (4-year)
 - Master's degree
 - Doctoral degree
 - Professional degree (JD, MD)
 - Prefer not to answer
5. What was your total household income before taxes during the past 12 months?
 - Less than \$25,000
 - \$25,000-\$49,999
 - \$50,000-\$74,999
 - \$75,000-\$99,999
 - \$100,000-\$149,999
 - \$150,000 or more

- Prefer not to answer
6. In which state do you currently reside? [*drop-down list: 50 states, DC, etc.*]
7. How often do you attend religious activities?
- More than once a week
 - Once a week
 - Once or twice a month
 - A few times a year
 - Seldom
 - Never
 - Prefer not to answer
8. Which of the following groups do your political views align with?
- More than once a week
 - Once a week
 - Once or twice a month
 - A few times a year
 - Seldom
 - Never
 - Prefer not to answer
-

C.4 END OF SURVEY

Let $Keep_Amount$ be the amount of endowment the participant decided to keep in Part 2's donation Game.

Thank you for taking part in our study!

You will receive the following payments if your submission is approved:

- \$Y for study completion
- $Keep_Amount$ from Part 2 of the study according to your decision

After you complete your submission, you will be redirected to [Prolific/Mturk] where you can submit your completion code. Please reach out to us if you experience technical difficulties or if you do not hear back from us in the next few weeks. You can also leave an anonymous comment here: [*text entry*]

Please submit your response by proceeding to the next page.

Please wait while you are redirected.

Click here if you are not automatically redirected.

[Survey terminates, and participants are redirected to [Prolific/Mturk] for a completion code.]

Appendix D Descriptions of Organizations

Group	Cause	Nonprofit <i>Description</i>
Non-Climate	Education	Teach for America (TFA) TFA is a nonprofit that works to address underachievement in American public school and education inequities. They run programs to recruit, train, and match teachers to schools, and cultivate leader candidates to districts and state agencies.
		The Education Trust The Education Trust is a nonprofit that advocates for high academic achievement across all educational tiers, from pre-kindergarten to college. They focus on researching educational practices and policies, and advocating at state and federal levels for equitable education policies.
	Children	Boys & Girls Club of America Boys & Girls Club is a nonprofit that provides voluntary after-school programs for young people. They run programs focused on academics, health, and leadership for children, and offer trained staff who guide, coach, and motivate kids towards success.
		UNICEF USA UNICEF USA is a nonprofit that aims to save children’s lives, defend their rights, and help them fulfill their potential, from early childhood through adolescence. They provide life-saving supplies, such as clean water, vaccines, and emergency food, to children in crisis situations.
	Health	American Heart Association (AHA) AHA is a nonprofit organization that aims to advance health equity and build healthier lives free of cardiovascular diseases and stroke. AHA funds cardiovascular medical research, educates consumers on healthy living, and fosters appropriate cardiac care to reduce disability and deaths caused by cardiovascular disease and stroke.
		American Cancer Society (ACS) ACS is a nonprofit organization that focuses on enhancing the lives of individuals with cancer and their families through advocacy, research, and patient support. Their goal is to ensure that everyone has the opportunity to prevent, detect, treat, and survive cancer.
Climate		The Climate Reality Project

	Climate & Environment	<p>The Climate Reality Project is a nonprofit that involves in education and advocacy related to climate change. They run campaigns in reducing emission, calling out greenwashing, financing just transition, and aims to help reach true net-zero carbon emission by 2050.</p>
<p>Natural Resources Defense Council (NRDC) NRDC operates as a nonprofit within the legal system to combat pollution and safeguard natural resources. They employ litigation and collaborate with experts in science, law, and policy to address the challenges of climate change.</p>		
<p>Environmental Defense Fund (EDF) EDF is a nonprofit that specializes in market-based solutions for tackling climate change. They partner with businesses and governments to stabilize the climate, enhance the resilience of both people and nature, and promote public health.</p>		
<p>Carbon180 Carbon180 is a nonprofit that builds a network of experts in science, business, and policy to scale up carbon removal policies and practices aimed at mitigating climate change. Their work ranges from land- and ocean-based practices to technological innovations.</p>		
<p>Friends of the Earth US Friends of the Earth is a nonprofit that champions environmental protection through media campaigns, advocacy efforts, and educational initiatives. Their current priorities include advocating for clean energy solutions and addressing climate change.</p>		
<p>Greenpeace Fund Greenpeace Fund is a nonprofit dedicated to raising public awareness and knowledge of environmental issues and the climate crisis. They achieve this through research, media campaigns, and educational programs.</p>		

Appendix E Prolific Listing

The study listing will only be shown to Prolific “Participants” who meet the following criteria:

- *Age is 18+ (this is a legal requirement of all Prolific “Participants”)*
- *Current country of residence is United States*
- *Fluent languages include English*
- *Approval Rate of previous submissions*
- *Number of previous submissions*
- *Has not completed any previously fielded study or pilot*
- *Has Prolific background data with Religious Affiliation*

We may modify the wording below somewhat as we set up the study on Prolific.

Title:

Answer some study questions! Reward along the way

You will complete a sentence-unscrambling task and answer some study questions, and provide demographic information. Successful survey completions will receive a \$Y reward. We will not ask you for any personally identifying information.

Please do not use Internet Explorer to participate in this study. Please use a browser such as Google Chrome or Mozilla Firefox.

Keywords: survey, study, quick task, short answers