

# American Attitudes Toward Climate Migrants: Findings from a Conjoint Experiment

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## ABSTRACT

The dramatic impacts of climate change presage an inevitable surge in mass migration; however, advanced democracies are ill-equipped for this impending crisis. Moreover, we know very little about how publics evaluate this group of prospective migrants, who are estimated to increase from 100 million to 200 million worldwide within decades. This study investigates American attitudes toward climate-related migrants in a conjoint experiment of more than 1,000 US adults, in which respondents evaluated fictional refugee profiles that varied across multiple attributes. Findings reveal that Americans (1) prefer political refugees over climate-related refugees; and (2) prefer climate-related and economic migrants to a similar extent, and that these preferences are not driven by concerns over climate-related refugees' integration into American society. Subgroup analyses indicate that younger individuals, those with high climate-change anxiety, and those who previously engaged in climate-related political activities discriminated less against climate-related migrants. Analyses of open-ended responses reveal that climate anxiety is a driver of positive evaluations of climate-related migrants.

Climate change inevitably will precipitate climate-related migration on a global scale. Although this influx often is projected as a future phenomenon, there already is compelling evidence of both internal and international migration. Current migration patterns can be attributed to variations in temperature, rainfall, and flooding, particularly in agricultural regions (Backhaus, Martinez-Zarzoso, and Muris 2015; Coniglio and Pesce 2015). The impact of climate change on agriculture is widely accepted as the primary driver of climate-related migration (Cai et al. 2016;

Feng, Krueger, and Oppenheimer 2010). The United Nations estimates that “3.3–3.6 billion people are highly vulnerable to climate change” (Intergovernmental Panel on Climate Change 2023, 17).

Climate change already is causing large-scale movements of people, as demonstrated in the August 2022 Pakistani floods that affected 33 million people and left homeless millions of Pakistanis and almost half of Afghan refugees.<sup>1</sup> This type of devastation, as well as more slow-moving but equally devastating loss of agricultural capacity, will compel hundreds of millions of people to leave their homes—especially in the Global South—and seek shelter and sustenance elsewhere, including in the Global North. In the United States, the Center for Migration Studies predicts significant climate-related migration during the next three decades,<sup>2</sup> and one model predicts an influx of more than 30 million climate-related migrants over 30 years from

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Central America alone (Lustgarten 2020). Thus, the question of how the United States treats climate-related migration is of urgent concern.

However, US immigration law is ill-adapted to respond as countries become less habitable. Climate-related migrants do not constitute a legal category, and there is no legal basis for claiming asylum for environmental reasons (Helbling 2020; McAdam 2012). Whereas some may meet the traditional refugee definition (i.e., conflict arising from climate-caused deprivation) (Mitchell and Pizzi 2021) or through temporary protected status (TPS) (e.g., floods and storms), U.S. Presidents vary in their use of TPS. That volatility will make it problematic to use consistently for climate-related migrants.

Given the inevitable surge in climate-related migrants to the United States in the near future and the current inability to receive climate-related migrants in the American legal framework, this study seeks to understand whether there is a public appetite to address this gap. We evaluated three questions: (1) How sympathetic is the US public to climate-related migrants, compared to other migrants?; (2) Among which subsets of the population is support for climate-related refugees higher?; and (3) Which factors drive positive evaluations of climate-related refugees? Related to our first purpose, we formulated three hypotheses that are described in the following discussion.

*Given the inevitable surge in climate-related migrants to the United States in the near future and the current inability to receive climate-related migrants in the American legal framework, this study seeks to understand whether there is a public appetite to address this gap.*

Prior research on general immigration reveals negative attitudes (Adida, Lo, and Platas 2019; Bansak, Hainmueller, and Hangartner 2016; Clayton, Ferwerda, and Horiuchi 2021; Donnalaja 2022; Findor et al. 2021). In addition, most of the extant work on Western democracies has found more negative attitudes for climate-related refugees than for political refugees. These differences persist after controlling for factors that typically affect attitudes toward migrants (Arias and Blair 2022; Hedegaard 2022; Stanley, Tseung-Wong, and Leviston 2022; Yates et al. 2022; but see also Helbling 2020; Henning, Steimanis, and Vollan 2022). Deservingness theory, established in the social psychological literature (Feather 1999), posits that people are more supportive of others if they are perceived as deserving of the benefits they receive and not deserving of the losses. In this context, migration literature has shown that political refugees are viewed as undeserving victims whereas economic migrants are not viewed as so undeserving of their difficult circumstances. Climate-related refugees are perceived as intermediate to these two extremes (e.g., Arias and Blair 2022; Verkuyten, Mepham, and Kros 2018).

Only two studies focus on American attitudes (Arias and Blair 2022; Stanley, Tseung-Wong, and Leviston 2022). For replication purposes, our first hypothesis tests whether we find a similar pattern in our data:

**Hypothesis 1:** Respondents prefer political refugees over climate-related refugees.

Previous research also finds that climate-related refugees are preferred to economic migrants. Research in Austria, Denmark, Germany, and the United States reveals that climate-related migrants are perceived to be more deserving than economic migrants because they are viewed as not having individual control of their circumstances. However, previous research does not distinguish between climate-related migrants forced to move because of natural disasters and those impelled by poverty (i.e., poor agricultural prospects). This differentiation is important to explore because the long-term suffering associated with degraded economic prospects is more likely to lead to migration. However, given the importance of deservingness, we expected more positive attitudes toward those impelled by natural disaster:

**Hypothesis 2:** Among climate-related refugees and other refugees, respondents prefer natural-disaster migrants over economic migrants.

Our third hypothesis concerns the subgroup analyses. We expected some segments of the population to be more receptive to climate-related migrants than other segments. For example, research evaluating climate anxiety among children across 10 countries found, on average, that between 20% and 25% of respondents were “extremely worried about climate change” (Hickman et al. 2021). In the United States, some children took

extreme political and legal action by filing suit against the US Federal Government for its inaction on addressing climate change in *Juliana v. US*, and a significant number have participated in climate school strikes (Laux 2021; Salas, Jacobs, and Perera 2019). Similarly, some researchers have highlighted partisan gaps in attitudes toward climate change and climate-change-related behavior (Tyson and Kennedy 2023). Namely, Republicans and Democrats have different expectations about the impacts of climate change on their daily life: 86% of Democrats versus 37% of Republicans expect harms from climate change to worsen in their lifetime. Because these subgroups—that is, younger individuals, those with high climate-change anxiety, those who previously engaged in climate-change-related political activities, and Democrats—tend to believe in anthropogenic climate change, and because research has shown previously that strong belief in anthropogenic climate change positively impacts attitudes toward climate-induced migrants (Yates et al. 2022), we expected these subgroups to be more positive toward receiving climate-related refugees:

**Hypothesis 3:** Faced with a choice between climate-related refugees and other refugees, subgroups that will be more positive toward climate-related refugees include younger individuals, those with high climate anxiety, those who previously engaged in climate-change-related political activities, and Democrats as compared to older individuals, those with low climate anxiety, those who never participated in climate-change-related political activities, and Republicans.

Finally, to our knowledge, no prior study has compared expectations of climate-related refugees' and other types of migrants' prospects for integration. By investigating this, we make a substantial contribution because migration concerns not only accepting or dismissing individuals but also has an integration dimension. Although it is worth studying, we did not anticipate

through a preregistered conjoint experiment embedded in a large-scale public-opinion survey fielded to US adults by Bovitz, Inc., in September 2022. Conjoint experiments ask survey respondents to evaluate multiple hypothetical profiles that have several randomly varied attributes. This allows researchers to gauge the relative importance of each attribute in decision making.

*This study evaluates which factors drive Americans' preferences toward refugees who are seeking asylum for varying reasons through a preregistered conjoint experiment embedded in a large-scale public-opinion survey fielded to US adults by Bovitz, Inc., in September 2022.*

significant differences between different migration groups because we did not expect the reason for migration to relate to expectations regarding integration capacity (this hypothesis was not preregistered):

**Hypothesis 4:** Respondents view climate-related, political, and economic migrants as equally able to integrate into US society.

To test these hypotheses, we fielded a preregistered conjoint experiment to 1,117 US adults in September 2022 (Adman, Lajevardi, and Seligsohn 2024). This design allowed us to test which specific attributes generated support for or opposition to prioritizing refugee visas, as well as to evaluate whether preferences for climate-related migrants are similar to attitudes about whether these migrants can integrate into the United States. Our design also allowed us to evaluate how these preferences vary across different American subgroups. After the experiment, respondents participated in an open-ended writing task in which they described a climate-related migrant. This allowed us to gauge how their anxiety about climate change, immigration, and economic conditions related to their evaluation of climate-related refugees.

Our results indicate that Americans welcome climate-change migrants less than political refugees and on par with economic migrants. Respondents did not believe that these migrants were less able to integrate to the United States. Our subgroup analyses also revealed that those respondents with high levels of climate anxiety, those who have previously engaged in climate-related political activities, and young Americans do not discriminate against climate-related migrants. However, our partisan hypotheses were not confirmed: relative to the baseline, Democrats and Republicans both discriminated against climate-related migrants. Finally, to further unpack the drivers of climate-related-migrant attitudes, we qualitatively coded the open-ended writing task. We found that climate anxiety is linked positively to more positive evaluations of climate-related migrants. This study sheds light on US public attitudes toward climate-related migrants, identifies the American subgroups that are most inclined to include them, and describes climate anxiety as a key and underexamined factor in shaping evaluations of climate-related migrants.

## DATA AND METHODS

This study evaluates which factors drive Americans' preferences toward refugees who are seeking asylum for varying reasons

Like other social science conjoint studies measuring which attributes shape support for immigration preferences (Adida, Lo, and Platas 2019; Bansak, Hainmueller, and Hangartner 2016), we randomized respondents' choices of which immigrants they would prefer to admit into the United States. In addition, we asked respondents to evaluate which refugees would be more likely to integrate successfully after arriving in the United States. Our 1,117 respondents evaluated five pairs of profiles each (i.e., 5,175 total profile pairs) of fictional refugee applications. They indicated which refugee application should receive priority, as well as which profile they felt could integrate more successfully into the United States.<sup>3</sup> In addition to varying the refugee application cause, each profile also randomly varied six other attributes that previous literature identified as theoretically important in shaping immigrant-related attitudes: language skills, region of origin, gender, age, parental status, and religion (e.g., Adida, Lo, and Platas 2019; Bansak, Hainmueller, and Hangartner 2016; Clayton, Ferwerda, and Horiuchi 2021; Findor et al. 2021; Steele, Abdelaaty, and Than 2023). In addition to these factors, we varied the refugee's application reason because we were interested in whether climate-change push factors differentially drive support for fictional refugees as compared to those seeking to migrate to the United States for several other reasons. Online appendix table A2 is a complete list of attributes and their randomly varied levels.

After consenting to participate in the study, respondents read instructions pertaining to the conjoint experiment. They were informed that they would see five pairs of refugee applications to the United States and were instructed to read these applications carefully. They then were told that the United States has a limited number of refugee visas that it awards every year and that those applications that are "non-priority" generally do not receive visas. Following this introduction, respondents were randomized into viewing five fictional pairs of applicants. After viewing each random pair, they responded to two questions that served as our key dependent variables: (1) Which refugee should receive the visa?; and (2) In your opinion, which refugee would be more likely to integrate successfully after arriving in the United States?

Online appendix figure A1 depicts a sample comparison of two hypothetical refugee applicant profiles. Respondents were required in each treatment to choose between Refugee 1 and Refugee 2. To understand more about who Americans imagine a climate-related refugee to be, we asked survey respondents after exposure to the five treatments to describe one. Finally,

respondents answered several questions that measured their demographic characteristics, political preferences, and racial attitudes.

Our analyses take three forms. First, we present the main results of our conjoint experiment on the full sample of respondents. Second, we evaluate how the main results of our conjoint experiment vary across different subgroups of the population. Third, we turn to qualitative coding of our open-ended writing task to evaluate the extent to which anxiety about different issues, including climate change, drives evaluations of climate-related refugees. The first two sets of analyses measure the impact of refugee attributes on respondent preferences by calculating the Average Marginal Component Effect (AMCE) for each varied level of each attribute. The AMCEs reflect the average change in probability that a refugee attribute level is preferred compared to the corresponding baseline level. Except as otherwise noted, analyses were preregistered on Open Science Framework.<sup>4</sup>

## RESULTS

This section presents our main analyses and reports both aggregate and subgroup results. This section concludes with an exploratory analysis that unpacks the drivers of climate-related migrants by examining open-ended answers.

### Main Aggregate Effects

The main results of our conjoint experiment are presented in figure 1. Figure 1(a) confirms our first preregistered hypothesis (Hypothesis 1) that Americans prefer issuing visas to refugees who are seeking asylum due to political persecution rather than to climate-related refugees, regardless of whether the reason for climate migration was poverty or natural disaster (ranging between 4.4 and 8.6 percentage points).

However, Hypothesis 2 is not confirmed: although there is a tendency that poverty migrants are less welcome than natural-disaster migrants, there are no statistically significant differences between any of the different poverty- and natural-disaster-related categories (regardless of whether climate change was the underlying factor to poverty/natural disasters).

The results in figure 1(a) confirm our preregistered hypotheses that Americans discriminate against Muslim refugees (8.2 percentage points) or whose religion is unknown (5.4 percentage points) over Christian refugees; prefer younger refugees (ranging from 5.3 to 12.1 percentage points); and refugees who speak English fluently (17.9 percentage points) or somewhat (8.6 percentage points) over older refugees and those who cannot speak English; choose those refugees with children (9.8 percentage points) over those without children; and discriminate against male over female refugees (7.2 percentage points). Our preregistered hypothesis about a fictional refugee's region of origin was not confirmed. Rather, Americans prefer issuing visas to refugees from Africa more than those from Europe and prefer those from the Middle East the least; however, this result is not statistically significant. Thus, these aggregate analyses demonstrate that many of the immigrant characteristics that extant literature indicates as vitally important in shaping immigration-related attitudes continue to be perceived in this context.

Our second dependent variable examines the extent to which the randomly varied attribute levels shape respondents' beliefs that the fictional refugees will be able to integrate successfully

into American life. As shown in figure 1(b), key differences emerge from our first dependent variable. Most important, climate change as the cause of migration, for the most part, does not differentially or substantially shape respondents' perceptions about their ability to integrate successfully (ranging from 0.4 to 3.3 percentage points and marginally significant for only one of the climate-change attribute levels). Thus, our fourth hypothesis is confirmed—that is, that climate-related refugees are considered to be able to integrate successfully in the United States to the same extent as political and economic migrants. This confirms prior research that found that Americans prefer admitting climate-change migrants less; however, we demonstrate that it is not related to beliefs about successful social integration.

### Subgroup Effects

Do preferences toward refugee attributes differ across different American subgroups? To test for interactions between respondent characteristics and refugee attributes, we subsetting the main analysis by respondent age, partisanship, levels of climate anxiety, and levels of climate-related political participation. This analysis corresponds to figure 1, which is subsetting to younger Americans (N=335) between the ages of 18 and 35 and older Americans 65 and older (N=184) (figure 2); self-identified Democrats (N=489) and Republicans (N=281) (figure 3); and those respondents who were high (N=193) and low (N=466) in climate-change-related anxiety (figure 4).

Our results indicate that younger Americans do not statistically discriminate against climate-related refugees, whereas older Americans consistently rate climate-related refugees (ranging from 15.4 to 21.1 percentage points) lower than refugees applying for visas due to political persecution.

Partisanship does not serve as a deterrent to climate-related-migrant discrimination as we hypothesized. Rather, Democrats penalize climate-related migrants compared to the baseline (ranging from 6.1 to 7.1 percentage points) even more than Republicans (ranging from 0.2 to 10.9 percentage points). Finally, moderators linked meaningfully with Americans' evaluations of climate-related migrants. Specifically, those respondents high in climate anxiety and those who previously had engaged in high levels of climate-change-related political participation did not significantly differ in their evaluation of climate-related migrants and refugees whose application was driven by risks of political persecution. Thus, Hypothesis 3 is supported for climate anxiety and participation and young individuals but not for Democrats.<sup>5</sup>

### Extension: Unpacking drivers of attitudes toward climate-related migrants with open-ended answers

To understand more about who Americans imagine a climate-related refugee to be, we asked survey respondents, after exposure to treatment, to respond to the following prompt: "In a few sentences below, please describe the person you imagine when you think of a refugee who is migrating to the United States because of climate change." In this analysis, which was not preregistered, we omitted respondents who did not pass the attention check and those who provided nonsensical answers, resulting in 1,035 coherent responses.<sup>6</sup> A research assistant (RA) coded respondents' answers for valence. We find that



Figure 1

## Effects of Refugee Characteristics on Respondents' Probability of Visa Selection and Integration Prospects (All Respondents)

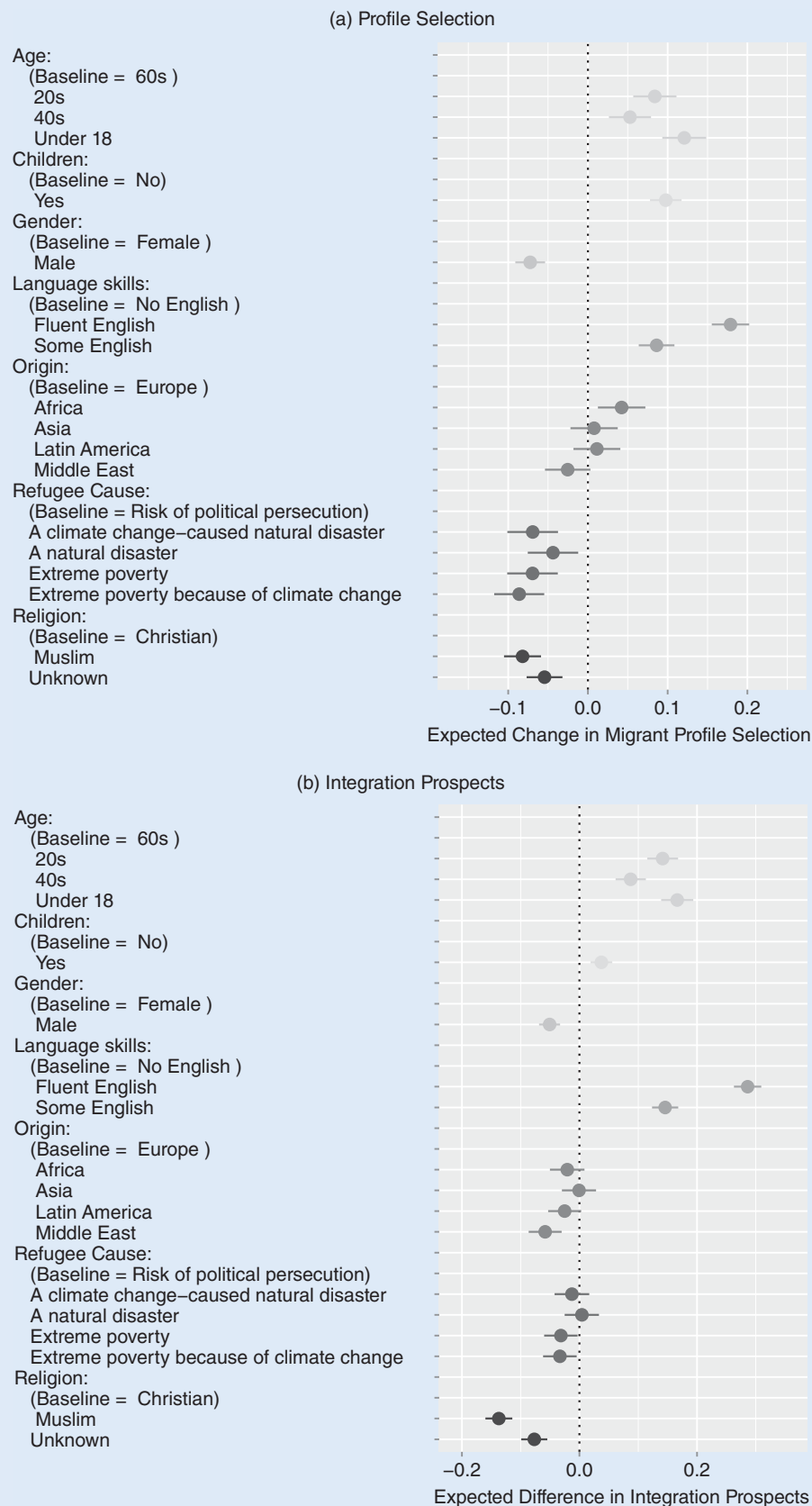
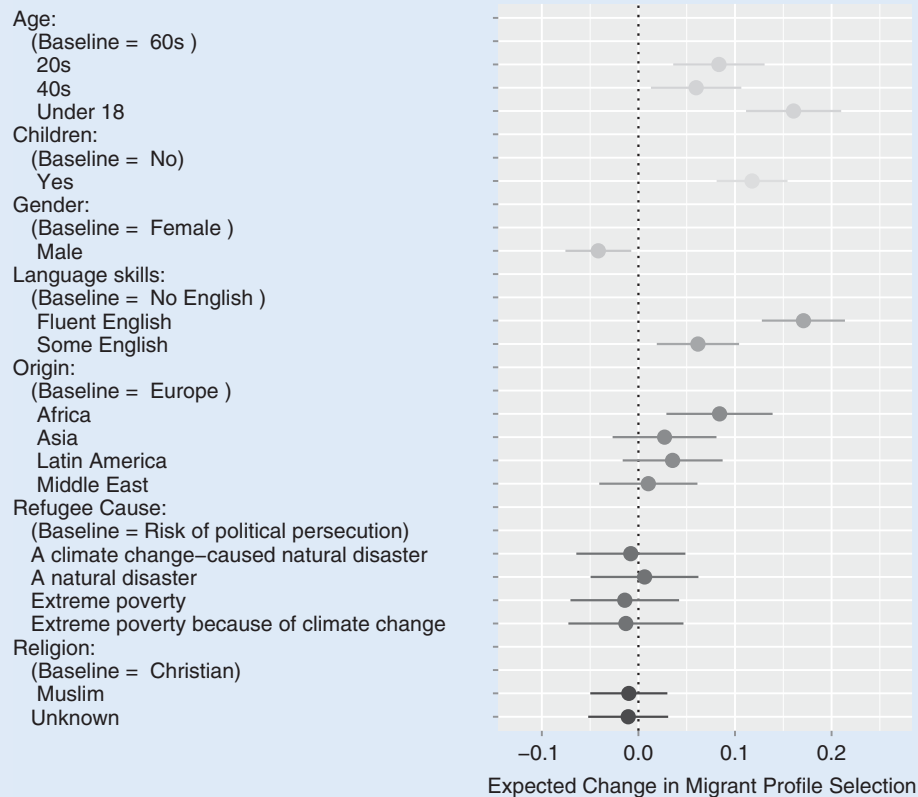


Figure 2

## Subgroup Differences: Age

(a) Profile Selection Among Younger Americans



(b) Profile Selection Among Older Americans

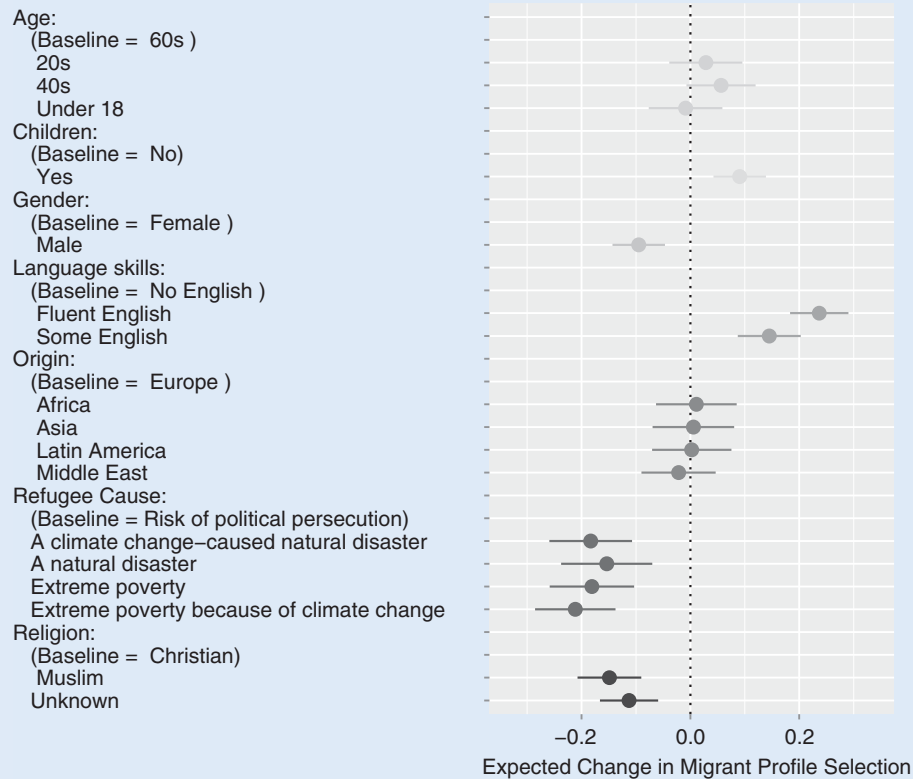


Figure 3  
Subgroup Differences: Party

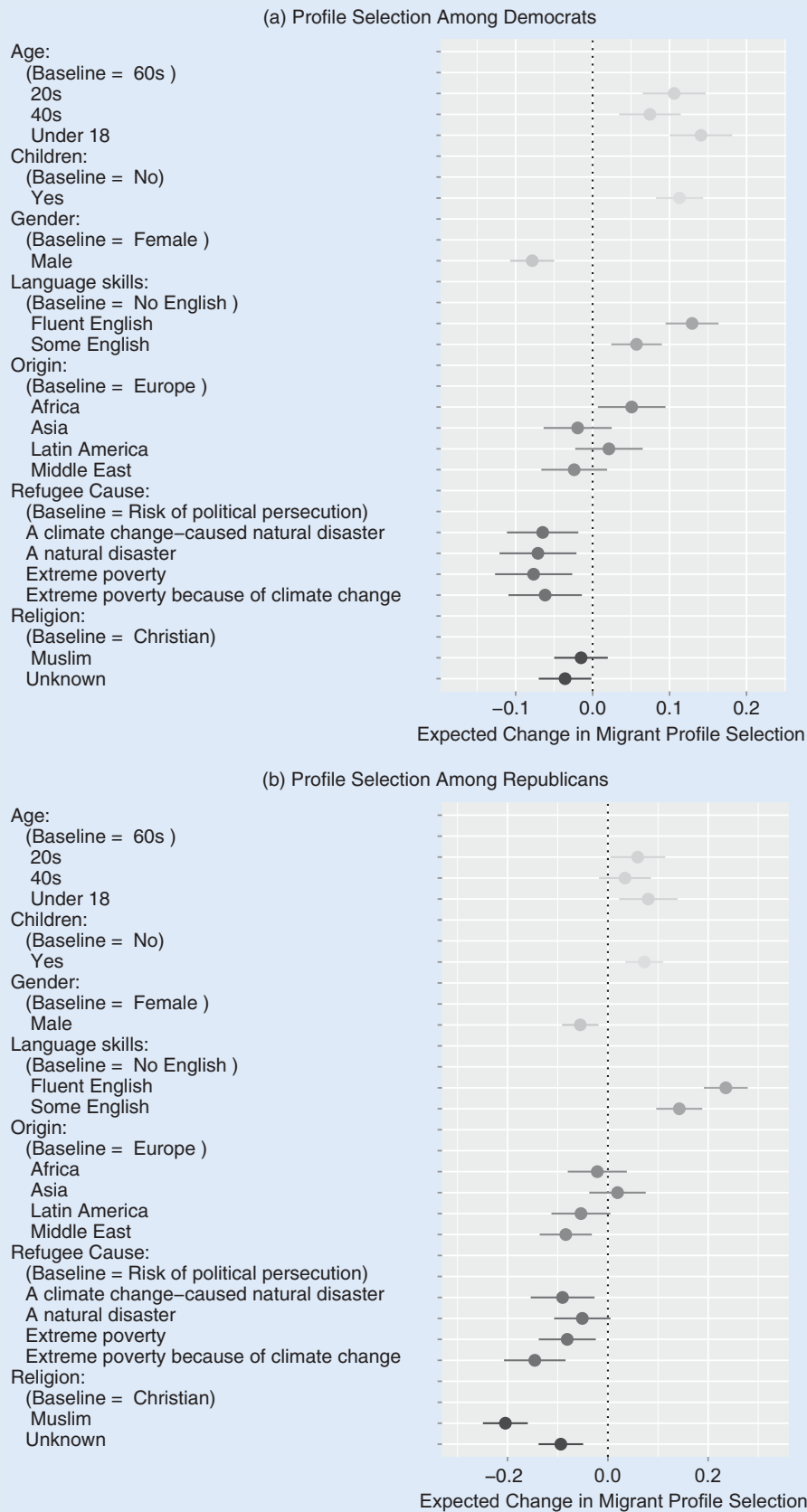


Figure 4

## Subgroup Differences: Climate Anxiety

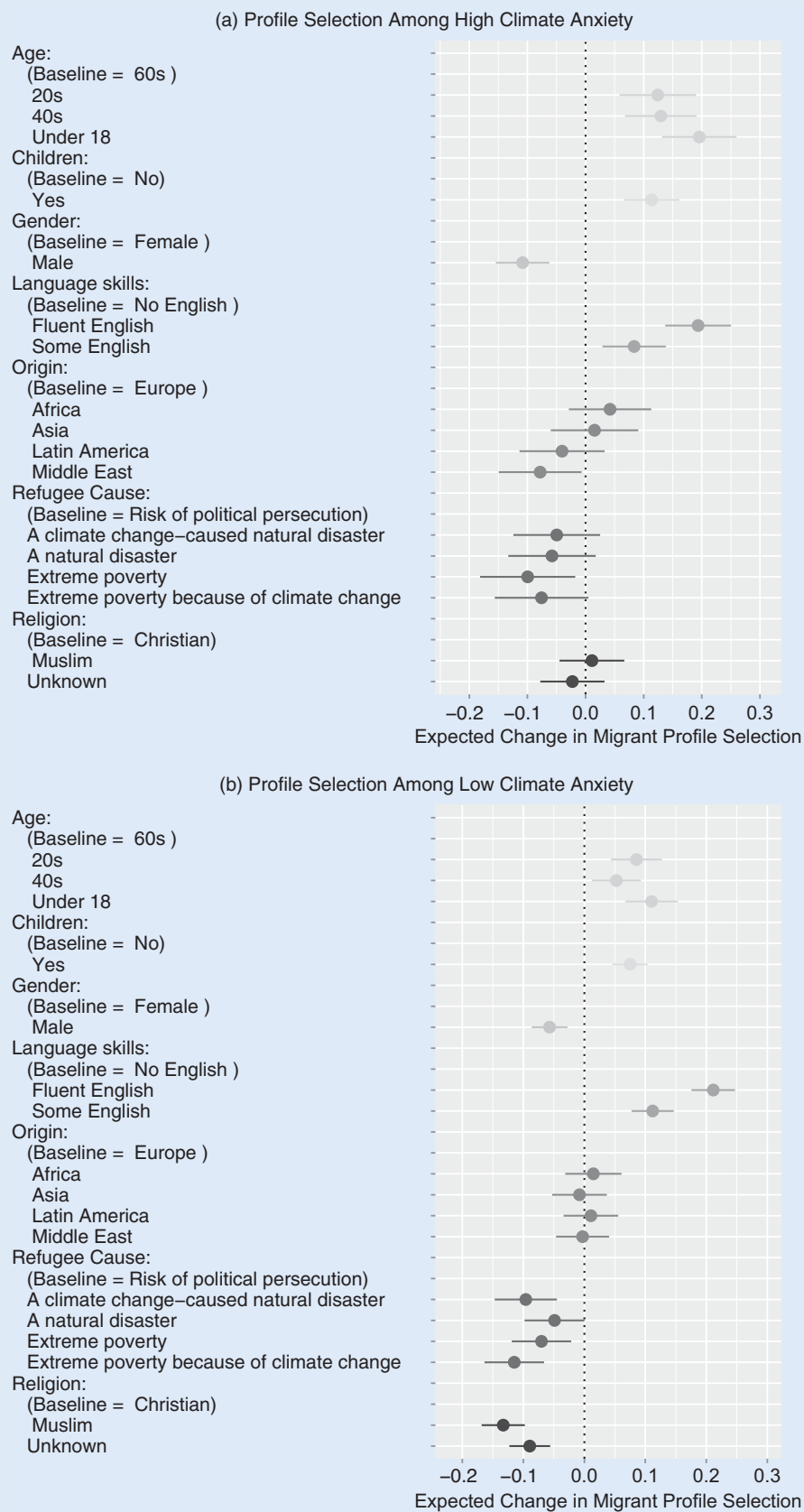




Table 1

## Relationship Between Climate-Change Anxiety and Positive Versus Negative Evaluations of Climate Migrants

	Positive Evaluation	Positive Evaluation	Negative Evaluation	Negative Evaluation
Anxiety: Climate Change	0.019*** (0.004)	0.013** (0.005)	-0.030*** (0.004)	-0.022*** (0.004)
Anxiety: Immigration	-0.008* (0.004)	-0.006 (0.004)	0.025*** (0.003)	0.019*** (0.004)
Anxiety: My Employment	0.001 (0.004)	-0.000 (0.004)	-0.008* (0.003)	-0.003 (0.004)
Observations	1,035	1,034	1,035	1,034
Adjusted R <sup>2</sup>	0.020	0.017	0.090	0.105
Includes controls?		Yes		Yes

Notes: Standard errors are in parentheses. +p<0.10, \*p<0.05, \*\*p<0.01, \*\*\*p<0.001.

respondents were slightly more likely than not to offer a positive (18.74%) rather than a negative (16.23%) assessment of climate-related migrants.

Given that our findings so far support *Hypothesis 3* in that climate anxiety has a moderating role in reducing discrimination against climate-related migrants, we expected strong climate anxiety to be associated with more positive evaluations of climate-related refugees. After their exposure to treatment, we asked survey respondents to indicate their anxieties about climate change, their employment, and immigration policies. Specifically, we asked, “In the past year, how much anxiety and stress have the following caused you?” We asked them to indicate their anxiety about these three issues ranging from “no anxiety and stress at all” (1) to “the most anxiety and stress” (10). Mean answers for each issue were as follows: 5.18 for climate change, 4.95 for their employment, and 4.73 for immigration policies.

Table 1 presents four ordinary least squares regressions.<sup>7</sup> In models 1 and 2, the outcome variable is the RA’s coding of “positive evaluations” of climate-related refugees; in models 3 and 4, the outcome variable is their coding of “negative evaluations” of climate-related refugees. In models 1 and 3, we controlled for only the three anxiety variables, whereas in models 2 and 4, we added controls for gender, age, partisanship, ideology, income, education, race, and immigrant status.

First, anxiety about climate change links to shaping attitudes toward climate-related refugees, regardless of the dependent variable and whether or not we included additional controls. In models 1 and 2, anxiety about climate change correlated with more positive responses when respondents were asked to evaluate climate-related refugees. In models 3 and 4, anxiety about climate change was significantly associated with respondents providing a less negative evaluation of climate-related refugees, with or without controls. Notably, anxiety about immigration or employment

did not seem to link significantly to positive evaluations of climate-related refugees. However, we did find that both low anxiety about climate change and high anxiety about immigration policy significantly associated with negative evaluations (with almost equal substantive effect sizes).

### CONCLUSION

Despite widespread concern about climate change, limited attention has been given to the intersection of climate change, migration, and public opinion. Thus, we do not know the public reaction to the inevitable movement of numerous climate-related migrants.

This study reports the results of a conjoint study to gauge how Americans perceive climate-related migrants relative to migrants arriving for other reasons (e.g., political persecution and extreme poverty). Our findings reveal that Americans prefer political refugees over climate-related refugees and prefer climate and economic migrants to a similar extent. Moreover, these preferences are not driven by concerns over climate-related refugees’ integration into American society. Turning to subgroup analyses, we find that young Americans and those individuals high in climate-change anxiety, as well as those who have engaged in high levels of climate-change-related political participation, discriminated less against climate-related migrants, whereas both parties prefer political migrants to climate-related migrants. Finally, textual analysis of open-ended answers revealed that climate anxiety is a facilitator of positive climate-related-migrant evaluations.

This study adds to the body of scholarship on public attitudes toward climate-related migrants and raises a disturbing reality: although the climate is changing rapidly and significant climate-related migration already has begun, there is little sensitivity toward migrants’ plight in receiving nations such as the United States.

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This research, of course, is not without limitations. Our study should be replicated in similar country contexts and across multiple time points. Future work also should evaluate whether there are interventions that, in fact, can improve attitudes toward climate-related migrants. Finally, whereas the study informs about migrant prioritization, it does not test whether the United States should accept a given migrant.

Our study demonstrates that climate-related refugees—regardless of the exact reason for migration—are less welcome than political refugees, even though they are expected to integrate into US society as successfully as other migrants. Unexpectedly, however, we did not find poverty-related climate-related refugees to be preferred over other economic migrants. This may be explained in part by some respondents not being aware of the connection between climate change and extreme poverty; therefore, this particular topic needs more research. Delving further into mechanisms and drivers—in particular, deservingness and climate anxiety—also could further improve our understanding of the processes involved.

## SUPPLEMENTARY MATERIAL

To view supplementary material for this article, please visit <http://doi.org/10.1017/S1049096524000258>.

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## DATA AVAILABILITY STATEMENT

Research documentation and data that support the findings of this study are openly available at the *PS: Political Science & Politics* Harvard Dataverse at <https://doi.org/10.7910/DVN/ZH5LE9>.

## CONFLICTS OF INTEREST

The authors declare that there are no ethical issues or conflicts of interest in this research. ■

## NOTES

1. See [www.unhcr.org/news/stories/pakistans-disastrous-floods-uproot-refugees-and-citizens](http://www.unhcr.org/news/stories/pakistans-disastrous-floods-uproot-refugees-and-citizens).
2. See <https://cmsny.org/wp-content/uploads/2022/12/Climate-Migration-and-Future-of-Immigration-Policy-in-the-United-States.pdf>.
3. See the online appendix for more details.
4. The online appendix includes the full range of preregistered hypotheses and indicates whether they were confirmed.
5. One other finding, although not preregistered, is important to note. Those respondents who were more accepting of climate migrants (e.g., the young, those high in climate anxiety, and those who have engaged in high levels of climate-change-related political participation activities) and Democrats did not discriminate against Muslim refugees compared to Christian refugees. To our knowledge,

this is the first conjoint study that consistently identifies the subgroups that are less likely to discriminate against Muslim refugees.

6. We note that this analysis of a climate-change-anxiety moderator suffers from post-treatment bias. Therefore, we change to correlational language.
7. See online appendix table A5 for the full regressions.

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