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Methodology and Supporting Data: Public Preferences for Admitting Migrants Displaced by Climate Change

Policy Brief

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Acknowledgements

Methodology

Our policy brief, *The Climate Migrant Mismatch: Public Preferences for Admitting Migrants Displaced by Climate Change*[1] , uses data from an original survey fielded from December 14–19, 2020, of 980 Americans. The sample was recruited through the Lucid Theorem platform, which employs quota sampling to achieve a sample that is approximately representative of the U.S. population.[1] Embedded in the survey instrument were two experiments designed to test the extent to which Americans consider climate change-displaced migrants as meriting inclusion in humanitarian admissions programs. We used attention checks at two points in the survey and respondents who failed these attention checks were dropped from the analysis. "Speeders" were also dropped from the analysis, yielding the sample size of 980 respondents.

a.   *Ranking Experiment*

In the first of two experiments, respondents were provided with eight potential reasons a prospective migrant may seek asylum status and asked to rank these reasons from most deserving to least deserving. The reasons for seeking asylum were presented all at once to respondents in a random starting order.

Across both the treatment and control conditions, respondents received six reasons common to all respondents: the five currently accepted persecution criteria for asylum in the United States and an additional criterion in which an asylum-seeker is seeking economic opportunity due to poverty in their country of origin (a reason for migrating not currently accepted in domestic and international law as meriting asylum or refugee status). All respondents were also presented with two environmental reasons for migrating: prolonged drought and severe flooding. In the treatment condition, however, these reasons for migrating were explicitly linked to climate change. Respondents were randomly assigned to either the treatment or control conditions with probability 0.5. The control and treatment conditions of this ranking experiment are presented in the figure below.

To test whether respondents, on average, believe persecution merits asylum more highly than economic factors and environmental displacement, we calculated the mean ranking of each reason for seeking asylum and identified any statistically significant differences in the mean rankings. To test whether explicitly linking these environmental reasons for seeking asylum to climate change affects respondents' belief that these reasons merit asylum, we estimated the Average Treatment Effect. As above, we calculated the mean rankings of these environmental reasons for seeking asylum across both the control and the treatment conditions and used the difference-in-means estimator to identify these treatment effects.

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[1] Lucid establishes quotas to approximate representativeness on the following dimensions: Age (18-24, 25-34, 35-44, 45-64, 65+); Gender (male, female); Race (white non-Hispanic, Black non-Hispanic, Hispanic, other ethnicity); and Region (Midwest, West, Northeast, South).

b. Conjoint Experiment

Conjoint experiments enable researchers to gather data on how respondents value certain attributes and thus can be a powerful tool in evaluating public preferences on multi-dimensional issues. Findings from conjoint experiments specifically in the literature on immigration attitudes and preferences have been influential in understanding the economic, cultural, and humanitarian motivations behind pro- or anti-immigrant attitudes by providing robust findings high in external validity. Conjoints allow researchers to more realistically approximate decision-making by permitting respondents to evaluate and weigh multiple dimensions of some decision rather than forcing them to state their preferences on these dimensions independently[2].

In the second experiment in this survey, respondents were shown two profiles of fictitious asylum seekers, and then asked which one they prefer to allow to remain in the United States. Each profile consisted of a bundle of attributes of an asylum seeker, each randomly populated with some level of each of these attributes. In total, respondents evaluated 23 different characteristics of an asylum seeker across six dimensions. Each respondent completed this task seven times, evaluating a total of fourteen profiles.

We estimated the effects of each of these characteristics of potential asylum-seekers by calculating its Average Marginal Component Effect (AMCE). The AMCE measures the average causal effect of including any one of these characteristics in a profile of a potential asylum-seeker. That is, holding all the other characteristics constant across the six dimensions of these profiles, we can isolate and estimate the effect of each of these characteristics individually on whether the profile is chosen by the respondent, relative to a baseline level.

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[2]Jens Hainmueller, et al. "Causal Inference in Conjoint Analysis: Understanding Multidimensional Choices via Stated Preference Experiments." *Political Analysis* 22, no. 1(2014): 1–30.

Consistent with wording used in previous asylum-related conjoints[3], respondents were given the following prompt:

> We would like to show you the profiles of potential applicants for asylum in the United States. When someone is granted asylum, they are allowed to remain in the United States.
>
> You will be shown pairs of asylum seekers along with several of their attributes. We would like to know your opinion regarding whether you would be in favor of sending each applicant back to their country of origin or allowing them to stay in the United States. In total, we will show you seven pairs of profiles.
>
> Please take your time when reading the descriptions of each applicant. People have different opinions about this issue, and there are no right or wrong answers.

Respondents were then shown seven pairs of randomly generated profiles of potential asylum-seekers. The six dimensions (attributes) of these asylum seekers were: Country of Origin; Reason for Migrating; Age; Gender; Previous Occupation; and Is the Applicant Arriving with Children? The possible levels for each of these attributes is presented in Subsection c.

An example of a choice task as it would appear to one of the survey respondents is presented in Subsection c.

Country of origin: To test for the hypothesized effects of racial and in-group prejudice, we provided five possible countries of origin which vary on race/ethnicity. For internal and external validity, we chose countries where displacement due to poverty, violence/persecution, and climate change are all plausible. As the baseline level against which to test the marginal effects of varying race/ethnicity of asylum-seekers, we chose Cyprus, a European Union member state (to cue in-group status) that is also a small island nation (and thus plausibly vulnerable to climate change) with a recent history of conflict.

Reason for migrating: Consistent with past asylum-related conjoints[4], we chose the pursuit of economic opportunity as our baseline level against which to test the key marginal effects of interest in this paper—that is, respondents' evaluation of migrants displaced due to climate change. We also included levels of the "reason for migrating" attribute that include persecution—the only acceptable criterion in current asylum and refugee law—and two environmental reasons: one that is explicitly linked to climate change and its effects on agriculture and one that is not plausibly linked to climate change (an earthquake).

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[3] K. Bansak, et al. "How Economic, Humanitarian, and Religious Concerns Shape European Attitudes toward Asylum Seekers," 217–222.
[4] Ibid.

ATTRIBUTE	APPLICANT 1	APPLICANT 2
Age	21 years	64 years
Gender	Male	Female
Country of origin	Guatemala	Haiti
Is the applicant arriving with children?	No	No
Reason for migrating	Applicant seeks economic opportunity	Climate change has made farming almost impossible in the applicant's home country, leading to severe food shortages
Previous occupation	Farm worker	Unemployed

Age and gender: We replicated the levels and baselines[5] for external validity.

Previous occupation: To replicate earlier findings of the immigration attitudes literature on public preferences for skilled immigrants, we included an abbreviated set of levels from Bansak et al. (2016) that vary on skill level.

Is the applicant arriving with children? We included this attribute as an additional test of humanitarian motivations for admitting asylum-seekers as well as to test possible concerns that asylum-seekers bringing children may become public charges[6]. Finally, for external validity, this attribute of an asylum-seeker may be salient given the prominence of the debate on family separation policies at the U.S.-Mexico border, where asylum-seekers are most likely to present.

     i.   *Conjoint Analysis*

The unit of analysis is the profile—and given that each respondent evaluated fourteen profiles, the number of observations in this conjoint experiment is 13,720.

The dependent variable is a binary indicator of whether a given profile was chosen by the respondent ($Y = 1$) or not chosen ($Y = 0$). We calculate the AMCE for each characteristic of a potential asylum applicant using Ordinary Least Squares (OLS) regression:

$$Y_p = \alpha + \beta C_p + \gamma R_p + \zeta A_p + \eta G_p + \theta O_p + \lambda F_p + \varepsilon_p$$

Y represents the dependent variable for whether asylum-seeker profile *p* was selected. *C, R, A, G, O, F* are indicators for the levels of the country of origin, reason for migrating, age, gender, previous occupation, and arriving with children attributes, respectively, of asylum seeker profile ε_p is an error term. Standard errors are clustered at the level of the respondent.

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[5] Ibid.
[6] James Garand et. al., "Immigration Attitudes and Support for the Welfare State in the American Mass Public." *American Journal of Political Science* 61, no. 1 (2017): 146–62.

c. *Testing Moderating Effects*

To permit subgroup analysis along dimensions of opinion on climate change that may moderate preferences on admitting climate-displaced persons, we constructed the following binary indicator variables from a series of survey items presented to respondents prior to the experiments outlined above.

Belief in climate change: We constructed a binary indicator variable using two frequently used questions from the Yale Program on Climate Change Communication (YPCCC) questionnaires. The first question asks whether the respondent believes global warming is happening.

> Recently, you may have noticed that global warming has been getting some attention in the news. Global warming refers to the idea that the world's average temperature has been increasing over the past 150 years, may be increasing more in the future, and that the world's climate may change as a result. What do you think: **Do you think that global warming is happening?**
>
> - Yes
> - No
> - Don't know

The second question, also from the YPCCC questionnaires, asks whether the respondent believes global warming is human-caused, naturally occurring, or neither. This question captures an observed shift in the beliefs of climate change skeptics[7] from outright denial to a different means of expressing doubt.

> Assuming that global warming is happening, do you think it is… ?
>
> - Caused mostly by human activities
> - Caused mostly by natural changes in the environment
> - None of the above because global warming isn't happening
> - Other
> - Don't know

If the respondent answers "yes" to the first question and expresses a belief in human-caused global warming, they are coded as a member of the "climate change believers" subgroup.

Those already impacted by climate change: We asked respondents to indicate the extent to which they have been personally harmed by global warming and coded those who reported "a great deal" or "a moderate amount" of personal harm on the four-point scale as members of the "impacted by climate change" subgroup.

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[7] Constantine Boussalis and Travis G. Coan, "Text-Mining the Signals of Climate Change Doubt." *Global Environmental Change,* 36 (2016): 89–100.

> How much has global warming harmed you personally?
>
> - Not at all
> - Only a little
> - A moderate amount
> - A great deal
> - Don't know

Those threatened by climate change's future impacts: We measured respondents' belief that they are personally threatened by the future impacts of climate change with a four-point scale. As above, we coded those who said global warming poses "a great deal" or "a moderate amount" of future threat as members of the "threatened by climate change" subgroup.

> Does global warming pose a threat to you, personally, in the future?
>
> - Not at all
> - Only a little
> - A moderate amount
> - A great deal
> - Don't know

Responsibility to combat climate change: We measured respondents' belief that the United States has a responsibility to take costly action to combat climate change using a 5-point Likert scale of agreement with the statement below. We coded those agreeing "strongly" or "somewhat" as members of this subgroup.

> The United States has a responsibility to take action to combat climate change at a global level, even if it is costly.
>
> - Strongly agree
> - Somewhat agree
> - Neither agree nor disagree
> - Somewhat disagree
> - Strongly disagree

We then analyzed subgroup AMCEs using an identical model as for the full sample, but on corresponding subsets of our conjoint data, and reported these effects in the preceding Analysis section.
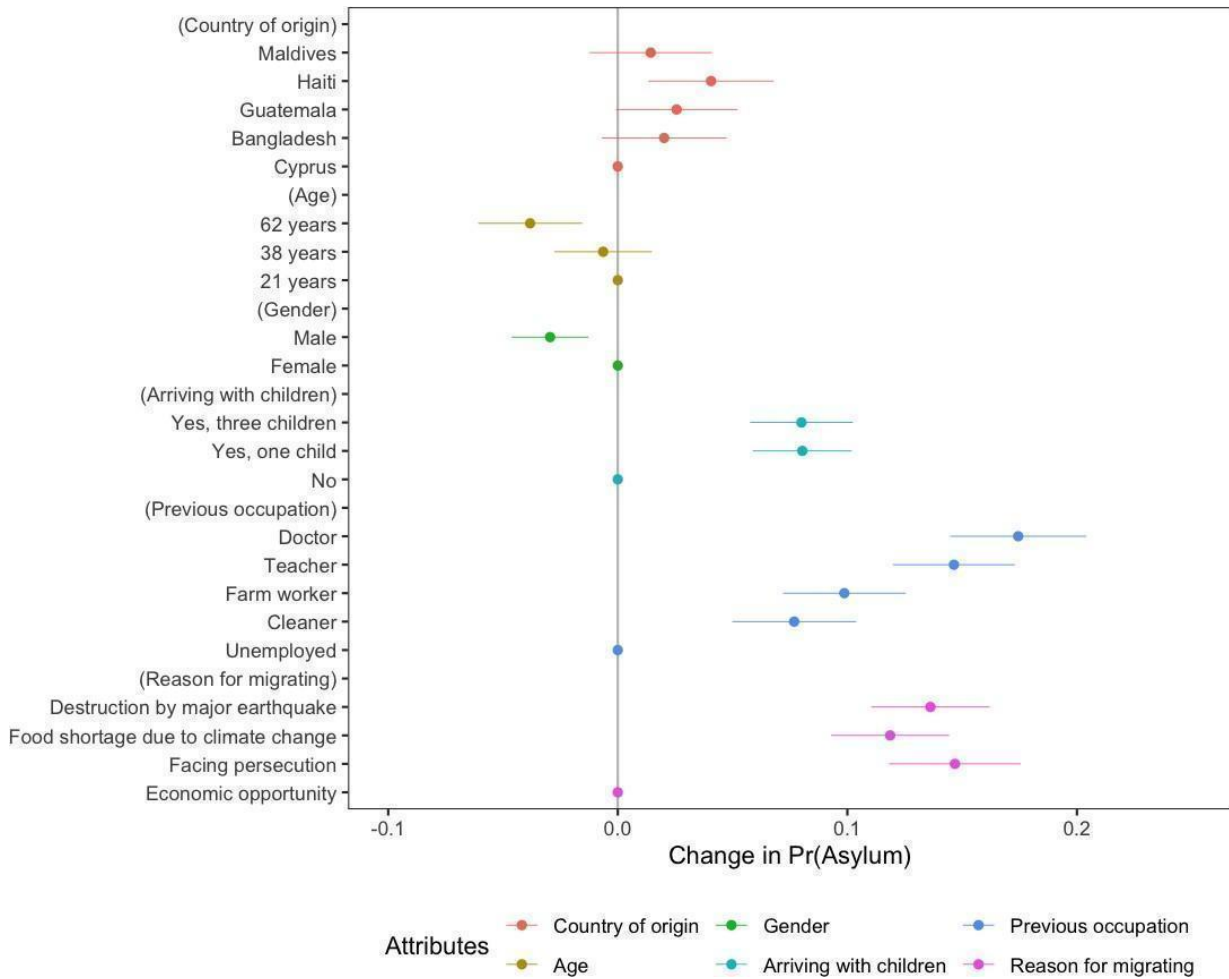
Figure A: Plot of Average Marginal Component Effects (AMCEs) on the probability that a potential asylum-seeker is judged to merit asylum in the United States (full sample), where 0.0 represents no change in probability that an asylum-seeker will be perceived as meriting a positive grant of asylum.
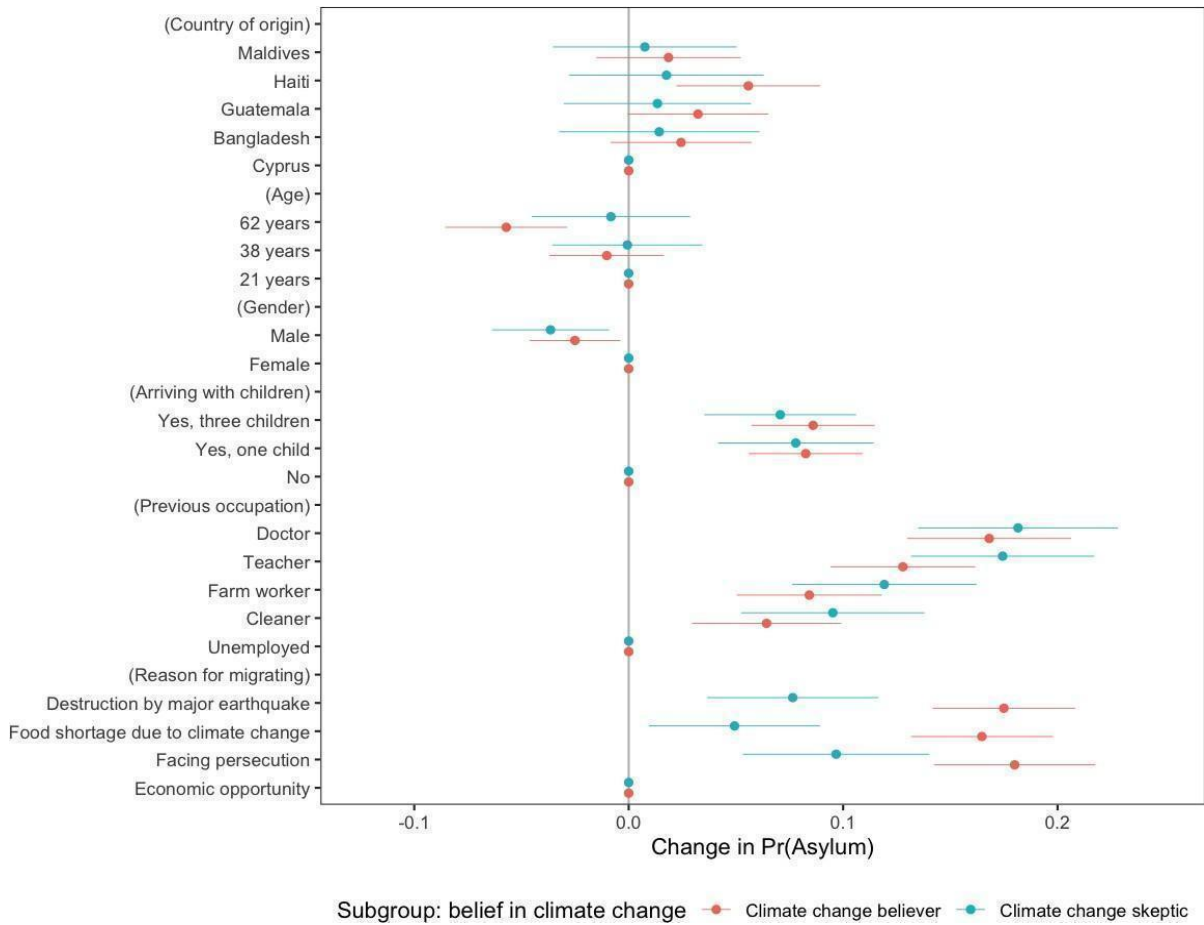
Figure B: Plot of Average Marginal Component Effects on the probability of granting asylum, showing effect heterogeneity across the subgroups of climate change believers and skeptics.
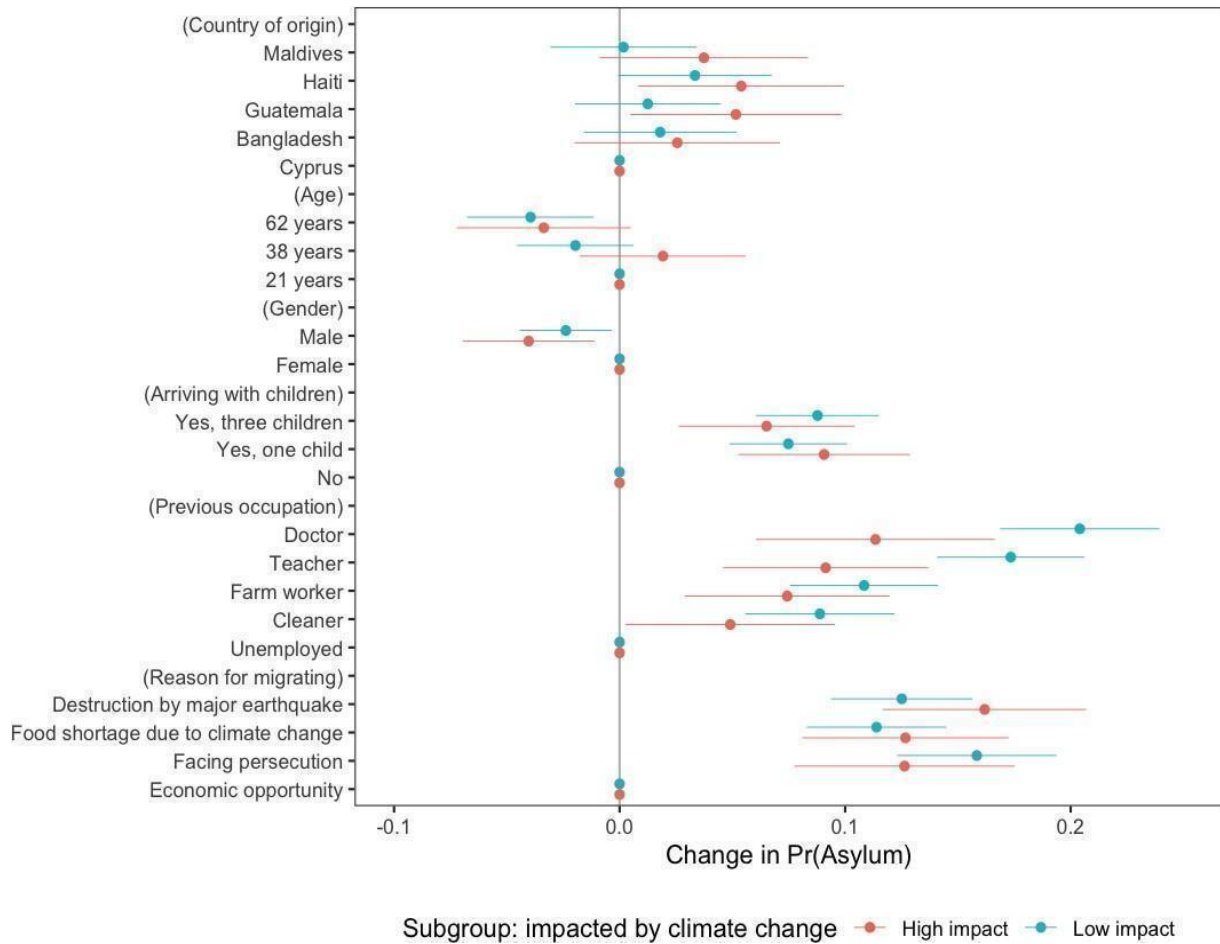
Figure C: Plot of Average Marginal Component Effects on the probability of granting asylum, showing effect heterogeneity across the subgroups of those who have already experienced the impacts of climate change.
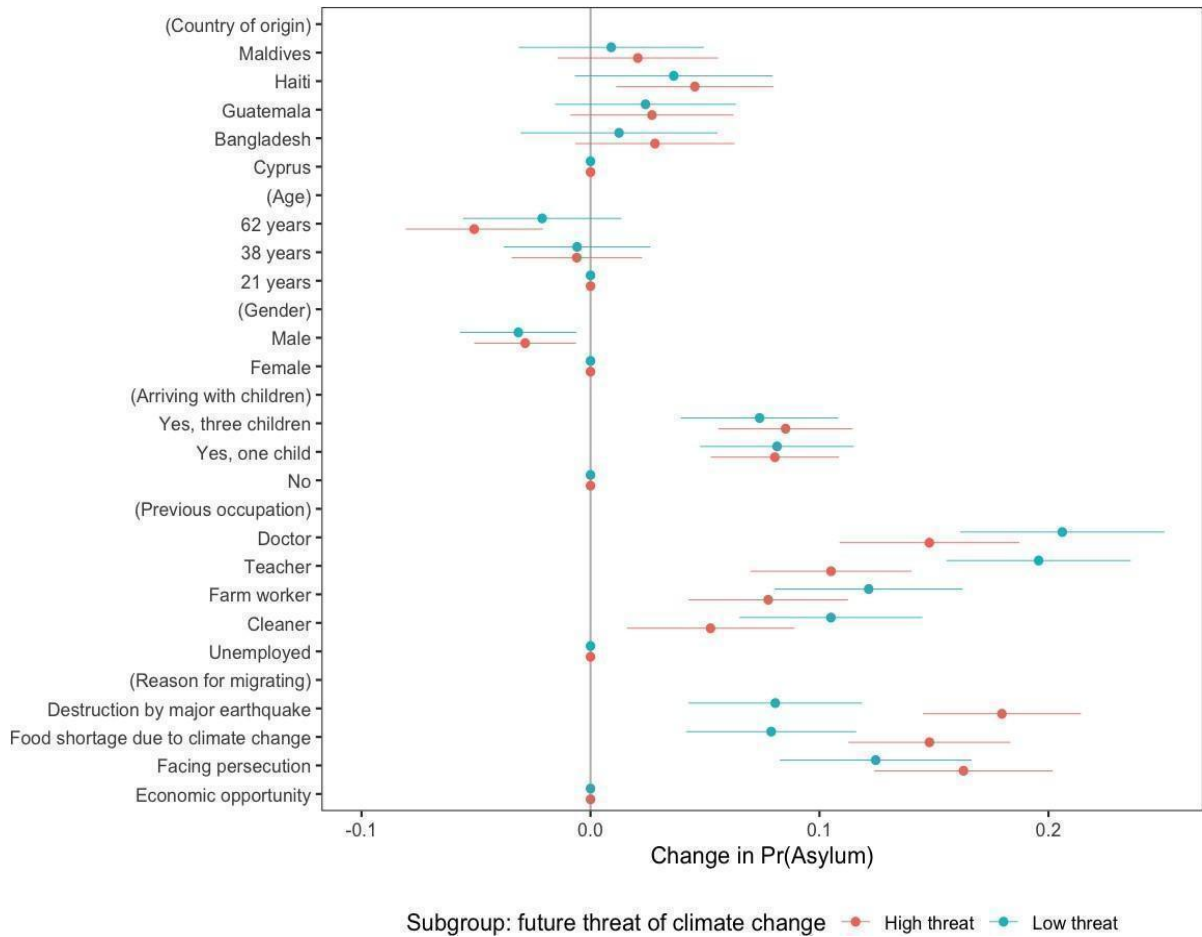
APPENDIX: Detailed Figures cont.

Figure D: Plot of Average Marginal Component Effects on the probability of granting asylum, showing difference in effect across the subgroups of those threatened by the future impacts of climate change.
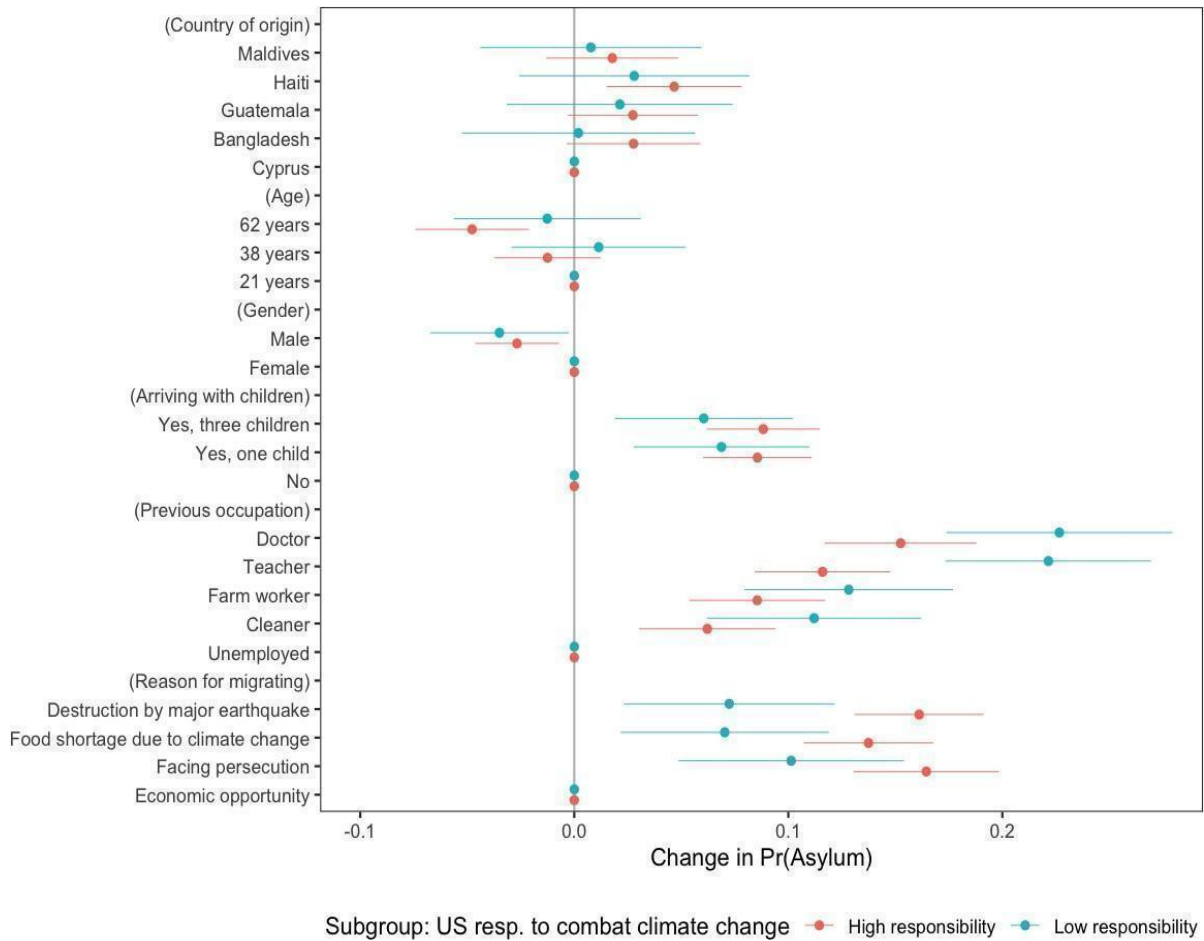
APPENDIX: Detailed Figures cont.

Figure E: Plot of Average Marginal Component Effects on the probability of granting asylum, showing difference in effect across the subgroups of those who favor costly action by the United States to combat climate change.