



Annual Family Income as a Predictor of Perceived Threat of Climate Change

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Introduction

- Climate change poses an imminent threat to billions of people around the world, and marginalized peoples, namely those of racial minorities and low socioeconomic status, stand to incur the worst of its impacts (Morello-Frosch 2009).
- From existing literature, there is a strong link between race and perceived climate threat (Linden 2017). Socioeconomic status as a predictor is not as clear-cut.
- Some studies have indicated that those of a higher relative income are more likely to perceive climate change as a legitimate concern (Lübke 2021) (Li 2018).
- Others have observed the opposite relationship, (Ballew et al. 2020), and some have even found there to be no significant relationship (Cutler 2016).
- The different locations and sample sizes of these studies may have influenced their different findings, resulting in contradictory conclusions.

Research Questions

- Does annual family income impact one's likelihood to perceive climate change as a significant threat?
- Does race play a role in the relationship between socioeconomic status and perception of climate change?

Methods

Sample

- Respondents (n=929) were taken from the National Surveys on Energy and Environment (NSEE) from 2017. Interviews were conducted in English and took place on both landlines and cell phones. Phone numbers were chosen randomly from a list of American phone numbers that were supplied by MLG.

Measures

- Annual family income was measured with the question "Which of the following categories best describes your family income?" Respondents were given the option to reply with less than \$20K, between \$20K-\$40K, between \$40K-\$60K, between \$60K - \$80K between \$80K-\$100K, or over \$100K.
- Perceived climate threat was measured with the question "How much of a threat do you believe climate change to be?" Respondents were given the option to reply with "not at all a threat," "a small threat," "a moderate threat," "a serious threat," or "an extreme threat." These responses were coded 1-5 respectively. For the purposes of this analysis, these responses were divided into "not a significant threat" (1-2) and "significant threat" (3-5).
- Race was assessed with the question "Which of the following categories best describes your racial identity?" Responses were coded numerically and collapsed into the categories White, African-American, Asian, Hispanic and Latino, and Mixed-race or other.

Discussion

- Annual family income was not found to play a significant role in one's perceived climate threat.
- A lack of connection between these variables may indicate a lack of awareness of projected climate change impacts, as different income levels are not anticipated to be at the same level of risk (Morello-Frosch 2009).
- Environmental advocacy groups may use this information when determining awareness, and by extension, where they need to spread information.
- Further research could be done to compare environmental injustices across communities to conclusively say whether those injustices impact perceived risk of climate change.

Results

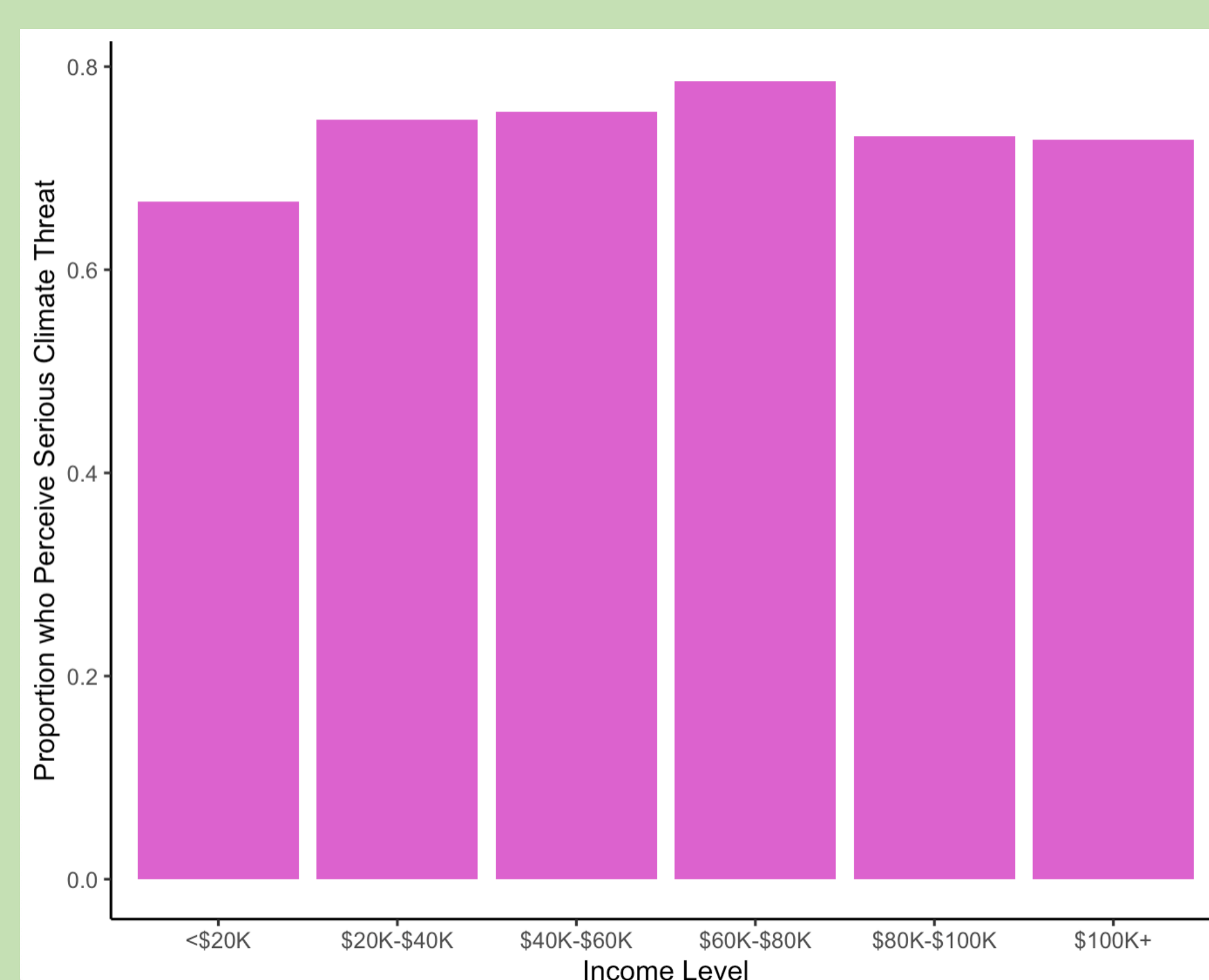
Univariate

- 11.01% of the sample made less than \$20,000, 15.66% made between \$20,000-\$40,000, 15.81% made between \$40,000-\$60,000, 17.98% made \$60,000 - \$80,000, 11.01% made \$80,000-\$100,000, and 28.53% made over \$100,000.
- 25.89% of the sample considered climate change to be not a significant threat (responses 1-2), and 74.11% considered climate change to be a significant threat (responses 3-5).

Bivariate

- Logistic regression showed that **there is not a significant difference** in the proportion of participants who perceive climate change as a significant threat (responses 3-5) based on annual family income ($p > .05$).

Figure 1. Proportion Perceiving Significant Climate Threat by Income Level



- There appears to be a moderate visual difference between the \$60K-\$80K income level and the <\$20K income level (Figure 1), but bivariate hypothesis testing has indicated this difference is insignificant.**

Multivariate

- After controlling for race and political party, **there was still no significant relationship** between annual family income and the proportion of subjects who believed climate change to be a significant threat ($p > .05$). **There are visual differences in trends across races (Figure 2), but these differences are not statistically significant.**

- Race was not found to be a significant predictor of perceived climate threat** ($p > .05$).

- Of the included explanatory variables, **political party was the strongest predictor of perceived climate threat** ($p < .001$). Republicans were found to be 93.9% less likely to see climate change as a significant threat than Democrats (OR .061, CI .029-.118). Independents and those belonging to other parties were 78.1% (OR .230, CI .106-.424) and 82.6% (OR .174, CI .070-.423), respectively, less likely to see climate change as a significant threat than Democrats.

Figure 2. Proportion Perceiving Significant Climate Threat by Income Level and Race

