



Does age influence tendency to believe in global warming?

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Introduction

- Unequivocal evidence from climate scientists shows that increasing carbon dioxide levels are strongly linked to a rising global temperature and a destabilizing environment (NASA, 2012). Yet, many governments, particularly in the United States, are reluctant to take real action to mitigate these effects (Greenhill et al., 2014).
- Identifying whether older groups are indeed more likely to deny climate change is crucial because older groups make up a significant portion of the voting population, and their beliefs can affect the trajectory of our policies (Frumkin, et al 2012).
- Much existing literature finds that believe in global warming does decrease across age ranges, but is not as significant as other factors which effect belief, such as education level or political leaning.

Research Questions

- Are older age groups less likely to believe in global warming?
- Does an individual's level of education effect their likelihood of believing in global warming?

Methods

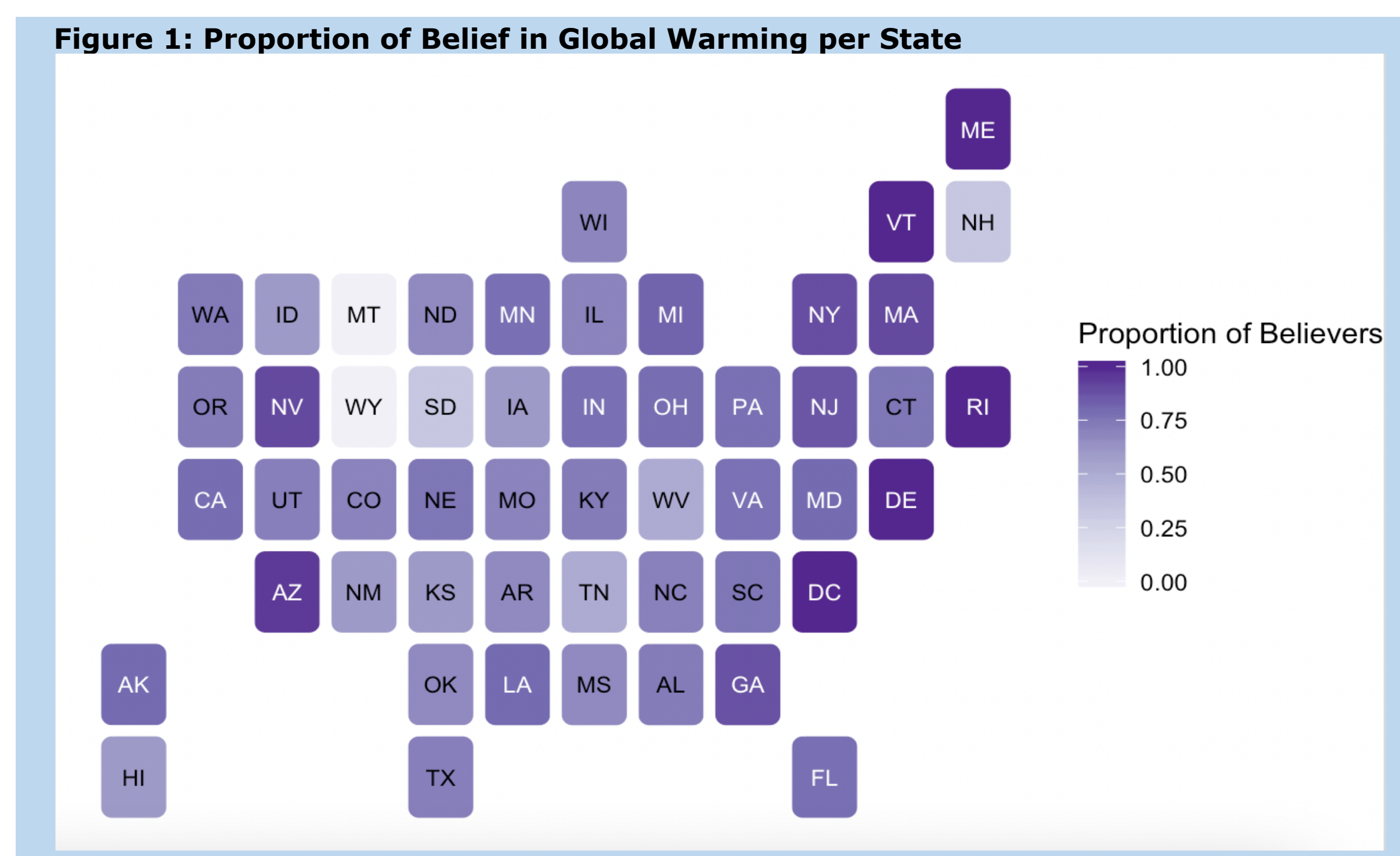
Sample

- Respondents (n=824) were drawn from the Fall 2017 National Survey on Energy and Environment (NSEE), which is a national opinion survey directly related to climate change.

Measures

- The age categories take values ranging from 1 to 4. Age ranges in each respective bucket are as follows: 18-29; 30-44; 45-64; 65 or older.
- Belief in global warming was measured with the question "is there solid evidence the average temperature on earth has been warming in the past 4 years?" Responses are "yes" or "no" and are coded as 1 or 0 respectively.
- Educational attainment, measured by highest level of education, was coded from 1 to 5, corresponding to "less than high school graduate", "high school graduate", "some college or technical school", "college graduate", and "grad or professional degree".

Figure 1: Proportion of Belief in Global Warming per State



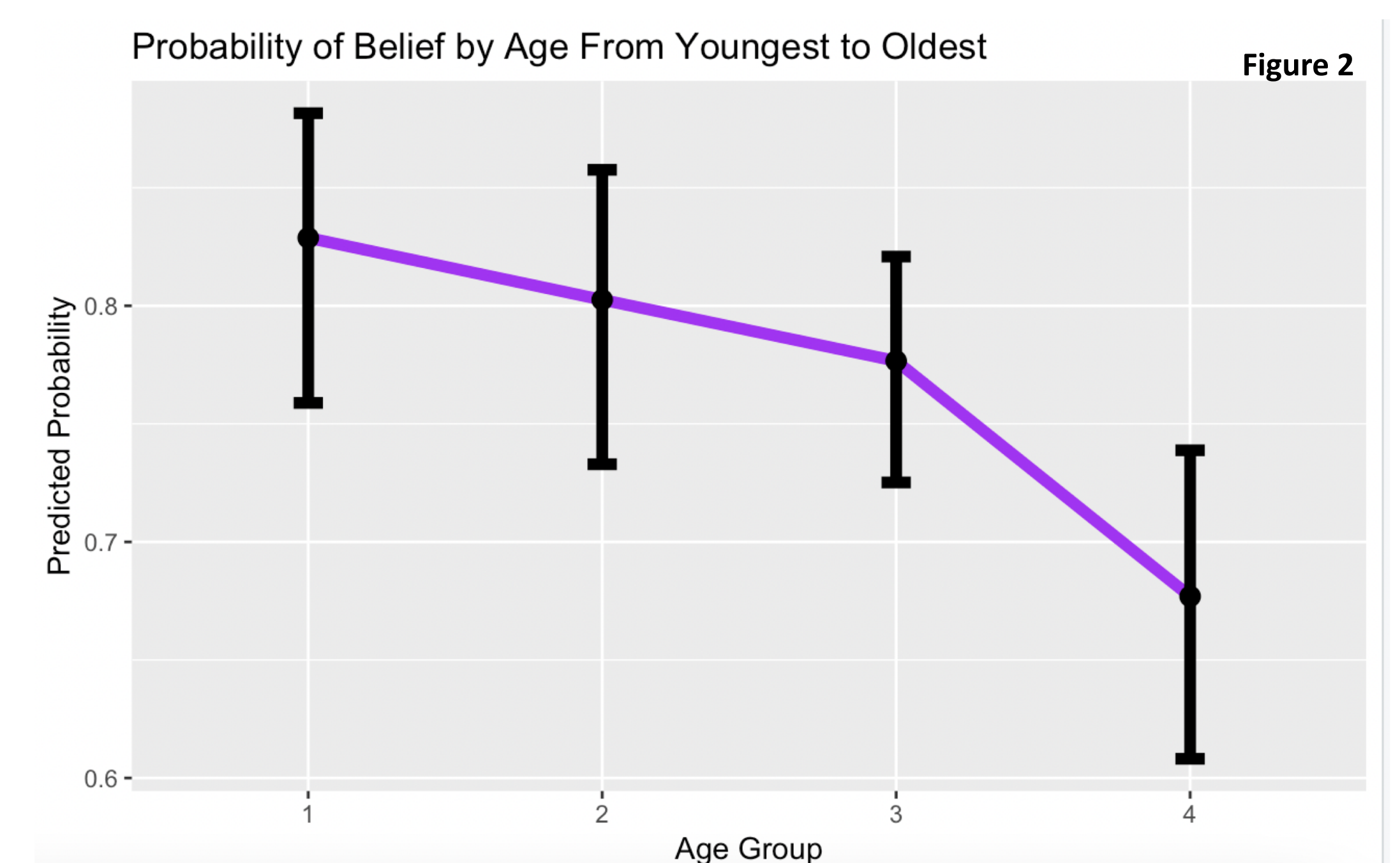
Results

Univariate

- 17.22% of respondents were 18-29; 19.05% were 30-44; 34.98% were 45-64; 24.54% were 65 or older.
- 67.81% of respondents believed in global warming; 20.99% did not.
- Further, Figure 1 shows the proportion of respondents in each state who believed in global warming, to account for regional variance.

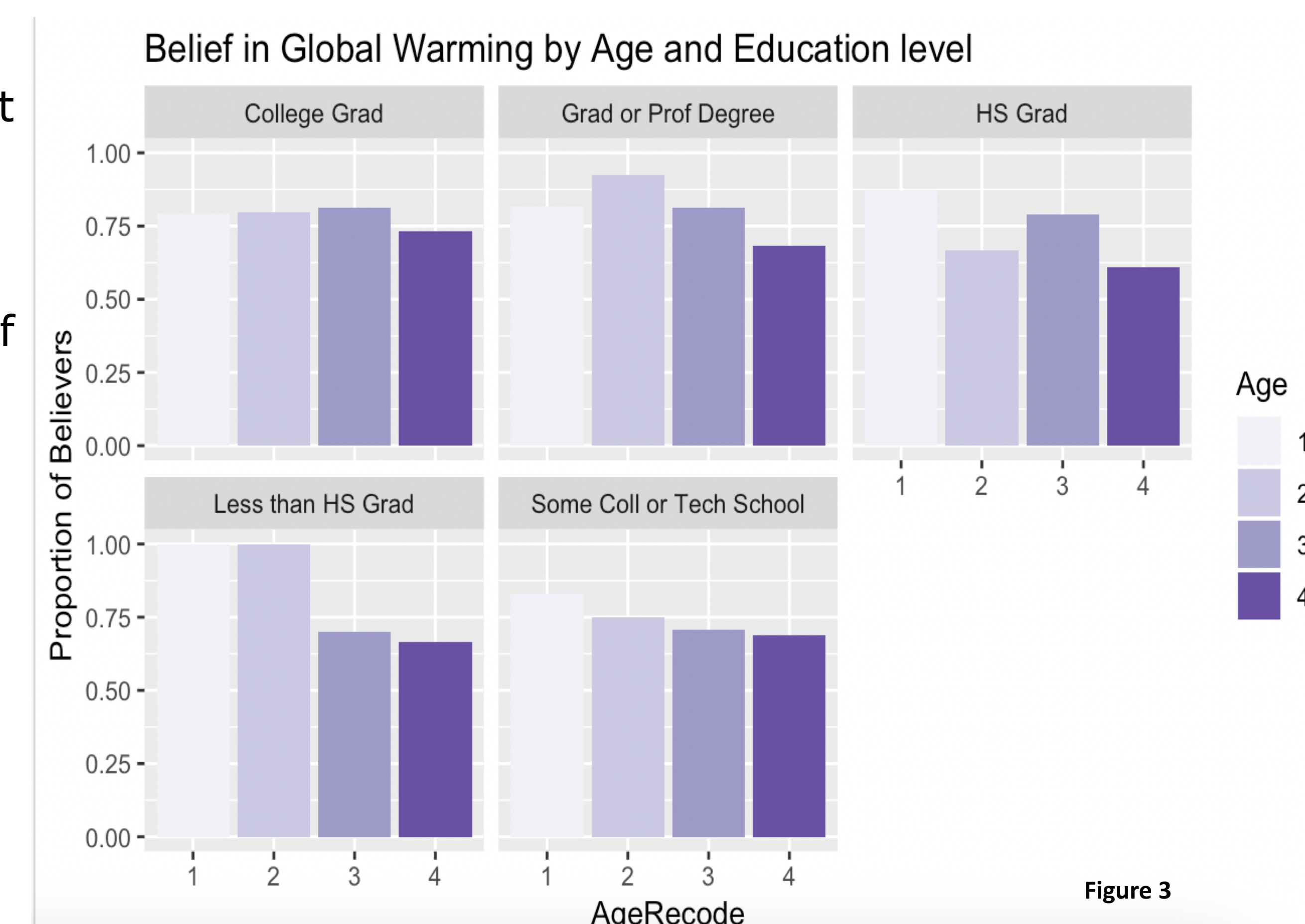
Bivariate

- A Chi-Square Test of Independence revealed that younger age groups are significantly more likely to believe in global warming than the oldest age group ($X^2 = 13.22$, $p\text{-value} < 0.05$).
- The oldest age group believed in global warming 68% of the time, while the youngest believed in it 83% of the time.
- Figure 2 displays results from a logistic regression, showing a difference between Age Group 1, the youngest, and Age Group 4, the oldest.



Multivariate

- Education attainment does not appear to confound the relationship between global warming belief and age (Figure 2).
- After controlling for level of education in our model, the differences between age groups remain statistically significant ($P < 0.05$), while education level did not have any significant association.



Discussion

- Age may affect belief in climate change, but only at the most extreme ends of the sample.
- Level of education does not affect belief in climate change, which indicates that increased information or messaging may not be able to encourage belief.
- Blame between generations for failure to act on climate change may not be warranted because of the slim difference between age groups.
- Further research could be done to examine how other confounding factors such as political beliefs or region may influence belief in climate change.