



The Correlation Between Global Warming Belief and Political Extremity



Zach Thannum, Quantitative Analysis Center, Wesleyan University

Introduction

- Climate change and the subsequent warming of the Earth has grown to be a highly contentious political issue polarizing the American political landscape (Popovich and Albeck-Ripka, 2017).
- If global warming continues to increase at this current rate, global temperatures will increase by 1.5° C above pre-industrial levels between 2030 and 2052. The next generation will bear this burden of rising sea levels, extreme weather, and loss of critical ecosystems that will effect the livelihoods, health, food, and water supplies of those worldwide. (ICPP, 2018)
- As a result, of the 2016 election and the Trump administrations legislative acts, political polarization has increased drastically causing party members to move to further extremes of their isles. This divide has made it very difficult to pass legislation, especially climate reform bills, which do not have universal support due to this widening gap between parties. (Borunda, 2020)
- This leads data scientists to wonder what confounding variables could be related to global warming belief besides political affiliation.

Methods

Sample

- Data was drawn from the Spring 2018 edition of the National Survey on Energy and Environment (NSEE), which consisted of a computer-assisted telephone survey of 751 residents of the United States ages 18 or older. To create a representative sample of US citizens, both landlines and cell phones were dialed up to 5 times between 4/29/2018-5/25/2018. The research was conducted by the staff of Muhlenberg College Institute of Public Opinion. Data is weighted by gender, race, age, income, and educational attainment to fully reflect the characteristics of the United States reported by the United States Census Bureau.

Measures

- The correlation between global warming belief, political views, age, and education level was assessed using the NSEE codebook. The belief regarding climate change was measured with the question, "Is there solid evidence avg temp on earth has been warming in past 4 decades", with possible responses ranging from 1 (yes) to 2 (no). Age was recorded by asking participants, "How old are you?". Responses were divided into 4 groups. Education level was measured with the question "What is your highest level of education?" Possible responses ranged from 1 (Less Than High School graduate) to 5 (Graduate or Professional Degree). Political views were assessed by asking participants, "Which of the following best describes your political beliefs?" with responses ranging from 1 (very conservative) to 5 (very liberal). Lastly, political party association was measured with the question, "Which of the following best describes your political party affiliation?" Unique identifiers such as "Democrat," "Republican," and "Independent" were used to respond.

Research Questions

- Is there a relation between variables like education level or age and US citizen's belief in climate change?
- Does the correlation between factors like education level and age and their relation to global warming differ for individuals within different political factions?

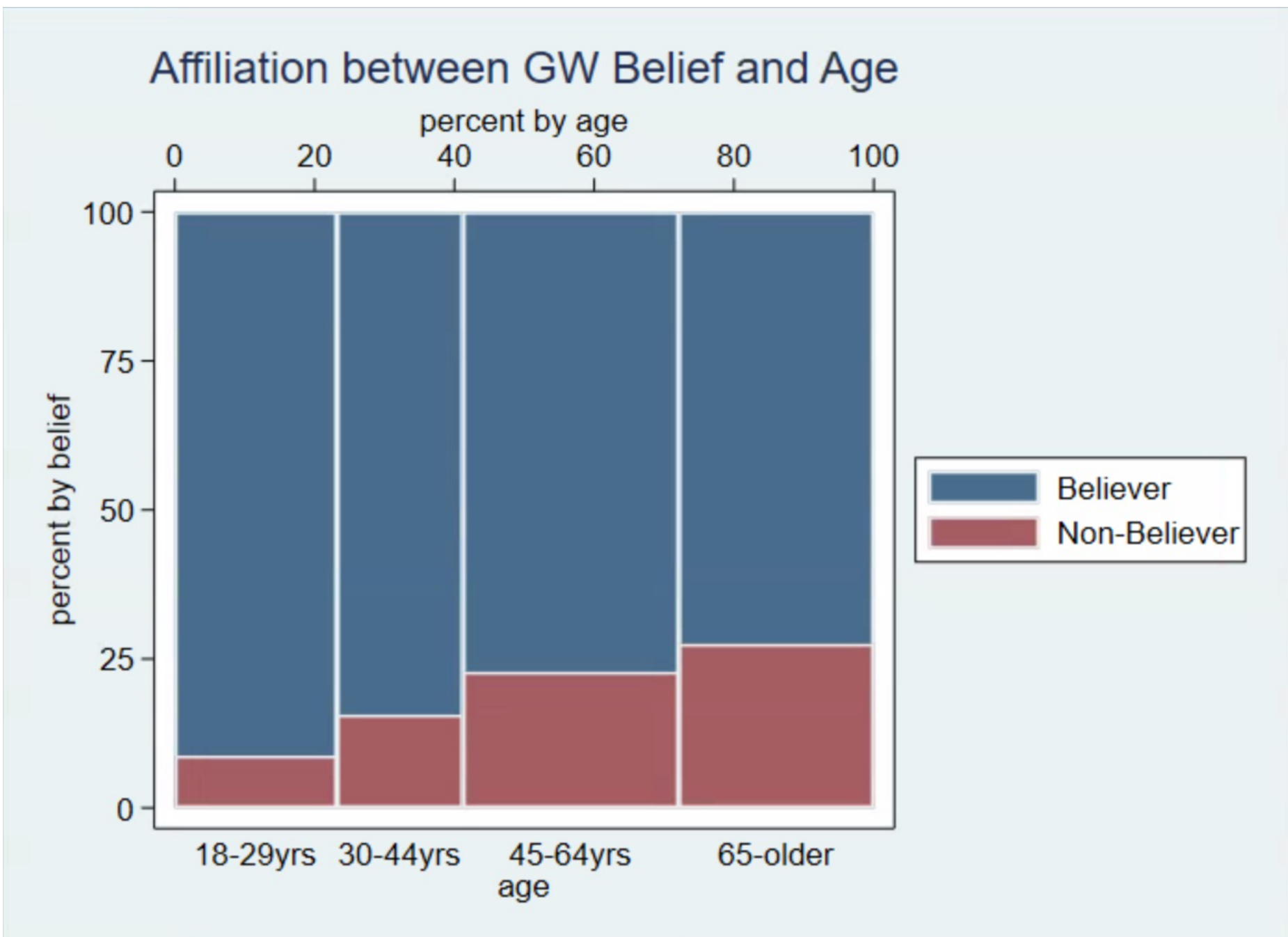
Results

Univariate

- 70.97% of respondents said there was evidence of global warming in the last 4 decades, with 11.32% answered they were unsure if climate change was occurring
- 29.58% of participants were Democrats, 26.79% were Republicans, 35.87% were independents, and 7.76% were from other parties
- 23% of respondents were 18-29 years old, 19% were 30-44years old, 30.74% were 45-64 years old, and 27.26% were over 65 years old
- 6.22% of respondents were less than high school educated, 23.11% were high school graduates, 25.81% participated in some college/trade school, 27% were college graduates, and 17.7% had graduate or professional degrees.

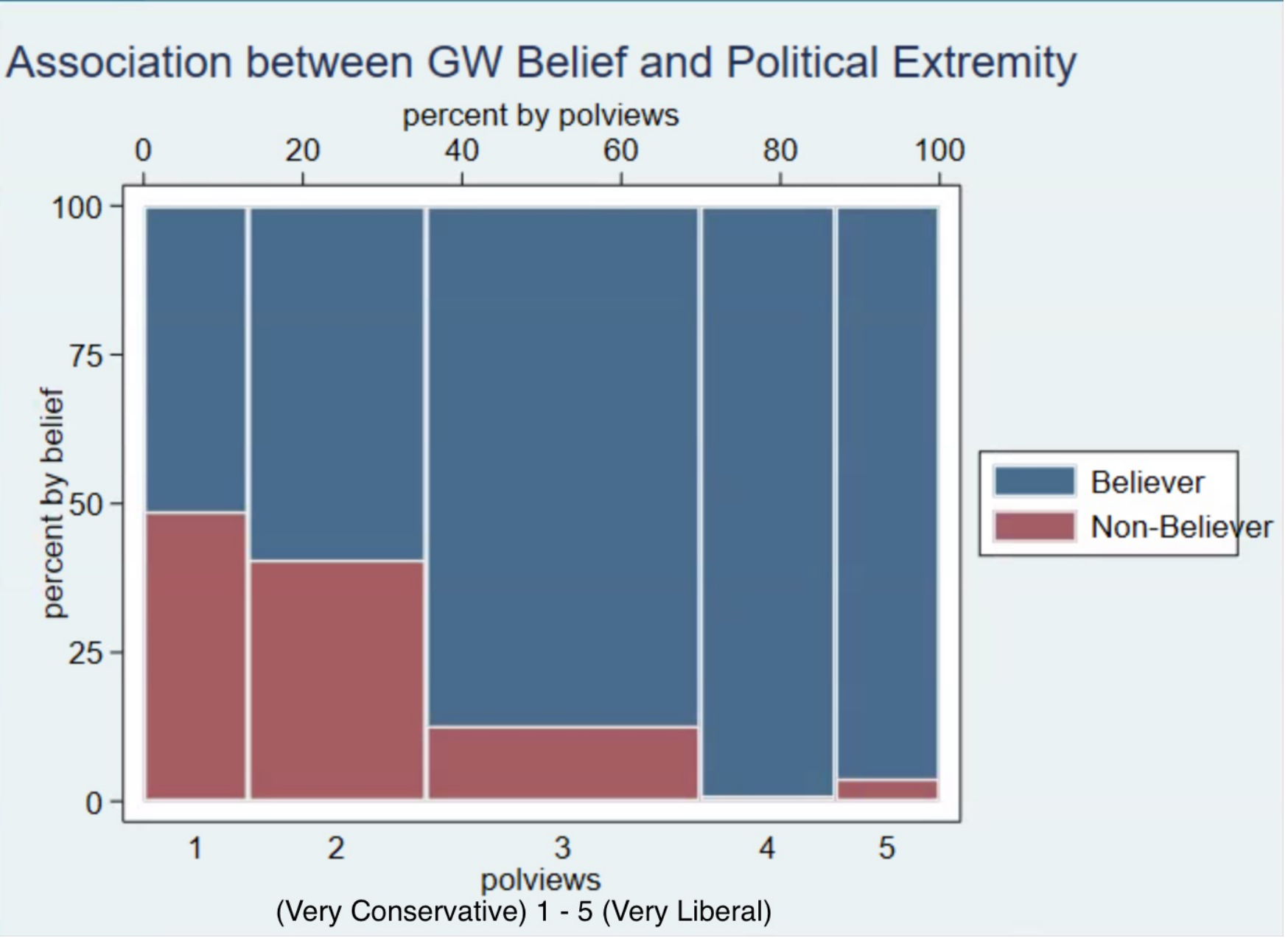
Bivariate

- An Analysis of Variance test (ANOVA) determined that there is a significant relationship between global warming belief and age demographics as a result of the p-value <.0001 and an F value of 7.03
- An ANOVA test between global warming belief and political party determined that these variables are significantly related as well with a p value < .0001. Running this same test with political parties opposed to political spectrum yielded another significant relation with the p-value again < .0001. The difference between the relations can be seen in the F values. Polviews f-value = 35.57, and Polparty f-value = 105.36, suggesting that there is a greater difference between variables within political parties



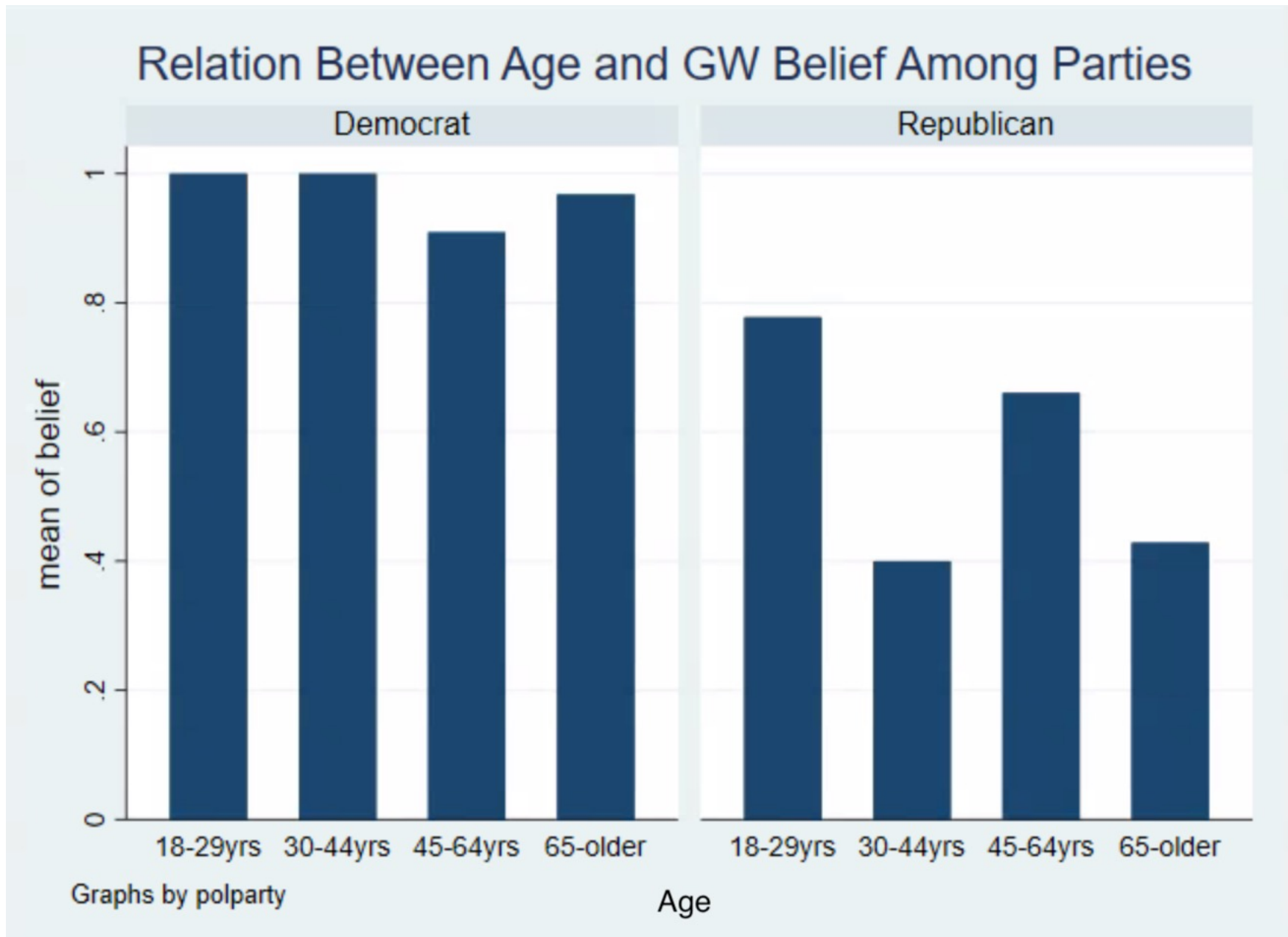
Bivariate Cont.

- An ANOVA test between education level and global warming belief yielded a p-value = .2402 > .05. Therefore, there is not a significant relation. The percentages of each political niche can be read below.



Multivariate

- A logistic regression shows that belief, age, and political party are all significantly related suggesting that a person's political views is a confounding variable.



- When looking at the graph above, it becomes clear that among Democrats (graph on the left), there is a much stronger belief in contrast to Republicans. Regression analysis corroborated that Democrats are 4% more likely to believe in global warming in contrast to Republicans. Further analysis shows that younger demographics are 65% more likely to believe in global warming. This can be seen in the graph above as younger demographics tend to demonstrate higher belief.

Discussion

- This study corroborates that there is a partisan divide within the United States, between liberals and conservatives in regard to climate change.
- However, this study delves into what variables are related to climate change belief to contextualize the polarization of this issue.
- Based on conventional wisdom, it was assumed that education level is a confounding variable, for as education level increased, the ability to comprehend scientific studies would increase, thus increasing belief, but testing did not reflect this logic.
- However, when conducting further data analysis, age proved to be the confounding variable.
- This correlation suggests that younger generations are more likely to express concern in regard to climate change because these younger generations will bear the burden of an impending climate crisis more so than older demographics, thus increased concern. The increase in belief among the oldest age demographic relates to legacy effect. This is a phenomenon that older demographics want to leave the world better than they left it. This an attempt of older demographics to leave a better world for their children and grand children to inherit. (Frumkin, 2012)

Citations

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