

Climate-Priming, Seriously?



Kiran Kling, Applied Data Analysis, Wesleyan University

Introduction

Results

- Reminding people about parts of their identity they value can cause them to bring associated attitudes and beliefs (like political party rhetoric or religious doctrine) to the forefront of their decision making process.
- This "Identity salience" has been shown to cause changes in climate change opinion (Unsworth).
- However, there is no significant association between recent extreme weather events and local climate change opinions (Hughes).
- Additionally, attaching climate change to a policy issue is associated with different levels of support for that issue. Effects vary across partisan predispositions (Wiest).

Univariate

In total, 18.11% of respondents reported last summer as "hotter than usual" relative to all other categories.

Bivariate

When the effects of priming are tested on response rates for "A lot warmer than usual" compared to all other responses, a chi-square test shows statistical insignificance (p-value = 0.2025).

- Priming is a psychological term referring to the recent use of a word or concept as a means of influence the mindset of a group or individual.
- In my data-set, half of respondents were asked questions about climate change before being asked to recall the severity of last summer's heat, while half were asked the same question prior to being asked about climate change. The group asked about climate change before being asked about weather has been forced to think about climate change, priming them and leaving the other group unprimed.

Research Questions

- Do prior questions about climate change cause individuals to recall last summer's weather as "a lot hotter than usual" more often than they would otherwise?
- How does this causation vary by political affiliation and urban setting?



 Despite a visual difference in Figure 1, there is no significant difference between primed and unprimed

- when holding political party constant (p-value = 0.2386)
- Simply being Democrat makes a respondent much more likely to report the weather as hotter than usual in the first place, regardless of the effects of priming (pvalue = 0.00155)



Methods

Sample

- •The 2017 National Surveys on Energy and Environment (NSEE) represents the adult (18+) civilian population of the United States.
- •Interviews were conducted through landline and cell phone calls.
- •The Sample included 929 participants. Measures
- Response Rate: The y axis of my graphs, measured as the frequency respondents answered "a lot hotter" relative to all other possible responses.
- Primed/Unprimed: Respondents were grouped based on whether they received questions on climate change before or after questions on weather.
- Democrat/Republican: Respondents were grouped by self-declared political affiliation
- Urban/Rural: Based on FiveThirtyEight's urbanization index, calculated as the natural logarithm of the average number of people living within a five-mile radius of a

- republicans.
- A potential confounding variable might be whether a respondent was living in an urban area and experiencing the 'heat island' effect that exacerbates heat waves and temperatures in urban environments.



- When looking exclusively at the effect of priming on Urban Republicans in Figure 2, the visually striking difference falls just barely short of statistical significance due to small sample size (P-value = 0.0629) with only ten total republicans in the urban category answering "a lot hotter" (2/49 primed vs 8/49 unprimed.
- Small sample size also plagues the rural democrat subset where priming also has a visual effect but is statistically insignificant (p-value = 0.7737)
- A larger data-set would have a good chance of confirming statistical signifigance. It could also rule it out for certain

given resident, I split States into two categories, the 25 most urban and the 25 most rural.



- Republican views are associated with recalling weather as less hot. More confounding variables than my attempt at urban sorting could be investigated to determine whether this result is due to real differences in temperature experienced by democrats and republicans. Regardless of parental status, individuals willing to take psychotropic medication themselves may be more open to children taking medication.
- Grouping states by deviation from average summer temperature or total number of heatwaves would do a better job of explaining the initial Political-temperature schism than my urban/rural grouping.
- Further research is needed to determine whether the "temperature schism" can be explained by external variables. The potentially negative effect of climate priming on republican attitudes on things other than temperature also warrants investigation.
- Should either of these inquires bear fruit, applications range from marketing (advertise AC units to democrats) to policy and political tactics (ex: when campaigning, don't use recent weather as an example of climate change, pick something else).

References:

Hughes, L., Konisky, D. M., & Potter, S. (2020). Extreme weather and climate opinion: evidence from Australia. Climatic Change, 163(2), 723–743. https://doi.org/10.1007/s10584-020-02900-5

Leiserowitz, A., Maibach, E., Rosenthal, S., Kotcher, J., Bergquist, P., Ballew, M., Goldberg, M., & Gustafson, A. (2019). Climate change in the American mind: November 2019. Yale University and George Mason University. New Haven, CT: Yale Program on Climate Change Communication. https://climatecommunication.yale.edu/publications/climate-change-in-the-american-mind-november-2019/

Rakich, Nathaniel. How Urban Or Rural Is Your State? And What Does That Mean For The 2020 Election? FiveThirtyEight, April 14, 2020. https://fivethirtyeight.com/features/how-urban-or-rural-is-your-state-and-what-does-that-mean-for-the-2020-election/ Unsworth, K,. Fielding, K. S. (2014). It's political: How the salience of one's political identity changes climate change beliefs and policy support. Global Environmental Change, 27, 131–137. https://doi.org/10.1016/j.gloenvcha.2014.05.002 Wiest, S, L., Raymond, L., & Clawson, R. A. (2015). Framing, partisan predispositions, and public opinion on climate change. Global Environmental Change, 31, 187–198. https://doi.org/10.1016/j.gloenvcha.2014.12.006