

Climate Change And Health Attitudes Show Increased Belief In Human-Caused Climate Change From 2015 To 2023 In An American University Sample

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Abstract—This research is about how people self-report climate change attitudes about human responsibility. Self-reports precede actions (Critchfield & Perone, 1990), so a predictive model of attitudes is important. Ransdell (2016) surveyed a similar NSU sample in 2015 and found that 62% reported a belief that climate change is mostly human-caused. The present study is a replication with some additional questions. As before, all with NSU email addresses were sent the survey once, without any incentive or follow-up. In this survey, the main goal was to predict Question 6 which showed participants' views on climate change as mostly human caused. The present study found the following questions as statistically significant predictors of question 6: Say you would help address climate change (Question 13; 13%), say climate change caused by humans (Question 14; 11%), say willing to contribute to prevention efforts (Question 15; 8%), says has political philosophy of common good (Question 10; 7%), and says health affected by climate change (Question 16; 7%). The results also show that over 90% of all participants now report that climate change is mostly human-caused.

Keywords—*climate change attitudes, American university sample*

I. Introduction

The period between about 2015 and 2023 saw increased evidence of climate change effects in the environment. Natural disasters like wildfires, earthquakes, and droughts became more prevalent over this period (AghaKouchak et al., 2018). This period also saw a global pandemic. The present study seeks the answers to some basic questions

about climate change attitudes. For example, will there be an increased belief in human-caused climate change in 2023 relative to data from university population in 2015? In 2015, the present author collected over 2,000 student, staff, and faculty views. This study is a replication and improvement on capturing what it means to believe that humans have caused, and therefore, can fix, climate change.

Back in 2015, Ransdell (2016a and b) found that a majority of students, staff, and faculty at a large American university believed that climate change is caused by humans. This study is a 2023 replication of the first 13 questions and then in 2023, 7 more new ones. For the first 13 questions, and back in 2015, there were 67% who selected "mostly human cause", for question Q6, RAHS (2016). The main purpose of the present study is to compare the 2015 rate of this to the same community in 2023. It is hypothesized One objective is to create a new model of climate change belief based on one made before with the same population. Another is to provide more information about cause, prevention, health, nutrition, transportation, relation to Covid-19 in a new model from data collected in 2023.

In the present study, a new subset of questions is proposed informed by research conducted since 2015. The first 13 questions from Ransdell (2016) will remain the same to best compare time periods. Motivation for taking the survey questions will be the same. The new subset questions will be about Q14. Climate Change Cause Reason, 15. Climate Change Prevention, 16. Climate and health, 17. Sustainability and Purchasing Behavior, 18. Sustainability and Eating Behavior, 19. Sustainability and Transportation Behavior, and 20. Climate change and Covid-19.

Rode et al. (2021) conducted a meta-analysis of climate change attitudes and informed our choices of the new subset of questions. Their study found that climate change attitudes were moderated by psychological distance, assuaging defense,

tailored to the audience, stopping message rejection, and reflecting American ideological polarization. Latkin et al. (2022) found that shared drivers of attitudes about climate change and Covid-19 included political ideology and motivated reasoning about severity. The present study adds a small subset of questions 14.-20. to the original 13. by increasing the scope of the answers possible to include questions in these domains.

Sugarman and Johnson (2021) found that the most effective way to change attitudes and behaviors about climate change was to focus on education. Education about the causes of climate change and the consequences of climate change will be the long-term goal of the present study. The short-term goals are to replicate the original study from 2015 and with the same population in 2023. The original 13 questions will focus on demographics and climate change beliefs. The new subset 14-20 will focus on understanding how this population thinks about climate change cause and prevention and how climate change affects their own health, purchasing behavior, eating, transportation, and connection with Covid. The resulting 20 questions are to establish a new demographic from 2023 that improves upon Ransdell (2016) by asking for attitudes about climate change that are based on these newer research findings.

II. Method

The online survey ended with 719 participants with 569 complete files of participant data. The university sample was predominantly white, Christian, female, highly educated, and liberal, and this limits our generalizability, however, these are the demographics that our university represents, and, in most cases, participants are quite well-distributed to a nearly normal curve. Others not in the majority also align with our main outcomes, that is, across age, role and other demographics except politics, climate change views are the same. And our sample represents people who can change the climate by university-educated activism and scientific discovery.

III. Results

Our data support our hypothesis that climate change views are becoming more focused on human cause. Question 6 climate change views has moved from 62% belief in mostly human cause in 2015, up to 80% in 2023. The best predictors of climate change views are the same as in 2015 and are enhanced by new questions about climate change prevention and links to health in 2023.

A multiple linear regression analysis predicting question 6 climate change views (scored 5, mostly human cause (N=463/569 or 81% to 1), and all the other questions showed an $R = .67$, R square of .45, so the rest of our questions predicted 45% of the answers to climate change views in Q6. This justifies saying that we have a coherent climate change survey but that half of the responses to

climate change as measured in question 6 are still not the complete story. The ANOVA for the regression model predicting question 6 climate change views was $F(5,42) = 36.24$, $p < .001$.

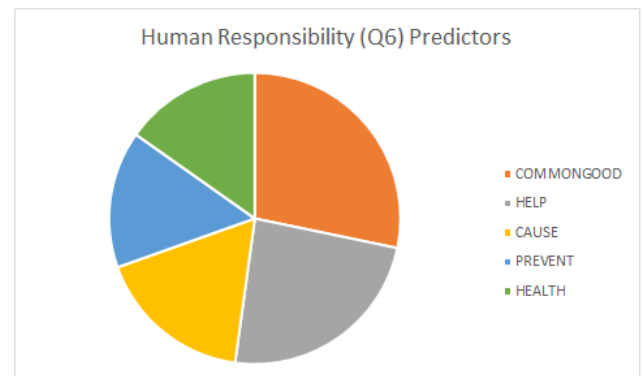


Figure 1. significant predictors of climate change as human-caused (Q6)

In this model, not all 21 questions were significant predictors of question 6. The unique beta coefficients in the model were as follows:

Q10 Political philosophy (scored 5, socialist (N=109), 4 liberal (N=277), 3 libertarian (N=35), 2 conservative (N=148), and 1 fundamentalist N=8) showed a unique beta weight of .13 which means that about 13% of climate change views as measured by question 6 were predicted by this question.

Q11 Political identify (scored 5, very liberal) showed a unique beta of .08.

Q13 How much do you want to help? showed a beta of .18.

Q14 Climate change cause showed a beta of .20, the single biggest predictor of Q6 climate change view.

Q15 Climate change prevention showed a beta of .13.

Q16 Climate change and health showed a beta of .11.

IV. Discussion

The main goal of this survey was to examine the relationship between various factors and Question 6, which shows respondents' views on climate change. Questions 10, 13, 14, 15 and 16 were found to have a significant influence on Question 6. See Figure 1. None of the other questions were linked to question 6 because a wide spectrum of participants agree with human responsibility for climate change.

The NSU community agrees that climate change is happening and is mostly of human cause. We are increasingly united around the idea that we caused, and we can mitigate climate change.

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