Digital Activism and Climate Change

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Abstract

Digital activism helps foster climate change discussion. Digital activism helps produce face to face meetings. This research provides views and potential actions about climate change based on a large sample of well-educated Americans with a wide-spectrum of political views. The present study shows the type of digital activism that can be most successful with this population. Gifford (2011) found that we are hindered by seven categories of psychological barriers, or "dragons of inaction": limited cognition about the problem, ideological worldviews that tend to preclude pro-environmental attitudes and behavior, comparisons with key other people, sunk costs and behavioral momentum, discredence toward experts and authorities, perceived risks of change, and positive but inadequate behavior change. This sample knows enough, has the right worldview, compares with the right people, has sunk costs, and may even have momentum. Sixty-seven percent of all respondents were willing to participate in digital activism. Volunteering time was chosen by 57%, volunteering money was chosen by 23%, and participating in hybrid (online and in-person discussions) was chosen by 68%. Seventy-three percent would discuss solutions to climate change in-person and 66%, online. Only 15% say they would do nothing.

Keywords: climate change, identity, regression

Complex ties link identity with climate change reasoning. Philosophy, race, age, level of education, and religion all influence climate change beliefs (see Dietz et al. 1998). The present research shows a *portrait of climate change belief* linked to digital activism and promising views about sustainable behavior. Gifford (2011) found that we are hindered by seven categories of psychological barriers, or "dragons of inaction": limited cognition about the problem, ideological worldviews that tend to preclude pro-environmental attitudes and behavior, comparisons with key other people, sunk costs and behavioral momentum, discredence toward experts and authorities, perceived risks of change, and positive but inadequate behavior change. This portrait shows who believes what, as well as what actions they might be willing to take. Statements about identify and belief are the hallmark of "cognitive availability". The present research predicts that climate change attitudes among college students, staff, and faculty at a large American university will be predicted by social, political, and religious identity and hold constant from earlier studies. Further, identity will be related to specific actions that participants are willing to take to address climate change.

Zaval and her colleagues (2013) found that attitudes and beliefs about *local* warming predict those of global warming. Participants struggled with the concept of climate change and erroneously used day-to-day weather to make sense of global warming as a concept. Their participants, like in the present study, were affected by heuristics developed in response to uncertainty, and on new information about climate change. Heuristics were developed as shortcut strategies to lessen cognitive demands. The present study investigates the use of heuristics as they are associated with views about economics and political philosophy, as well as demographics about age, role, religion, gender and other markers of identity.

Newman and Fernandes (2016) showed that identity markers like these predict attitudes about concern for the environment. Concern has remained relatively stable since at least the late 20th century (Dietz et al., 1998). In general, younger, well-educated, and the politically liberal are more likely to show concern for the environment, but the stereotype is broadening (Severson & Coleman, 2015).

The present study focuses on what a large university community say they are willing to do to help reduce climate change.

Response skepticism and epistemic skepticism were identified by Capstick and Pidgeon (2014) in a study in the UK as unique predictors of climate change attitude. In fact, most studies are carried out not in the US, but in the UK and Australia, at least in English-speaking journals. Epistemic skepticism centers on disbeliefs about what climate science or science *can* know. Response skepticism is the idea that there is nothing that can be done about it, in part because it is part of "nature" and not human action. The present research looks at the identity of skeptics in terms of economic and political philosophy. Skeptics turned out to be rare in the present sample. Only 15% responded that climate change was not happening, but these 300 or so respondents were hypothesized to have a different identity to those who had no climate change belief. Human-caused climate change belief is a specific kind of environmental concern that should also be centered on the early work linking it with cognitive and affective evaluation (Dunlap & Van Liere, 1978). The present study uses a brief survey of questions about identity and also asks participants to evaluate statements about cognitions and affect as they relate to climate change.

Severson and Coleman (2015) found that moral frames surround attitudes and beliefs about climate change. Moral frames guide cognitive availability because religious, political, economic or social connections make them easier to understand. Skeptics may believe that science cannot know or that individuals cannot act (i.e., Capstick & Pidgeon, 2014). The present study presents a regression model of the best unique predictors of climate change attitude and identity in order to predict what collegiate Americans in Florida are likely to do. Micro-level importance (political power) may be overwhelmed by macro-level importance (stewardship of the planet), but the two are related in important ways. Participants may say they would like to meet in person after establishing ground rules online.

The majority of respondents will say that would like to meet in person after ground rules online. It is also hypothesized that behavior choices about slowing climate change will vary as a function of age, gender, race, education, religion, economic and social political ideology, and type of university role. Newman and Fernandes (2016) found that the best predictors of concern for the environment were a complex mix of psychological factors and demographics like age, gender, and political ideology. Women who were younger, more politically liberal or moderate and with a higher education level were more likely to be concerned. It is predicted that most respondents will choose discussion in-person, online, or both, in that order of frequency. Online discussion will need to occur first. This will be followed by a time contribution and last longer with friendly, effective people.

Method

Participants.

The following analyses are based on 2,252 responses collected from a single email request over a 3-month period. All potential respondents were sent a single university email asking for them to take a brief survey and assuring them of anonymity. No follow-up email was sent (because all responses were de-identified by the software delivering the survey and collecting the responses, Opinio (2015). The rate of response was high in the first day, nearly 90%, but then trickled off to 10% by the end of the first week. Some 10 or 15 surveys were returned every day or so and then every week or so, until by the end of the three-month period following the single email, 2,252 had responded. A normal distribution of the main socio-economic variables was found. See Table 1 for descriptive statistics of the main variables.

The first question asked what role the respondent played at the university. A mean of 2.42 with undergraduate holding a value of 1 and faculty of 6 indicates that the majority of respondents were graduate students. A mean of 7.82 on the second question indicates an even distribution over the 16 majors or colleges represented. A 3.36 mean for the third question about highest level of education places this sample in the category of relatively well-educated with almost all in college and most with college degrees (a score of 3 was for bachelor's degree completion). The fourth question asked about age and with a mean of 3.28, most were in their 30's and all almost all were between 20 and 40 (SD of 1.41). The fifth question was about gender and a mean of 1.32 means that a bit more than half were female given that female was scored as 1 and male as 2. Note that this represents a better gender balance than in Ransdell (under review) and that males were more likely to have a higher level of education than female respondents.

The sixth question is the main criterion variable and asks the degree to which respondents believed that humans cause climate change, value of 1, and 5 indicating no climate change. A mean of 1.49 means that the vast majority believed in some type of climate change and many that it is caused by humans and not simply nature. Nearly 90% of respondents said that climate change was occurring with 68% saying it was caused mostly by humans and another 21% saying it was caused mostly by nature. Frequency distributions of those choosing 5 indicating no climate change, while a small group and tended to be older and white. The seventh question asked about race and a 4.22 indicates a preponderance of white respondents with white having the value of 5. A 3.08 in question 8 indicates a Christian majority but with some spread given an SD of 1.68. Christians made up 66% of respondents with "nones" making up another 22% and Jews at 8%. Buddhists, Hindus, and Muslims made up of less than 2% each.

Questions 9 and 10 were the main predictor variables of economic and political philosophy, respectively and were both in a distribution with a mean of 2.8 or 2.9 and an SD of 1.1 or 1.0 (again on a scale of 1 to 5). Economic and political identity were reliably correlated at r = .42. And both philosophies were significantly correlated with simple political identity, r = .35 and .37, respectively. Simple political identity was determined by Question 11. With less than 1 SD and a mean of 2.82, most are moderate (a value of 3) with a normal distribution. Simple political identity was on a true linear scale from very liberal to very conservative while economic and political philosophies were less linear. The scale for the philosophies was socialist, libertarian, liberal, conservative, and fundamentalist conservative and this may account for more connection with simple political identity and climate change attitude.

In Question 12, most respondents "wanted to help" as indicated by a mean of 1.84 (a value of 1 was "very much" and 5 "not at all").

Instruments and Procedure.

The survey was provided to approximately 29,000 university students, faculty, and staff by an IRB approved process and sent as a short email request for anonymous participation. Opinio software (Opinio 7.1, 2015) was used at its highest level of respondent security precluding any reminders or follow-up requests for participation. All URLs associated with a respondent's computer and identity were deleted before being provided for processing in SPSS. A University-led committee chaired by the Provost approved the survey which was then approved by an independent panel on a University IRB.

Results

Political identity best predicts climate change attitudes, even among a relatively homogeneous university-based sample. Nearly 90% of respondents said that climate change was occurring, with 68% saying it was caused mostly by humans, and another 21% saying it was caused mostly by nature. Sixty-seven percent of all respondents were willing to participate in digital activism. Volunteering time was chosen by 57%, volunteering money was chosen by 23%, and participating in hybrid (online and in-person discussions) was chosen by 68%. Seventy-three percent would discuss solutions to climate change in-person and 66%, online. Only 15% say they would do nothing. The following analyses show the portrait of the present respondents' belief.

Bivariate correlations

Correlational analyses showed that many variables contributed in a bivariate way to *climate change attitude*. The bivariate Pearson product-moment correlations among all question responses from the survey were used to predict the main criterion variable, *climate change attitude*. Significant bivariate correlations with *climate change attitude* were college/major, age, gender, race, religion, both economic and political philosophy, political identity, and extent of wanting to help.

Multivariate regression analyses

A linear regression predicting *climate change attitude* with all the other variables yielded a significant model with R = .51, R square = .26, $p < .001$, F (11, 1791) = 57.05. Only 4 variables had significant beta weights, race, religion, political identity (together, 20% of unique variance) and how much "want to help" (40% of the unique variance). A second model was tested using only the two types of philosophy as predictors from model 1. Model 2 accounted for only 3% of the variance in climate change attitude when in the model alone with each contributing about equaling with beta weights a bit less than .10 on average. As stated earlier, this may be due to the philosophies having a less linear structure to begin with. Libertarians were scored as a 2 on a scale of socialist (1) to fundamentalist conservative (5).

Libertarians are liberal in terms of government interference, but often conservative in social views. Model 1 was the best explanation of choosing to say that climate change was occurring and was caused by humans. Twenty-five percent of attitudes about climate change can be explained by those who were a minority in a white majority sample (5% variance explained), listed "none" as a religion (5%), identified as being very liberal (19%), and say they want to help "very much" (38%). Almost all variables were related in a simple bivariate way with climate change, but only a subset were uniquely predictive of the belief that climate change is real and is caused by human action.

Factor analysis

A principal components factor analysis was conducted to investigate the commonalities and structure of the survey responses. Four components were significant with Eigen values over 1. Component 1, the principal component, is called **Politics and Climate Change** and includes 20% of all question responses. It was mostly aligned with views about climate change and interest in participating in change. Component 1 also included politics with climate change acceptance associated with those most likely to have liberal views about economic and political philosophy. Component 2, **Role** included age of respondents, role at the university, and highest level of education and accounted for 18% of the variance in responses. There was some overlap in Components 1 and 2 which were aligned more closely than any other pairing.

Component 3, **Race and Religion** included 11% and was mainly about racial identity and religion with some contribution from major/college. Component 4 **Gender** had 10% of the variability in responses and was mostly loaded on gender with some on climate change and interest in helping. Awareness-knowledge is part of Component 2 Role, Component 3 Race and Religion, and 4 Gender. Subjective evaluation includes the largest, Component 1 Politics and Human Cause. Since these factors are mostly organized as a small subset of questions that are in fact the best unique predictors of climate change perspective, no further analyses were conducted. In other words, the survey given was an efficient and effective instrument with no need for further data reduction and limited redundancy or unnecessary questions.

The response for "Climate change is mostly Human Caused" was ordinally-scaled at 1 on a spectrum to 5 Not Happening. Those who are likely to choose Human Cause and a score of 1 are also likely to be the same level of education, but younger, more liberal, and more willing to help.

Discussion

The present study shows the type of potential action that will be most successful with educated millennials and the faculty and staff who teach them. Gifford (2011) found that we are hindered by seven categories of psychological barriers, or "dragons of inaction": limited cognition about the problem, ideological worldviews that tend to preclude pro-environmental attitudes and behavior, comparisons with key other people, sunk costs and behavioral momentum, discredence toward experts and authorities, perceived risks of change, and positive but inadequate behavior change. This sample knows enough, has the right worldview, compares with the right people, has sunk costs, and may even have momentum.

Climate change was mostly accepted by this set of highly-educated university students, faculty and staff. Across a wide spectrum of racial, political, and religious identity this sample were very likely to say that climate change is caused by human action. In fact, nearly 90% accepted climate change when including a combination of human and natural causation.

Self-reports of potential action to help address climate change accounted for a unique 40% of the variance in having strong belief in human-caused climate change. If you believe, you really want to help. Another new finding is that in this sample, a full 68% say cause is mostly by humans while only 21% say it cause is mostly by nature. If humans did it, then humans can and should fix it.

Sixty-seven percent of all respondents were willing to participate in digital activism. Volunteering time was chosen by 57%, volunteering money was chosen by 23%, and participating in hybrid (online and in-person discussions) was chosen by 68%. Seventy-three percent would discuss solutions to climate change in-person and 66%, online. Only 15% say they would do nothing. Following the work of Newman and Fernandes (2016), identity markers like gender, race, political beliefs, and spirituality all have enduring and powerful contributions to thinking (and potentially acting) on beliefs about climate change. Digital activism is very important to this effort.

Respondents who express beliefs linked to action will be more likely to act when given the opportunity. Beliefs translate in to activity when the beliefs held are cognitively available. The present study shows that at least among American university people who are relatively well-educated and liberal, there is much reason to hope for action. Climate change attitude can be predicted by identity. Climate change activism may need to tap a groundswell of belief and potential. The present study adds to our understanding of at least those willing to respond to a survey. It may be that among those who did not respond, there is less willingness. However, policy makers should be heartened by these outcomes. This research supports the conclusions made by Newman and Fernandes (2016) and extends them to the specific environmental concern of climate change.

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