



Research Paper

## Rating of sources of information among climate change Believers and deniers

Jeremy W. Grabbe

Psychology Department, SUNY Plattsburgh, 101 Broad Street, Plattsburgh, NY 12901.  
State University of New York, Plattsburgh

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**ABSTRACT:-** Climate change belief and denial has been a cause of intense public debate. Some arguments about climate change have focused on the sources of information for both sides. Reputation of climate change information as well as the influence of conspiracy theory beliefs was examined in this study. An online survey revealed similarity between climate change deniers and believers in terms of preference for climate change news sources and rating of reliability of authorities. It was also discovered that both groups do not believe in conspiracy theories. Thus the results show that participants on both sides in the discussion on climate change are similar, rational, and are basing their judgments by using similar types of sources.

Rating of sources of information among climate change believers and deniers

In the discussion of climate change and the belief or denial of climate change there is a lack of understanding about how sources of information are related to climate change attitude. Some believe that the other side of the argument is misinformed or is paying attention to disreputable sources of news/information on climate change (Fischhoff, 1981). Even still is the pervading belief (from both sides of the climate change discussion) that conspiracy theorists may be viewed by some as climate change discussion authority figures and are providing misleading influence upon the discussion.

This study attempted to understand how people who believe that humans are affecting climate change and people who do not believe that humans are affecting climate change view sources of information. One possible explanation for differences in the debate could be that one group esteems a source of information (e.g., a blog) while the other group might revile that same source as a disreputable source of information. Overrepresentation of authorities has been shown to lead to biases in judgments (Moser & Dilling; 2004).

The role of how participants in the debate on climate change are affected by conspiracy theorists is important. It has been shown that some of the risk perception of climate change is based not just on evidence, but on personal values (Leiserowitz, 2006). The prevalence of conspiracy theory within an argument reduces the credibility of an argument. Conspiracy theory is the belief in elaborate, irrational forces that are at work to sway influence (Swami et al.; 2014). People who believe in conspiracy theories are perceived as irrational and their ideas are dismissed outright. In the debate on climate change some people have cited conspiracy theory as a prevalent factor in some of the debates. This study will explore how people who have opinions on climate change view conspiracy theory and its influence.

### I. METHOD

An anonymous, online survey was conducted. Participants were recruited from various online sources such as blogs, twitter, and Facebook. Great effort was taken to recruit participants on all sides of the climate change debate. One hundred forty-two participants responded. Participants completed an online survey that took approximately 10 minutes.

### II. RESULTS

The participants identified themselves as 94 participants believing that human activity is influencing climate change and 37 participants believing that human activity is not influencing climate change (11 participants declined to answer the question and were not included).

### III. SOURCES OF INFORMATION

The ranking of sources of information in terms of credibility (see Table 1) only yielded one significant difference between the groups. Scientific journals had a significant difference between the two groups,  $t(117)=2.569$ ,  $p=0.011$ . People who believe in human-influenced climate change ranked scientific journals higher ( $M=3.04$ ,  $SD=1.53$ ) than people who do not believe in human-influenced climate change ( $M=2.26$ ,  $SD=1.44$ ). The authority sources revealed only one significant difference (see Table 2). The academic climate change supporter (Authority #1) revealed a significant t-test,  $t(108)=5.02$ ,  $p < 0.01$ . People who believe in human-influenced climate change rated Authority #1 higher ( $M=3.18$ ,  $SD=1.28$ ) than people who do not believe in human-influenced climate change ( $M=1.97$ ,  $SD=0.87$ ).

#### Conspiracy Theory Beliefs

No significant differences were found between groups in terms of belief in popular conspiracy theories. Both groups expressed similar and large disbelief in popular conspiracy theories.

### IV. DISCUSSION

The climate change debate is one of the more prevalent and intensely discussed issues of the 21<sup>st</sup> century between the scientific community and the lay community. It is important to understand the mechanisms of decision making among people who believe in human-influenced climate change and people who do not believe in human-influenced climate change. A critical factor in decision making is how people rate the reliability of sources of information (Tversky&Kahneman; 1974) such as news outlets and authorities. This study found that both groups in the climate change debate are strikingly similar in how they rate the reliability of news outlets and information authorities.

A discussion among individuals in the climate change debate is the possibility of irrational beliefs (i.e., conspiracy theory) being at the source of arguments for or against human-influenced climate change. Once again both groups showed similarities in overwhelming disbelief in conspiracy theory. This characterizes the participants in the climate change discussion as both similar and rational individuals relying on comparable sources of information. This characterization will allow future studies to present information in a way congruent with the psychology of climate change (Newell & Pitman, 2010).

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Table 1

	Scientific Journals	Newspapers	Magazines	Blogs	E-mail List Serves	Television
<b>belief</b>	3.04(1.53)	1.75(0.99)	1.90(1.03)	3.28(1.18)	2.25(1.58)	1.51(0.92)
<b>denial</b>	2.25(1.44)	1.42(.81)	1.91(0.96)	3.08(1.34)	1.79(1.57)	1.33(0.86)

Mean (standard deviation) rating of sources of news by climate change belief or denial

Table 2

	Authority #1 Climate change belief Academic	Authority #2 Climate change belief NonAcademic	Authority #3 Climate change denial NonAcademic	Authority #4 Climate change denial Academic
<b>Belief</b>	3.18(1.28)	1.61(0.85)	1.22(0.53)	3.26(1.25)
<b>denial</b>	1.97(0.87)	1.31(0.63)	1.31(0.79)	3.43(1.19)

Mean (standard deviation) rating of authorities by climate change belief or denial

Appendix

Survey Items

Climate change is occurring.: true of false

Climate change is a real factor for life in the 21st century.: true of false

I am concerned about climate change.: true of false

Climate change is not the result of human interference.: true of false

People who claim that climate change is happening are misinformed.: true of false

People who deny climate change are misinformed.: true of false

Where do you get your news/information about climate change? How reliable is it (please rate reliability : 1= not reliable;2;3=somewhat reliable;4;5=very reliable)?

Scientific Journals

Newspaper Articles

Magazine Articles

Blogs

E-mail list serves

Television

Rate the reliability of the following individuals (please rate reliability : 1= not reliable;2;3=somewhat reliable;4;5=very reliable)

Authority #1

Person X has an advance degree in climatology and regularly publishes in peer-reviewed scientific journals. Person X believes that climate change is real and promotes climate change awareness.

Authority #2

Person X has a high school diploma and works at a local convenience store. In Person X's spare time they write a blog about how human behavior has led to an impact on climate change.

Authority #3

Person X is a professor at a middle size college. Person X has published in peer-review journals and maintains a blog about how climate change is not a result of human activity and warns of the economic threat of the new world order.

Authority #4

Person X works as a janitor at a local supermarket. In Person X's spare time Person X posts to online forums about how climate change is used as a smoke screen by the government to distract others from the government's work to create super viruses such as Ebola and SARS.

Ebola is a disease created by governments to control populations.: true of false

The New World Order is attempting to take (or has succeeded in taking) control of the world economy.: true of false

The U.S. government successfully orchestrated a false moon landing in order to deceive the public.: true of false

The terrorist attacks of September 11th, 2001 occurred as a result of the government's foreknowledge of the attacks and their desire to capitalize on the effects of the attacks' aftermath.: true of false

Area 51 is a government location in which the government houses recovered extraterrestrial artifacts.: true of false