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BOTH LIBERALS, CONSERVATIVES CAN HAVE SCIENCE BIAS



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Study finds different topics bedevil the left and right

COLUMBUS, Ohio – New research suggests that liberals, as well as conservatives, can be biased against science that doesn't align with their political views.



The study found that people from both the left and right expressed less trust in science when they were presented with facts that challenged specific politicized issues.

For conservatives, climate change and evolution were the issues that led them to lose some trust in science. For liberals, it was hydraulic fracturing (fracking) and nuclear power. The results challenge recent books and articles that claim conservatives alone have difficulty dealing with scientific fact.

"Liberals are also capable of processing scientific information in a biased manner," said Erik Nisbet, co-author of the study and associate professor of communication and political science at The Ohio State University. "They aren't inherently superior to conservatives."

The researchers caution that the results shouldn't be interpreted to create a false balance in which each side could be seen as equally wrong on all issues.

"Our point is there is evidence of bias on both sides, although the bias may appear on different issues," said co-author R. Kelly Garrett, also an associate professor of communication at Ohio State.

For example, "liberals may be biased about some issues, but that doesn't mean they are wrong about humans causing climate change," Nisbet said. "You can't say our study supports the climate denialism movement."

The study, also co-authored by graduate student Kathryn Cooper, appears in the March 2015 issue of *The Annals of the American Academy of Political and Social Science*.

Participants in the study were 1,518 people from across the country who were told they were evaluating a new educational website about science. But the researchers were actually trying to see how people reacted to science that they knew from previous studies challenged the views of conservatives (climate change, evolution) as well as science that challenged liberals (fracking, nuclear power) along with science that no one seems to have a problem with (geology and astronomy).

All participants were asked a variety of demographic questions, including questions about their political ideology and their knowledge about science.

They were then randomly assigned one of the six science topics. They were asked four true or false questions assessing the accuracy of their beliefs about the topic they were assigned. These questions all concerned well-accepted scientific facts.

For example, the nuclear power participants were asked whether people who live near nuclear power plants are typically exposed to 20 percent more radiation than are people who do not (That is false).

Those who were assigned climate change were asked whether there was a great deal of disagreement among scientists about whether or not climate change is primarily caused by human activities (That is also false).

Participants then viewed the educational website page about their science topic. The page provided information that would have

allowed participants to correctly answer all of the previous knowledge questions.

Participants were asked to rate how much they felt several emotions, including anger and annoyance, after viewing the website.

The next questions aimed to find out how motivated the participants were to resist the facts presented on the website. For instance, they were asked whether they felt the website was objective and whether it "tried to pressure me to think a certain way."

Finally, the participants were asked to rate how much they agreed with five statements that measured their trust in the scientific community. For example, one statement was "I am suspicious of the scientific community."

The results showed evidence of bias by both conservatives and liberals, although there were differences in how the two sides reacted.

Both liberals and conservatives felt more negative emotions when they read the scientific pages that challenged their views compared to those who read about the scientifically neutral topics (geology and astronomy).

However, the negative reaction of conservatives when they read about climate change and evolution was four times greater than that of liberals who read about nuclear power and fracking.

Both liberals and conservatives showed evidence of motivated resistance against the facts related to the science topics that challenged their political beliefs.

But again, conservatives reacted more strongly than liberals.

The researchers can't say for sure why conservatives reacted more strongly than liberals when they disagreed with the science, but it may go beyond ideology.

"Climate change and evolution are much bigger issues in the media and political discourse than are fracking and nuclear power," Nisbet said.

"The fact that the issues that challenge conservatives are currently more polarizing in society today may intensify feelings."

One of the more distressing findings of the study was that these polarizing issues made both sides lose some trust in science, Garrett said.

"Even liberals showed lower trust in science when they read about climate change and evolution, issues about which they generally agree with the scientific community," he said.

"Just reading about these polarizing topics is having a negative effect on how people feel about science."

Unfortunately, the media has the potential to increase politicization around other science issues, such as the current coverage of child vaccination and measles, Nisbet added.

"A great deal of media coverage takes a partisan angle to the story by contrasting statements from potential Republican presidential candidates with President Obama's call for parents to ensure their children are vaccinated" he said.

This type of media coverage has the potential to politicize what was for the most part previously a non-partisan issue, dampen trust in health experts, and create a divide between liberals and conservatives on the issue, he warns.

Nisbet said the media has seemed to go out of its way to highlight Republican candidates who support parental choice or question the need for required vaccinations.

"What is lost in the coverage are the other Republicans who support vaccine use. Even more importantly, while the media is stoking controversy, they ignore the fact that the science backs up vaccine use and that the overwhelming majority of Americans do have their children vaccinated."

The most important implication of the study has to do with how we communicate controversial science, Garrett said.

"Demonizing whole groups of people, saying that they are inherently incapable of understanding science, is not only false, it is not an effective communication strategy," he said.

"Everyone can be biased. Calling people names is not a solution."

Editor's Note: This study appears in a special issue of *The Annals* titled "The Politics of Science: Political Values and the Production, Communication, and Reception of Scientific Knowledge." The issue was edited by Elizabeth Suhay and James N. Druckman.

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