Can open and honest scientists win public trust?

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With the increased politicization of science, more and more people continue to be skeptical of research, especially when it comes to hot-button topics such as climate change and vaccines.

Michigan State University researchers wondered whether it would be better for scientists to acknowledge some of their personal or social values up front when reporting on their studies in order to gain trust. Turns out, not so much in certain situations.

Their findings, now published in *PLOS ONE*, suggest there is less benefit for scientists to be transparent in their views. In fact, by being up front, such transparency could make people trust the research even less.

"It would seem like being more forthcoming would be a very responsible thing for scientists to do," said Kevin Elliott, lead author of the study, who specializes in the ethics of science at MSU.

"But our research suggests that in many cases, fully disclosing personal beliefs actually decreases people's trust depending on the circumstances."

The study used two different scenarios focused on the controversial additive Bisphenol A, or BPA, which is often found in plastic water bottles. Each introduced a fictional scientist who presented various scientific conclusions about whether the substance was harmful or if it should be regulated. In both test cases, there were situations where the

scientist made a statement about something he deemed important in society before presenting a conclusion and other instances where this kind of expressed value was left out.

Elliott and his research team found that in both experiments - each surveying close to 500 people - when the scientist disclosed a value, survey respondents tended not to trust him as much. Results were based on a scale from one to seven ranging from "completely distrust" to "completely trust." In fact, many participant scores dropped a full point when it came to trust level.

"However, this didn't happen across the board," Elliott said. "People didn't mind so much when the scientist made claims about regulating BPA versus when a claim was made about BPA being harmful or not."

Results also showed that participants were less likely to distrust a scientist if a conclusion was drawn that seemed to be opposite of an expressed value. For example, if the scientist said public health should be a top priority, but concluded that BPA was not harmful, people's trust was less likely to decrease.

Elliott said that even though his study indicates that being transparent doesn't always garner trust, scientists should still be open about their values and continue to manage them more responsibly especially when presenting controversial science.

"We all know that scientists aren't automatons who go about their work with no personal, social or ideological perspectives," Elliott said. "We wouldn't want scientists to be like that. Scientists need to find ways to handle their values appropriately so that they don't destroy objectivity or harm public trust in their work."

As for the public, he said that rather than dismissing scientists who

discuss their values and deeming them untrustworthy, encouraging them to have open, thoughtful discussions about how values influence research could be a good start to promoting socially responsible science.

"Whether it's science, media or politicians, we're all concerned about the role values play in reporting findings and the facts," Elliott said. "Trying to figure out how to handle it all responsibly is the hurdle and this study could help with that broader effort."

Provided by Michigan State University

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