

Science for Environment Policy

Public perceptions of environmental risk: the role of journalists

Science not communicated is said to be science not done, but journalists' portrayal of scientific findings can sometimes have a negative impact on public perceptions of science and even create false controversy. This study examined how presenting opposing scientific viewpoints affects public perceptions of environmental risk.

The way journalists represent scientific debate and in particular how they represent opposing viewpoints influences public perceptions of risk and uncertainty about a subject. In the effort to appear objective, science journalists sometimes give equal weight to opposing viewpoints — even if one is a minority view — which can make the scientific findings seem more controversial than they really are. There are many examples of this in health reporting, including the link between smoking and cancer, and the MMR vaccine and autism. In environmental science perhaps the best illustration is [climate change](#). Many past media reports have included opposing viewpoints on the causes of climate change, despite the widely accepted scientific consensus.

To prevent false perceptions of controversy or risk while providing balance, journalists often use the strategy of discrediting one side of an argument. However, little previous research has explored whether this strategy actually works. To answer this question, this study investigated the effects of discredited information on public understanding of risks by manipulating controversy in news articles.

In the study, 247 people were asked to read short news articles about various environmental risks. The articles either contained one viewpoint, two balanced viewpoints, or two viewpoints with one clearly discredited. The researchers explored three different methods of discrediting a viewpoint: associating the scientist with an organisation that had a conflict of interest, suggesting that the scientist represented a minority viewpoint, or stating that the scientist had used a flawed methodology.

Participants were randomly assigned one of six news stories about a fictional environmental risk, relating to air pollution, water pollution or mosquito-transmitted disease. The stories varied in how much risk the initial scientist perceived the threat to pose (low or high) and the opposing viewpoint (which was either absent, discredited or balanced).

After reading the article, the participants answered a series of questions about risk perception (e.g. How much risk do you think X poses?), risk probability estimates (What do you think the probability of X is?), scientific uncertainty (How certain do you think scientists are about X?), credibility (How credible do you think the scientist/journalist is?), and bias (How biased do you think the scientist/journalist is about X?). All questions were multiple-choice.

The results suggested that journalists who wrote articles presenting opposing viewpoints were judged as less biased, but not necessarily more credible. Scientific credibility tended to be rated higher and bias lower when just one scientific viewpoint was given, as opposed to two balanced viewpoints.

Importantly, the strategy of presenting opposing viewpoints and discrediting one of them created much the same perceptions of risk and uncertainty as presenting balanced opposing viewpoints.

This suggests that presenting different views, regardless of their respective scientific merit, may create an impression of uncertainty and reduce public trust in science.

Although the technique of discrediting was unable to minimise false perceptions of controversy in this study, the findings could be used by scientists and journalists to produce accessible media messages that offer an accurate impression of the uncertainty of results.

Media outlets are one of the public's major sources of information about science and are particularly important when it comes to risk, as how the public perceive risks influences how they will act on them.

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