Effective Climate Communication: Is Curiosity Key?

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Multiple lines of evidence now show that those who are highest in science knowledge are also the ones who are the most polarized on issues like climate change. Here, we present the results of two studies suggesting science curiosity may temper politically motivated reasoning. This finding has important implications for science education and outreach, particularly surrounding anthropogenic climate change.

The first study, a national online survey (N=2,500), examined relationships between science curiosity, science knowledge, and political identity on participants' agreement with the assertion that there is solid evidence of anthropogenic global warming. As expected, the influence of political identity on acceptance is robust and increased knowledge has a strong polarization effect. To explain, the more knowledge liberal Democrats have, the more they agree with the assertion, whereas the more knowledge that conservative Republicans have, the more they disagree. There was also, however, an effect of science curiosity. Regardless of political identity, participants with higher science curiosity were more likely to agree that there is solid evidence of human-caused global warming.

The second study, a national online experiment (N=3,000), manipulated whether or not news stories expressed concern about climate change and whether or not these stories were framed as surprising. Often people engage in selection bias, choosing stories that align with their ideology. However, we found that people higher in science curiosity were more likely to choose the surprising story, regardless of the participants' ideological bent.

We hypothesize that science-curious individuals use their reasoning abilities to contemplate interesting scientific insights, over-riding their ideological biases. If so, climate science outreach and education efforts should seek to activate and enhance curiosity alongside improvements in traditional science literacy. Ongoing and future work focuses on figuring out how to tap curiosity's power to neutralize ideological bias and how to determine the effectiveness of different learning approaches to activate, sustain, and enhance science curiosity.