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'Psychological Vaccine' May Protect Against Fake News, Alternative Facts

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In a well-timed paper from three universities in England and the U.S., researchers lay out a strategy for "inoculating" the public against the fake news and alternative facts that have been rampant in recent history. They dub the method "psychological vaccination," since it's conceptually similar to medical vaccinations: You insert a little bit of the material you want to inoculate against (normally, a piece of virus; here, a word of warning about fake facts), and the person becomes more resilient when confronted with it in the future. The idea is that those who are in the

business of relaying actual facts may want to implement the strategy to prevent against the spread of "alternative facts."

To test the hypothesis, the researchers first presented participants with accurate or inaccurate facts about a subject known to be susceptible to misinformation: Climate change. Some participants were presented with a pie chart illustrating a scientifically sound fact: "97% of scientists agree on man-made climate change." Another group was presented with a website, the Oregon Global Warming Petition Project, which displays a (fake) petition attesting that "human-caused global warming hypothesis is without scientific validity," and which more than 31,000 American scientists appear to have signed.

As expected, people who saw the accurate information were later more likely to believe that there was scientific consensus on the issue of human-related climate change—20% more. But those who saw the Oregon Global Warming website were 9% less likely to believe there was scientific consensus on the subject.

Here's how they inoculated people against misinformation. As participants were presented with the climate change fact (the real fact, that is), they were also given a general inoculation: a mention that "some politically motivated groups use misleading tactics to try and convince the public that there is a lot of disagreement among scientists." Another group were given the general and a more detailed inoculation, showing *why* the Oregon Petition was fraudulent (for instance, pointing out that it contained the signatures of Charles Darwin and the Spice Girls; and that a only tiny fraction of the apparent endorsers were actually educated in climate science).

The vaccination seemed to work: Those who'd received the general inoculation were more resilient to fake information when later presented with it—they were 6.5% more likely to agree that there's consensus about climate change. And when participants were given the more detailed inoculation, they were 13% more likely to agree that there's consensus, in the face of fake information.

What was also interesting is that the effect didn't seem to backfire—that is, presenting people with the actual scientific consensus didn't make people any more likely to reject climate change as a result. The trends were always in the scientifically grounded direction.

It's well known that psychological phenomena can work bizarrely like physical ones. Psychologists have observed and studied the fact that, similar to biological contagion, a contagion of behaviors (the famous examples being suicide and conversion disorder), mood, attitudes and emotion also exists. And the phenomenon laid out in the current paper works remarkably like medical vaccination—exposing people to a tiny amount of the offending substance, and they seem to develop a resistance to it in the future. This is certainly something to keep in mind moving forward.

"Misinformation can be sticky, spreading and replicating like a virus," says study author Sander van der Linden, of the University of Cambridge, in a news release. "We wanted to see if we could find a 'vaccine' by preemptively exposing people to a small amount of the type of misinformation they might experience. A warning that helps preserve the facts. The idea is to provide a cognitive repertoire that helps build up resistance to misinformation, so the next time people come across it they are less susceptible."

The study doesn't show how long the inoculation effect might last—that is, if it's subject to decay over time and/or if it should be repeated with some regularity. And though the team only talks about their findings in the context of climate change, it's certainly possible that they apply to other subjects in which misinformation is spread. Hopefully, given the political climate today, where fake news and alternative facts are being touted from people in powerful positions, more research into these phenomena, and how to inoculate against them, will soon be carried out.