

Right, left, wrong: People reject science because ...

October 3 2013, by Stephan Lewandowsky



It doesn't matter how much evidence you have, people have already made up their mind about science. Credit: Flickr/blakeimeson

You'd be forgiven for thinking science is under attack. Climate science has been challenged by deniers and sceptics, vaccination rates are falling thanks to anti-vaccination movements, and GM crops are pillaged by anti-GM activists. But what determines why people take these positions?

Foremost is a person's "worldview", their basic beliefs in how society should be structured and operate. <u>Recent research</u> has shown time and time again that people who endorse extreme free-market economics are prone to reject <u>science</u> with regulatory implications – such as the link



between tobacco and lung cancer, or greenhouse gasses and <u>climate</u> <u>change</u>.

On the flip-side are speculations that the anti-GM and anti-vaccination movement are the domain of the political left. Some commentators have even referred to a "<u>liberal war on science</u>", and have claimed that both ends of spectrum have their own selective blindness to evidence.

So, is the rejection of science politically symmetrical? If people on the right reject <u>climate science</u>, do people on the left reject evidence inconvenient to their worldview?

A liberal war on science?

To date evidence for left-wing rejection of science has been scarce. <u>One</u> <u>study</u> found opposition to HPV vaccination is focused on the right. Similarly, a <u>European study</u> found opposition to GM to be the domain of the extreme right.

In a peer-reviewed <u>paper</u>, published today in the journal *PLOS ONE*, colleagues Gilles Gignac, Klaus Oberauer, and I report a survey of Americans that sheds light onto the role of personal worldviews and political opinions in science rejection.

Much like previous studies, we found that conservatism and free-market worldview strongly predict rejection of climate science. But personal politics did not predict attitudes to GM at all, and had a more nuanced effect on vaccinations.

Liberals were somewhat more likely to reject vaccinations than conservatives. But this was balanced by opposition to vaccinations arising from free-market endorsement. Thus, there appear to be two routes to resistance against vaccinations. On the political right,



Libertarians were arguably resentful of intrusion into patenting and regulations. On the political left, people were perhaps suspicious of the "pharmaceutical-industrial" complex.

Taken together, the data do not provide terribly strong support for a "liberal war on science".

It's all a conspiracy

Our study examined another factor repeatedly implicated in science denial – conspiratorial thinking.

Denial of the link between HIV and AIDS frequently involves conspiratorial hypotheses, for example that AIDS was created by the US Government. Likewise, <u>YouTube videos</u> critical of HPV vaccinations and many anti-vaccination blogs are suffused with conspiratorial content.

And a United States senator recently wrote a book entitled <u>The Greatest</u> <u>Hoax: How the Global Warming Conspiracy Threatens Your Future</u> – a title that makes it rather difficult to dismiss the possibility that conspiratorial thinking is involved in climate denial as well.

Indeed, our study found that rejection of all the science areas studied—GM, vaccinations, and climate science—was associated with conspiracy theories. The extent of this association differed between areas. It was modest for GM food and climate science, but rather substantial for vaccinations.

The likelihood that someone would reject <u>vaccinations</u> was roughly three times greater if a person endorsed a conspiracy theory—for example that MI6 killed Princess Diana—than if they did not.

We also looked at the proportion of people who believed conspiracies



directly related to science. 10% of respondents thought that "U.S. agencies intentionally created the AIDS epidemic and administered it to Black and gay men in the 1970s." 20% believed climate change is a "hoax perpetrated by corrupt scientists who wish to spend more taxpayer money on climate research".

And 15% thought that the "alleged link between second-hand tobacco smoke and ill health is based on bogus science and is an attempt by a corrupt cartel of medical researchers to replace rational science with dogma." These figures show that the conspiratorial element in science denial cannot be ignored.

Why is there an association between science <u>rejection</u> and conspiracy theories? Conspiratorial thinking in science denial may serve two distinct roles.

First, a conspiracy may help dismiss findings that are inconvenient or threatening for other reasons. For example, the tobacco industry has referred to medical research on the health effects of smoking as "a vertically integrated, highly concentrated, oligopolistic cartel."

The invention of a conspiracy can also explain away a scientific consensus—as in the case of climate change. If a person cannot accept that researchers independently converged on the same, evidence-based view, then a conspiracy among researchers provides an alternative explanation.

Conspiracies are also antithetical to scientific reasoning. While consistency is a hallmark of science, conspiracy theorists often subscribe to contradictory beliefs at the same time – for example, that MI6 killed Princess Diana, and that she also faked her own death.

While science relies on evidence to guide theory – including revision



where necessary – conspiracies reinterpret data to match theories. And while science considers all available data to develop hypotheses, <u>conspiracy</u> theorists dismiss evidence that supports the "official" account, instead relying on small pieces of anomalous data. The fact that Timothy McVeigh's car lost a licence plate is given more weight than the entire body of evidence that identified him as the Oklahoma City bomber.

When worldviews and conspiracies determine people's attitude towards science, it is perhaps unsurprising that simply providing more evidence isn't enough to alert people to the risks they are facing—be it from smoking, HIV, or climate change.

This story is published courtesy of <u>The Conversation</u> (under Creative Commons-Attribution/No derivatives).

Source: The Conversation

Citation: Right, left, wrong: People reject science because ... (2013, October 3) retrieved 27 April 2024 from <u>https://phys.org/news/2013-10-left-wrong-people-science.html</u>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.