Exploring the ideological antecedents of science acceptance and rejection

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Not every kind of science scepticism is the same. For example, scepticism about climate change is linked to political ideology, whereas scepticism about vaccinations consistently correlates with religious beliefs. In contrast, scepticism about genetically modified foods is not fuelled by religious or political ideology. These are some of the major findings of a new research study conducted by UvA psychologist Bastiaan Rutjens among North Americans. The results were published on Friday, 1 December in the journal *Personality and Social Psychology Bulletin*.

Why are some people more sceptical about science than others? And how big is the influence of political conviction and religion on the degree of scepticism? "Extensive research has been done in particular on political ideology as a predictor of climate change scepticism, for example. To date, however, no research exists in which different forms of scepticisms are studied simultaneously and in which several different predictors are taking into account," says Rutjens. "In our research, we focused on scepticism about climate change, genetically modified foods and vaccinations. We also looked at general levels of trust in science."

The importance of science

For their study, the researchers presented several groups of online participants with items and surveys on science. The participants were then asked to grade various statements, including: 'human CO2

emissions cause climate change' and 'vaccinations cause autism." The researchers also used a basic test to assess the participants' level of science literacy and asked them to do a short task in which they could indicate the level of priority the government should give to science, and more particularly the amount of money that should be allocated to science.

The results reveal that climate change scepticism coincides with political beliefs, particularly social conservatism. Scepticism about vaccinations is consistently correlated to religious conviction – higher levels of religiosity correspond with higher levels of mistrust in vaccinations. The best predictors of scepticism about genetically modified foods are the level of trust in and knowledge about science. Finally, the researchers observed that the degree of importance attached to science mainly correlates with religiosity, and much less with political beliefs or knowledge about science. Religious conservatives who took part in the study were also found to be the least supportive of allocating money to science.

Scientific literacy

"Our research also shows that scepticism cannot be reduced simply by increasing the level of science literacy. Some people have a problem with (certain forms of) science on account of ideological, religious or moral reasons. This cannot be addressed by simply increasing their knowledge of science," says Rutjens. What might help is to change the way science or certain findings are framed. This, for example, is one of the results that emerged from research by Matthew Baldwin and Joris Lammers, which was published last year in *PNAS*. Their findings revealed that conservatives are more open to the idea of climate change if a comparison is made with the past instead of the current frame in which future scenarios dominate."

The research was conducted entirely on participants and data from North America. Rutjens plans to do comparative research among other nationalities, starting with Europeans. "We might very likely identify other patterns," says Rutjens.

More information: Bastiaan T. Rutjens et al. Not All Skepticism Is Equal: Exploring the Ideological Antecedents of Science Acceptance and Rejection, *Personality and Social Psychology Bulletin* (2017). DOI: 10.1177/0146167217741314

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