When it comes to science skepticism, there's no one-size-fits-all

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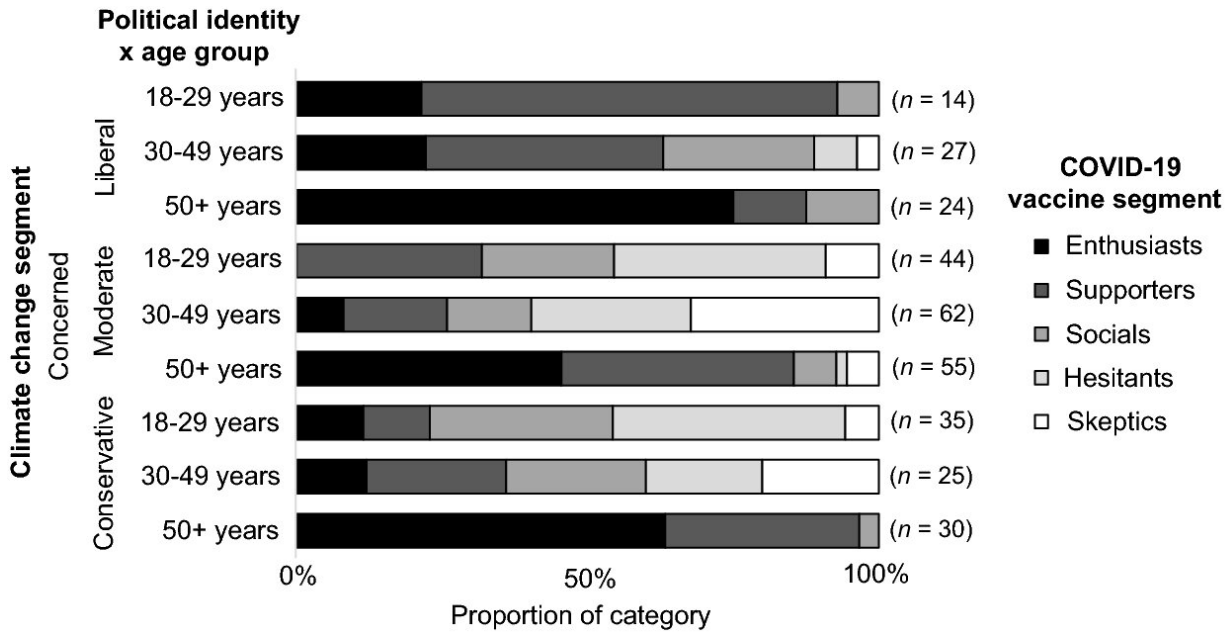

Vaccine segment distributions within the Concerned climate segment for politically conservative, moderate, and liberal across each age group. Credit: *Scientific Reports* (2023). DOI: 10.1038/s41598-022-26959-5

The idea that science can be wrong—science denialism—isn't new. As this New York Academy of Sciences infographic shows, it goes way back—Brazilian riots against vaccines in 1904; the link between cancer and coal ignored since its discovery in 1775.

Yet right now is probably the golden age of denialism. COVID-19 vaccines and climate change are the most recent examples, with misinformation on both topics rife.

Dr. Lucy Richardson is a postdoctoral research fellow at the Monash Climate Change Communication Research Hub. She led the research for a new paper in *Scientific Reports* examining acceptance and rejection of the science regarding climate and vaccines, and found curious divergences of belief across the two issues.

The thinking behind the research is that if we know more about what groups of people think, real science can be communicated in better ways, and more will accept the facts.

If more accept it's easier to make changes in communities—and nations—that benefits more people.

Lens spoke to Dr. Richardson about her work.

What you've found in the *Scientific Reports* paper is that Australian climate skeptics and vaccine skeptics aren't the same person?

Exactly. A person can accept the science on one issue, but reject it on another. What this paper was building upon was the concept that people's attitudes in those specific fields are underpinned by a range of factors that vary their interpretations of the risks each issue poses, such as their worldviews. For example, how much authority they think governments should be having over the public and the market.

It taps into things about the individual that can show a schism between the attitudes they'll have on different topics.

I find that fascinating in terms of understanding the different scientific

issues that we face as a society.

You found a gender divide?

Women and men tend to have different risk profiles. Men are generally more accepting of risk, and women more averse to risk, so if a woman perceives that the vaccines were quite new and they didn't feel that the science had been tested very much, they might perceive that those vaccines are a risk to them.

In general, people who were hesitant to get a COVID-19 vaccine were more likely to be women than men, whereas people who were skeptical of climate change were more likely to be men than women.

And an age divide?

Older people were much more on board with the vaccines, likely because they were the group perceived to be most at risk in the early days of COVID. Whereas when you look at the young people, they were told, "Don't worry about anything. Young people aren't getting sick," and so were less interested in getting vaccinated.

So where does the difference between vaccine skeptics and climate change skeptics lie?

For some people, the changes needed to address climate change may feel like more of a threat than climate change itself, and this can lead them to ignore the science.

Whereas when it comes to their own, immediate health, that might be much more of a concern, and to protect that they will happily take a vaccine. It's about what you value and what you're protecting.

Is it down to personal priorities?

Yes. It's about where they place their concern, the risk they see, what they're trying to protect.

This differs under each issue. What you're protecting on a health front might not be the same as what you're protecting on a climate front. Climate change and health are more closely related than some people might think, but if they see one as a risk in the future rather than now, they'll rate the risks differently.

The vaccine is quite separate to climate, but underneath the risk it's about values and your worldview—what you think is important and how the world should work. And that leads people to accept one thing but not another.

The media, the internet and misinformation feeds right into this, right?

Science denialism is an area that's becoming more and more important to consider as we move into this post-truth space where so many people are not listening to experts.

Where you get your information is important, who you listen to, who you trust. We've seen some pretty substantial shifts regarding climate change, as its impacts are being felt more and more through more intense and frequent bushfires and floods.

We also saw the voices of medical experts much more in the media during COVID.

What are your hopes for the research?

Research like this will hopefully help us understand what influences people's acceptance of science, and how we can help the public better-understand the risks and potential solutions so we can all make informed decisions on issues like these that affect our societies so significantly.

More information: Lucy M. Richardson et al, Comparative analysis of Australian climate change and COVID-19 vaccine audience segments shows climate skeptics can be vaccine enthusiasts, *Scientific Reports* (2023). DOI: 10.1038/s41598-022-26959-5

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