

# The public make snap judgments about new technologies

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An investigation recently published in the *Public Understanding of Science* journal by researchers from Massey University and the University of Southampton, United Kingdom, shows people stick to fast

intuitive judgements about unfamiliar scientific technologies, and that taking more time to form these judgements doesn't change the outcome.

Massey Ph.D. student Dan Carlisle led the study. He says it's an important result for [science communication](#) particularly when engaging with the public over emerging technologies such as climate engineering. "We wanted to know whether you could get quick answers from the public on the acceptability of unfamiliar scientific approaches, and whether encouraging people to think more about these approaches would change their views. What we found is that while some people naturally hold stronger views, giving them more or less time to think about it doesn't change their evaluation."

The work involved a large survey in the United Kingdom (1558 participants) split into three groups: a [control group](#), a rapid more intuitive thinking group and a slower more deliberative thinking group. These groups were also compared with related surveys in the United States (746 participants), Australia (763 participants) and New Zealand (729 participants).

Group leader Professor Malcolm Wright from Massey's School of Communication, Journalism and Marketing, says the results were an important finding for rapid public engagement with new scientific concepts and technologies, such as the possibility of large-scale climate engineering to address human impact on the environment and global warming.

"Science has the potential to deliver substantive positive change, but equally large-scale projects can be risky and have unintended consequences. It is critical the public have their say on these kinds of projects, but past techniques for doing so have been slow to implement and face difficulties in ensuring wide representation," he says.

"This is the third in a series of major studies we have conducted to determine whether the problem of rapid public engagement with science can be solved using market research techniques. We drew on theories of concept testing, brand evaluation and human associative memory. The evidence is now pretty strong that these techniques work, that they are robust and stable and, perhaps more importantly, that people naturally form their evaluations very quickly.

"The methods we have developed have great potential to alert scientists to public reactions very early in the research development process, giving them the opportunity to consider and respond to public concerns in a way that respects the agency of those who will be affected."

Research partner Professor Damon Teagle, Director of the Southampton Marine and Maritime Institute, Southampton University, says the result could be very helpful to the climate science community and other groups developing new techniques to rapidly decarbonise society.

"It has been difficult to determine or predict the relative ferocity of public reaction to complex new scientific concepts, such as climate engineering through Solar Radiation Management or Carbon Dioxide Removal approaches. We now know that these reactions can be measured well in advance, are formed quickly, and yet, are likely to be enduring."

The research article, "Public engagement with emerging technologies: Does reflective thinking affect survey responses?" was co-authored by Ph.D. student Dan Carlisle, Dr. Pamela Feetham and Professor Malcolm Wright, all from Massey University and Professor Damon Teagle from Southampton University.

**More information:** Daniel P. Carlisle et al, Public engagement with emerging technologies: Does reflective thinking affect survey

responses?, *Public Understanding of Science* (2021). DOI: [10.1177/09636625211029438](https://doi.org/10.1177/09636625211029438)

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