

Climate change: Why disinformation is so persistent

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Melting of glaciers, rising sea levels, extreme heat waves: the consequences of climate change are more visible than ever, and the scientific community has confirmed that humans are responsible. Yet

studies show that a third of the population still doubts or disputes these facts.

The cause is disinformation spread by certain vested interests. To try and prevent this phenomenon, a team from the University of Geneva (UNIGE) has developed and tested six [psychological interventions](#) on nearly 7,000 participants from twelve countries. The research, published in the journal *Nature Human Behavior*, highlights the extremely persuasive nature of disinformation and the need to strengthen our efforts to combat it.

Fighting disinformation about climate change is a major challenge for society. Although [scientific consensus](#) on human responsibility—reaffirmed by the sixth report of the Intergovernmental Panel on Climate Change (IPCC)—has been in place for decades, a third of the population still doubts or disputes it. This phenomenon can be explained by the disinformation spread by certain companies and lobbies over the last 50 years.

"For instance, these messages can take the form of an unfounded questioning of the scientific consensus or an overestimation of the socio-financial burden of climate policies," explains Tobia Spampatti, a Ph.D. Student and Teaching and Research Assistant in the Consumer Decision and Sustainable Behavior Lab (CDSB Lab) at the Faculty of Psychology and Educational Sciences and at the Swiss Center for Affective Sciences of the UNIGE.

Many psychological factors

This phenomenon weakens the support of a part of the population for climate policies. To combat this, Tobia Spampatti and researchers from the UNIGE developed a theoretical framework to describe the formation and updating of (anti)[scientific information](#). This framework, built on

previous theoretical takes on the psychology of misinformation (Philippe Mueller et al. and Ulrich Ecker et al. in 2022), takes into account the source of the message, its content, its recipients, and the [psychological factors](#) that can influence their processing.

This [theoretical framework](#) aims to identify the entry points for disinformation to access a person's "psyche," and can be used to intervene and block, or encourage, people to accept information.

"As individuals, we do not process scientific messages as neutral receivers of information, but by weighing them up against our prior beliefs, desired outcomes, emotional ties and socio-cultural and ideological backgrounds. Depending on the configuration of these psychological factors, anti-scientific beliefs can be amplified and become resistant to correction," explains Tobia Spampatti, first author of the study.

Six preventive strategies put to the test

On this basis, the researchers developed six psychological intervention strategies aimed at preventing climate disinformation from affecting people's climate-related beliefs and behaviors.

They were tested on 6,816 participants in 12 different countries. Each strategy was linked to a particular theme (scientific consensus, trust in climate scientists, transparent communication, moralizing climate action, accuracy, positive emotions toward climate action). The participants were divided into eight groups: six subjected to one of these strategies, one to disinformation without prevention, and a [control group](#).

The "trust in [climate scientists](#)" group, for example, received verified information demonstrating the credibility of IPCC scientists. The "transparent communication" group, meanwhile, was presented with

information on both the advantages and the disadvantages of climate mitigation actions.

Each group was then exposed to 20 pieces of false or biased information, ten on climate science and 10 on climate policy. The UNIGE scientists then measured their impact after these preventive interventions by asking the participants about their feelings regarding climate mitigation actions.

Low preventive effect

"We found that the protective effect of our strategies is small and disappears after the second exposure to disinformation. Climate [disinformation](#) used in this study has a negative influence on people's belief in climate change and their sustainable behavior," says Tobias Brosch, Associate Professor in the CDSB Lab at the Faculty of Psychology and Educational Sciences and at the Swiss Center for Affective Sciences in the UNIGE, and final author of the study.

"Disinformation is therefore extremely persuasive, seemingly more so than scientific information. Only the 'accuracy' group, who were asked to think in depth about the accuracy of the information they encountered online, showed a slight advantage."

"Research in this field is still in its infancy. We are therefore going to continue our work and look for more effective forms of intervention. It is becoming increasingly urgent to combat this phenomenon, which is delaying the implementation of certain urgent [climate change](#) mitigation measures," concludes Tobia Spampatti.

More information: Tobia Spampatti et al, Psychological inoculation strategies to fight climate disinformation across 12 countries, *Nature Human Behaviour* (2023). [DOI: 10.1038/s41562-023-01736-0](https://doi.org/10.1038/s41562-023-01736-0)

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