Climate change misinformation fools too many people, but there are ways to combat it

October 28 2021, by Mikey Biddlestone, Sander Van Der Linden

Credit: AI-generated image (disclaimer)

In recent decades, people in the UK have watched climate change shift from being an abstract threat discussed on the news to an increasingly common presence in everyday life. As the frequency and intensity of heatwaves, floods and other extreme weather events has risen, so has public concern about climate change. A 2019 poll found 80% of people

were fairly or very worried, while a more recent survey ranked climate change as the most important issue.

People are more engaged with the climate crisis than ever before. But how well do they understand it? And which sources of information do they trust the most? We wanted to understand where the public gets much of its information on the topic and what the most effective ways of keeping people informed are.

We surveyed more than 1,700 adults living in the UK and found that almost half the sample were unable to correctly identify 50% of fake climate change news headlines, and almost half (44%) of all respondents were unaware of how often they encountered misinformation online. These numbers suggest that people need more guidance on how to effectively spot misinformation, and how to find reliable information about climate change.

What we found

Working with YouGov and The Conversation, we asked 1,722 people to read five real and four fake news headlines about climate change. Almost half (46%) mistakenly believed that "Scientists disagree on the cause of climate change" and 35% incorrectly thought that "Scientists believe the Sun has impacted the Earth's rise in temperature."

However, a majority of respondents also correctly identified fake headlines such as "Carbon dioxide levels are tiny. They can't make a difference" (70%) and "Melting an ice cube in a measuring cup full of water doesn't raise the water level, so melting icebergs cannot raise sea levels" (68%).

Over half of respondents correctly guessed the real headlines "More than one million species are at risk of extinction by climate change" (65%),

"Earth had its second warmest year in recorded history in 2019" (62%), and "The worst impacts of climate change could be irreversible by 2030" (55%).

But only 15% knew that "Switching to jet fuel made from mustard plants would reduce carbon emissions by nearly 70%" was false, and only 34% were right in thinking that "Enough ice melted on a single day to cover Florida in two inches of water."

We also asked people how much trust they had in certain sources of climate change information. While online influencers (6%), social media outlets (7%), tabloid newspapers (13%), politicians (20%), journalists (30%), broadsheet newspapers (37%), and broadcast media outlets (38%) were among the least trusted sources, the vast majority trusted academics (67%) and their own friends and family (59%) to convey information about climate change that was trustworthy.

A majority of those we surveyed thought accurate reporting was important, with 78% saying that climate change misinformation is very or fairly damaging to efforts to tackle the climate crisis.

When asked about media coverage of climate change, 39% claimed that media reporting overall was too abstract, with excessive focus on the future rather than the issues of today. Similarly, 29% thought media coverage was confusing, citing too many conflicting opinions (55%) and a distrust of politicians (55%) and news outlets (54%).

Finally, the majority of respondents (59%) were worried about climate change, with an even larger majority (80%) reporting a general willingness to make relevant lifestyle changes to stem the crisis.

What this means

Despite widespread awareness of the problems caused by fake news, many people we surveyed didn't recognize their own role in this process. While large majorities worried about the effects of climate change misinformation and said that they didn't share it themselves, 24% reported hardly ever fact-checking the information they read.

This could suggest the public aren't sure which sources are reliable, making them more vulnerable to the very misinformation they see as damaging to the cause of tackling climate change.

Clearly, more can be done to educate people on how to distinguish real from fake climate change information. One way to do this is through a process called inoculation, or prebunking.

Just as vaccines train cells to detect foreign invaders, research has shown that stories which pre-emptively refute short extracts of misinformation can help readers develop mental antibodies that allow them to detect misinformation on their own in the future. Recent work has even used games to help people detect the larger strategies that are used to spread misinformation about climate change.

Although social media companies such as Facebook have started to debunk climate myths on their platform, politicians and social media outlets appear to have an untrustworthy reputation. This was not the case for sources with perceived expertise on the topic, such as scientists. We therefore recommend that the trust held towards experts should be harnessed, by more frequently disseminating their views on social media and in traditional media outlets.

In our survey, only 21% of people understood that between 90% and 100% of climate scientists have concluded that humans are causing climate change (99% according to a recent paper). Decades-long campaigns by fossil fuel companies have sought to cast doubt on the

scientific consensus. Media messages should therefore continue to communicate the overwhelming scientific consensus on climate change.

Through years of research on the topic, we have identified several ingredients for trustworthy science communication. These include prebunking myths and falsehoods, reliably informing people (don't persuade), offering balance but not false balance (highlight the weight of evidence or scientific consensus), verifying the quality of the underlying evidence, and explaining sources of uncertainty. If communicators want to earn people's trust, they need to start by displaying trustworthy behavior.

Provided by The Conversation