



## Some persuasion techniques make misinformation more persuasive but backfire for true information

### HIGHLIGHTS

- Various actors use persuasion techniques to promote both factual and false information.
- Our experimental findings show that caution is warranted when using such techniques in communication.
- Two techniques—appeals to authority and black-and-white reasoning—increased agreement with misinformation.
- Many techniques reduced agreement with *accurate* information, indicating that their use can have unintended negative effects.
- Understanding the impact of persuasion techniques can support the design of educational materials and prebunking strategies to enhance public resilience to misinformation.

### UNDERSTANDING THE IMPACT OF PERSUASION TECHNIQUES IN MISINFORMATION

The spread of mis- and disinformation (hereafter referred to as 'misinformation') poses a significant threat to democracy, social cohesion, public health, the environment, and much more. Actors spreading misinformation often use persuasion techniques to make their narratives more convincing. These same techniques might also be used to improve the communication of accurate information. Yet, our

understanding of the actual impact of various persuasion techniques used in online media on individuals' beliefs and behaviours remains limited.

We present key findings from a behavioural science study showing that different persuasion techniques influence people's agreement with, and perceived persuasiveness of, both true and false claims.

### THE EXPERIMENTAL SURVEY

5,121 participants from Germany, France, Ireland, Italy and Poland took part in the study. We explored

the effect of **seven widely used persuasion techniques**—appeal to authority, black-and-white reasoning, sowing doubt, name-calling, thought terminating cliché, bandwagon, and loaded language—on participants’ agreement with, and perceived persuasiveness of, true and false claims about climate change. [1] Box 1 outlines key techniques and how they were operationalised for the experiment.

## Findings

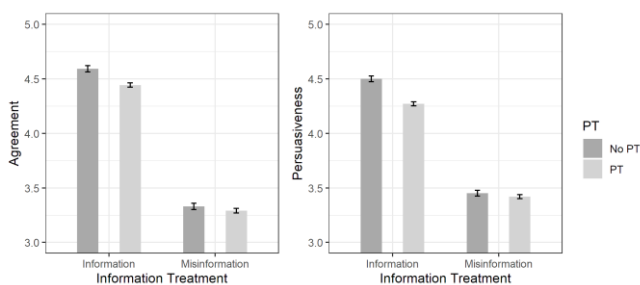
Belief in climate change was generally high among participants: 92% agreed that climate change is occurring, 87% considered it a serious problem, and 82% believed it is caused by human activity. Consistent with this, participants expressed significantly higher agreement with accurate climate change claims compared to misinformation, and they rated true claims as more persuasive (Figure 1).

Surprisingly, when considering all statements together—regardless of whether they were true or false—the use of persuasion techniques reduced both agreement and perceived persuasiveness, albeit by a small amount.

When averaging across all persuasion techniques, their use significantly lowered agreement with, and perceived persuasiveness of, true claims but had no significant effect on false claims (Figure 1).

To better understand these dynamics, the following analysis examines the specific effects of each persuasion technique, separately for true and false claims. This allows us to identify which techniques are particularly effective—or potentially harmful—depending on the accuracy of the information they accompany.

**Figure 1** – Interaction between the use of persuasion techniques and the veracity of a statement on agreement (left) and persuasiveness (right).



Source: own elaboration.

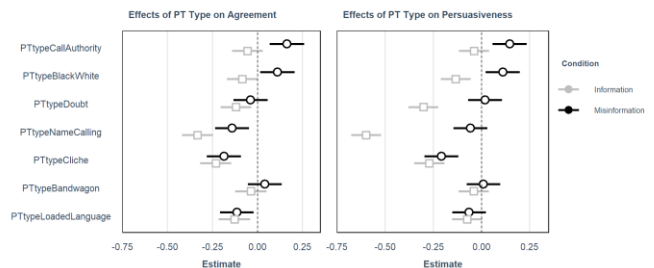
## Persuasion techniques have differential effects

Interestingly, the **effects of certain persuasion techniques on agreement and perceived persuasiveness differed for true and false statements** (Figure 2).

In particular, appeals to authority, black-and-white reasoning, and name calling had significantly larger effects when applied to misinformation than to correct information.

Notably, both appeal to authority and black-and-white reasoning increased agreement with, and perceived persuasiveness of, misinformation, while having no such effect when used with accurate information.

**Figure 2** – Effect of persuasion techniques for correct and false statements on agreement (left) and persuasiveness (right).



Note: Shown Confidence Intervals are adjusted using Bonferroni method (99.29% CIs). Source: own elaboration.

## Box 1: Persuasion Techniques

Three of the investigated persuasion techniques showed diverging effects when used to communicate climate change misinformation compared to true information (Figure 2):

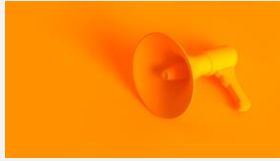
*Appeals to authority* involve asserting that a claim is true solely because an expert or authority figure has stated it, without providing additional evidence. In the study, we appealed to authority by stating: “Renowned climate scientists are confident in their assessment that...” followed by the respective claim.

*Black-and-white reasoning* simplifies complex issues by presenting only two opposing options, ignoring the possibility of nuance or alternative perspectives: “There are two options: Either..., or... There is no middle ground.”

*Name calling* refers to discrediting individuals or groups through negative labelling, often invoking terms associated with fear, distrust, or disdain.

This technique targets the subject's character rather than the argument itself: "So-called 'experts' are biased... They are paid lobbyists who do not care whether they tell the truth."

Definitions of persuasion techniques are based on [2].



## Limitations

There are some aspects to keep in mind when interpreting these findings.

First, the study focused on climate change misinformation. While there is no direct indication that limits the generalisation of the findings to other domains where misinformation is prevalent—such as health, vaccination, or conflict—the effectiveness of persuasion techniques may vary depending on the topic.

Second, the study used prototypical versions of persuasion techniques embedded in both true and false statements. While this approach ensured consistency and internal validity, it does not capture the full range of variation and nuance found in real-world uses of these techniques. It remains unclear to what extent the findings apply to more complex or subtle formulations.

Third, the study identifies differential effects across techniques but does not explain why certain techniques are more effective than others. Further research is needed to uncover the underlying mechanisms.

For further methodological limitations and details, please refer to [1].

## POLICY IMPLICATIONS

Public institutions like the European Commission must communicate factual and trustworthy information to a diverse range of stakeholders [3]. However, they operate in a fast-paced information environment, where they compete with other actors—including those spreading misinformation.

To remain effective and trusted, institutions like the European Commission must not only disseminate accurate and trustworthy information but also understand how to do so persuasively and ethically.

Understanding the nuanced effects of different persuasion techniques is therefore essential—not only for improving strategic communication but also for supporting broader efforts to enhance public resilience against misinformation.

In this context, our findings offer three key insights:

1. Use of persuasion techniques should be approached with caution. Some techniques—such as appeals to authority or black-and-white reasoning—may increase agreement with misinformation, while having no effect or even reducing agreement when used with factual information.
2. Education, debunking, prebunking, and inoculation campaigns should explicitly address persuasion techniques. Media literacy initiatives should equip the public with the skills to recognize common manipulative tactics and understand their potential effects on perception and belief.
3. Ongoing monitoring and evaluation are essential. Understanding how different persuasion strategies affect individuals' beliefs and behaviours over time can inform adaptive communication approaches and help refine resilience-building interventions.

## Conclusions

Misinformation poses certain challenges for the EU. These challenges may soon be further exacerbated by technological advances—particularly generative AI [4]—which enable the creation and widespread dissemination of false yet highly convincing content with minimal effort.

Understanding how persuasion techniques influence belief in true and false information is essential for mitigating these risks. Integrating this knowledge into media literacy education, debunking, prebunking and inoculation campaigns, and game-based training tools can enhance public resilience. Additionally, systematically monitoring and evaluating the effects of persuasion techniques can help refine communication strategies and strengthen institutional defences.

By applying these insights, policymakers can more effectively counter the spread of misinformation and safeguard democratic discourse.

## REFERENCES

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