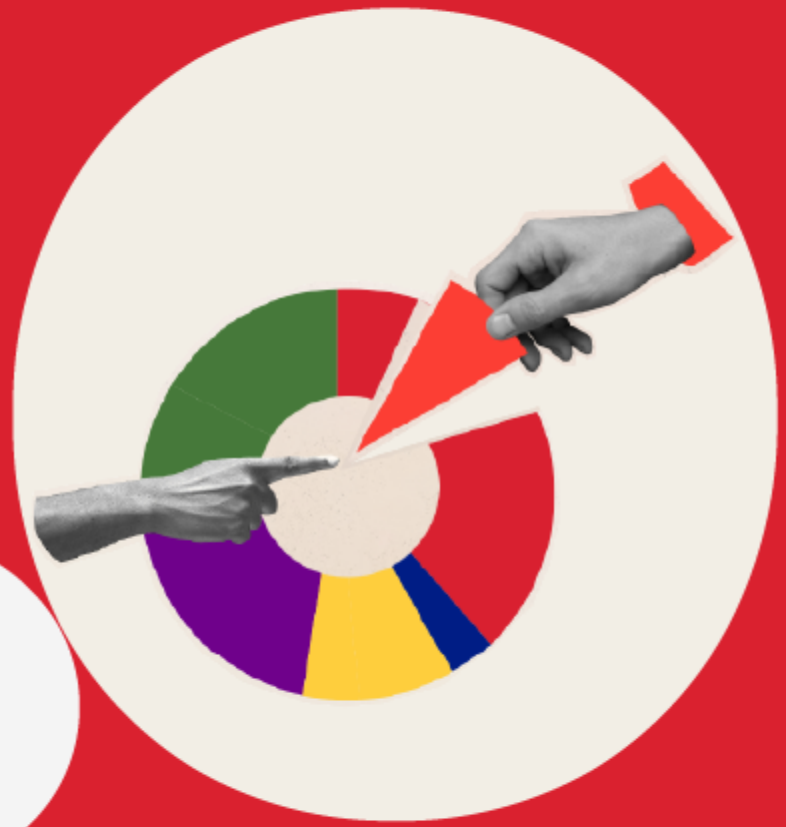
WEBINAR

Open data, academia, and ethics: fact-checking and countering misinformation



data europa academy

6 November 2026

10:00 – 11:15 CET

Rules of the game

The webinar will be recorded and published on the data.europa academy

For questions, please use the ClickMeeting chat

Please reserve 3 min after the webinar to help us improve by filling in our feedback form

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Today's speakers



Flora Kopelou
European Data Portal, Publications Office of the EU



Elena Musi
Reader (Associate Professor), University of Liverpool



Florian Stöckel
Associate Professor, University of Exeter

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Agenda

10.00 – 10.05	Opening and introduction – *Flora Kopelou*
10.05 – 10.25	Misinformation and fact-checking: Strategies and tools – *Elena Musi*
10.25 – 11:40	Understanding and responding to misinformation – *Florian Stöckel*
11:40 – 11.15	Q&A and closing remarks

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Misinformation and fact-checking: Strategies and tools

Elena Musi, elena.musi@Liverpool.ac.uk
University of Liverpool,
Department of Communication and Media
Lead of Data, Discourse and Society research cluster &
MSc in Data Science and Communication



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Humans & LLMs can disinform…



Large Language Models pose risk to science with false answers, says Oxford study

ARTIFICIAL INTELLIGENCE · RESEARCH · SOCIAL SCIENCES

Large Language Models (LLMs) pose a direct threat to science, because of so-called 'hallucinations' (untruthful responses), and should be restricted to protect scientific truth, says a new paper from leading Artificial Intelligence researchers at the Oxford Internet Institute.



Did Tim Allen write Facebook post attacking Democrats?

Written by: *Nur Ibrahim*

Oct. 26, 2026

The alleged post stated: "We are one election away from open borders, socialism, gun confiscatio ...

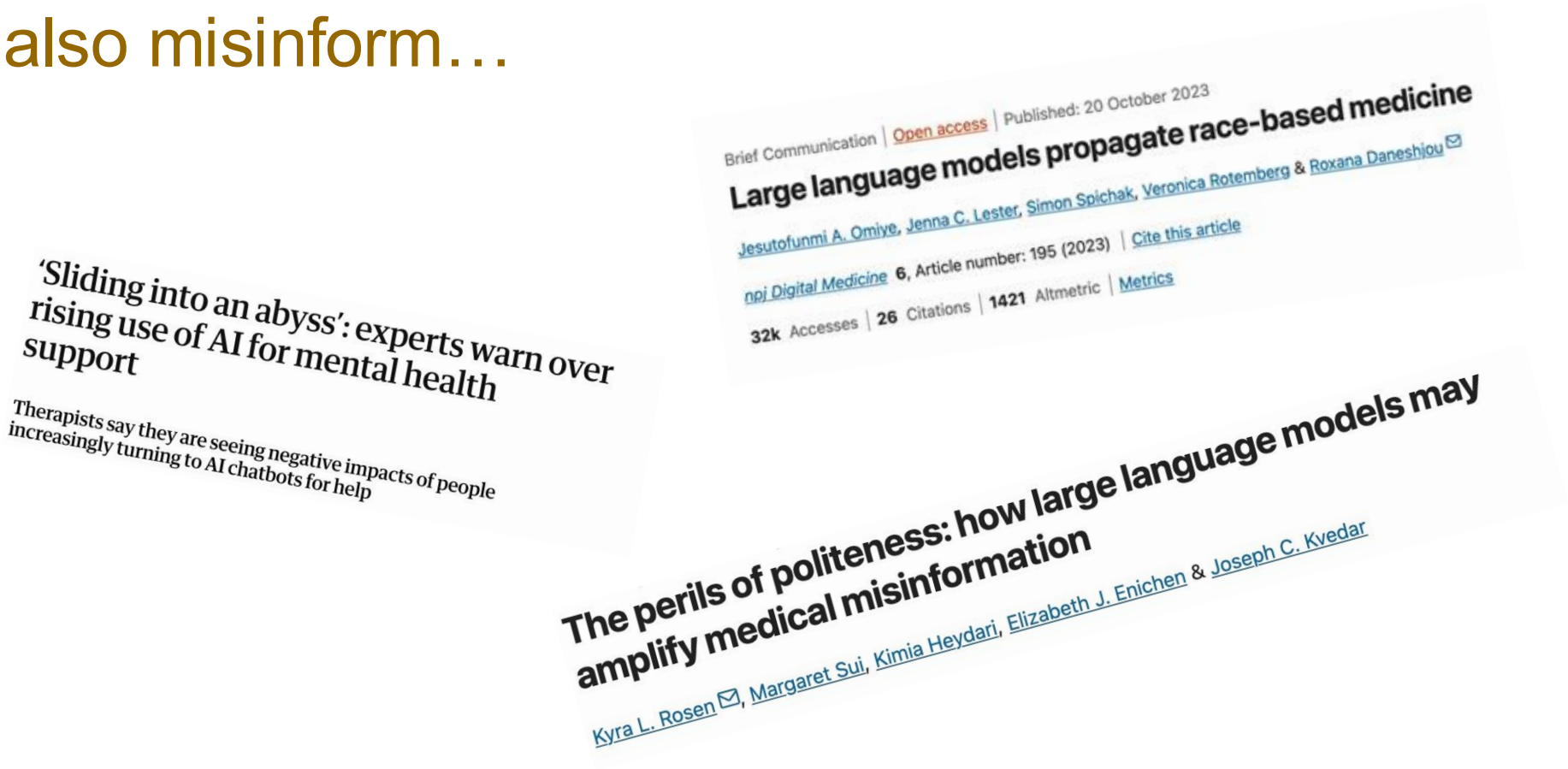
Most research has focused on major disinformation threats like deepfakes and other forms of fabricated multimodal content…

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What statements (if any) are true?

https://forms.cloud.microsoft/e/VPhKhieGQ8?origin=lprLink

and also misinform…



‘Sliding into an abyss’: experts warn over rising use of AI for mental health support

Therapists say they are seeing negative impacts of people increasingly turning to AI chatbots for help

Brief Communication | Open access | Published: 20 October 2023

Large language models propagate race-based medicine

Jesutofunmi A. Omiye, Jenna C. Lester, Simon Spichak, Veronica Rotemberg & Roxana Daneshjou

npj Digital Medicine 6, Article number: 195 (2023) | Cite this article

32k Accesses | 26 Citations | 1421 Altmetric | Metrics

The perils of politeness: how large language models may amplify medical misinformation

Kyra L. Rosen, Margaret Sui, Kimia Heydari, Elizabeth J. Enichen & Joseph C. Kvedar

Unlike disinformation, misinformation is not entirely fabricated but is misleading information

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Challenges for fact-checking



Proliferation of news within and across digital media from journalists, citizens and AI



Automatic fact-checking captures **disinformation**, rather than **misinformation**



How many **truth barometers**?



Audiences' **cognitive biases**

Media distortions interventions



https://www.cam.ac.uk/stories/goviral



https://fakey.osome.iu.edu/

De-bunking: retroactively correct false beliefs

Pre-bunking: preemptively show tactics or sources *before* they strike:

- ❖ fact-based: correcting a specific false claim or narrative
- ❖ logic-based: explaining tactics used to manipulate
- ❖ source-based: pointing out bad sources of information

Inoculation Theory: 'just as vaccines generate antibodies to resist future viruses, inoculation messages equip people with counterarguments that potentially convey resistance to future misinformation, even if the misinformation is congruent with pre-existing attitudes' (Cook, Lewandowsky & Ecker, 2017)

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Being alone together: Developing Fake News Immunity’

https://fakenewsimmunity.liverpool.ac.uk/

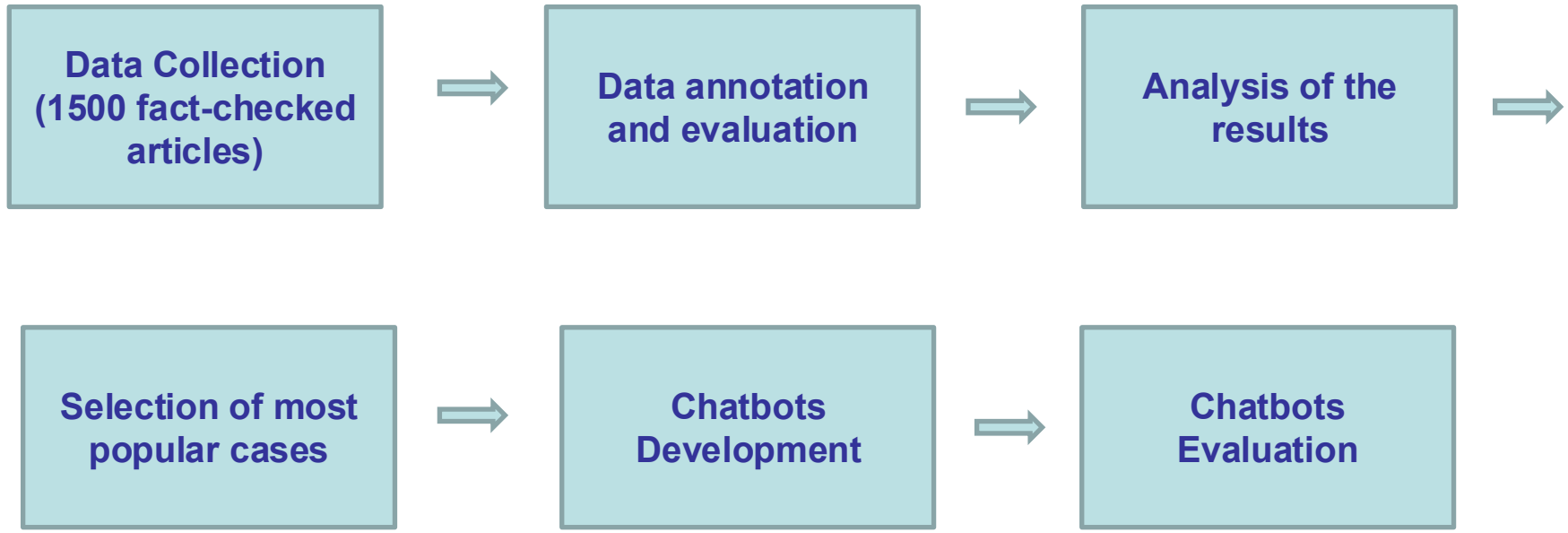
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University of Dundee

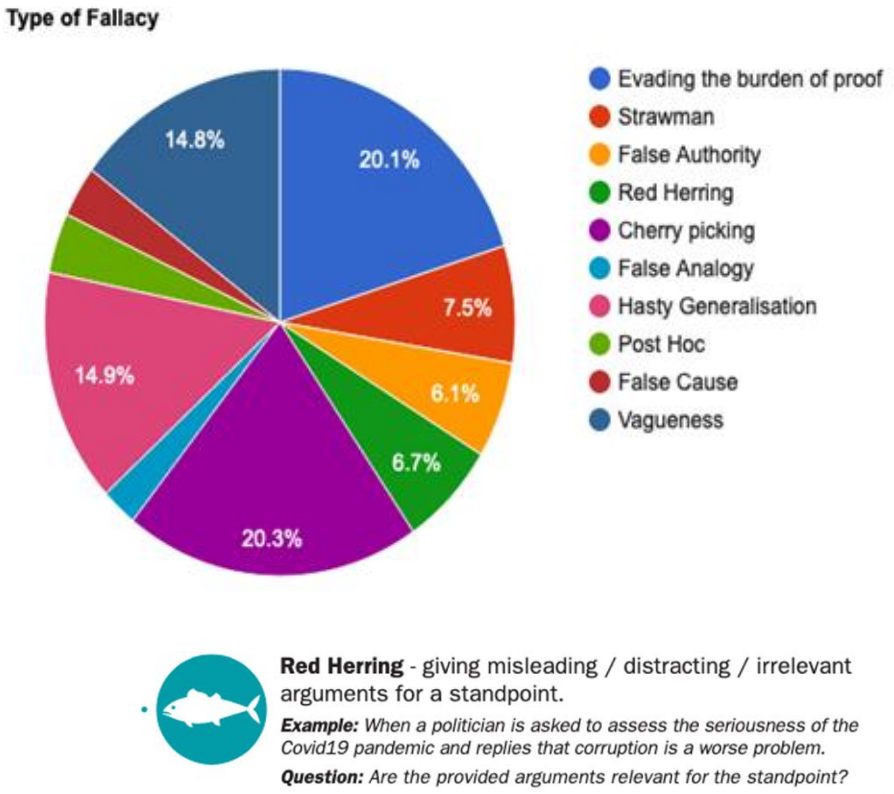
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RESEARCH pipeline



What are the most common fallacies?



Red Herring - giving misleading / distracting / irrelevant arguments for a standpoint.

Example: *When a politician is asked to assess the seriousness of the Covid19 pandemic and replies that corruption is a worse problem.*

Question: *Are the provided arguments relevant for the standpoint?*



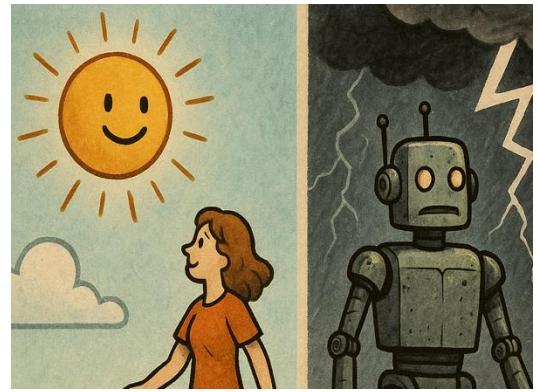
https://fakenewsimmunity.liverpool.ac.uk/wp-content/uploads/2021/03/Fake-News-Immunity-Liverpool-Uni-project.pdf

Synthetic podcasting through NotebookLM is:

- **Neglecting** information crucial to understanding methodological underpinnings and/or key takeaways

Fallacy of cherry picking

- Spreading false or **fabricated** information



Made-up recommendations

- **Trivialising** language patterns: Low lexical density (20%-30% type-token ratio), Americanisms, “DEAD METAPHORS” (Traugott 1985)

Fallacy of vagueness

Musi, Elena, Rebecca Harris, and Simeon Yates. "The fallacy of AI-generated podcasts: the case of Google NotebookLM." *Discourse, Context & Media* 73 (2026): 101049.

Our chatbots

The Fake News Immunity Chatbot



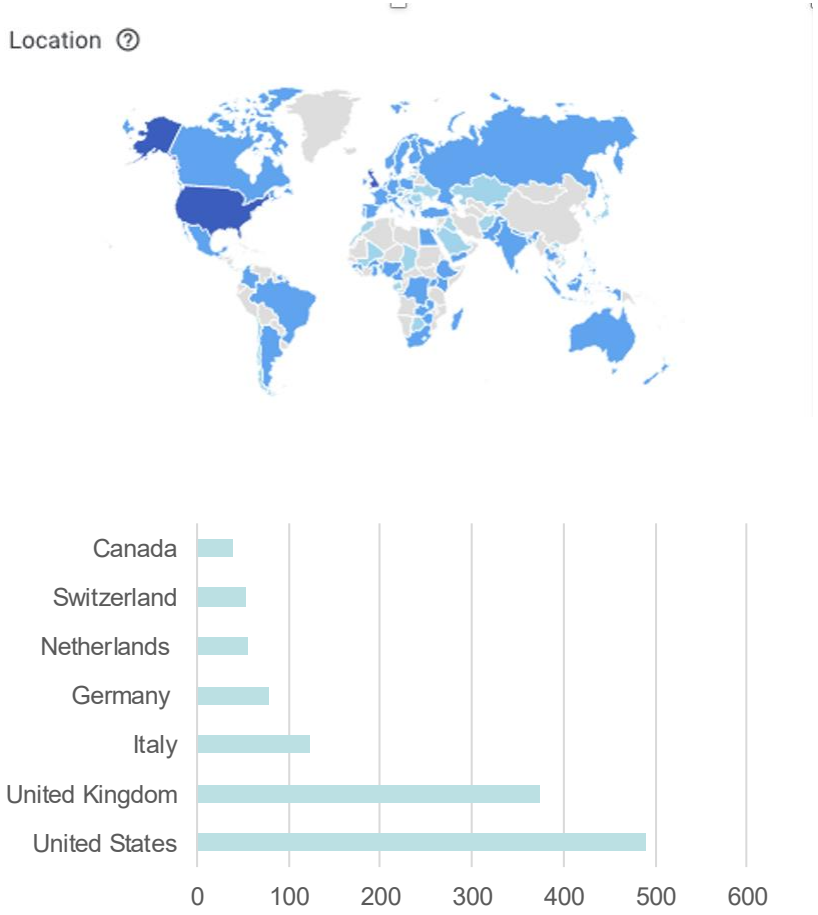
https://fni.arg.tech/

The Vaccinating News chatbot



https://tinyurl.com/3xczy4z9

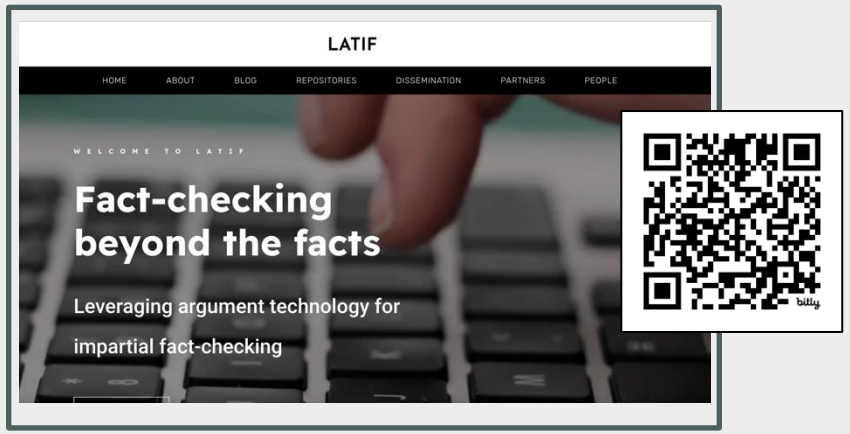
1700 users across 10 countries



- 94% of the **users** who have gave us feedback are able to explain the fallacies they encountered and think they will be able to recognize them in the future
- **150 Amazon mechanical Turkers** self-reported perceptions showed increased critical thinking skills
- A **qualitative study** with 20 participants revealed enhanced participants' ability to identify fallacious arguments

Musi, E., Carmi, E., Reed, C., Yates, S., & O'halloran, K. (2023). Developing misinformation immunity: How to reason-check fallacious news in a human–computer interaction environment. *Social Media+ Society*, *9*(1), 20563051221150407.

Leveraging argument technology for impartial fact-checking (LATIF)



Research questions

1. What does impartiality mean for fact-checking? What's the role played by cognitive biases?
2. What cognitive biases affect fact-checkers in the selection of news to fact-check and in the verification process and why?
3. How can structured techniques be adapted to help debias fact checking?
4. How to develop a digital tool to help fact-checkers minimize cognitive biases?
5. How can we measure the impact of the de-bias fact-checking tool?

RQ2 - What cognitive biases affect fact-checkers in the selection of news to fact-check and in the verification process?

1. ANALYSIS OF SCIENTIFIC LITERATURE

- Bias and Information Seeking and Retrieval (Azzopardi, 2021)
- Bias and Journalism (3407 abstracts) through Scopus API

-> -> -> 11 Relevant Cognitive biases

2. FOCUS GROUP WITH JOURNALISTS AND FACT-CHECKERS

- Fact-checking simulation + Discussion

#EMIFUND

COGNITIVE BIASES

Availability bias

Tendency to overestimate the likelihood of an answer or stance based on how easily it can be retrieved and recalled.

e.g., A piece of info appears on your news feed and it is shared on your social media walls, making you assume it is accurate.

Ambiguity effect

Tendency to avoid options in which there is high uncertainty in the outcome, even if they are favourable.

e.g., You do not believe that an earthquake is gonna happen since scientific evidence cannot predict it with certainty higher than 60%.

Anchoring bias

Tendency to focus too much on the first piece of information learnt, or observed, even if that information is not relevant or correct.

e.g., The first entry emerging from a Google search is deemed more important than the entries which follow, regardless their relevance.

Bandwagon effect

Tendency to take on a similar opinion or point of view because other people voice that opinion or point of view.

e.g. A tweet went viral; thus it must convey true content.

Confirmation bias

Tendency to prefer confirmatory information and to discount information that does not conform to existing beliefs

e.g., You trust evidence that points to despicable behavior of a politician belonging to a party you would never vote for.

Framing

Tendency to make different decisions given the same information because of how the information has been presented.

e.g., The investments of a company in net-carbon are presented as green-washing without touching upon positive outcomes

Less-is-more effect

When many options are presented, people find it harder to make comparisons, and often will not make any decisions.

e.g., You feel overwhelmed by the amount of info about ChatGPT and you decide to avoid reading any news about it.

Reinforcement effect

Tendency to develop a positive attitude towards a stimulus if it is seen multiple times

e.g., You believe that a celebrity is dead because the search results page shows many results purporting it.

Selection bias

How events are either selected into the media record or left unreported.

e.g., Out of 10 polls, the results of three are reported and the other one are neglected.

Source bias

The selection of who is to speak for or about an event, how and where they are filmed, and what they are asked to and allowed to say

e.g., You rely solely on news from the New York Times to report on American polls results.

Simulation: results

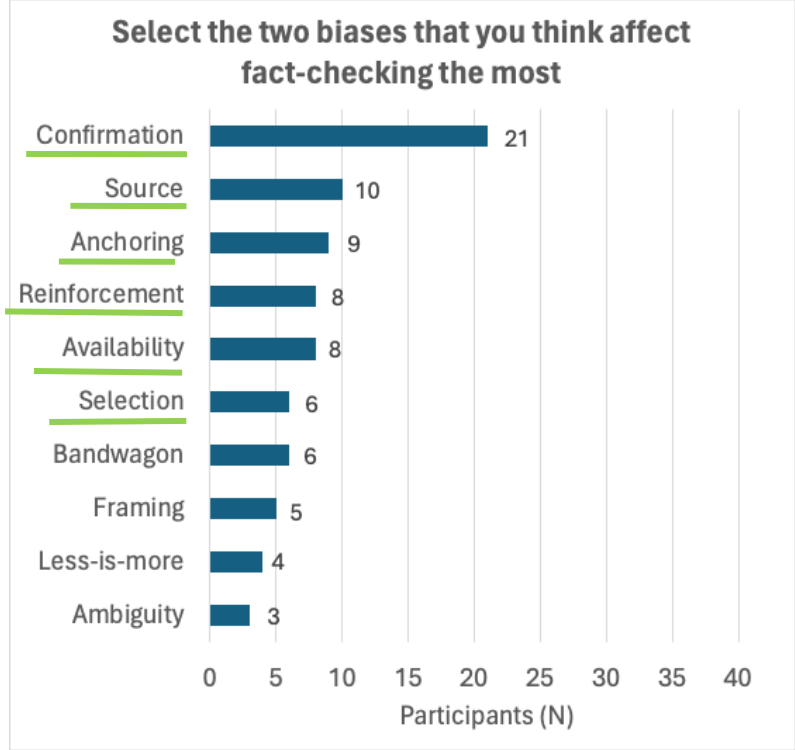
	NEWS SELECTION	EVIDENCE RETRIEVAL	FACT-CHECKING REPORT
Ambiguity effect	-	-	-
Anchoring bias	1 participant	-	-
Availability bias	7 participants	-	1 participant
Bandwagon effect	-	-	-
Confirmation bias	-	1 participant	-
Framing	-	-	-
Less-is-more	-	-	-
Reinforcement effect	-	-	1 participant
Selection bias	-	-	1 participant
Source bias	-	1 participant	-

N = 12

Professional activity:
- Journalists = 3
- Fact-checkers = 9

Organization based in:
- France
- Italy
- Spain
- Portugal
- UK

Questionnaire: results



N = 40

Professional activity:
- Journalist = 33
- Fact-checker = 3
- Both = 4

Organization based in:
- Austria
- Hungary
- Italy
- Romania
- Slovenia
- Spain

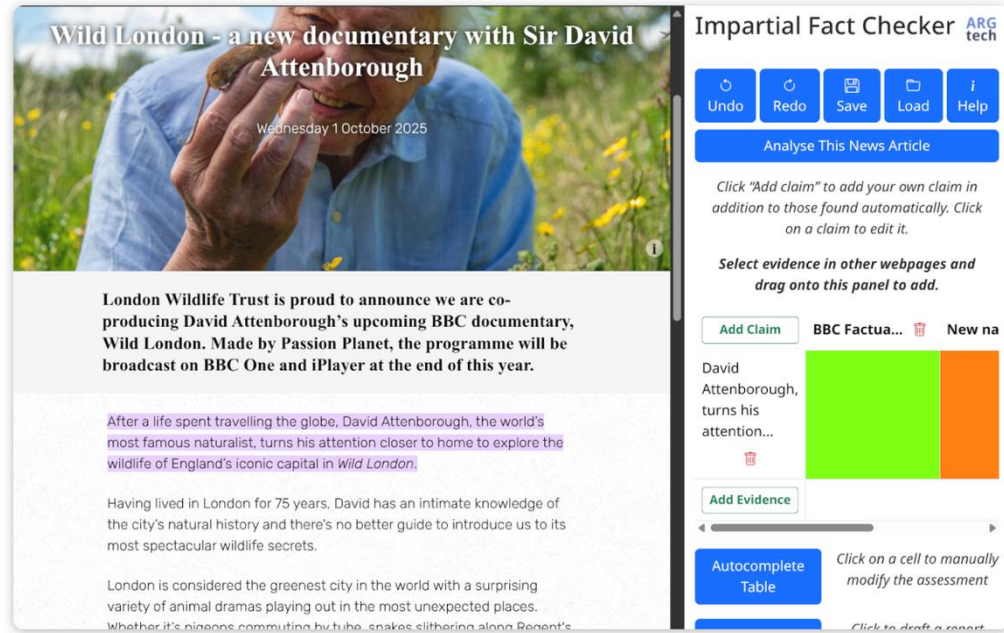
- We developed a digital tool based on the **Analysis of Competing Hypotheses** (ACH) used by the Intelligence Community to reduce cognitive biases in information analysis and decision-making

- The **Impartial Fact-checker tool** supports **four key tasks**: source gathering, information structuring, evidence evaluation, and report writing

- **Co-designed** and tested with 11 journalists and fact-checkers across three development stages, assessing usability and functionality

Share

Extension | Tools | 41 users





https://tinyurl.com/39ubxhvz

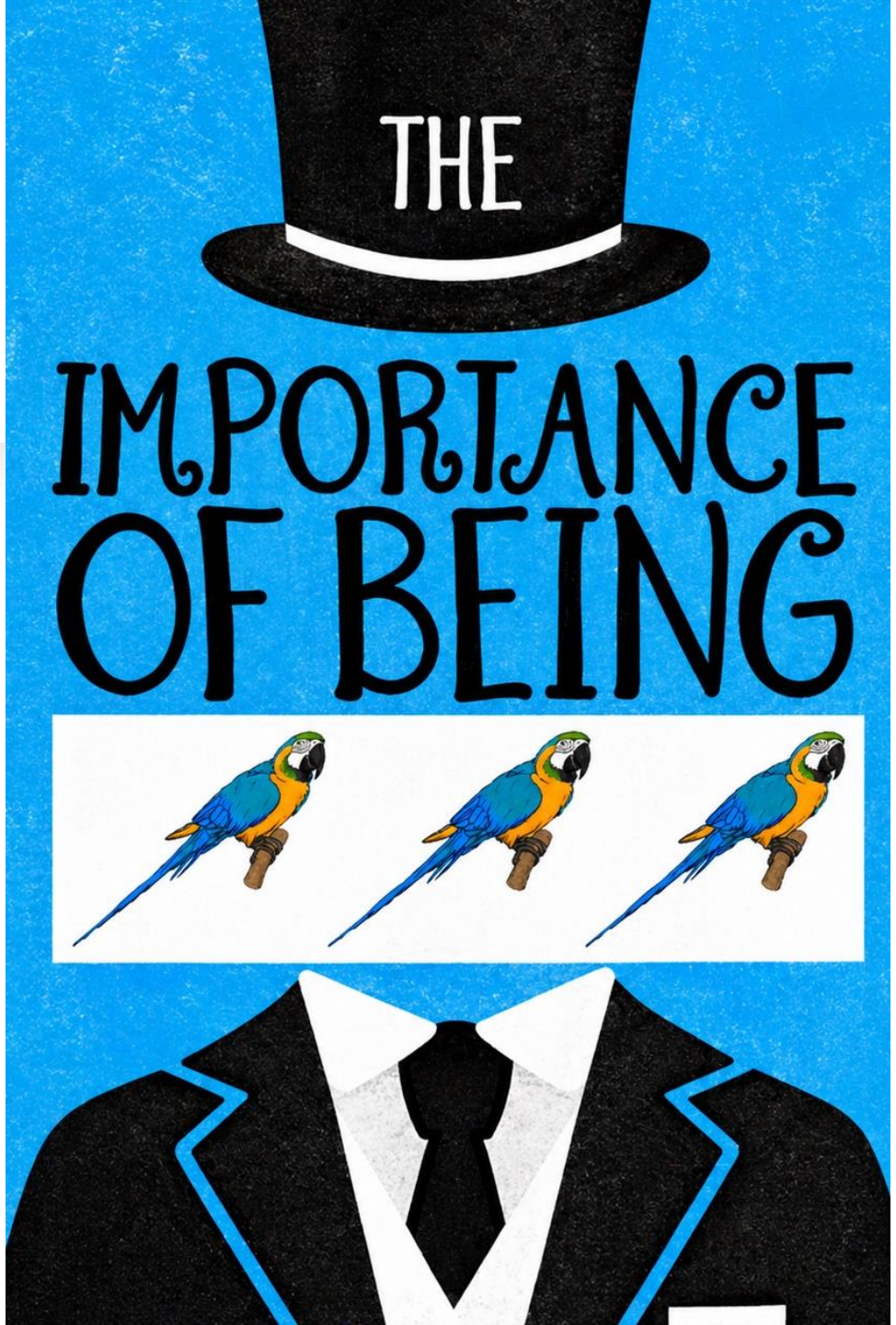
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Key take-aways

- Misinformation, spread by both humans and AI, takes the form of a number of fallacies
- Prebunking, through the recognition of fallacies, can help prevent the spread of misinformation
- Cognitive biases, especially confirmation, anchoring, source, and availability biases, frequently influence how information is verified and evaluated
- Critical thinking through argumentation can help individuals recognise and mitigate cognitive biases when processing information

Thanks!

Let’s argue with GAI about the





University of Exeter

Understanding and responding to misinformation

Associate Professor
Florian Stoeckel

Can social media users help counter misinformation?

University of Exeter

1. **Corrective comments can help readers identify false information.** They can make a difference to people reading along.

2. **Corrections can also mislead.** When accurate information is wrongly challenged, readers may become less likely to believe it.

3. **Users can contribute, but responsibility is shared.** What should governments and platforms do to support users and address the wider problem?

Should users have to fix misinformation?

University of Exeter

Individual approaches

- Media literacy
- Corrections from other users

Structural approaches

- Platform rules and incentives
- Public policy and regulation

Users can contribute.
Platforms and governments must also act.

The literature on interventions

University of Exeter

- There are many tested individual-level interventions:

- Accuracy prompts
- Inoculation and “fake news games”
- Media literacy tips
- Source credibility labels
- Warning and fact-checking labels

- Our focus: corrections in comments

nature human behaviour

Review article

https://doi.org/10.1038/s41562-024-01881-0

Toolbox of individual-level interventions against online misinformation

Received: 1 February 2023

Accepted: 5 April 2024

Published online: 13 May 2024

Check for updates

Anastasia Kozyreva[1], Philipp Lorenz-Spreen[1,29], Stefan M. Herzog[1,29], Ullrich K. H. Ecker[2,29], Stephan Lewandowsky[3,4,29], Ralph Hertwig[1,29], Ayesha Ali[5], Joe Bak-Coleman[6], Sarit Barzilai[7], Melisa Basol[8], Adam J. Berinsky[9], Cornelia Betsch[10,11], John Cook[12], Lisa K. Fazio[13], Michael Geers[1,14], Andrew M. Guess[15], Haifeng Huang[16], Horacio Larreguy[17], Rakoen Maertens[18], Folco Panizza[19], Gordon Pennycook[20,21], David G. Rand[22], Steve Rathje[23], Jason Reifler[24], Philipp Schmid[10,11,25], Mark Smith[26], Briony Swire-Thompson[27], Paula Szewach[24,28], Sander van der Linden[8] & Sam Wineburg[26]

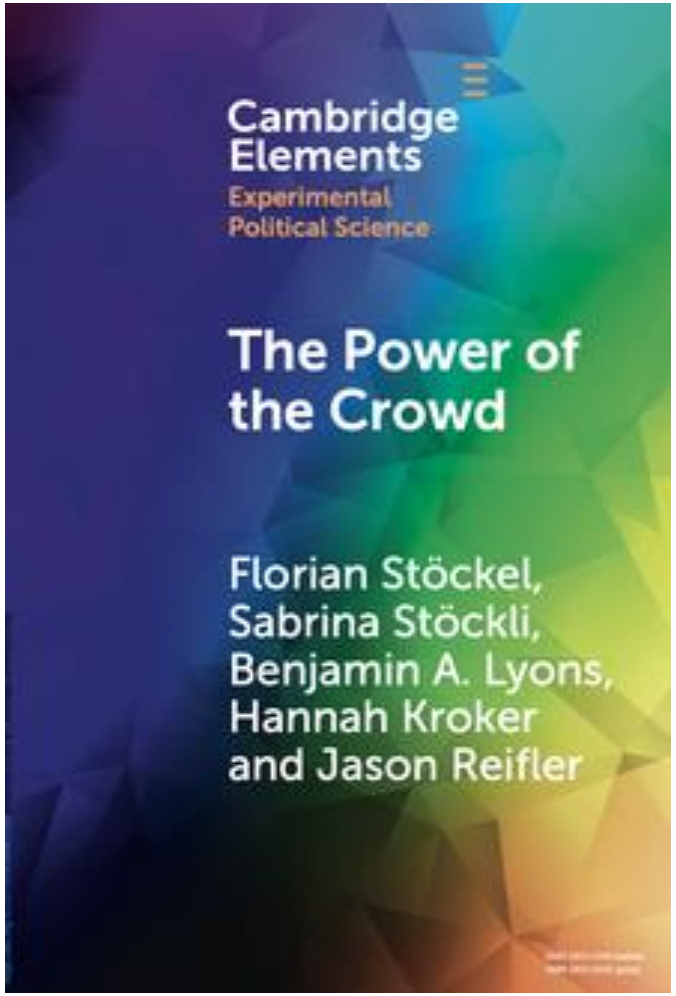
The spread of misinformation through media and social networks threatens many aspects of society, including public health and the state of democracies. One approach to mitigating the effect of misinformation focuses on individual-level interventions, equipping policymakers and the public with essential tools to curb the spread and influence of falsehoods. Here we introduce a toolbox of individual-level interventions for reducing harm from online misinformation. Comprising an up-to-date account of interventions featured in 81 scientific papers from across the globe, the toolbox provides both a conceptual overview of nine main types of interventions, including their target, scope and examples, and a summary of the empirical evidence supporting the interventions, including the methods and experimental paradigms used to test them. The nine types of interventions covered are accuracy prompts, debunking and rebuttals, friction, inoculation, lateral reading and verification strategies, media-literacy tips, social norms, source-credibility labels, and warning and fact-checking labels.

Do social corrections work?

University of Exeter

Book: The Power of the Crowd (CUP, 2025)

- 6,621 participants in the UK, Germany and Italy
- 47 true and false stories (posts) that were shared online: a wide variety of topics (e.g., 5G, COVID-19, climate change)
- Participants saw randomly assigned versions of posts, with or without corrective comments.



Social media post

-

Respondents rate accuracy

Social media post with corrective comment

-

Respondents rate accuracy

Some false claims seem convincing to many people



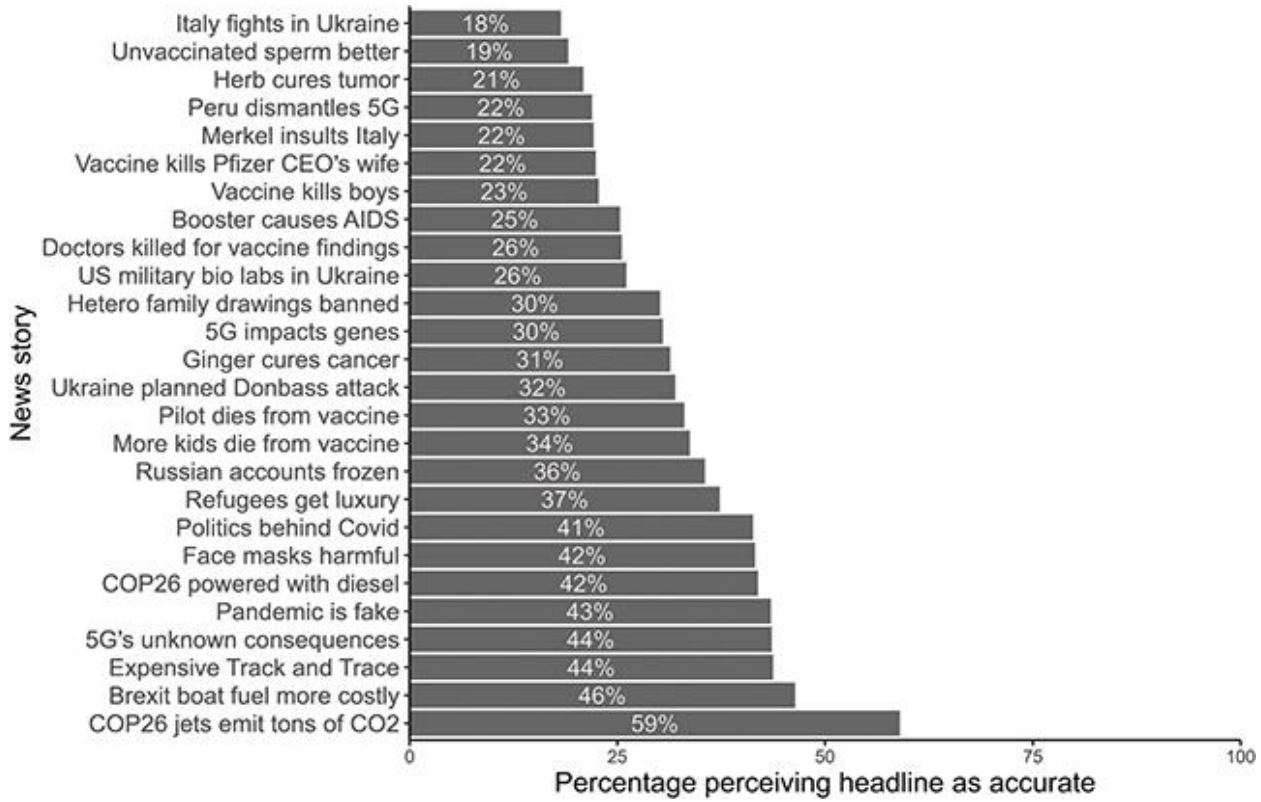
FALSE CLAIM

A day's private-jet emissions equal a year's emissions for Scotland

59%

rated this claim as accurate

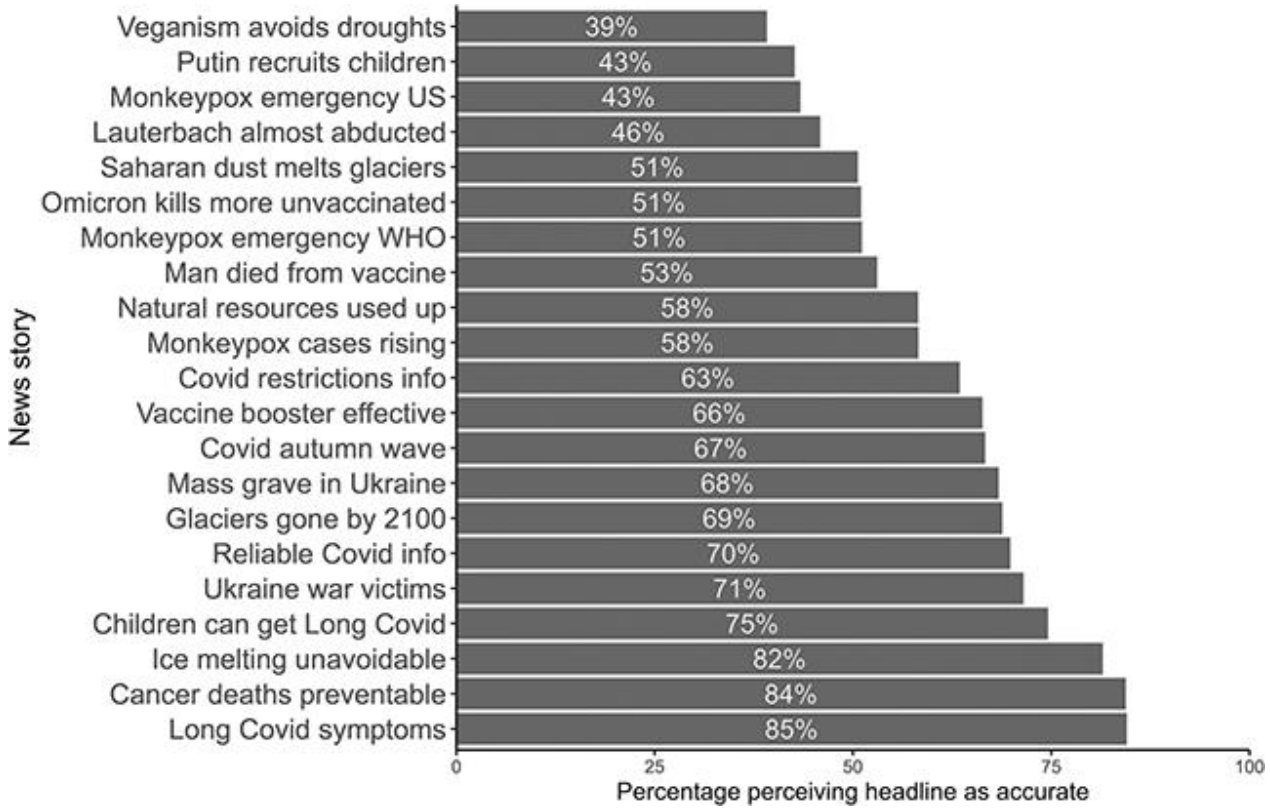
Belief in false information varies widely across posts



Some false posts were considered accurate by relatively few respondents.

18–59%

Accurate information also faces doubt



Share rating the true posts we tested as accurate

39–85%

Who believes false information?

- **Ideological alignment:** people who see information that fits their worldview are more likely to believe it (whether it is true or not)

- People who score high on **anti-expert attitudes** are more likely to believe false information

  "I am more confident in my opinion than other people's facts."

- People who score high on **cognitive reflection tests** are better able to identify false information

- **Education** alone did not clearly predict whether people identified false information.

See also Flynn et al. (2017).

Corrections can help readers identify false information

University of Exeter

Real comments:

"You know this isn't true.
Or even remotely close to the truth."
"This is embarrassing."
"There is something deeply deeply fishy about this."

- Audience: people reading along, not the original poster
- Small but consistent effects across countries
- Comments help people identify false information and reduce stated willingness to like or share a post
- We tested readers' judgements, not whether comments overturn deeply held beliefs.

Why do corrections work, and can we strengthen their effects?

University of Exeter

- Potential mechanism: corrective comments work like **warning signals**
- **Readers may process both posts and comments only superficially.**

1. **More likes**
2. **More corrective comments**
3. **A link to a fact-checking website**

No consistent additional effect in our experiments.

- Consulting fact-checkers can help us avoid posting inaccurate corrections.

Misleading corrections can also do harm



User comment: “Fearmongering”

A reply to an accurate post

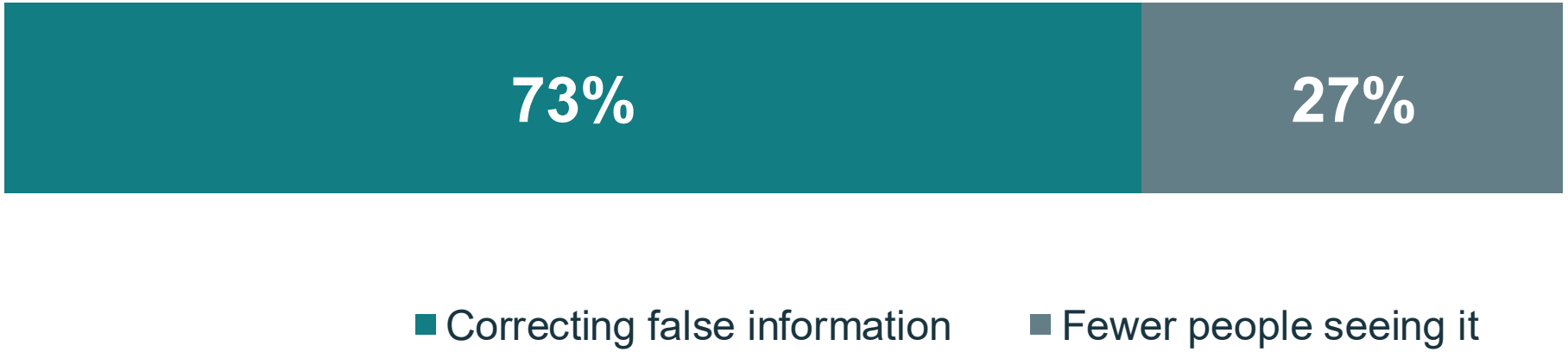
False challenges also reduced perceived accuracy

Effect persists even when a reputable source cue is shown

Correction or less visibility?

- Replying may increase exposure.
- We measured preferences.

- German population-based online survey, N = 3,792.



Who should play a big role in tackling misinformation?

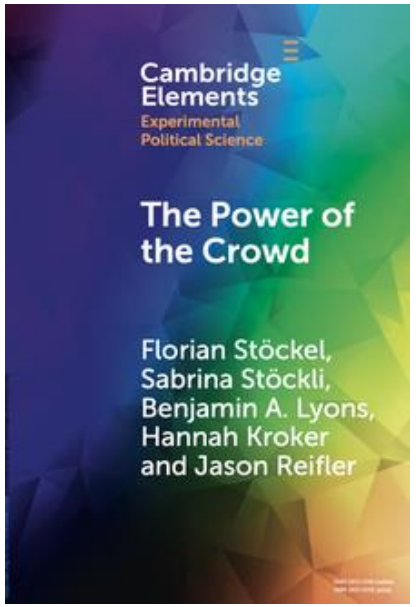
Results from the same population-based online survey that we conducted in Germany, N = 3,798



Respondents rated each actor separately.

Conclusion & Questions

1. **Some false claims are considered true by many readers**, but the share varies widely across posts
2. **Social corrections can help** readers identify false information
3. **Misleading corrections** can do **harm**
4. People can improve the online information environment (**Wikipedia!**)
5. **Citizen involvement needs support from platforms and governments.**



- **Would you post a corrective comment? Why or why not?**
- **Do you read comments?**
- **How should responsibility be shared between users, governments and companies?**

Q&A



Flora Kopelou
European Data Portal, Publications Office of the EU



Elena Musi
Reader (Associate Professor), University of Liverpool



Florian Stöckel
Associate Professor, University of Exeter

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WEBINAR

Stay up-to-date on our 2026 activities!

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Register for our upcoming webinar!



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Continue the discussion after the webinar!

Webinar ‘Open data, academia, and ethics: fact-checking and countering misinformation’

Submitted by Maryna Butym on Wed, 04/11/2026 - 12:15

Topic: Academy webinars

How do you check whether an online claim is trustworthy?

Join our data.europa academy webinar, **‘Open data, academia, and ethics: fact-checking and countering misinformation’**, on **Friday, 6 November, from 10:00 to 11:15 CET**.



Elena Musi (University of Liverpool) will explore how biases shape our interpretation of information and introduce practical approaches and tools for recognising misleading claims. Florian Stoeckel (University of Exeter) will examine how people distinguish true from false information and how fact-checking websites and social media comments influence their perceptions.

Let’s start the conversation: What helps you decide whether information is reliable? Have you used open data or fact-checking tools to check a claim?

Share your questions before the webinar, or return afterwards to tell us what you found useful and continue the discussion.

Register here.

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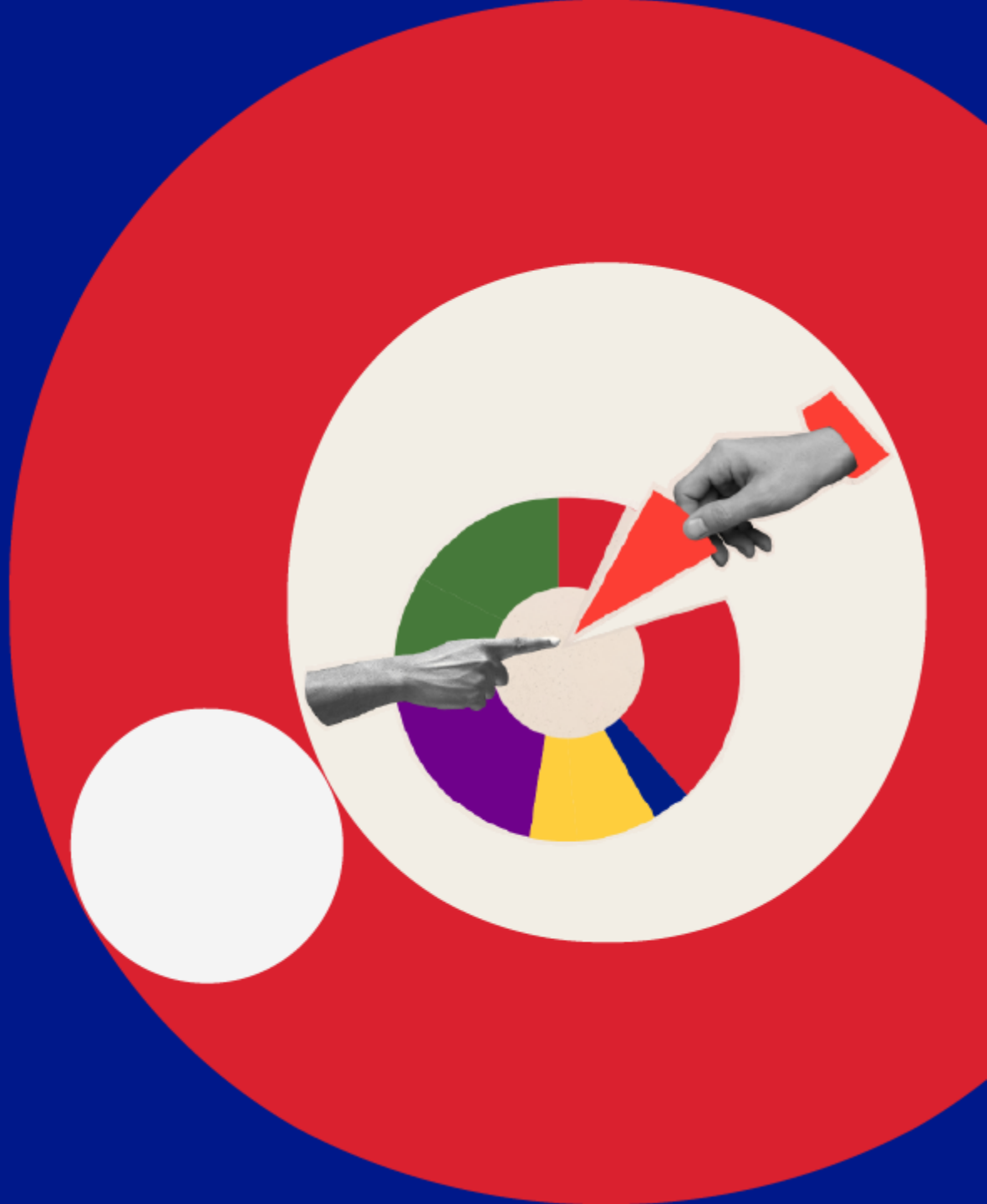


Your opinion is important to us



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Thank you!



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