

# Survey on the pros & cons of remote work and work in an office

- **Access to the survey:**

- **Link:** <http://shorturl.at/rB458>

- **QR code:**



- **Survey length: about 12 minutes**

# Misinformation, fake news, and the belief perseverance bias

## How to mitigate the bias

# Misinformation & fake news

- *Misinformation* = false or incorrect information that is spread by mistake or with the intention to mislead
- *Fake news* = false or inaccurate information presented as news intentionally designed to mislead people



# Misinformation, fake news & decision making

- Decision making shapes important outcomes for individuals and society
- If the decisions are based on misinformation or fake news, they are likely to be **suboptimal**
- Misinformation and fake news thus can have **serious consequences** for individuals and society



# Retraction of misinformation fails



- Research has shown that identifying and retracting misinformation (i.e. through fact-checking) is insufficient to eliminate its influence on individuals\*
- Individuals often base their opinions and judgments on misinformation and then persevere in these opinions and judgements even after the misinformation has been revealed and retracted. This phenomenon is called the **belief perseverance bias**.

\* Lewandowsky, S., Ecker, U. K. H., Seifert, C. M., Schwarz, N., & Cook, J. (2012). Misinformation and Its Correction: Continued Influence and Successful Debiasing. *Psychological Science in the Public Interest: A Journal of the American Psychological Society*, 13(3), 106–131.

# Belief perseverance bias



- **Bias** = the tendency to make decisions or take actions in an illogical way
- **Cognitive bias** = distortion in judgments and decisions due to faulty mental processes\*
- **Motivational bias** = conscious or subconscious distortion in judgments and decisions motivated by one's personal situation\*
- **Belief perseverance bias belongs to motivational biases**
- **Belief perseverance bias** = the tendency to persevere in beliefs or opinions even after the initial information on which the beliefs or opinions were based has been discredited\*\*

\* Montibeller, G., & Winterfeldt, D. von (2015). Cognitive and Motivational Biases in Decision and Risk Analysis. *Risk Analysis*, 35(7), 1230–1251.

\*\* Anderson, C. A. (2007). Belief Perseverance. In R. F. Baumeister & K. D. Vohs (Eds.), *Encyclopedia of social psychology*. Los Angeles, London: Sage.

# Belief perseverance bias – example 1

- Emily tells Oliver that the new fellow student Paul is not particularly clever and advises him against working in a group with Paul.
- After a few days, Oliver finds out that there was a misunderstanding and that Emily did not speak about Paul but Tim.
- If Oliver were to act rationally, he would now be completely free of prejudices against Paul since his original opinion about Paul turned out to be based on wrong information.
- Nevertheless, due to belief perseverance, Oliver continues to avoid working with Paul, even though he knows Emily has talked about someone else.

## Belief perseverance bias – example 2

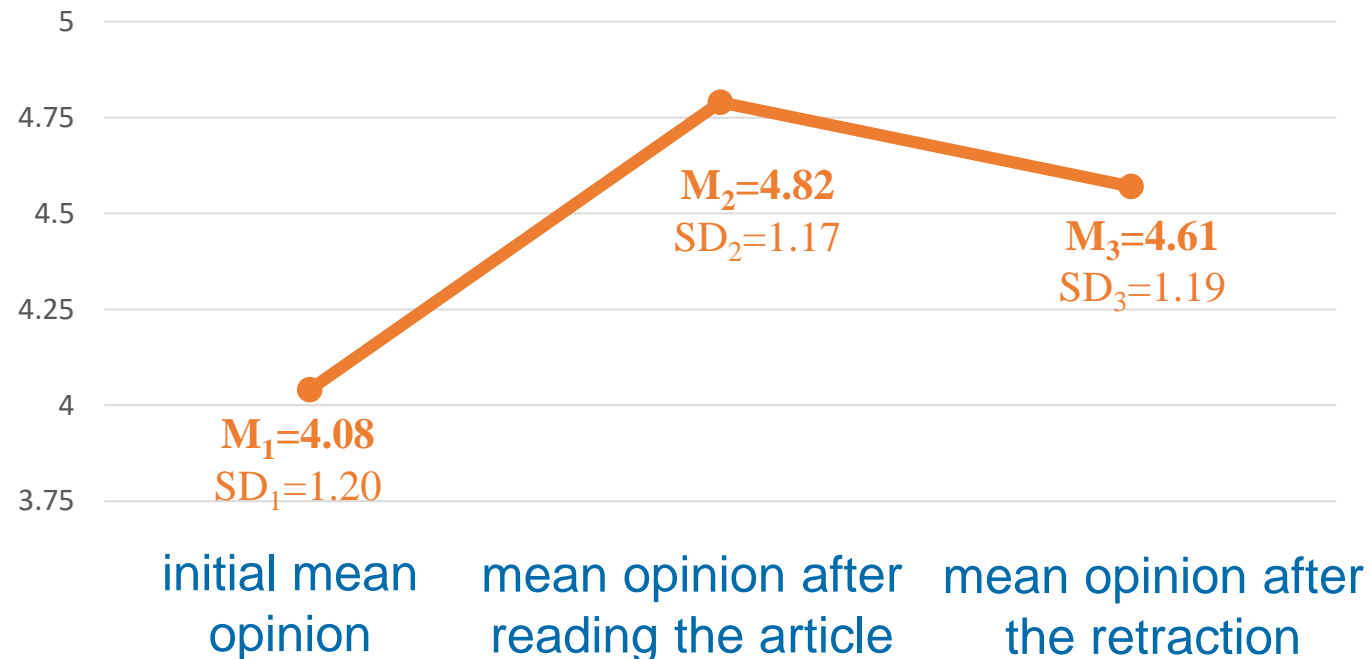
- In 1998, a paper stating that the measles-mumps-rubella vaccine causes autism was published and triggered a lot of debate over vaccine safety. As a consequence, vaccination compliance dropped sharply in the years after the publication.
- Later, the paper was officially labelled as a fraud and fully retracted. Numerous well-controlled follow-up studies found no link between the vaccine and autism.
- If people were to act rationally, they would have to completely disregard the fraudulent information about the link between the vaccine and autism.
- Nevertheless, due to belief perseverance, many parents still refuse to vaccinate their children, and members of anti-vaccine movements still promote conspiracy theories linking vaccination and autism.





# Experiment on the belief perseverance bias: changes in opinion on the remote and in-office work

Changes in the mean opinion (sample size  $N = 988$ )



- ✓ Subjects' opinion was influenced by the article ( $M_1 < M_2$ )
- ✓ Subjects' opinion remained influenced by the article even after the retraction ( $M_1 < M_3$ )



- ✓ This demonstrates the presence of the belief perseverance bias in the experimental sample

# Experiment on the belief perseverance bias: changes in opinion on the remote and in-office work

- Data from 988 participants collected in the experiment
- 58% of the participants got biased by the misinformation
- 42% of the participants suffered from the belief perseverance bias after the retraction of the misinformation

# Debiasing techniques

- Debiasing techniques aim at returning the biased opinion persevering after the retraction of misinformation to the initial opinion before encountering misinformation or at least reducing the belief perseverance bias



- Awareness training

- Consists in raising people's awareness about the belief perseverance bias and its potential negative impact on their opinion in the presence of misinformation or fake news
- Illustrates the effect of the belief perseverance bias on a real-life example
- Universally applicable to any misinformation or fake news

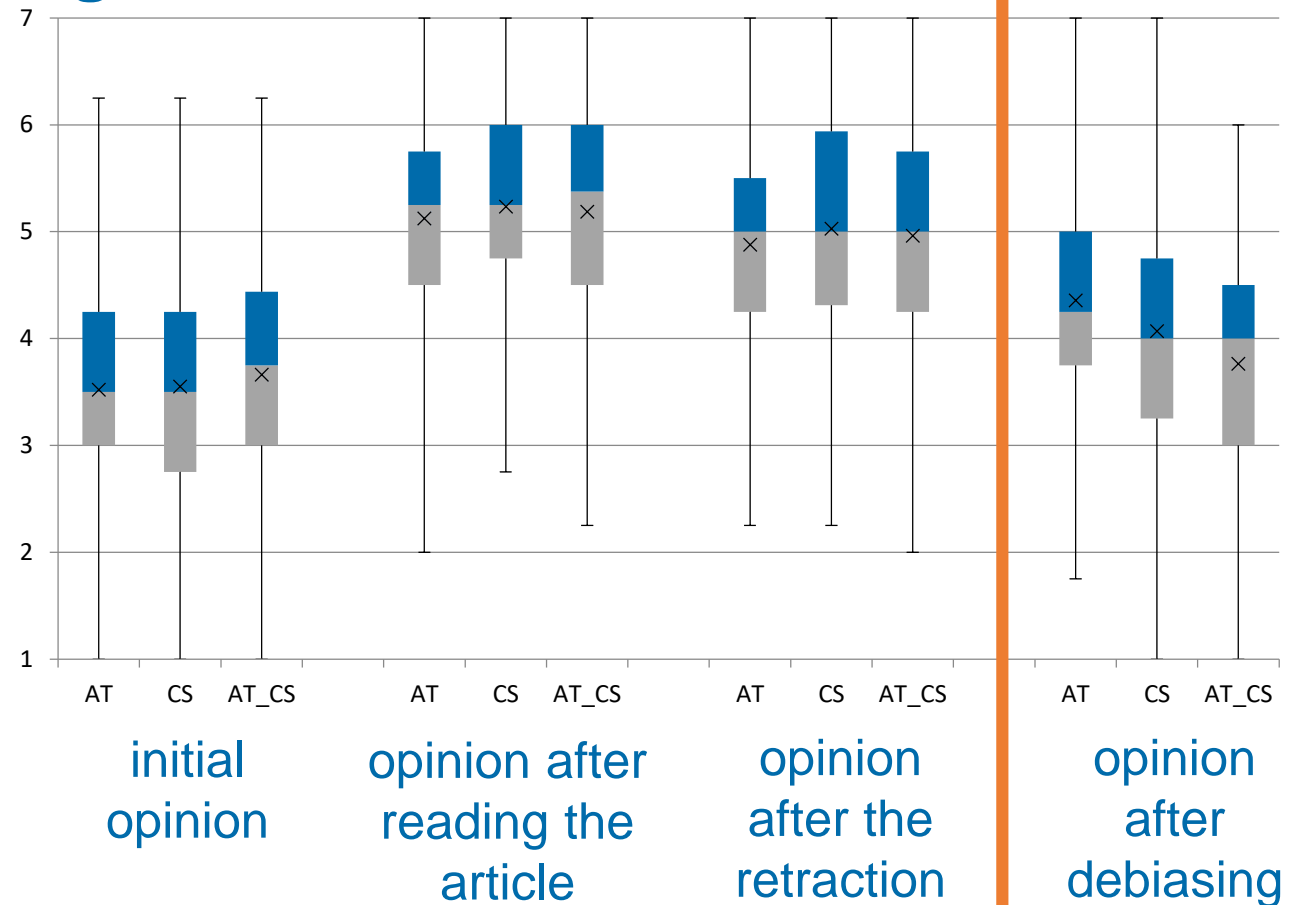


- Counter-speech

- Consists in refuting the specific claim of misinformation or fake news by providing suitable arguments against the claim
- Needs to be adapted to the specific claim to be refuted

## Experiment on the belief perseverance bias: effectiveness of the debiasing methods

- Counter-speech (CS) is more effective in reducing the bias than awareness training (AT)
- The combination of awareness training and counter-speech (AT\_CS) is more effective than the single methods AT and CS



# Summary

- Fake news and misinformation influence our opinions and judgments even after the retraction
- It is possible to protect individuals against the negative impact of fake news and misinformation by applying debiasing techniques to mitigate the belief perseverance bias
- Effective debiasing techniques:



Awareness  
training



Counter  
speech



Combination of awareness  
training and counter speech

# Recommendations for practice

- Fact-checking organizations may apply awareness-training and/or counter-speech with every single retraction of misinformation or fake news



- Institutions striving to support sound decision-making of individuals. (European Commission, EFE, OECD) may promote enhancing public awareness of the belief perseverance bias and its negative impact on individuals' judgments in relation to misinformation and fake news



- Individuals can actively protect themselves against the negative impact of fake news and misinformation by improving their own awareness of the belief perseverance bias

