

Fighting misinformation: Inoculation

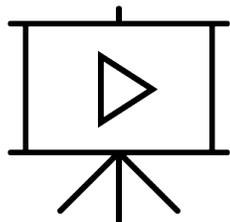
*How teaching people how to recognize manipulation helps them
recognize it... a bit ?*

PSYCHOLOGICAL SCIENCE

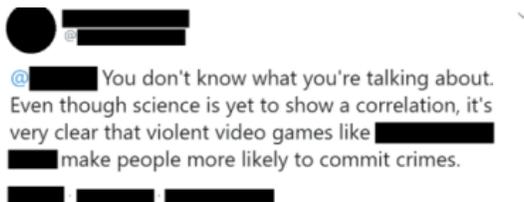
**Psychological inoculation improves resilience against
misinformation on social media**

Jon Roozenbeek^{1*}, Sander van der Linden¹, Beth Goldberg², Steve Rathje¹, Stephan Lewandowsky^{3,4}

Experiment 1 to 6



Directly



Directly

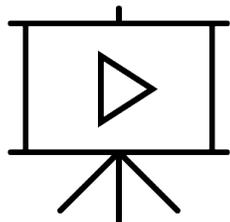
Poll

Inoculation video
1mn30

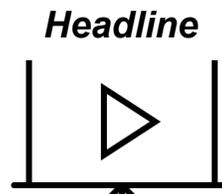
Synthetic post
MANIPULATIVE OR NOT

Did you notice it ?

Experiment 7



~18hrs



Directly

Poll

Inoculation video
Ad

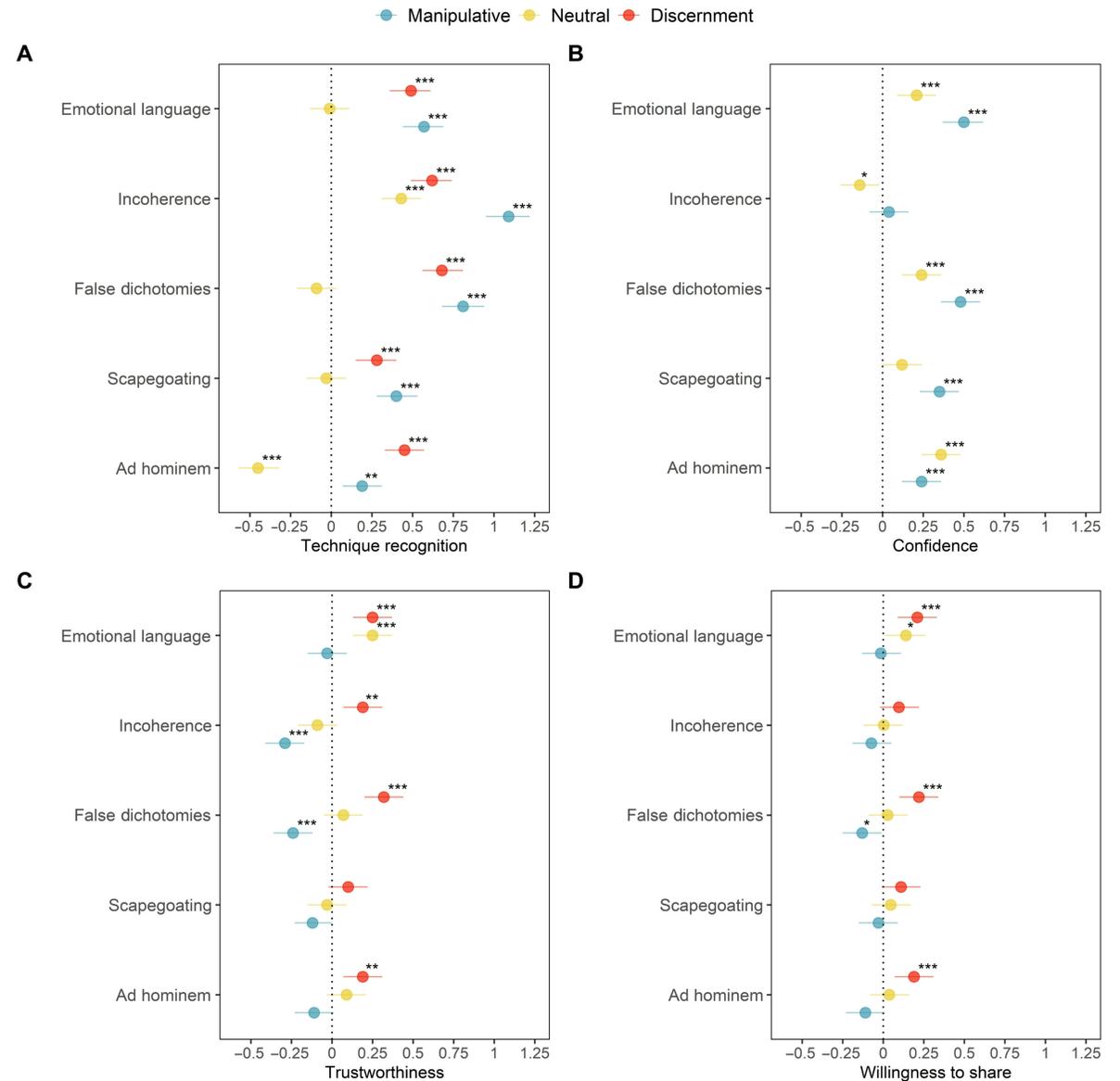
Synthetic video headline
MANIPULATIVE OR NOT

Did you notice it ?

Findings

Experiment 1 to 6

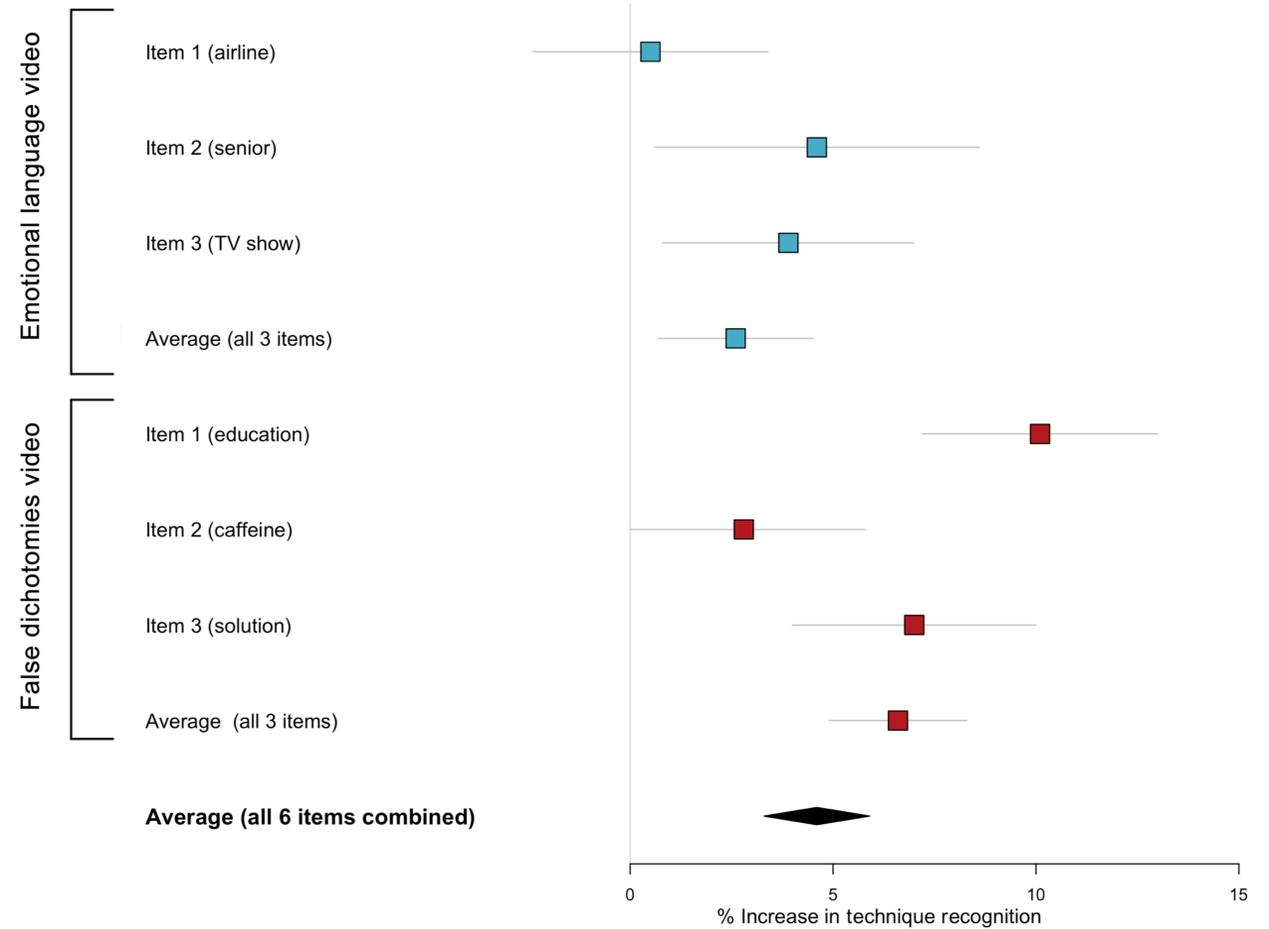
People discern better
manipulative
technique



Findings

Experiment 7

In the following 24hrs,
people inoculated
discern up to 10%
better manipulative
techniques



Conclusion

Inoculation is somewhat effective ?

Synthetic posts

Remarks:

- Synthetic posts, how does that compare with real life ?
- Posts not always fall in one unique manipulation category.

To what extent are findings transferable to any post here ?

How about other formats ? Not text ? Video ?



Impact of inoculation

Remarks:

- Being in an experiment → People know they have to think

- “Is it the content of "inoculation" itself or simply the act of watching any video related to misinformation?”

“ - *Adhitya Venkatraman*”

What might also explain the results ?

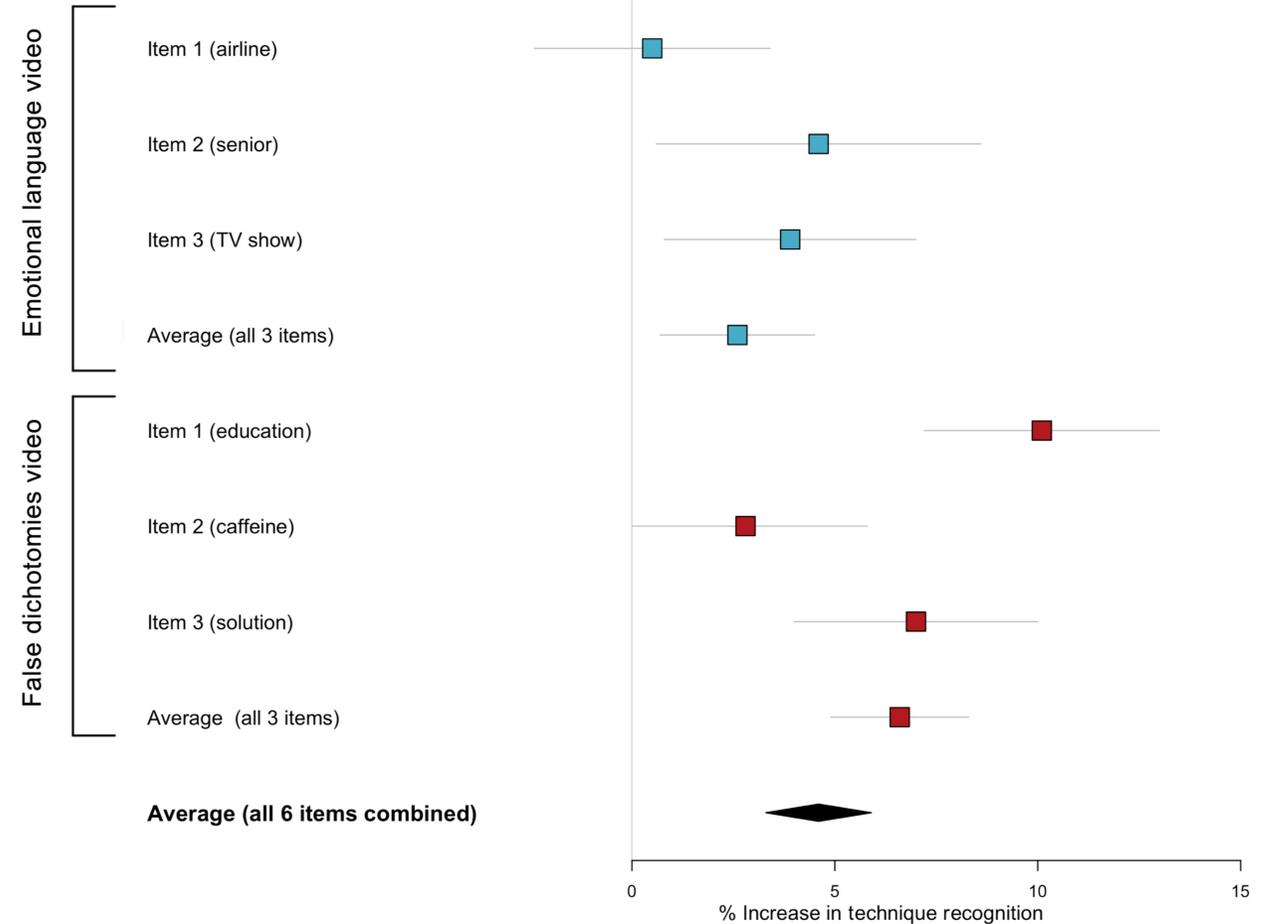
What could have been done here ?



The Youtube Experiment

Many remarks:

- Users just see a headline, not a video
- “Seeing the ad” does not mean seeing it entirely.
- Maybe people who watch the ad are the ones who are interested only?



Can we trust these results ?

Will they apply to everyone ?

Does inoculation resist time ?

“One concern I have with this approach is if building resilience will be effective **over a long period of time**”

“The researchers only looked at a **24 hour impact of the videos** on the user's ability to detect misinformation”

“However, their experiments only proved that the videos are effective within a **24-hour window**, what if people start to forget about them after the 24 hours? ”

What can be done better ?

“I’m also really curious about how long-term disinformation inoculation ads may actually do more harm than good, where people might actually be suspicious and untrusting of news. We might be doing the one thing we set out to eliminate!”

– *Marc Huo*

Does inoculation even work ?



David G. Rand (@drand@techhub.social) @DG_Rand · Feb 13

Major paper by @ArianaMGalian & Higham in press at JEP:G
Widely adopted "Bad News" and "Go Viral" games don't actually make people better at spotting misinformation - they just reduce belief in everything 🙄

PDF: psyarxiv.com/4bgkd/

1/

Gamified Inoculation Interventions Do Not Improve Discrimination Between True & Fake News

Ariana Modirrousta-Galian & Phillip A. Higham

Gamified inoculation interventions designed to improve detection of online misinformation are becoming increasingly prevalent. Two of the most notable interventions of this kind are Bad News and Go Viral. To assess their efficacy, prior research has typically used pre-post designs in which participants rated the reliability or manipulateness of true and fake news items before and after playing these games, while most of the time also including a control group who played an irrelevant game (Tetris) or did nothing at all. Mean ratings were then compared between pre-tests and post-tests and/or between the control and experimental conditions. Critically, these prior studies have not separated response bias effects (overall tendency to respond "true" or "fake") from discrimination (ability to distinguish between true and fake news, commonly dubbed discernment). We reanalyzed the results from five prior studies using receiver operating characteristic (ROC) curves, a method common to signal detection theory (SDT) that allows for discrimination to be measured free from response bias. Across the studies, when comparable true and fake news items were used, Bad News and Go Viral did not improve discrimination, but rather elicited more "false" responses to all news items (more conservative responding). These novel findings suggest that the current gamified inoculation interventions designed to improve fake news detection are not as effective as previously thought and may even be counterproductive. They also demonstrate the usefulness of ROC analysis, a largely unexploited method in this setting, for assessing the effectiveness of any intervention designed to improve fake news detection.

This impressive paper meta-analyzes 13 experiments where games were used to inoculate against misinfo by teaching common manipulation techniques

Result: Inoculation didnt improve ability to tell true vs false ("AUC" in SDT analysis) any more than the control (eg playing Tetris)



Jay Van Bavel

@jayvanbavel



A researcher designs an intervention to make people less susceptible to [#misinformation](#)

The intervention reduces their belief in misinformation, but also reduces their belief in regular news stories *to the same degree*.

Has the intervention succeeded, failed, neither? Why?

Your thoughts ? Your vote ?

Thank you!