

## **Supportively beneficial or convincingly problematic?**

### **Effects of supporting contexts on the use of (in)accurate information**

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Reading false information, even when it is obviously incorrect, can adversely affect people's memory, judgements and decisions (e.g., Hinze et al., 2014). While we know a lot about the consequences of exposures to accurate and inaccurate ideas -especially the negative consequences of inaccurate exposures-, we know little about how contextual factors affect people's take up of those ideas - over and above traditionally reported effects. For example, information can be conveyed in single statements (which is often investigated) or with supporting context, offering additional detail or justification as to why something is true or happened, even when it is not true and never happened. Moreover, it can be conveyed through many different formats and platforms, including via social media and in written texts.

The current study examines whether providing supporting contexts for true or false ideas affects participants' judgements of those ideas as true or false. To this end, participants first rate the validity of ideas (pre-exposure). The next day they read texts describing true or false versions of those ideas -potentially with supporting contexts- and rate their validity again (post-exposure). Comparing participants' validity judgements pre- and post-exposure allows us to assess whether contexts might encourage accurate understandings when they support accurate claims, and encourage inaccurate understandings when they support falsehoods. We also explore whether presenting ideas as social media posts or as plain texts affects these outcomes.

### **Methods**

Eighty-two Dutch speakers read 32 texts on well-known historical topics (based on van Moort et al., 2022). There were four versions of each text as a function of whether target information was true/false in terms of having occurred in the real world and whether it was congruent/incongruent with the preceding context (i.e., the preceding text could either support or call into question the target information; Table 1). All texts contained an introduction, one or two

context sentences, a target, and a concluding coda. Each participant read one version of each text.

Texts were presented either as tweets or as plain texts (Figure 1).

**Table 1**

*Sample Text With the Four Versions (Translated From Dutch Original).*

|                 |                                 | Knowledge accuracy                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                 |                                 | Target True                                                                                                                                                                                                                                                                                                                                                                     | Target False                                                                                                                                                                                                                                                                                                                                                               |
| Text congruency | Target congruent with context   | <p><b>[Introduction]</b><br/>In 1963, the American President John F. Kennedy took a tour of Dallas.</p> <p><b>[Bias True Context]</b><br/>Lee Harvey Oswald tried to assassinate him during this tour and shot the president in the head.</p> <p><b>[Target True]</b><br/>Kennedy did not survive the attack by Oswald.</p> <p><b>[Coda]</b><br/>Oswald was arrested.</p>       | <p><b>[[Introduction]</b><br/>In 1963, the American President John F. Kennedy took a tour of Dallas.</p> <p><b>[Bias False Context]</b><br/>During the tour, Lee Harvey Oswald began shooting at Kennedy. He was hit and rushed to the hospital.</p> <p><b>[Target False]</b><br/>Kennedy survived the attack by Oswald.</p> <p><b>[Coda]</b><br/>Oswald was arrested.</p> |
|                 | Target incongruent with context | <p><b>[Introduction]</b><br/>In 1963, the American President John F. Kennedy took a tour of Dallas.</p> <p><b>[Bias False Context]</b><br/>During the tour, Lee Harvey Oswald began shooting at Kennedy. He was hit and rushed to the hospital.</p> <p><b>[Target True]</b><br/>Kennedy did not survive the attack by Oswald.</p> <p><b>[Coda]</b><br/>Oswald was arrested.</p> | <p><b>[Introduction]</b><br/>In 1963, the American President John F. Kennedy took a tour of Dallas.</p> <p><b>[Bias True Context]</b><br/>Lee Harvey Oswald tried to assassinate him during this tour and shot the president in the head.</p> <p><b>[Target False]</b><br/>Kennedy survived the attack by Oswald.</p> <p><b>[Coda]</b><br/>Oswald was arrested.</p>        |

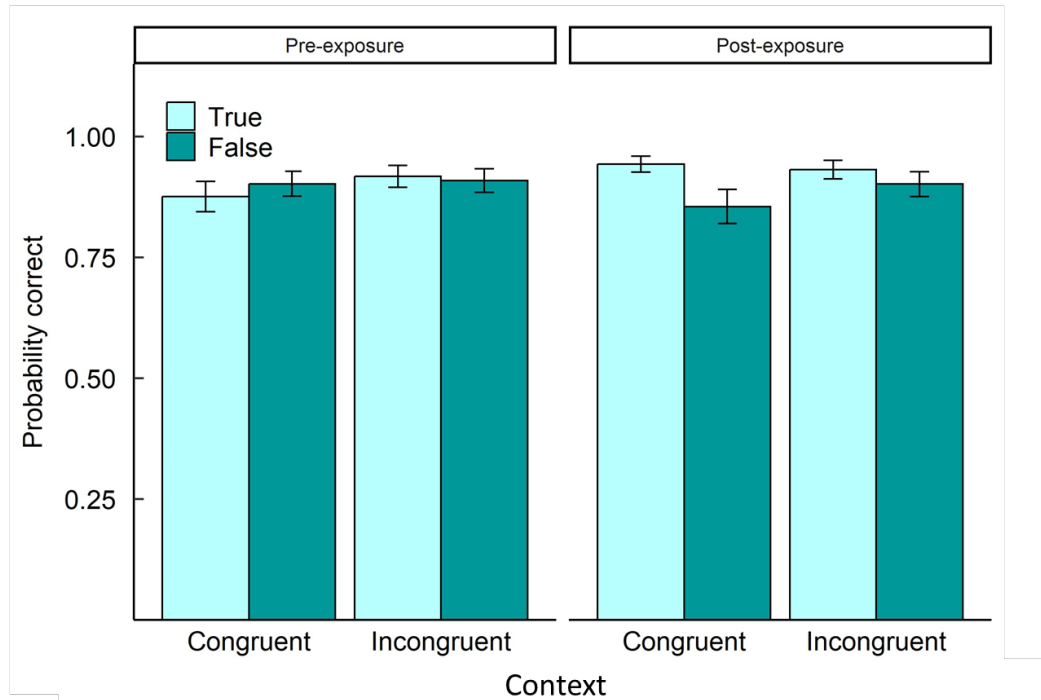
**Figure 1.** Example of text presented in social media or plain text format.

| Tweet | Text                                                                                                                                                                                                                                                                                                                                          |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|       | <p>De Amerikaanse president John F. Kennedy maakte in 1963 een rondrit door Dallas. Lee Harvey Oswald probeerde hem tijdens deze rondrit te vermoorden en hij schoot de president in het hoofd. Kennedy heeft de aanslag door Oswald overleefd. Oswald werd opgepakt.</p> <p>Bron: <a href="http://www.historiek.nl">www.historiek.nl</a></p> |

## Results

**Figure 2**

*Fixed Effect Estimates of Validity Judgement Performance Scores (i.e., Probability Correct) on Targets Pre- And Post-Exposure as a Function of Accuracy and Congruency*



Results showed no effects on the validity judgements pre-exposure, but we did observe effects post-exposure (Figure 2): Participants made more *correct* judgments after reading true targets in congruent contexts, and more *incorrect* judgments after reading false targets in congruent contexts, as compared to after reading true or false targets in incongruent contexts, respectively. Moreover, we observed differences between pre- and post-exposure performance only for targets presented in congruent contexts: Post-exposure, participants made more *correct* after reading true targets in congruent contexts and more *incorrect* judgments after reading false targets in congruent contexts. We observed no format effects.

### Discussion

In line with prior work (e.g., Hinze et al., 2014; Rapp et al., 2014), participants' decisions were influenced by the false information they read: Results show that they made more *incorrect* judgements after reading *false* information, but only when it was presented in a congruent context.

Results also extend prior work by showing that supportive contexts result in increased effects of exposure both for true and false ideas: Participants also made more *correct* judgments to *true* information after reading contexts that supported those true ideas than after reading contexts that supported false ideas. Taken together, these results suggest that supporting contexts can unfortunately lead people to agree with inaccurate ideas they should know are wrong, but also - thankfully- that they can lead people to agree with accurate ideas they know are right.

Finally, our results suggest no effects of format. This may reflect little influence of format, or be due to the task encouraging standards of coherence or levels of engagement that ameliorated any potential format differences.

## References

- Hinze, S. R., Slaten, D. G., Horton, W. S., Jenkins, R., & Rapp, D. N. (2014). Pilgrims sailing the Titanic: Plausibility effects on memory for misinformation. *Memory and Cognition*, 42(2), 305–324.  
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- Rapp, D. N., Hinze, S. R., Kohlhepp, K., & Ryskin, R. A. (2014). Reducing reliance on inaccurate information. *Memory and Cognition*, 42(1), 11–26. <https://doi.org/10.3758/s13421-013-0339-0>
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