



## Does Misinformation About Past Beliefs Influence Current Beliefs?

---

Michael B. Wolfe, Todd J. Williams, Alexander J. Denison,  
Michael Rose, Hanali Gilbert and Kegan Olsen

EasyChair preprints are intended for rapid dissemination of research results and are integrated with the rest of EasyChair.

July 14, 2020

Does Misinformation About Past Beliefs Influence Current Beliefs?

Michael B. Wolfe, Todd J. Williams, Alexander J. Denison, Michael Rose, HanaLi Gilbert,  
Kegan Olsen

Grand Valley State University

## Abstract

After reporting initial beliefs, subjects read a belief consistent or inconsistent text about gun control effectiveness. Subjects verified initial beliefs about gun control that were either accurate, the opposite of their initial belief (misinformation), or did not verify. 80% of misinformation subjects thusfar verified an incorrect belief as their own. Subjects significantly change beliefs about gun control after reading a belief inconsistent text compared to a belief consistent text. There was not an overall influence of the verification condition on post-reading beliefs.

## Does Misinformation About Past Beliefs Influence Current Beliefs?

Previous research suggests that when people change beliefs or attitudes after reading information about contentious topics, they tend to mis-remember their initial beliefs or attitudes (Wolfe & Williams, 2018). Specifically, people have a strong tendency to recollect that their past beliefs are more similar to their current beliefs than they really are. This finding is often interpreted as an indication that current beliefs are salient at the time of recollection, and that their salience influences the recollection process. It is also possible that current beliefs are themselves influenced by information that is salient at the time they are stated. Wolfe et al., (2014) found that reminders of past beliefs following belief change influenced reporting of current beliefs. This notion that beliefs are constructed in context also derives in part from recent research on attitudes (Schwarz, 2007). Furthermore, Payne and colleagues have argued that results for the Implicit Association Test are unstable across test-retest trials because attitudes are partially influenced by the social or environmental context in which a person resides at the time of test (eg. Payne, Vuletic, & Lundberg, 2017).

In this experiment, subjects read a text that was consistent or inconsistent with previously stated beliefs on the topic of gun control effectiveness. Next, subjects verified their previously stated beliefs, and the gun control belief they verified was either accurate, or the opposite of what they had reported. The misinformation aspect of the experiment is modeled partly on a deception study by Hall, Johansson, and Strandberg (2012). Finally, subjects reported their current beliefs. If beliefs are constructed partly from salient information at the time they are reported, then manipulation of people's memory of their past beliefs may influence what they believe at the moment.

### **Method**

325 subjects participated. In a prescreening survey at a mid-sized university in the midwestern United States, undergraduates reported their initial belief about gun control effectiveness and a variety of control topics on a 9-point scale. Three to 10 weeks later, those who considered gun control ineffective (1-3 rating) and effective (7-9 rating) were invited to participate in the study.

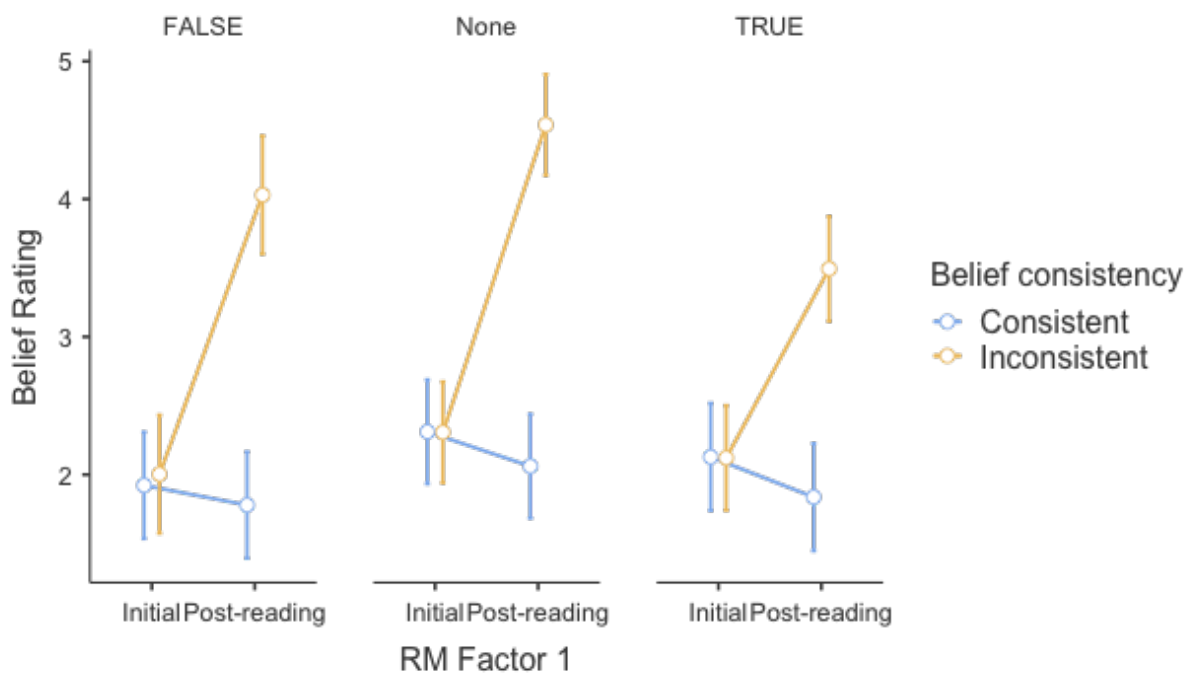
In the study, subjects read either a “Pro” text that presented arguments and evidence supporting the position that gun control is effective, or a “Con” text that presented the opposite. Both texts are approximately 2,200 words, address similar topics, and clearly articulate evidence-based arguments. Half the subjects read a belief consistent (eg. believer reading the Pro text) and half a belief inconsistent text.

After reading the text and a short break, subjects verified their responses to the prescreening survey. The cover story was that prescreening responses needed to be matched with their current responses to ensure the accuracy of our data. However, the true purpose of the verification task was to subtly expose subjects to their actual initial belief or a false belief that was opposite of their actual initial belief. Each response was separately verified as true or false by the subjects. They also verified demographic information and belief ratings for control topics that were reported during the pre-screening. In sum, one group verified their initial belief rating, another group verified a rating that was the opposite of their initial rating, and the third group verified other beliefs, but not gun control. Next, subjects reported their current beliefs about gun control and the control topics, then wrote a 250 word position essay in which they stated and explained their gun control beliefs.

## **Results**

For the verification task, subjects who verified their true initial belief responded affirmatively 91% of the time. Subjects who verified a false initial belief responded affirmatively 80% of the time. Thus, subjects tended to accept the misinformation about their initial beliefs as valid.

A mixed-effects ANOVA examined text belief consistency (consistent, inconsistent) x belief rating (initial, post-reading) x belief feedback (true, false, none). The predicted two-way interaction between belief consistency and belief rating was significant,  $F(1, 288) = 113.22$   $p < .0001$ ,  $\eta_p^2 = .28$ , indicating that subjects changed beliefs more after reading a belief inconsistent than a belief consistent text (See Figure 1). The three-way interaction was not significant,  $F(2, 288) = 1.54$ .



*Figure 1.* Initial and post-reading belief ratings as a function of whether their verified initial beliefs were true, false, or initial beliefs were not verified. Note: higher scores indicate more moderate ratings.

## **Discussion**

The current findings replicate previous research showing that subjects change beliefs about gun control effectiveness after reading a text that is inconsistent with those beliefs. Moreover, our manipulation check revealed that 80% of subjects in the misinformation condition were unaware that they had been given false feedback. Compared to the 91% who verified their initial belief in the accurate condition, this result suggests beliefs are somewhat flexible, and that many subjects are not fully aware of their initial beliefs.

Our primary question is whether verifying an initial belief that is accurate or inaccurate influences the subsequent construction of a current belief. We do not have significant evidence to support this hypothesis at this point, but data analyses are ongoing.

## References

- Hall, L., Johansson, P., & Strandberg, T. (2012). Lifting the veil of morality: Choice blindness and attitude reversals on a self-transforming survey. *PLoS ONE*, 7(9), 8.  
<https://doi.org/http://dx.doi.org/10.1371/journal.pone.0045457>
- Payne, B. K., Vuletich, H. A., & Lundberg, K. B. (2017). The bias of crowds: How implicit bias bridges personal and systemic prejudice. *Psychological Inquiry*, 28(4), 233-248.  
<https://doi.org/http://dx.doi.org/10.1080/1047840X.2017.1335568>
- Schwarz, N. (2007). Attitude construction: Evaluation in context. *Social Cognition*, 25(5), 638-656. <https://doi.org/http://dx.doi.org/10.1521/soco.2007.25.5.638>
- Wolfe, M. B. & Williams, T. J. (2018). Poor metacognitive awareness of belief change. *Quarterly Journal of Experimental Psychology*, 71, 1989-1910.
- Wolfe M. B., Williams, T. J., Geers, C. G., Hessler, J. K., & Simon, I. D. (August, 2014). *Belief change and memory for previous beliefs after comprehension of contentious scientific information*. Paper presented at the 24th conference of the Society for Text & Discourse, Chicago, IL.