

Background

- The understanding of possibility is influenced by several characteristics.
 - Possibility judgments are based on causal knowledge and memory strategies¹
 - People judged events as possible if they can remember something similar, thus drawing on a similarity heuristic²
 - Religious exposure influences perception of possibility in children³
- We believe judgment of possibility will be slower when there is a conflict between knowledge of possibility and a feeling of familiarity.

Method

Participants:

- N = 29 English-speaking adults in the United States ($M = 41.8$ years; Range = 22-63)
 - 21 women, 6 men, 2 did not respond
 - 62% White, 17% Black, 17% Asian, 3% More than one race

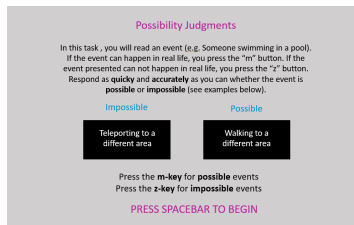
Method:

- The stimulus events were created in sets of three: Each set includes a possible, improbable, and impossible event.
- Half of the sets included an impossible event that paralleled a religious event from the Bible; the other half included non-religious impossible events.

Possible	Improbable	Impossible
Building a house out of bricks	Building a house out of cloth	Building a house out of air
Walking on the sidewalk	Walking on a wire	Walking on top of water

Participants completed a possibility judgment task and a scale of religious affiliation and activity

- Participants read an event one at a time and chose whether the event was possible or impossible; reaction time was recorded.



Hypotheses

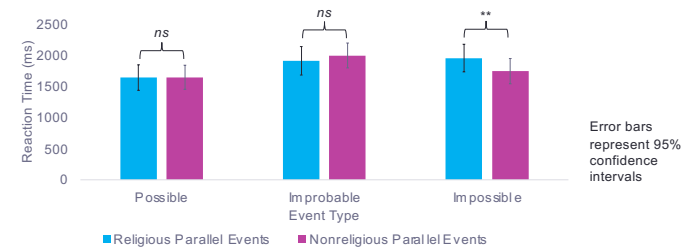
- A conflict between knowledge of possibility and the feeling of familiarity with the religious-parallel events will slow the reaction time of possibility judgments.
- Religious adults may differ from nonreligious adults in their possibility judgments.

References

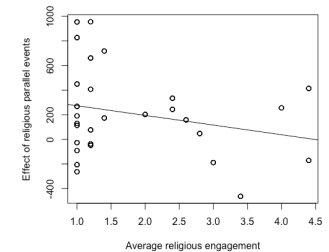
- ¹ Goulding, B. W. & Friedman, O. (2021). Possibility judgments may depend on assessments of similarity to known events. *Proceedings of the Annual Meeting of the Cognitive Science Society*, 43.
- ² Brigard, F. D. et al. (2021). Perceived similarity of imagined possible worlds affects judgments of counterfactual plausibility. *Cognition*, 209.
- ³ Corriveau, K. H. et al., (2013). Judgments about fact and fiction by children from religious and nonreligious backgrounds. *Cognitive Science*, 39(2),353-382.

Results

- A within-subjects ANOVA revealed a significant main effect of event type: $F(2, 56) = 19.54, p < .001$.
 - Participants were fastest to respond to possible events ($M = 1641.76$ ms), then impossible events ($M = 1847.33$ ms), and slowest for improbable events ($M = 1951.15$ ms).
- There was also a significant interaction between event type and religious status: $F(2, 56) = 5.12, p = .009$.
 - For impossible events only, participants were significantly slower to respond to religious-parallel events than to nonreligious events: paired $t(28) = 3.15, p = .004$.



- There was a non-significant correlation between participants' religious activity and the effect of religious events (RT for impossible/religious – RT for impossible/nonreligious): $r = -.24, p = .205$.
- There was no significant difference in the effect of religious events between participants who identified as Christian ($n = 12$) and those who did not ($n = 17$): $t(27) = 0.07, p = .945$



Conclusion

- Participants took longer to respond to the impossible events that paralleled events from the Bible
- This supports the hypothesis that a conflict occurs between knowledge of possibility and the feeling of familiarity when making possibility judgments
- However, religious activity and affiliation did not affect reaction time of possibility judgments.
- In the future, we plan to:
 - Further explore the effect that religious exposure has on adults' possibility judgments

Acknowledgements

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