

Naming pictures slowly facilitates memory for their names

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Background

Research shows that naming pictures, as opposed to reading their names, improves memory for pictures [1]. It is unclear, however, whether this memory benefit (the generation effect) is associated with conceptual and lexical or with visual representations of the pictures.

Additionally, generation is typically more time consuming than reading or repetition. Could processing time be driving the memory benefit associated with generation?

Research questions

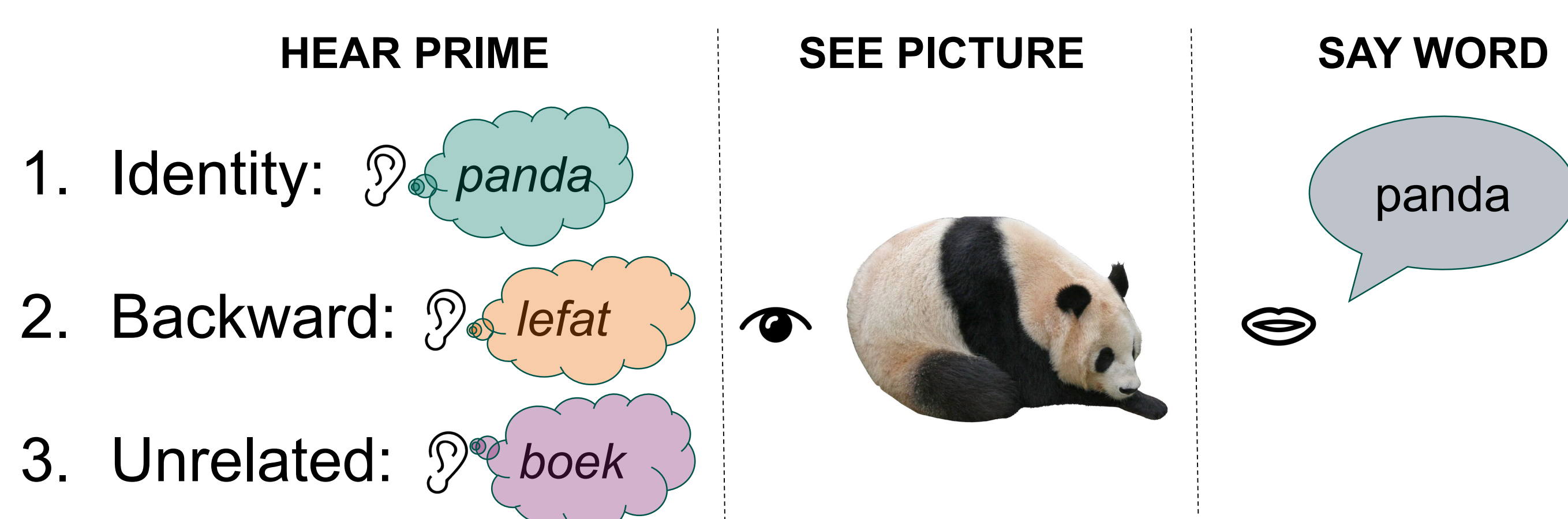
- Does generation benefit lexical representations?
- Does processing time predict memory?

Methods (51 👤, 246 🐼)

This experiment consisted of two phases:

Study phase

→ a **picture naming** task



The unrelated condition was included for two reasons:

1. To make the picture unpredictable. Otherwise, looking at the picture would not be necessary to name it. This is a problem due to the **picture superiority effect** [2], the finding that pictures are remembered better than words.
2. To create interference from the auditory prime. Increased effort in the unrelated condition was expected to lead to longer processing times than in the backward condition and, potentially, to an additional memory benefit.

Test phase

→ a **Yes/No recognition memory** test conducted online a day later.

Participants were asked to recognise the **names** of the pictures they had seen the day before.

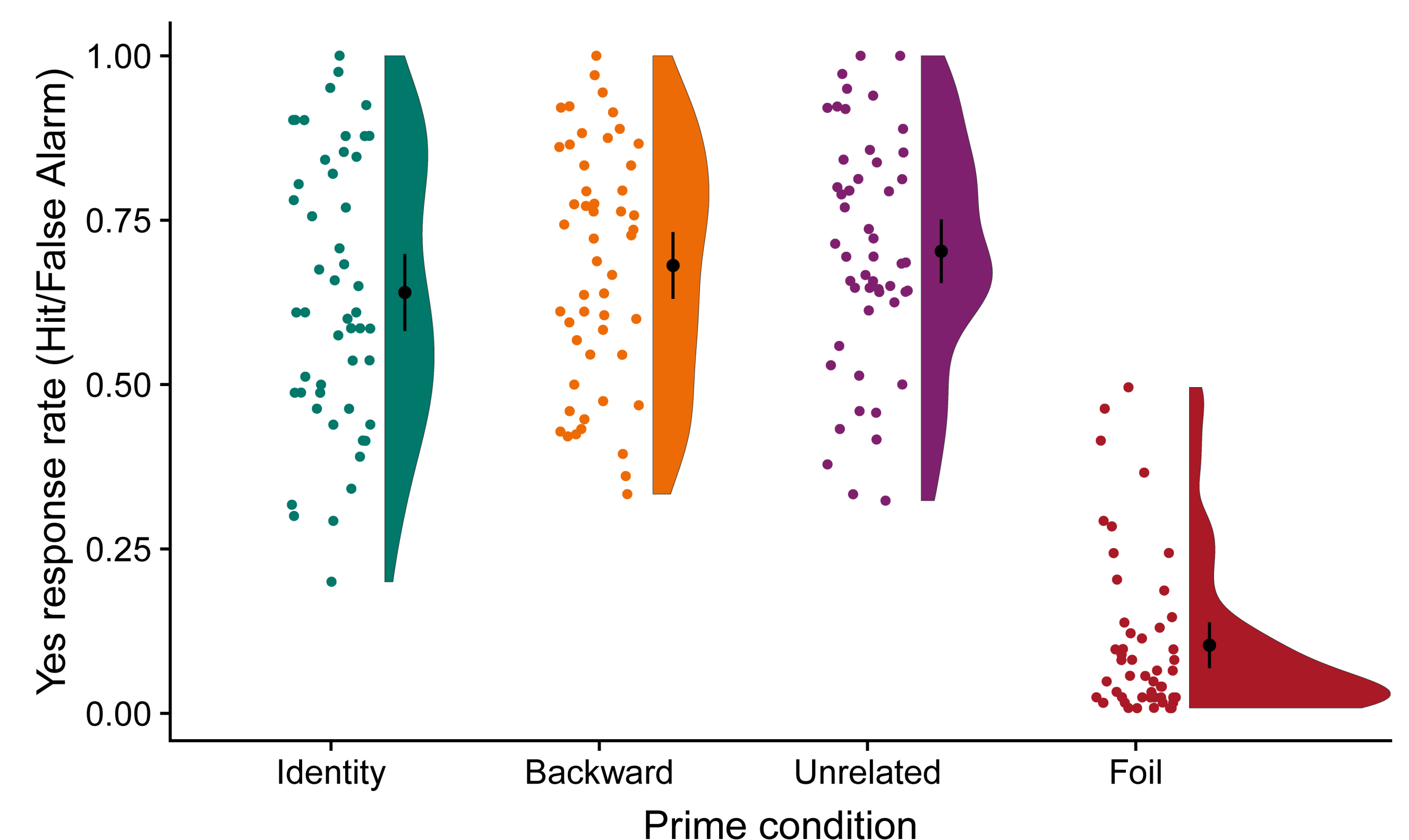
REFERENCES: [1] Zormpa, Brehm, Hoedemaker, & Meyer. (2019). *Memory*, 27. [2] Paivio, Rogers, Smythe. (1968). *Psychonomic Science*, 11.

Icons created by Alex Fuller, ArtLumica, ProSymbols, and Andrea Harris from Noun Project.

Results

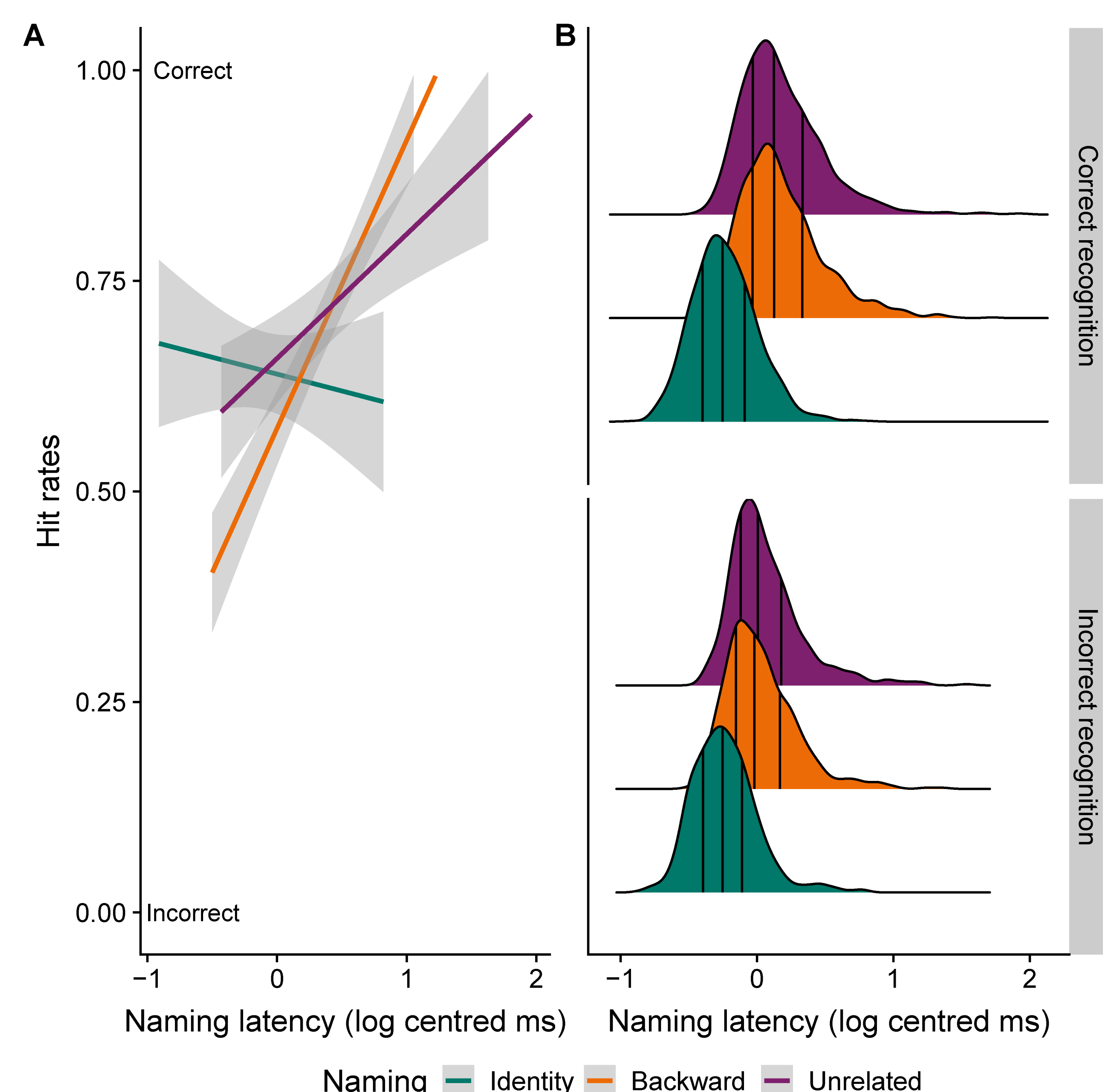
Better memory for generated words

- Generated words (backward & unrelated) were remembered 5% better than repeated ones (identity).
- Words in the unrelated condition had no memory advantage over words in the backward condition.



Naming latency predicts memory

- Naming latency was a strong predictor of memory ($\beta = 1.26$, $p < 0.001$).
- Increased processing time during lexical retrieval boosted the generation effect ($\beta = 2.30$, $p < 0.001$).



Conclusions

- **Generation improves memory by strengthening lexical representations.**
- **Longer processing improves memory during generation, showing the importance of conceptual processing for the generation effect.**