

EPISODIC-SEMANTIC LINKAGE FOR \$1000:

Episodic memory bolsters acquisition of new semantic knowledge in trivia experts

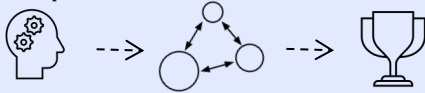
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1. ECCO Lab, Emory University; 2. Crockett Lab, Princeton University; 3. Aly Lab, Columbia University

INTRODUCTION

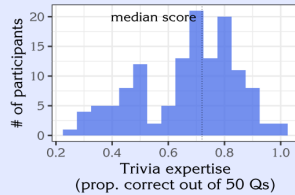
Semantic and episodic memory are closely linked¹, especially for complex general knowledge (trivia)²

Do trivia experts use episodic memory to learn and retain complex semantic info?

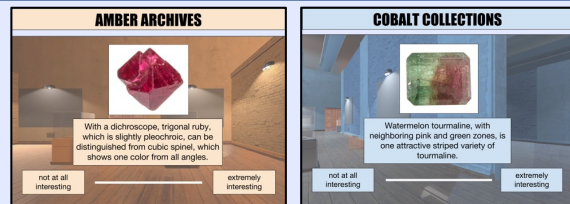


DEMOGRAPHICS

- 133 adult participants (mean = 40 years)
- Gender: F = 43, M = 86, GQ = 2, n/a = 2
- Expertise = score / 50 general knowledge questions



ENCODING



RETRIEVAL

Fact recall Image recognition Museum recognition

x80

What gemstone commonly exhibits multicolor striping, including a pink and green "watermelon" pattern?

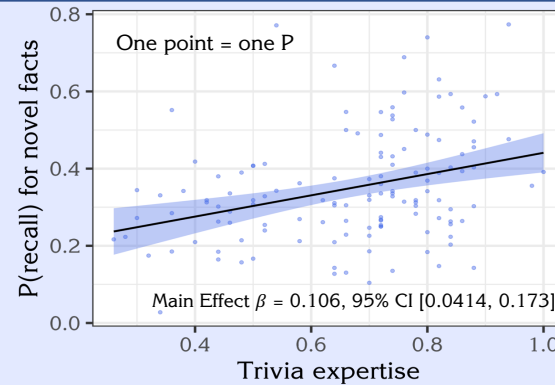
x80

x80

Watermelon tourmaline, with neighboring pink and green zones, is one attractive striped variety of tourmaline.

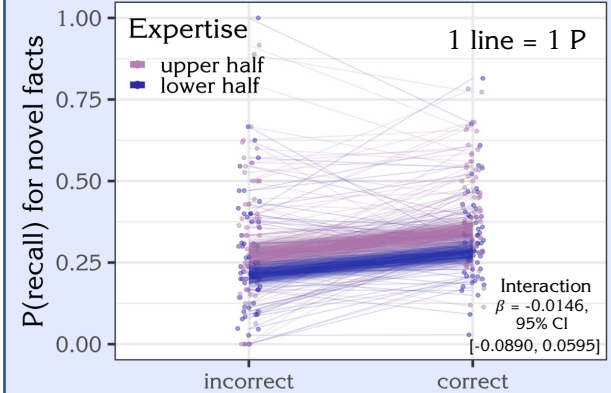
Amber Archives Cobalt Collections

FACT RECALL BY EXPERTISE



trivia expertise predicts learning of novel facts

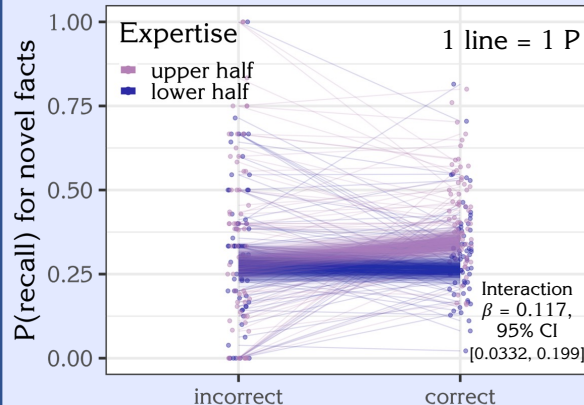
FACT RECALL BY MUSEUM MEMORY



Forced-choice museum memory

across expertise, museum memory is linked to fact recall

FACT RECALL BY PHOTO MEMORY

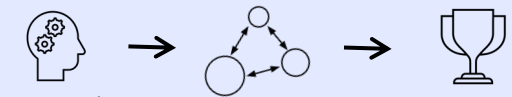


Forced-choice photo memory

trivia experts, but not non-experts, link memories for photos and facts

CONCLUSION

Trivia experts (vs. non-experts) better link unique perceptual details to semantic knowledge



Open questions:

- Does episodic memory boost access to semantic knowledge or vice versa?
- Do trivia experts show stronger connectivity between hippocampus and anterior temporal lobe?

REFERENCES

1. Renoult, L., Irish, M., Moscovitch, M., & Rugg, M. D. (2019). From Knowing to Remembering: The Semantic-Episodic Distinction. *Trends in cognitive sciences*, 23(12), 1041–1057. <https://doi.org/10.1016/j.tics.2019.09.008>
2. Pereverseff, R. S., & Bodner, G. E. (2020). Comparing recollection and nonrecollection memory states for recall of general knowledge: A nontrivial pursuit. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 46(11), 2207–2225. <https://doi.org/10.1037/xlm0000941>