

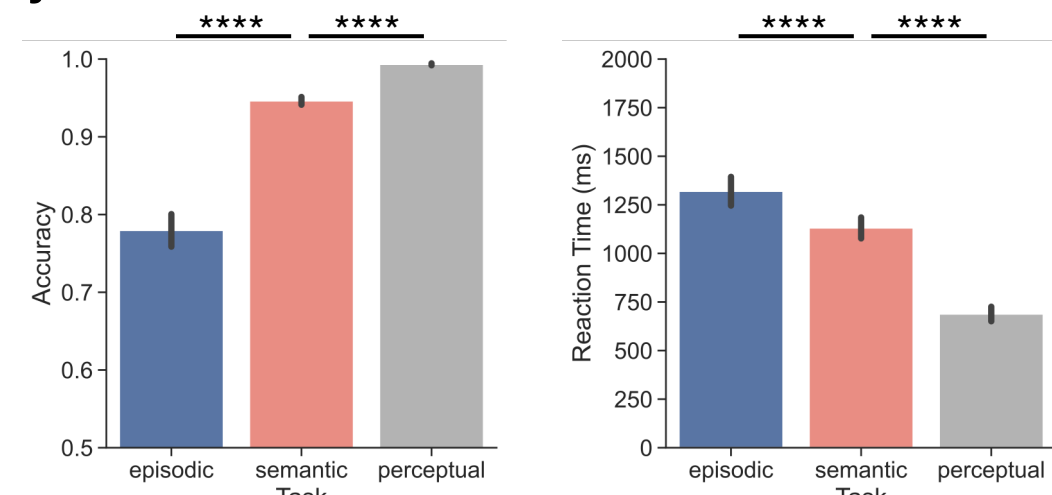
Introduction

- The retrieval brain state can be decoded from whole-brain activity patterns (Long & Kuhl, 2019)
- The retrieval state was originally proposed to specifically support episodic retrieval (Tulving, 1972; Herron & Wilding, 2004)
- The retrieval state may instead reflect a content-general internal attention process (Chun, Golomb, & Turk-Browne, 2011; Logan, Cox, Annis, & Lindsey, 2021; Cleary et al., 2025)

Hypothesis

- Both episodic and semantic demands recruit the retrieval state
- Alternative: Only episodic demands recruit the retrieval state

Behavioral performance is modulated by task



Accuracy increases and reaction times decrease across the three tasks from **episodic** to **semantic** to **perceptual**

References

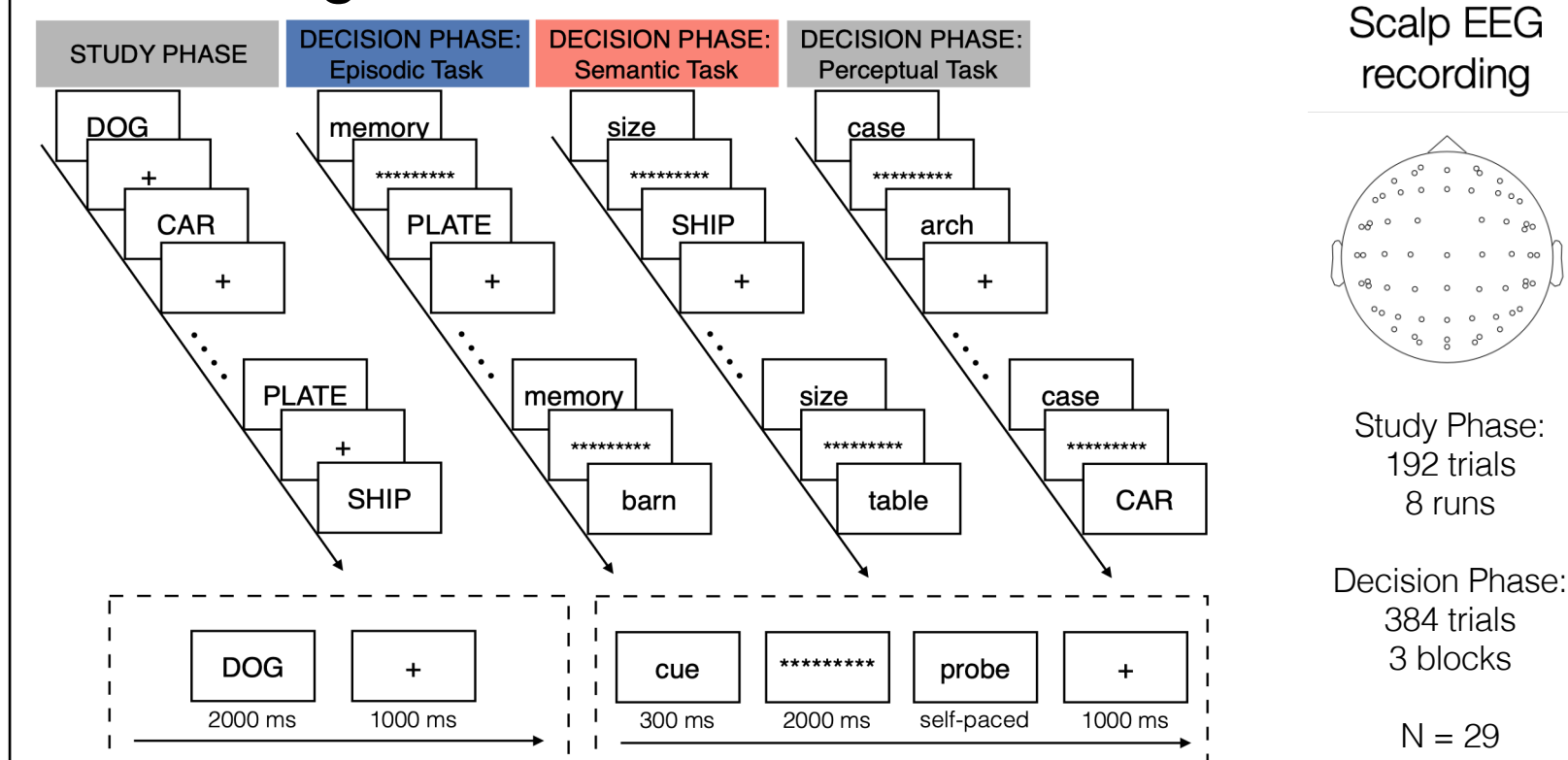
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Acknowledgements

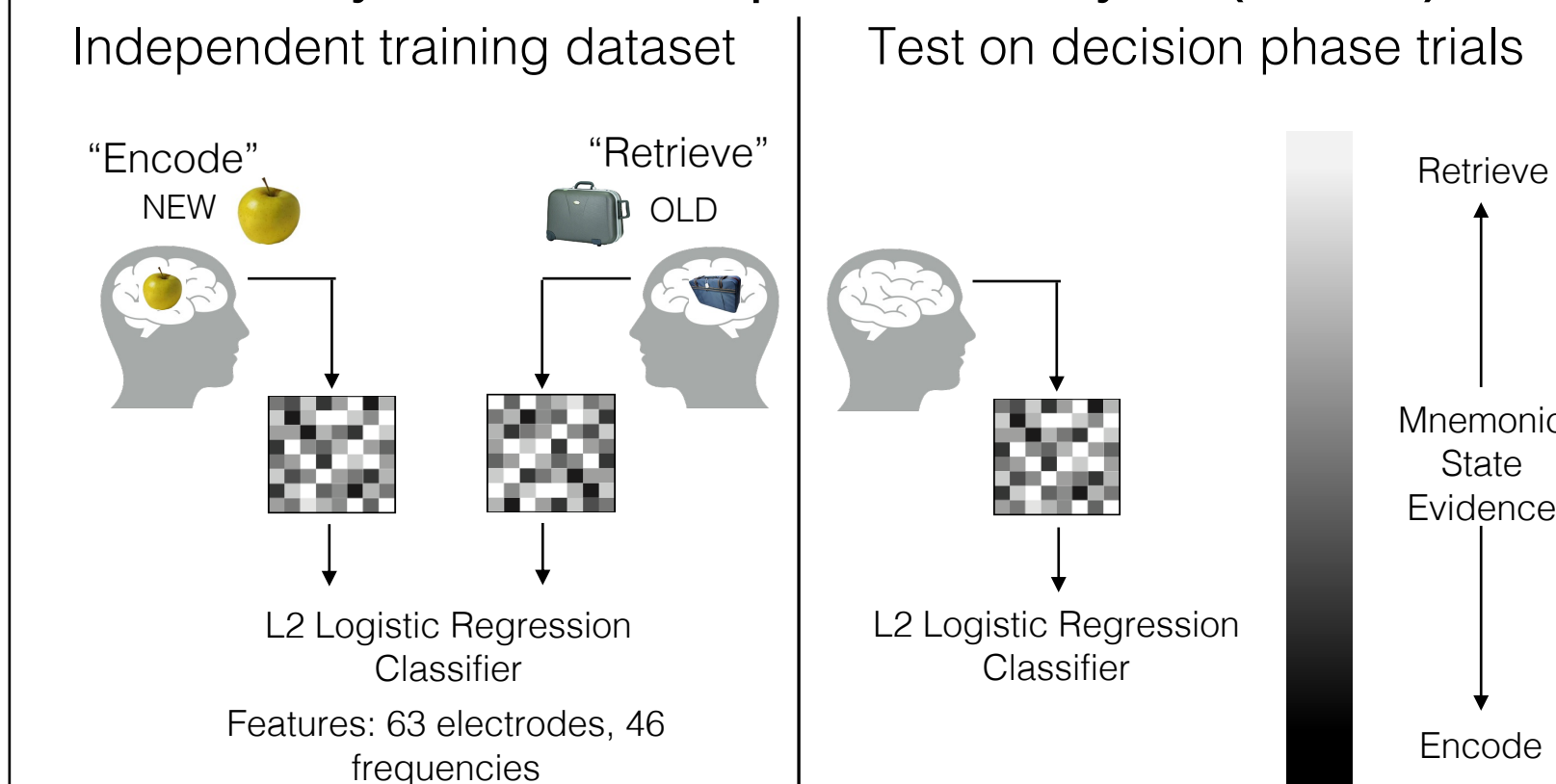
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* p < 0.05, ** p < 0.01, *** p < 0.001, **** p < 0.0001

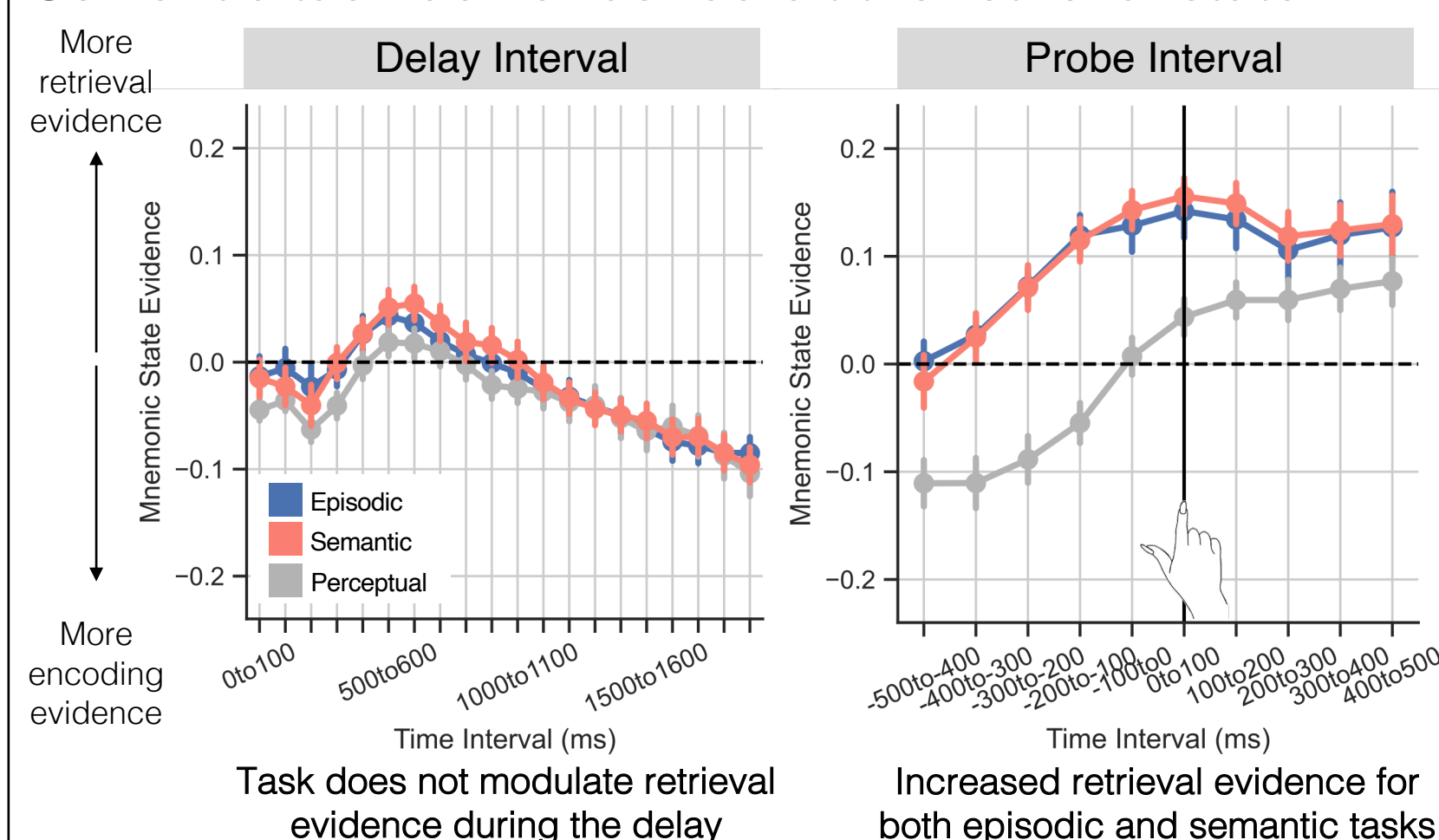
Task Design



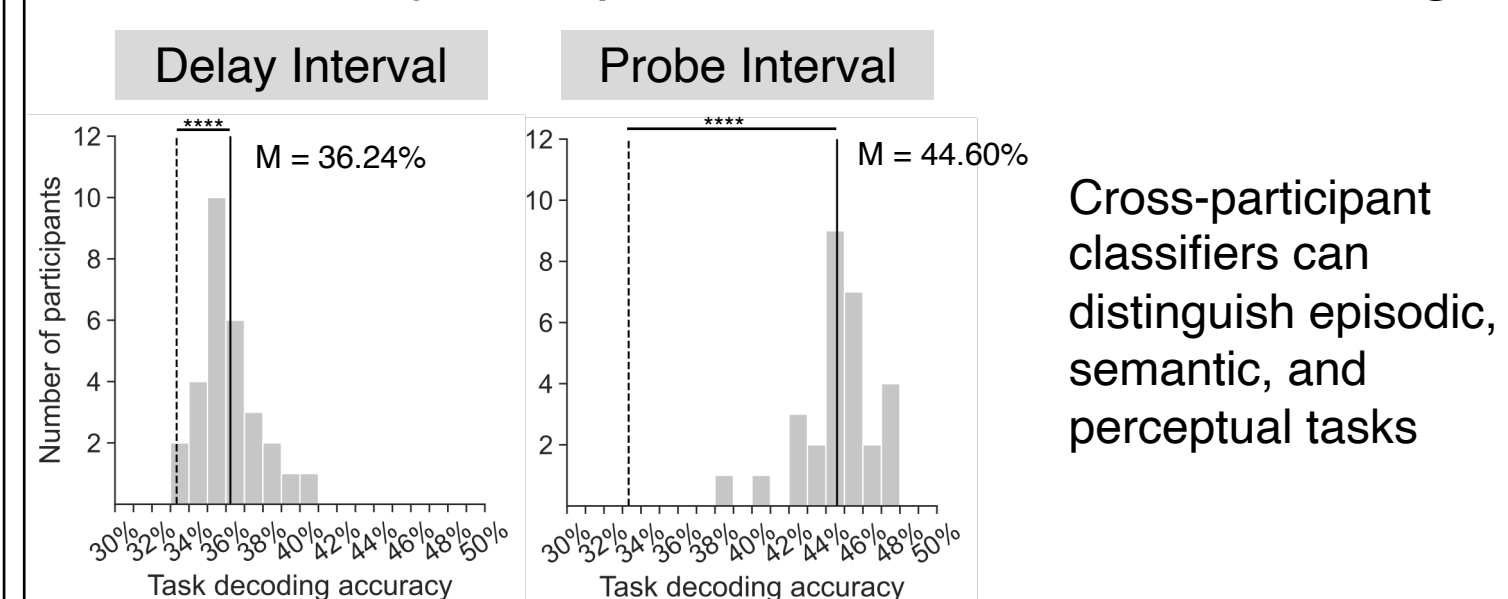
Cross-study multivariate pattern analysis (MVPA)



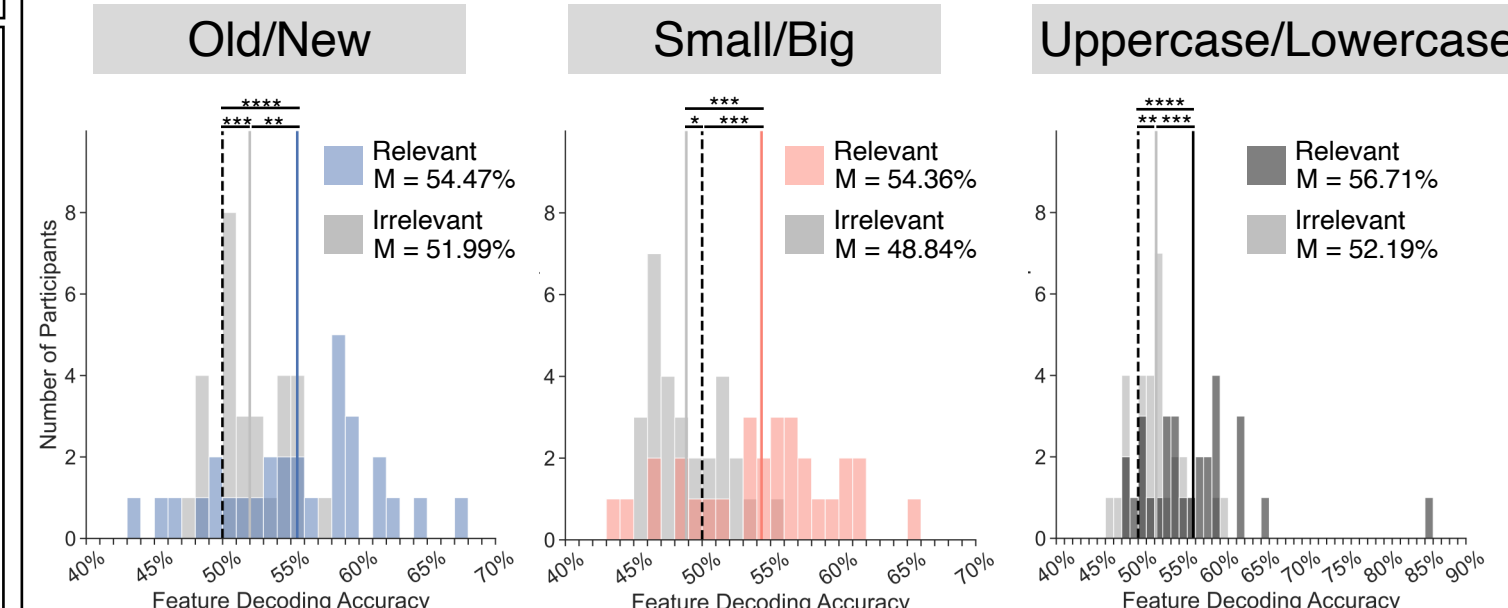
Semantic task demands recruit the retrieval state



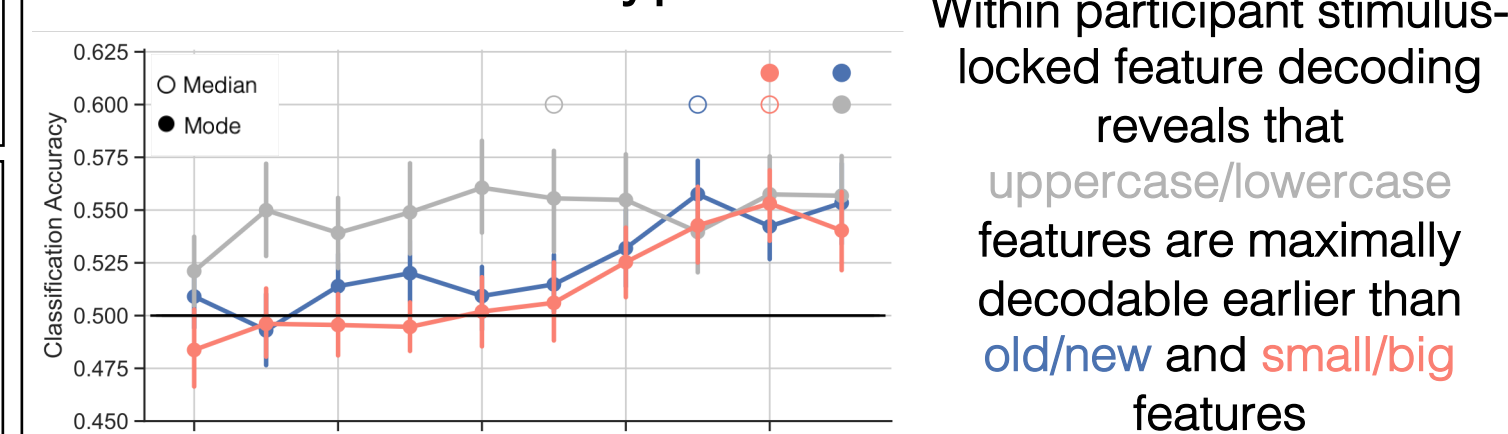
Robust delay and probe interval task decoding



Probe interval feature decoding is modulated by task relevance



Feature information unfolds over time as a function of feature type



Summary

- The retrieval state is equally engaged for episodic and semantic retrieval, suggesting that the retrieval state reflects a content-general internal attention process
- Content-specific task and stimulus features can be successfully decoded

Future directions

- Explore the relationship between the encoding state and externally directed attention