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Introduction

Recent memory decisions can bias subsequent mnemonic processing (Duncan et al., 2012)

This suggests that encoding/retrieval states linger over time

Current Study

Can encoding/retrieval biases induced by recent experience be decoded from neural activity patterns? (Richter et al., 2016)

Do neural measures of encoding/retrieval biases predict whether new events will later be remembered?

Methods

Exposure task: Pleasantness rating



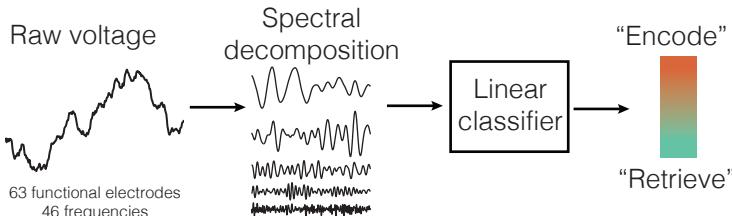
Continuous recognition: Old/new?



Final test: Choose the item you've seen before



Encode/Retrieve task: Encode current item or retrieve past item

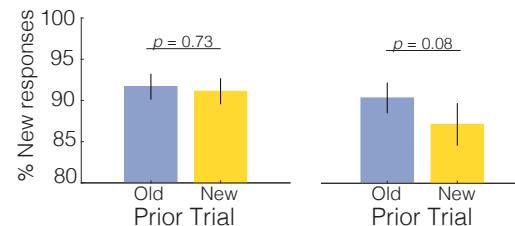


References

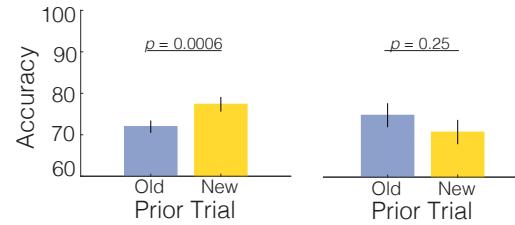
- Duncan et al. (2012) Memory's penumbra: Episodic memory decisions induce lingering mnemonic biases. *Science* 337(6093), 485-487
- Long & Kuhl. Decoding the tradeoff between encoding and retrieval to predict memory for overlapping events. *Submitted*
- Richter et al. (2016) Predicting the integration of overlapping memories by decoding mnemonic processing states during learning. *NeuroImage* 124, 323-335

Immediate influence of prior trials

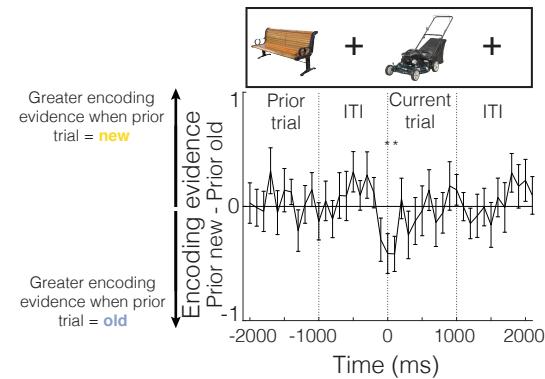
Behavioral study (N=24) EEG study (N=23)



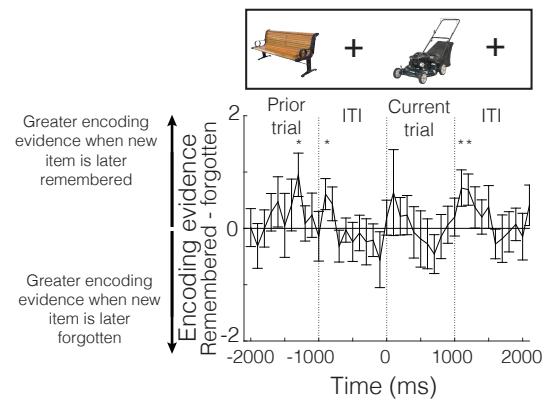
Influence of prior trials on subsequent memory



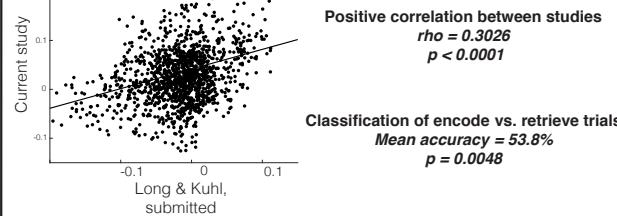
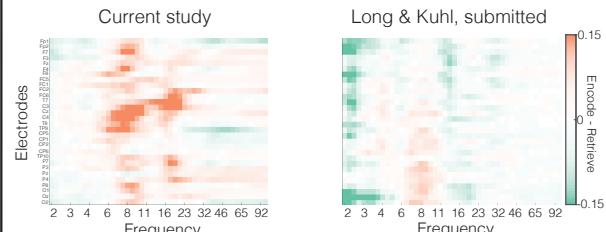
Does prior trial status influence EEG measures of encoding/retrieval states?



Do EEG measures of encoding/retrieval states predict subsequent memory?



Encoding vs. retrieval states



Summary

Recent memory decisions influence whether subsequent events are remembered

Encoding/retrieval biases are reflected in distributed patterns of EEG activity

Current study does not (yet) link recent memory decisions to EEG encoding/retrieval biases

Modest evidence linking EEG encoding bias to subsequent memory for new events

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