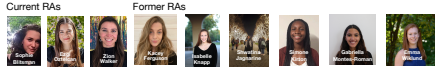# Slide 1

Using contexts defined by temporal structure to guide memory

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Slide 2

What is the impact on memory of having a consistent statistical structure at encoding that is recapitulated at retrieval?

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Slide 3
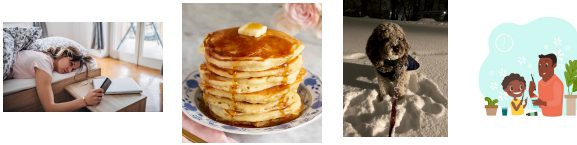
Why might statistical regularities influence memory?

- reinstating an encoding context benefits and structures memory retrieval (Kahana, Howard, Polyn, Roediger, & Byrne, 2008; Morris, Bransford, and Franks, 1977; Tulving and Thomson, 1973)

- statistical structure shapes brain activity and guides learning and prediction in the service of memory retrieval (Inhoff [unpublished dissertation], 2018; Miyashita, 1988; Saffran, Aslin, & Newport, 1996; Schapiro, Kustner, & Turk-Browne, 2012; Schapiro et al., 2013; Sherman and Turk-Browne, 2020; Turk-Browne, 2012)

- can statistical structure, when imposed during encoding and reinstated at retrieval, serve as a context that facilities encoding and retrieval?

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Slide 4

encoding

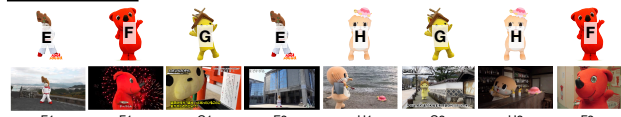What is the dominant color in the mascot?
black   red   green   yellow

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Slide 5

encoding

ordered condition

A1   B1   C1   D1   A2   B2   C2   D2

random condition

E1   F1   G1   E2   H1   G2   H2   F2

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Slide 6

item recognition

sure new   maybe new   guess new   guess old   maybe old   sure old

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Slide 7
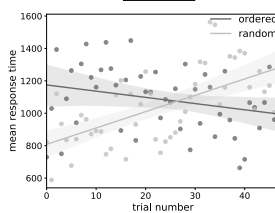
item recognition

old item   new item

ordered condition

A_new   B_new   C2   D_new   A2   B1   C_new   D1

random condition

H1   G_new   H_new   E1   G1   E_new   F1   F_new
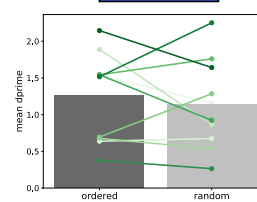
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Slide 8

behavioral results

encoding

item recognition

N = 10, online data collection

Slide 9

future experiments

- what if there is structure at encoding but not at retrieval? how about if there is structure at retrieval but not encoding? is a match between encoding and retrieval structure the critical feature? (e.g., Yazin, et al., 2020)

- here, each item is both predictive *and* predictable. how does this relate to previous findings showing memory differences for predictive versus predictable information? (e.g., Sherman & Turk-Browne, 2020)

- what is the impact of having different encoding questions that interrupt the statistical regularities in the ordered condition? might there be different types of event boundaries between mascots [ABCD/ABCD] vs. at transitions between encoding questions [ABCD/ABCD] (e.g., DuBrow & Davachi, 2013; 2016; Polyn, Norman, & Kahana, 2009; Zacks & Swallow, 2007)

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