Motivational Effects on Item & Source MemoryEncoding during Cognitive Control Performance
Lyneé A. Alves¹, Tobias Egner², R. Alison Adcock² & Kimberly S. Chiew¹
¹Department of Psychology, University of Denver; ²Center for Cognitive Neuroscience, Duke University

Introduction
Memory is an adaptive process that allows us to use past decisions to guide future behavior. Cognitive control gives us the ability to flexibly regulate the thoughts and actions behind those decisions. Memory and cognitive control have traditionally been studied separately, but memory encoding may vary with cognitive control state at the time of encoding, with memory benefit for task-relevant stimuli encoded under conflict vs. non-conflict.

We aimed to test incentive effects on cognitive control as well as downstream item and source long-term memory (LTM).

Predictions: Reward incentive would lead to: 1) greater accuracy during Stroop task, 2) better LTM for task-relevant stimuli.

Methods
N = 37 healthy young adults (ages 18-35 years)
22 Female

Participants underwent two testing sessions, 24 hours apart

Day 1: Reward memory encoding
Familiarization - Saw all faces in Stroop task 3 times
Stroop - completed Stroop task making gender judgements
72 trials baseline block, 144 trials reward block (50% incentivized)
Task-relevant information: face
Task-irrelevant information: word label
Incidental information: colored border

Day 2: Memory retrieval
Recognition task (216 old faces, 216 new faces)

Results
Source Memory

Stroop Performance

Memory Performance

Item Memory

Source Memory

References

This research was funded by NIMH R15 MH117690-01

lynee.herrera@du.edu