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Debriefing for Study of Human Memory
IRB-FY2025-10338

Thank you for participating in our study!

In this study, we tested whether episodic memory (vivid recollection of specific events) supports working memory (short-term maintenance of information) under high cognitive demand, and whether the type of initial memory experience matters. You viewed everyday items and made responses in three tasks: 1-back, 2-back, and recognition. The 1-back created episodic memories by having you compare each item (some identical, some similar, some different) to the previous one. The 2-back tested working memory by having you compare items separated by two trials. Critically, some items in 2-back had been encountered in 1-back (allowing episodic memory support), while others were new (relying on working memory alone). We also varied whether similar pairs in 1-back appeared consecutively (explicit comparison) or separated (passive exposure). Finally, the recognition task tested episodic memory by having you indicate whether you had seen each item during the experiment. We recorded eye movements and pupil size to see if your brain replayed earlier memories. No participants were pre-selected using the Introductory Psychology Battery. This work helps us understand how we tell real things from similar look-alikes, how we connect new information to past experiences, and how memory supports our everyday perception.

For further reading: Beukers et al. (2021), Is Activity Silent Working Memory Simply Episodic Memory?

Related topics: episodic memory, working memory, memory reinstatement, pattern separation, mnemonic similarity task, n-back task

For advanced students: We hypothesize that participants will show higher accuracy and faster reaction times for lure rejection under high working memory load when pre-existing episodic memory is available compared to baseline conditions relying on working memory alone, with stronger effects when similar items were explicitly compared during encoding. We also expect episodic memory reactivation signatures in pupil and eye movement data. Independent variables: presence of episodic memory, type of initial experience (explicit comparison vs. passive exposure). Dependent variables: accuracy (lure rejection), reaction times, eye-tracking measures. Statistical analyses: linear mixed-effects models with random intercepts for participants.

Contact: If you have any questions about this research, please feel free to contact the experimenter at zihan.bai@nyu.edu or the Principal Investigator at miches05@nyu.edu

I feel that I have been adequately debriefed about the nature of the study. The investigator has explained the purposes of the research to me, and I feel that any questions I have asked were satisfactorily answered.

Participant's signature: _____ Date _____