Can individuals implement strategies to protect memories during retrieval against divided attention?

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Background

Divided attention during long-term memory (LTM) retrieval is disruptive for recall performance *(Craik et al., 1996; Fernandes & Moscovitch, 2000).*

Retrieval is suggested to be either automatically generated by retrieval cues *(Baddeley et al., 1984)* or is claimed to be under top-down control.

However, this control has been studied in terms of complete suppression or complete access (REF).

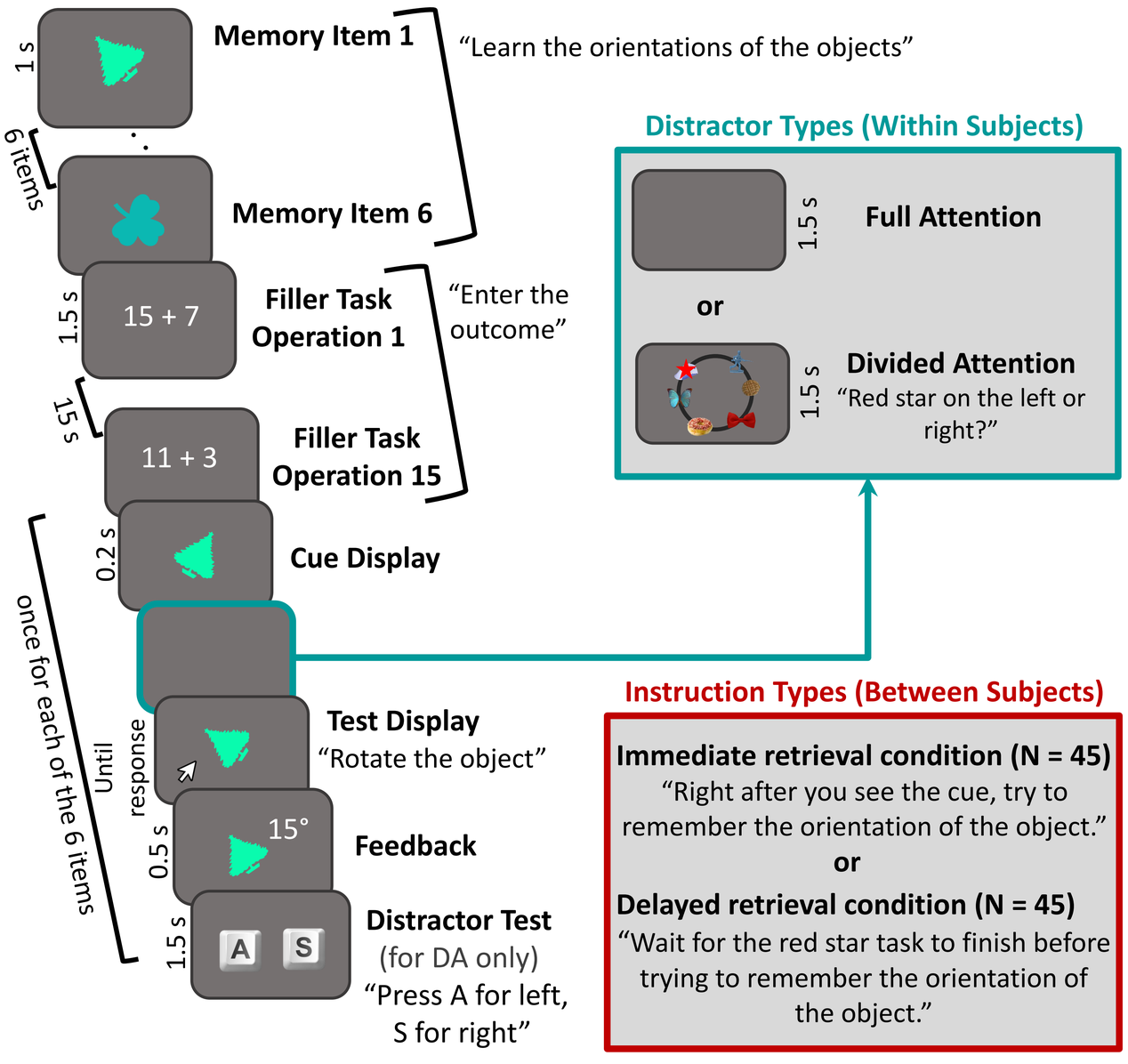
Here, we tested whether individuals can postpone retrieval to protect information against anticipated interference.

Divided Attention

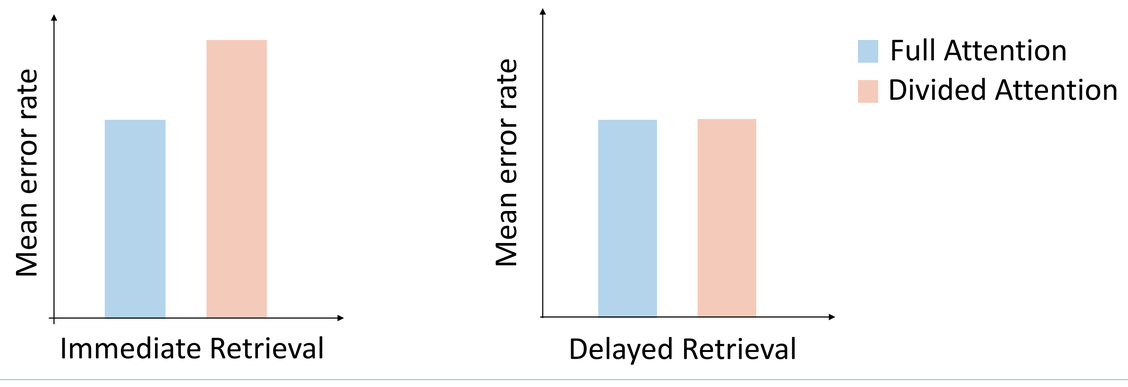
Postponing Retrieval

We investigated whether instructing participants to delay LTM retrieval until after anticipated distraction is over reduces the costs of divided attention on recall performance.

Methods and Expected Findings

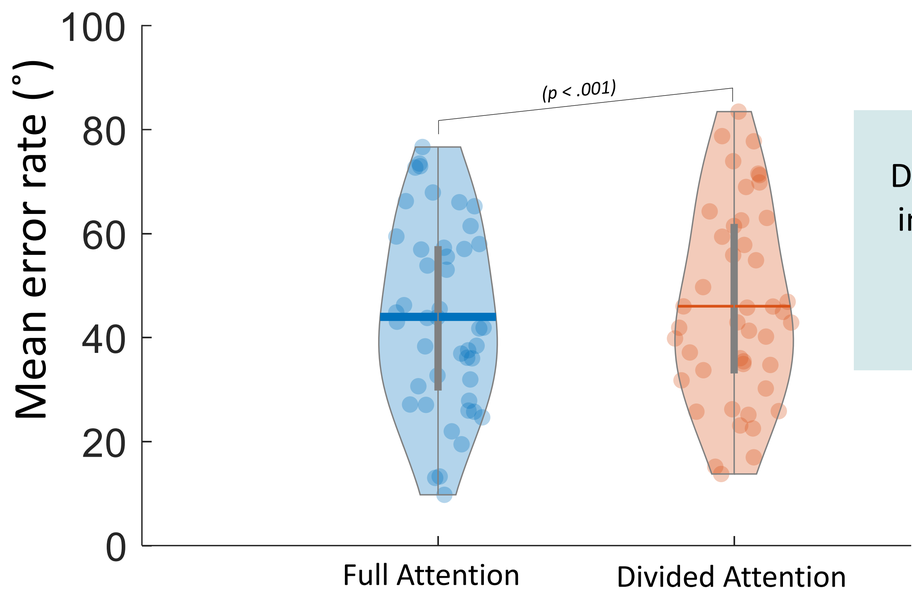


Expected Findings if Instructions to Postpone Retrieval are Effective



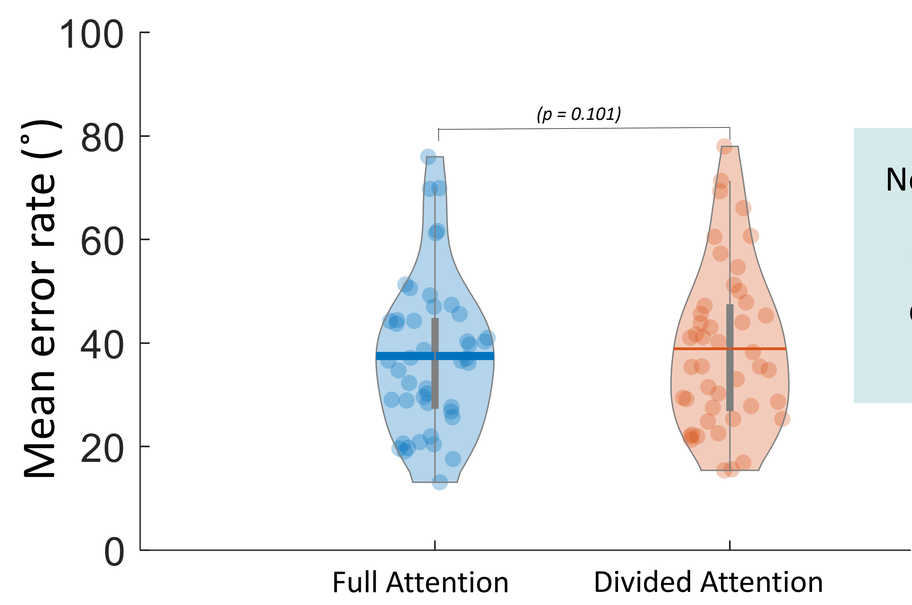
Results (N = 90)

Does Divided Attention Affect Immediate LTM Retrieval?



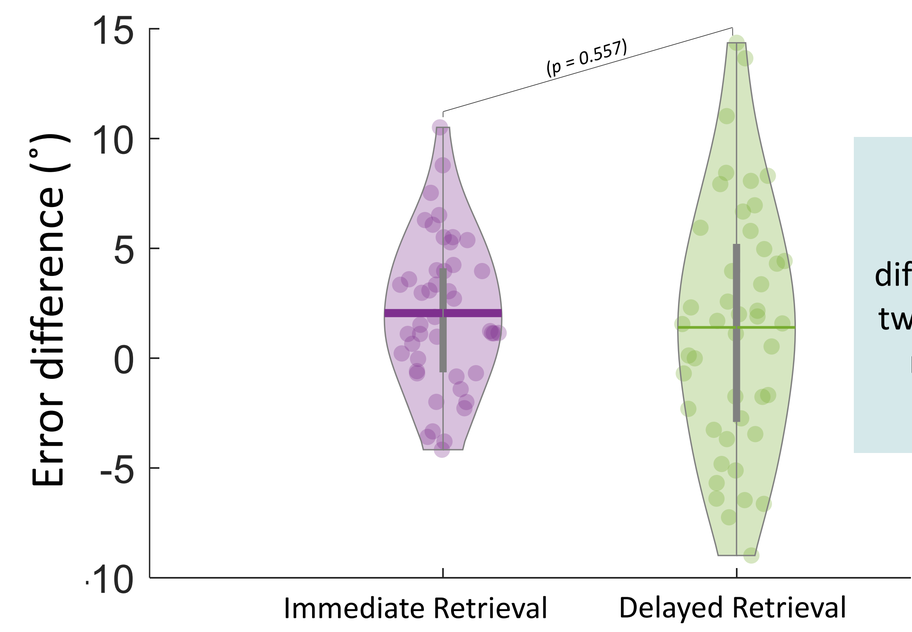
Divided attention impairs memory retrieval (BF = 114.68)

Does Divided Attention Affect Delayed LTM Retrieval?



No cost of divided attention with instructions to delay retrieval. (BF = 1.55)

Is the Cost of Divided Attention Different for Immediate vs. Delayed Retrieval?



The divided attention cost difference between two experiments is not significant. (BF = 3.352)

Conclusion

- Divided attention during long-term memory retrieval is detrimental to recall performance.
- DA costs were present despite the retrieval cue being re-presented at test.
- This provides evidence for retrieval requiring reencoding given that participants were not able to revive the original uninterrupted memory trace after DA.
- These results suggest that the participants cannot postpone retrieval, providing evidence for the automatic memory retrieval hypothesis.

Scan for references