

Reactivation of Long-Term Memories Competes with Ongoing Working-Memory Maintenance



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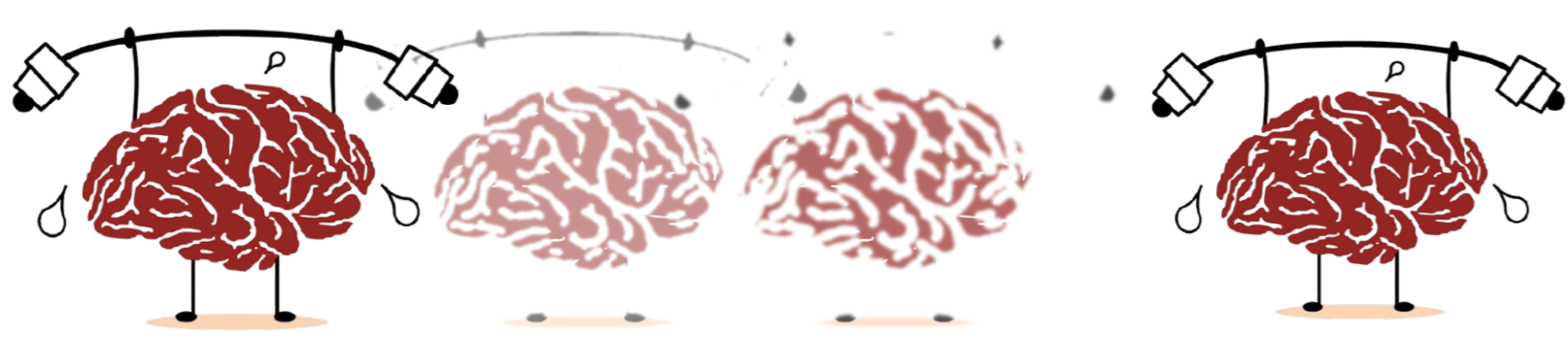
Background

Memories depart **active** working memory (WM) maintenance with prolonged exposure, and are handed over to **passive** long-term memory (LTM) traces instead.

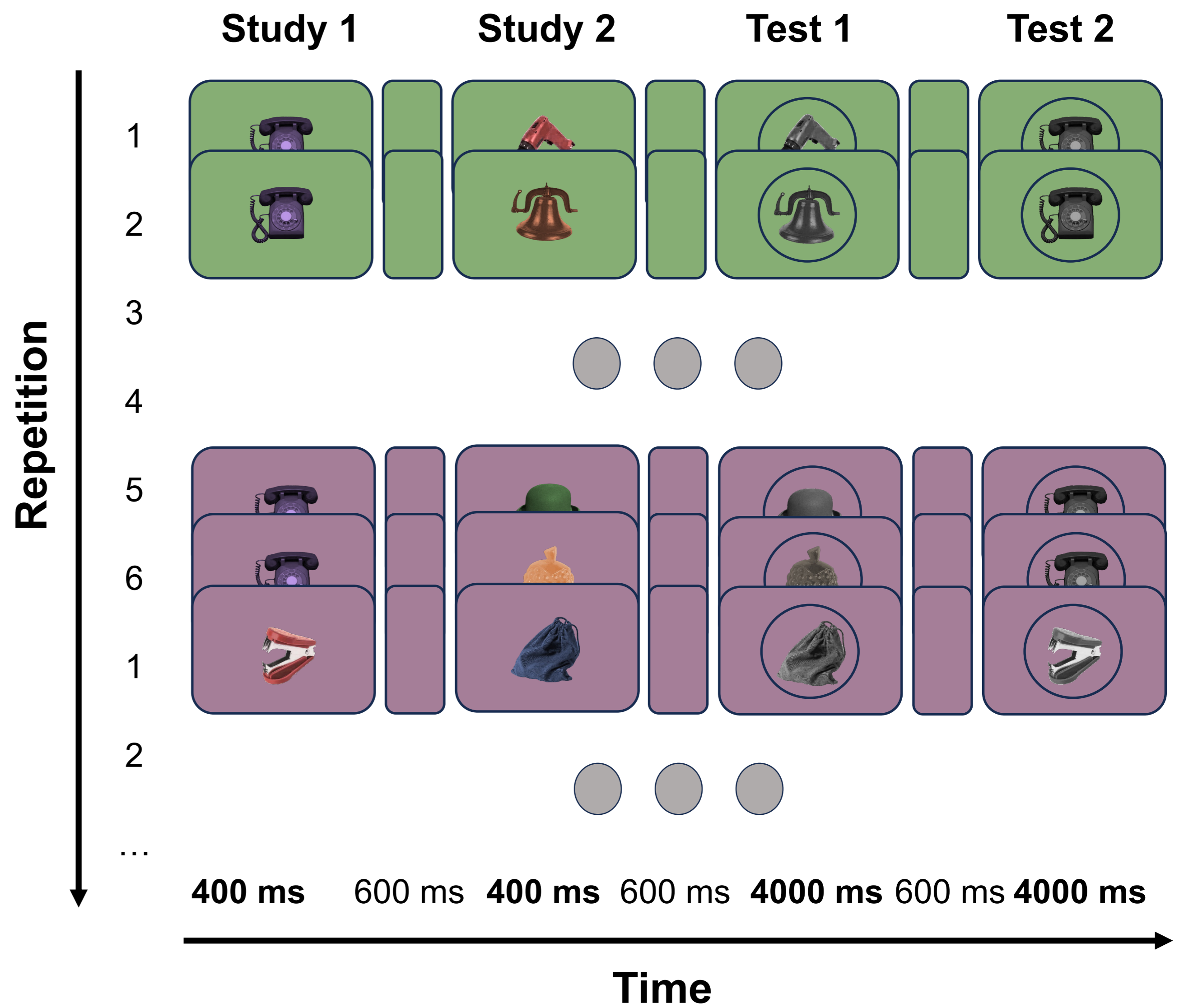
A change in the context associated with these offloaded memories can **reactivate** them in WM (Özdemir et al. 2024; Şentürk et al., 2024), possibly to be integrated with the new context (Günseli, 2026).

However, these items may **interfere** with other memoranda in WM, disrupting them by consuming WM resources.

Can LTM reactivation disrupt ongoing WM maintenance?

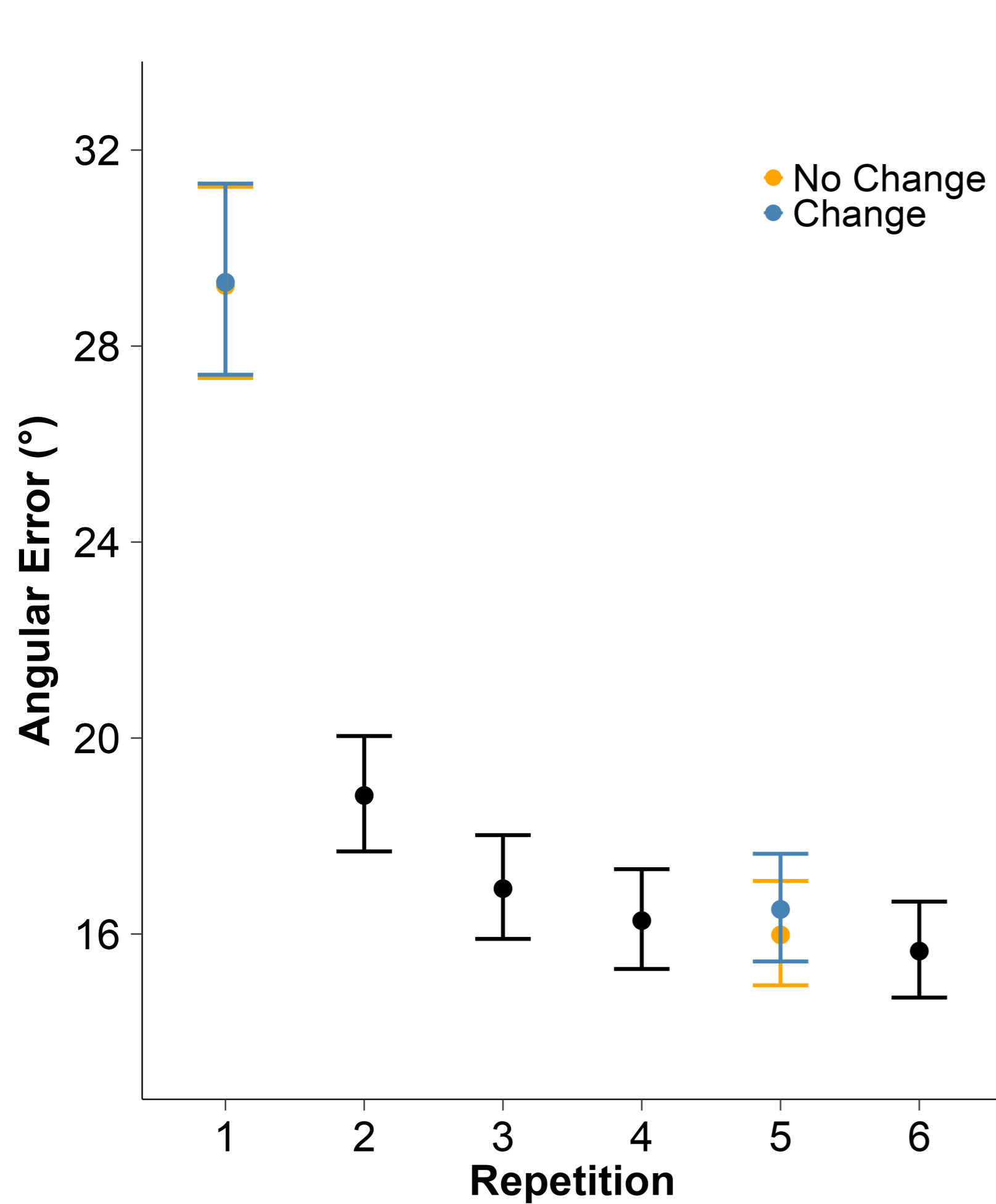


Procedure

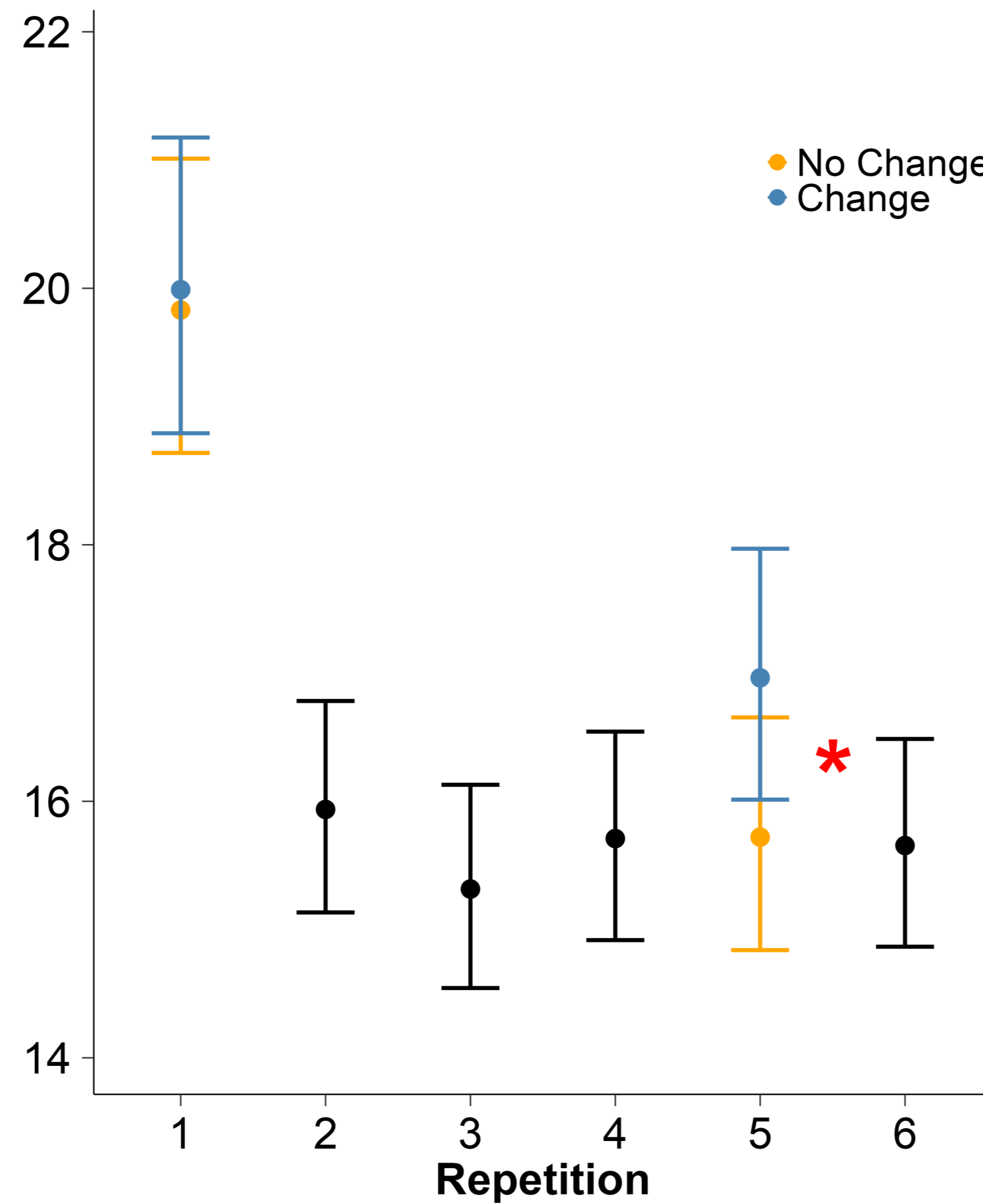


Results (N = 89)

Repeated Item



Novel Item



Repetition **decreases** error in the repeated item, due to learning

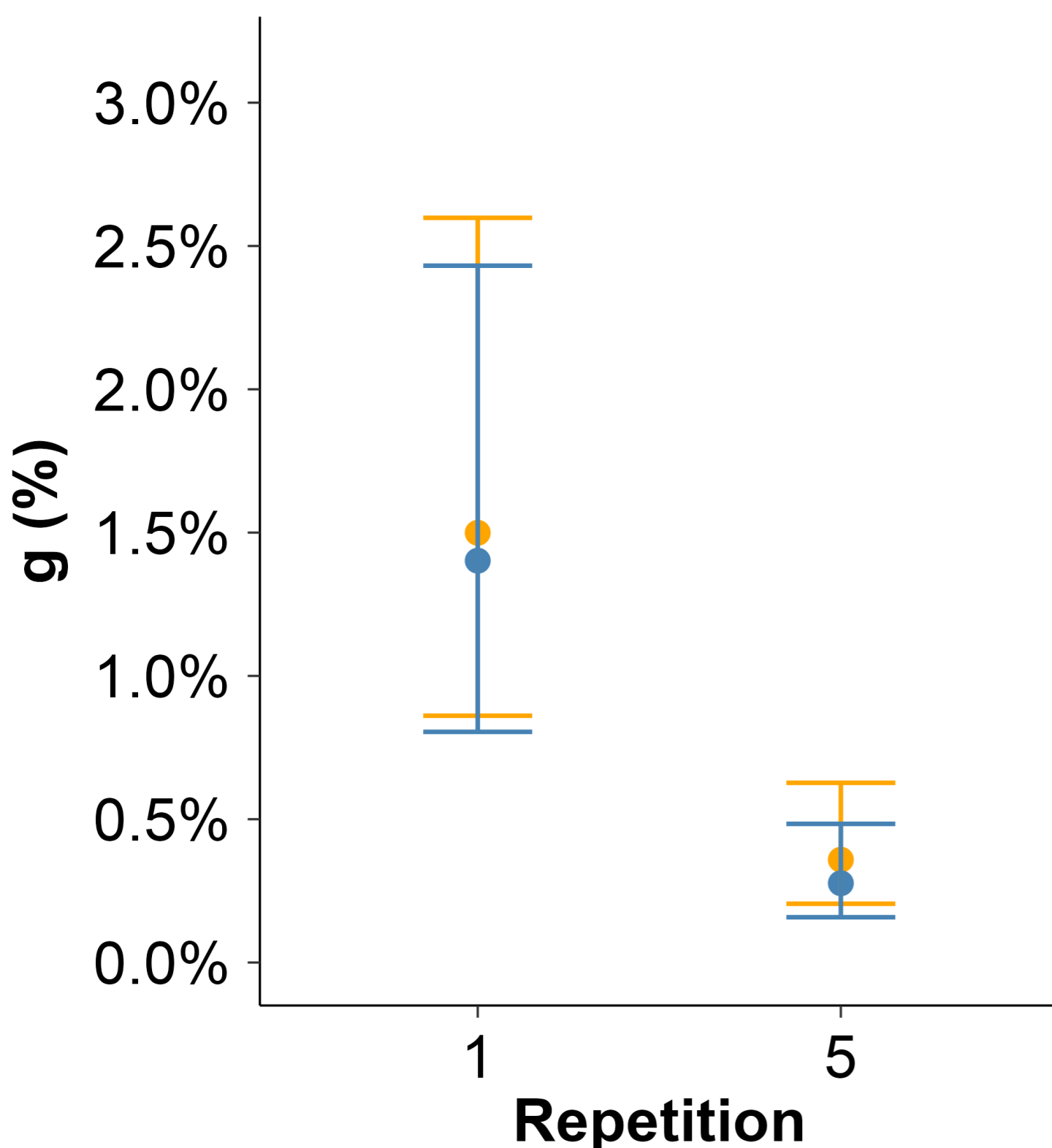
Repetition also **decreases** error in the novel item, due to leftover WM resources

A context change after repetition **increases** error in novel item only

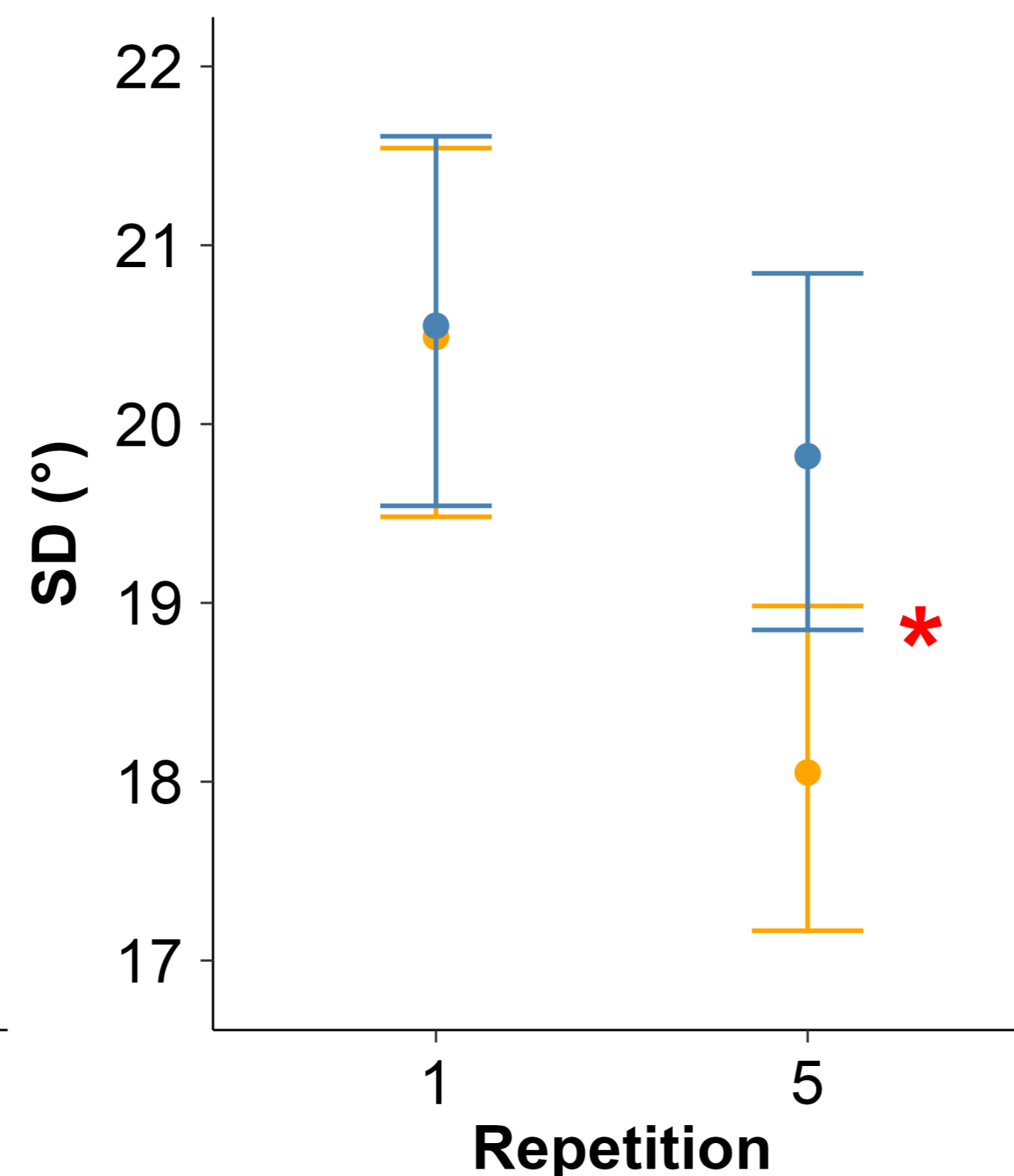
Reactivation of an LTM item intrudes on items maintained in WM

Mixture Modelling: Novel Item

Guess Rate



Precision



Repetition **improves** both the guessing and precision of novel items.

A context change after repetition **disrupts** precision only.

Intrusion of reactivated memories degrades WM memoranda.

Conclusion

Repetition offloads memories to LTM, and enhances the encoding of new information in WM.

Offloaded memories can be reactivated in WM with a context change.

However, reactivated memories impair other memories in WM.