

Introduction

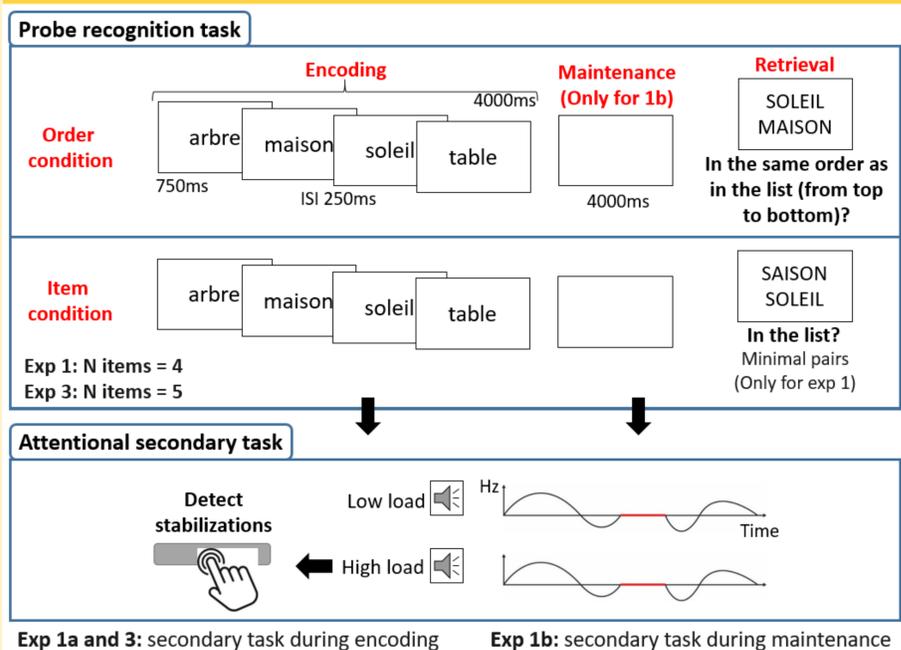
- Several theories have been proposed for accounting for the representation and maintenance of serial order information in working memory (WM).
- One such theory proposes that the representation of the serial order of items requires more attention than the representation of the item themselves (Guitard et al., 2021).
- The present study provides a comprehensive test of this attentional account of serial order WM by manipulating the attentional load during encoding and maintenance of serial order vs. item information, by using a dual-task design.

Hypotheses

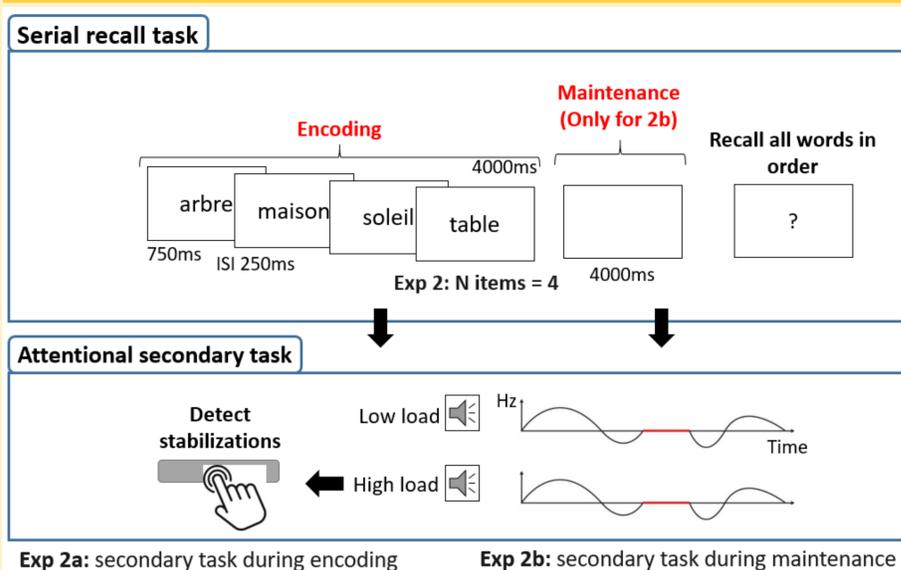
If serial order WM requires more attentional control than item WM during encoding and/or maintenance, then performance should decrease more strongly for recognizing and recalling serial order vs. item information when processing a concurrent task of high attentional load.

Methods

Experiment 1 and 3: Probe recognition task

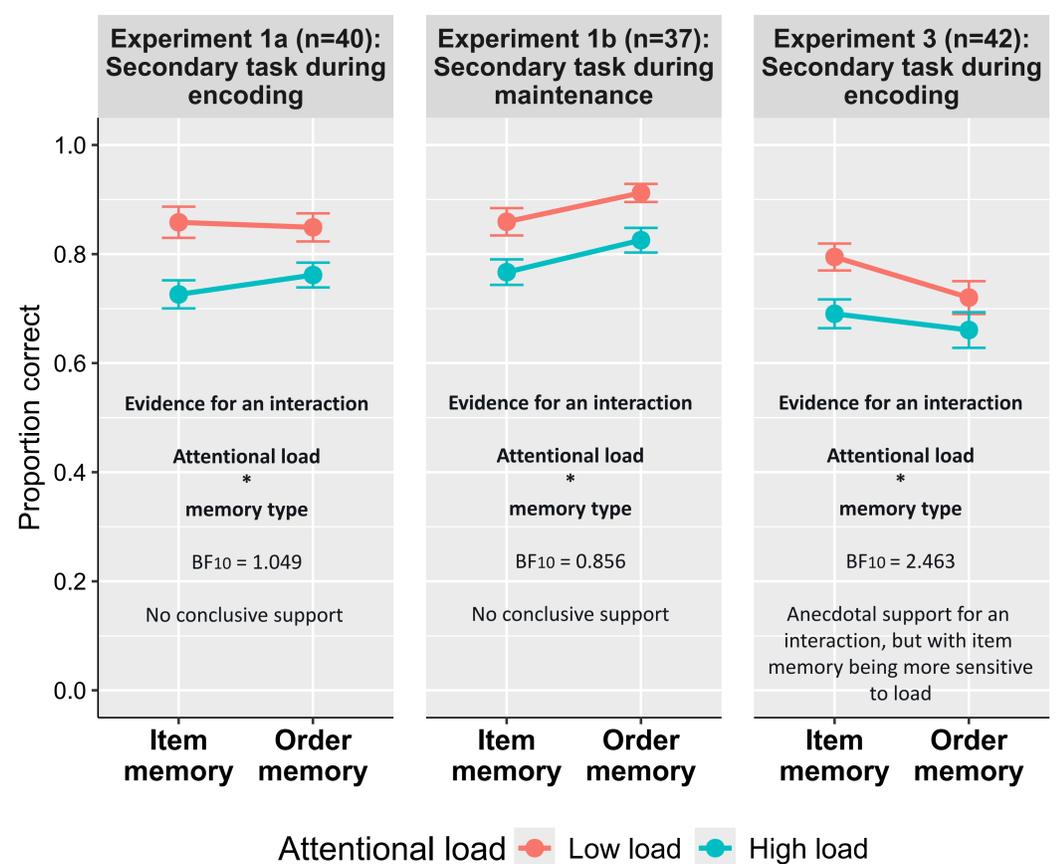


Experiment 2: Serial recall



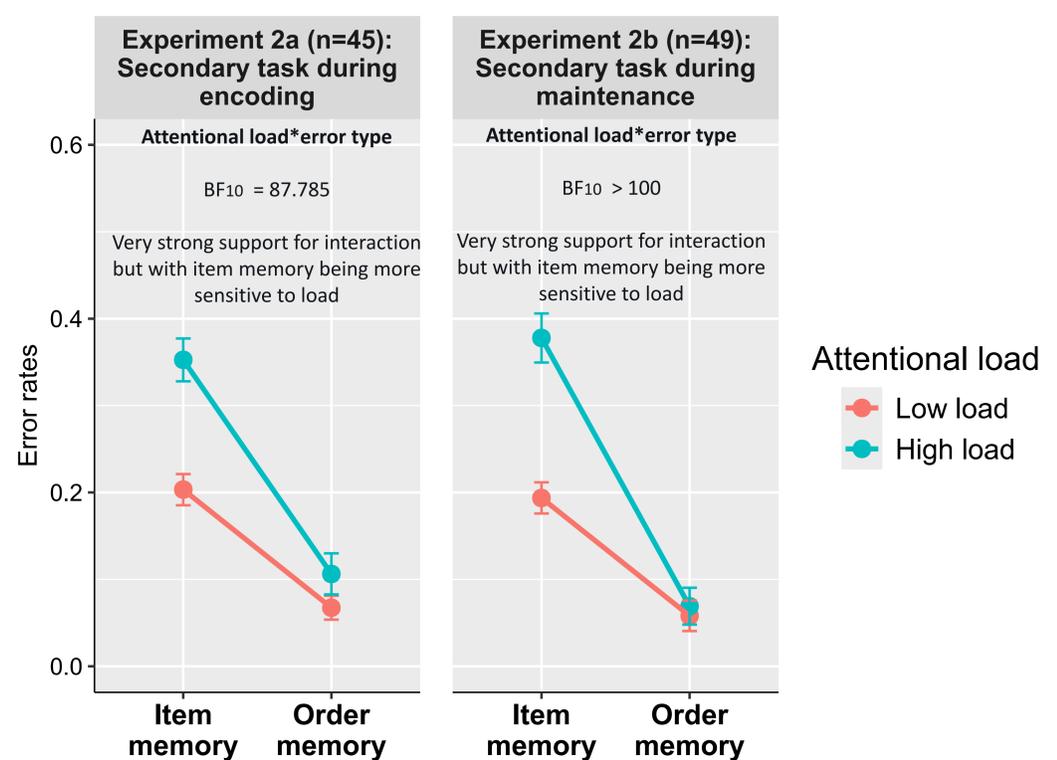
Results

Experiment 1 and 3: Probe recognition task



Note: The Bayes factor was calculated by comparing the best model with the model of interest.

Experiment 2: Serial recall



Note: The Bayes factor was calculated by comparing the best model with the model of interest.

Discussion

Across 5 experiments, we never found evidence for a larger effect of attentional load on order. If anything, there was a higher attentional cost for item WM in task designs not balanced for item vs. serial order WM task difficulty.

References

Guitard, D., Saint-Aubin, J., & Cowan, N. (2021). Asymmetrical interference between item and order information in short-term memory. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 47(2), 243.