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Authors

Cataldo, Julia

Rodriguez, Amilleah

Pylkkanen, Liina

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Lexical and structural priming in RPVP-reading

Julia Cataldo

New York University, New York, United States

Amilleah Rodriguez

New York University, New York, United States

Liina Pylkkänen

New York University, New York, United States

Rapid parallel visual presentation (RPVP) of multi-word expressions has emerged as a productive method for probing human syntactic ability, with structure-sensitive neural responses reported as early as 130 ms. We asked whether these signals can be primed to shed light on the memory traces created by such input. An MEG study manipulated composition, word overlap between prime and target, and shared syntactic structure in a prime-target matching task. Behavioral facilitation and increased fronto-temporal neural signals were elicited by compositionality, consistent with prior reports of the Structure Superiority Effect. Lexical overlap produced reliable priming in left STG, whereas shared structure alone did not. However, mismatch detection for lexically identical prime–target pairs was facilitated when they differed in syntactic structure, indicating automatic computation of underlying structure. This study shows that a simple matching task on parallel stimuli enables robust investigation of lexical priming in neural responses and syntactic priming in behavior.