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Investigating the parallels of Negation and Conflict using a Mouse Tracking Paradigm

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Abstract

Negation is a linguistic universal, and its processing is often assumed to require extra cognitive steps: representing an idea and then suppressing it (Kaup et al., 2006). Recently, it has been shown that linguistic negation processing resembles basic conflict processing in both behavioral and electrophysiological data (Dudschig & Kaup, 2018, 2020), in line with standard conflict tasks (i.e. Stroop Task, see Botvinick et al., 2001). The present study implements mouse tracking to allow the analysis of fine-grained changes in responses during negation processing (e.g., trajectories, deviations from the ideal path, and partial errors). Participants responded to affirmative and negated phrases. The key dependent measures were influenced by the polarity (affirmative vs. negated) of the phrases on current trials (indicating the activation of the to-be-negated information) and by the polarity of preceding trials (indicating negation processing is context dependent). The theoretical implications in light of negation and conflict processing accounts will be discussed.