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Distractor inhibition: Evidence from lateralized readiness potentials.

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Abstract

The present study investigated distractor inhibition on the level of stimulus representation. In a sequential distractor-to-distractor priming task participants had to respond to target letters flanked by distractor digits. Reaction time and stimulus-locked lateralized readiness potentials (S-LRPs) of probe responses were measured. Distractor-target onset asynchrony was varied. For RTs responses to probe targets were faster in the case of prime-distractor repetition compared to distractor changes indicating distractor inhibition. Benefits in RTs and the latency of S-LRP onsets for distractor repetition were also modulated by distractor-target onset asynchrony. For S-LRPs distractor inhibition was only present with a simultaneous onset of distractors and target. The results confirm previous results indicating inhibitory mechanisms of object-based selective attention on the level of distractor representations.

Highlights

- In a sequential distractor-to-distractor priming task RT and S-LRP onset latencies were measured.
- A target letter flanked by distractors with varying Distractor-Target SOA had to be identified.
- Distractor inhibition was indexed by distractor repetition benefits for RTs and S-LRPs.
- Inhibition sets prior to lateralized response activation at the level of distractor representation.

KEYWORDS:

Distractor inhibition; Distractor processing; Lateralized readiness potential

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