

Rena Bayramova: "*Auditory selective attention under working memory load*"

Can cognitive load facilitate concentration in an intramodal auditory selective attention task? In dual-task paradigms, the executive demand is on three executive functions: updating, inhibition, and shifting. Instead, the current study tested whether increasing verbal working memory load produces an advantage in filtering out auditory distractors in a single task. It consisted of a combination of an updating and an inhibition task, such that working memory load was manipulated directly in the selective attention task. Participants were asked to decide whether the centrally presented letter matched the letter presented 0, 1, 2, or 3 trials back and ignore the letters presented from flanking speakers. Two measures of working memory capacity (WMC) were also collected to explore possible individual differences in performance: Operation Span task and auditory digit span. We found reduced interference from flankers in 2- and 3-back conditions compared to 0- and 1-back conditions whereby higher working memory load almost negated the flanker effect. WMC did not influence this interaction. These results suggest that load on updating can enhance inhibition in the auditory domain in the absence of a salient shifting component. Findings are discussed in the context of theories of selective attention.