

Dual-Task Interference in Prospective Memory: Focal vs. Non-Focal Cue Effects

Thursday, September 11, 2025 2:10 PM (20 minutes)

Aim: Prospective memory (PM) is the ability to remember future intentions, which is influenced by cue relevance in the ongoing task. Prospective memory tasks can be focal, with cues promoting automatic retrieval, or non-focal, requiring strategic monitoring. This study examined performance on focal and non-focal PM tasks under dual-task conditions, combining a Lexical Decision Task (LDT) and a Sequential Finger Tapping Task (SFTT). Previous research suggests that performing cognitive and motor tasks simultaneously can impair performance due to attentional limitations. **Materials and Methods:** Twenty-six right-handed, native Italian speakers ($M = 21.8$, $SD = 3.56$; 19 F) were enrolled. The task was an LDT, where participants identified words and non-words, responding with a key when a PM target word appeared. In some conditions, the task was performed concurrently with a SFTT involving a 4-digit sequence using the non-dominant hand. **Results:** A repeated-measures ANOVA showed that cognitive load significantly affected reaction times in PM cues, with faster responses in the single-task condition ($p < .001$). Focal cues also led to faster responses than non-focal ones. In the LDT, single-task conditions again resulted in faster reaction times ($p < .001$) and higher accuracy. Accuracy was also higher for focal stimuli compared to non-focal ($p < .005$). **Conclusions:** The results confirm that PM is influenced by both the type of cue and the presence of additional cognitive load, affecting reaction times and accuracy. Overall, focal cues significantly enhance performance, while dual-task interference appears to substantially reduce the overall cognitive efficiency of prospective memory processes.

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