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Cognitive Demand and Reminders Effect on Time-Based Prospective Memory in Amnesic Mild Cognitive Impairment (AMCI) and in Healthy Elderly

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ABSTRACT

Individuals with-Mild Cognitive Impairment (MCI) often complain of difficulty remembering to carry out intended actions. We investigated the relative efficacy of a different reminder in performing a time-based Prospective Memory (PM) task. The PM performance of 24 participants with amnesic Mild Cognitive Impairment (AMCI) has been compared with that of 24 healthy controls. As ongoing task, samples of the Attentive Matrices Test were used. In the PM task subjects were requested to write an "X" every three minutes during a 9 minutes period. Participants received the task consisting either in a low demand condition (checking number "5") or in a high demand condition (checking numbers "1", "4", "9"). In order to be as punctual as possible, participants were asked to simultaneously write the "X" at task time expiration, using a digital clock. Time monitoring was recorded. Reminder occurring was manipulated in that participants could receive critical, accidental or completely absent reminder. As expected, high cognitive demand was negatively correlated with PM performance and time monitoring. Unexpectedly, all the participants did not benefit from the critical reminder. These findings demonstrated, from a behavioral perspective, that Working Memory (WM) and PM processes are not based on the same memory system and PM may require WM resources at high demand.

KEYWORDS

AMCI; Prospective Memory; Time Monitoring; Memory Reminder

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