A Task Interrupted Becomes a Prospective Memory Task

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Introduction

Definition of Prospective Memory (PM)

We prefer to define PM in terms of task demands rather than as a type of memory separate from retrospective memory. PM tasks require retrieval and execution of an intention at an appropriate time or combination of circumstances, usually while another separate task is being performed.

Interruptions

Interruptions are common in everyday life, and can lead to memory errors. Previous studies have found that interruptions of pilots' preparations for flight can have disastrous consequences[a,b].

When an ongoing task is interrupted, a PM task is created - one must remember to resume the interrupted task after the interruption. The PM target that should cue resumption is the end of the interrupting task. Individuals may forget to resume an interrupted task in part because the unexpected interruption diverts their attention and prevents them from explicitly encoding an intention to resume. Also, in real-life, interrupting tasks are often followed by other ongoing tasks that continue to divert attention from the interrupted task.

We have developed a flexible paradigm to investigate cognitive characteristics of interruptions. Here we report encoding and retrieval manipulations.

Hypotheses

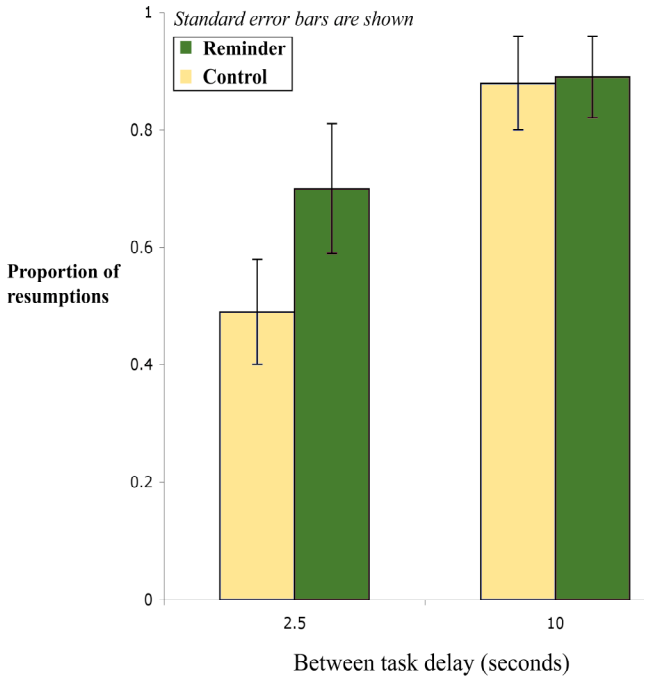
Encoding - Reminders of the prospective memory task should improve prospective memory performance by creating a stronger association between the end of the interruption (PM target) and the intention to resume the interrupted task (PM task).

Retrieval - Increasing the length of the pause between the end of the interrupting task and initiation of the next ongoing task should improve prospective memory performance by providing a longer period without task demands in which the stored intention may be retrieved spontaneously.

Results

The reminder at encoding improved PM performance significantly in the 2.5 second delay condition only.

The 10 second delay at retrieval improved PM performance significantly.



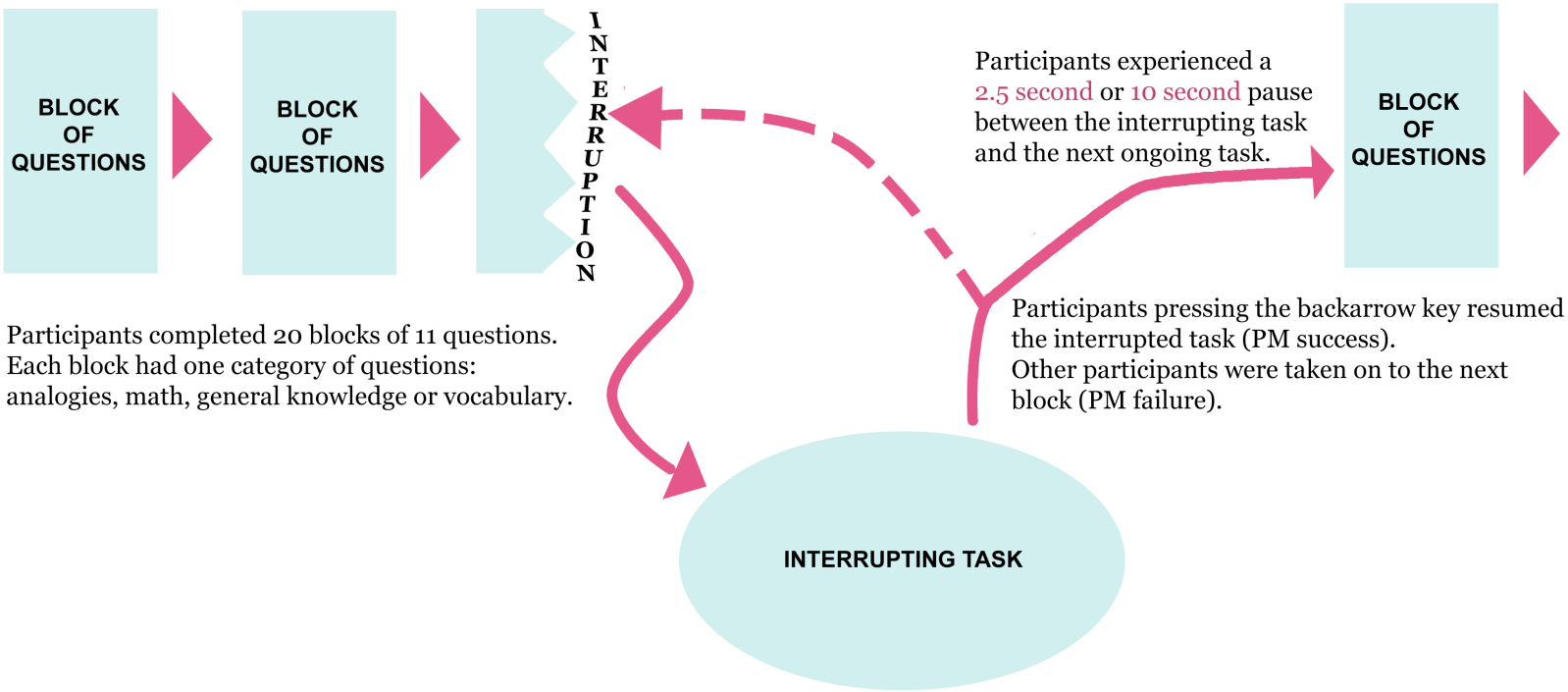
References

[a]Dismukes, R.K., Young, G., and Sumwalt, R. (1998). Cockpit interruptions and distractions: Effective management requires a careful balancing act. *ASRS Directline*, *10*, 4-9.

[b]Loukopoulos, L.D., Dismukes, R. K., & Barshi, I. (2003). Concurrent task demands in the cockpit: Challenges and vulnerabilites in routine flight operations . In *Proceedings of the 12th International Symposium on Aviation Psychology* (pp. 737-742). Dayton, OH: The Wright State University.

Experiment Design

Reminder condition: right before the interrupting task started, participants were given a 4 second text message that reminded them to resume the interrupted task.
Control condition: participants were not given a reminder and the interupting task began immediately.



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