A Task Interrupted Becomes A Prospective 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 a separate, ongoing task is being performed.

Interruptions: When an ongoing task is interrupted, a PM task is created to resume the interrupted task. The individual may or may not encode it explicitly. The PM target that cues the PM task is the end of the interrupting task.

Interruptions are common in everyday and professional life. A previous study found that interruptions of a pilot's preparations for flight can have disastrous consequences.

The purpose of this study was to develop a paradigm that is flexible enough to investigate cognitive characteristics of interruptions. To illustrate its flexibility, we included two manipulations: the effect of reminders on resuming the interrupted task and the effect of the similarity between the interrupting task and the interrupted task.

Hypotheses

Reminders of the prospective memory task increase successful prospective memory performance

A reminder will cause a person to encode the interruption explicitly. This should create a stronger association between the end of the interruption (PM Target) and the intention to resume the interrupted task (PM Task).

Similarity of the interrupting task to the interrupted task affects PM performance negatively

If the interruption is a similar task, subjects may be less likely to recall at the end of the interruption that it was in fact an interruption.
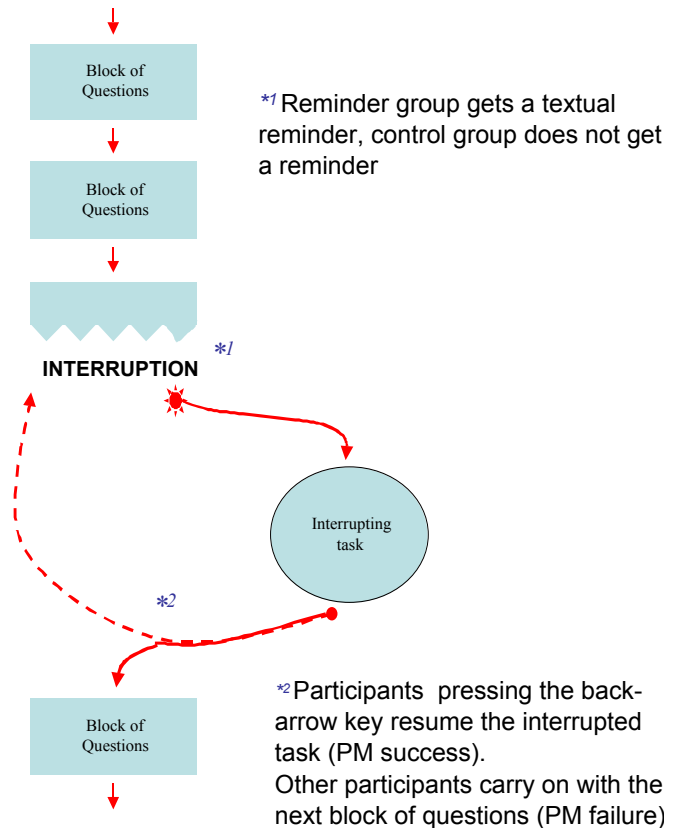
Experiment Design

Participants completed 20 blocks of 11 questions. Each block had one category of questions - vocabulary, general knowledge, math or analogies.

Interruptions occurred during blocks 3, 7, 12 and 18. After the interruption was over, they were taken on to the next block of questions. At this point they were supposed to press the back-arrow ($\leftarrow$) key, otherwise a PM failure was recorded.

Between-Subject Factors:

Similarity of Interruption: Similar (SI) - interruptions were blocks of questions, but of a different category. Dissimilar (DI) - interruptions were various tasks containing different stimuli and response formats, such as anagram solving.

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

*1 Reminder group gets a textual reminder, control group does not get a reminder

INTERRUPTION *1

*2 Participants pressing the back-arrow key resume the interrupted task (PM success).
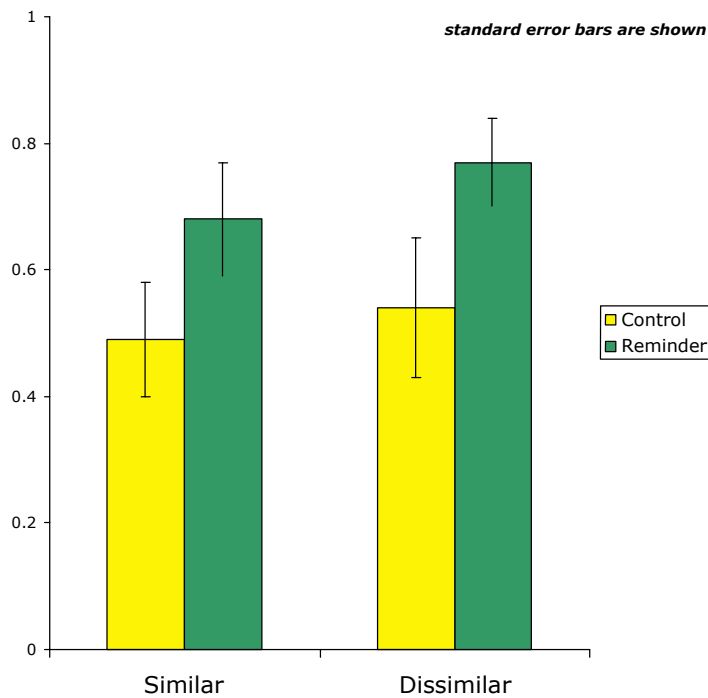Other participants carry on with the next block of questions (PM failure)

Results

The reminder certainly helped reduce failures of resumption, $F_{1,62}=5.3, p=0.02$.

The difference between the SI group and the DI group was not significant, $F_{1,62}=0.13, p>0.05$. A possible confound is that participants took longer to perform the DI interruptions.

standard error bars are shown

References

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