Effects of Delays and Reminders on Time-based Prospective Memory

Lauren D. Black and Mackenzie C. Kelleher, Faculty Advisor: Dawn M. McBride
Illinois State University

Introduction

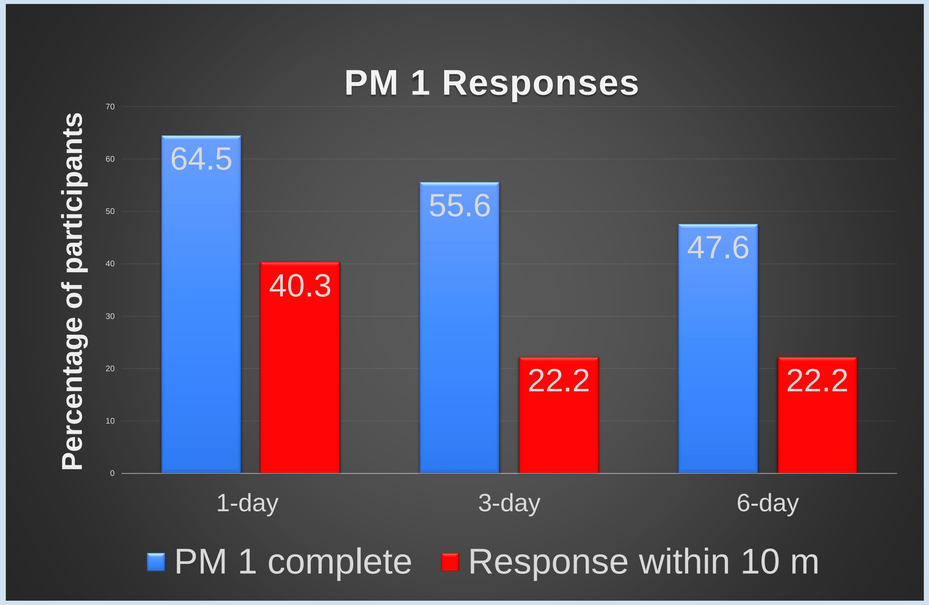
- Remembering to carry out a future task is referred to as prospective memory (PM) (Meacham & Singer, 1977).
- Previous studies have shown that longer delays decrease time-based PM performance (Conte & McBride, 2018; McBride et al., 2011; 2013).
- The current study examines PM through the multiprocess view proposed by McDaniel and Einstein (2000).
- **Multiprocess theory:** monitoring and spontaneous retrieval are at play when performing a PM task.
- The current study was conducted in a naturalistic setting in order to examine the effects of longer delays outside of the lab.
- Experiment 1 examined the effects of 1-, 3-, and 6-day delays with half of the participants repeating the task.
- Experiment 2 examined the effects of only 1 and 3-day delays with explicit or implicit reminders.

Method

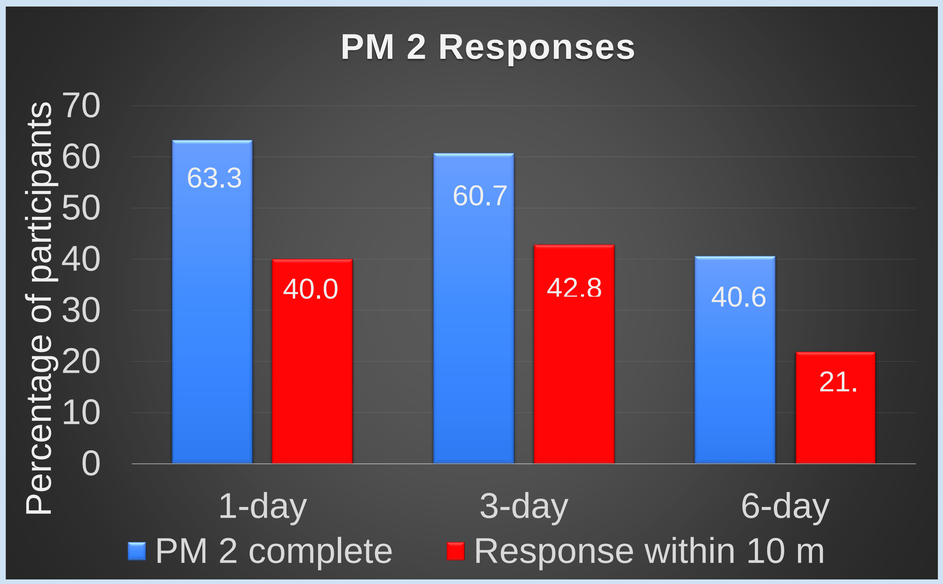
- **Participants:** For Experiment 1, there were 188 total participants with 3—35 participants assigned to each condition. Experiment 2 is in progress.
- **Design:** Experiment 1 was a 2x3 between-subjects design. Experiment 2 was a 2x2 between-subjects design. Both were conducted to measure the accuracy of PM in a naturalistic setting.
- **Procedure:** In both experiments participants were asked to schedule a time to send a text message that says 'checking in' with the experimenter according to their assigned delay. After the PM response was complete, experimenters used a messaging app to send a post-study questionnaire to each participant.

Results

Experiment 1



- There was a significant main effect across PM 1 responses (p= .037). The 1 vs. 3 and 1 vs. 6-day delay conditions are both significantly different on the responses within 10 min (p = .023 and p = .029).



Discussion

- There was a significant difference in the 1 vs. 3 and 1 vs. 6 day delays in PM accuracy.
- There was no difference in accuracy of response when the delay was repeated. This shows no practice effect was evident when the responses were given twice with the same delay.
- The results of the correlation were significant that people who were more motivated according to the post study survey completed their PM response more accurately, thus showing that internal monitoring is going on throughout the delay period.

References

Conte, A. M., & McBride, D. M. (2018). Comparing time-based and event-based prospective memory over short delays. *Memory, 26*(7), 936-945. https://doi.10.1080/09658211.2018.1432662

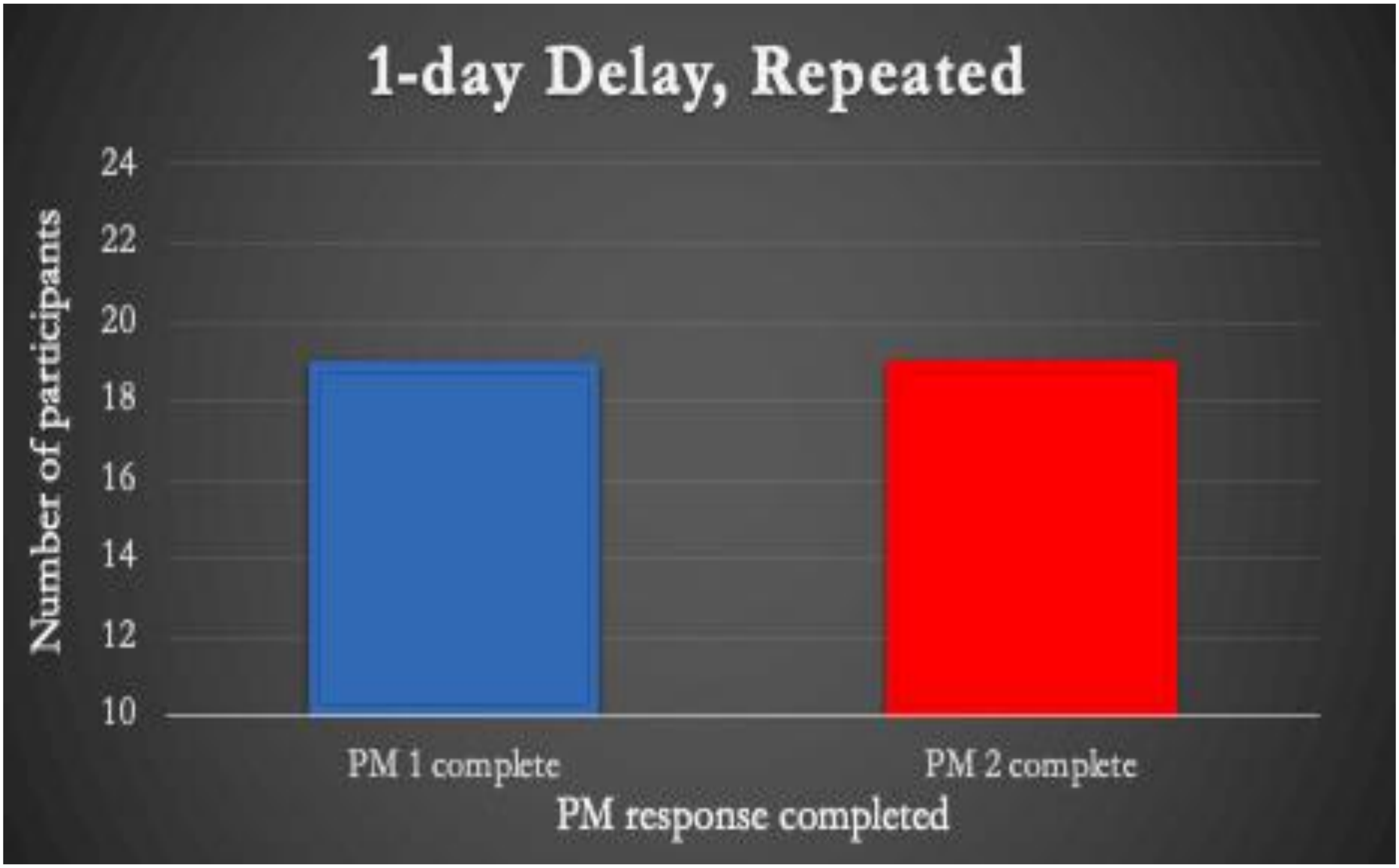
McBride, D. M., Beckner, J. K., & Abney, D. H. (2011). Effects of delay of prospective memory cues in an ongoing task on prospective memory task performance. Memory and Cognition, 39(7), 1222-1231. https://doi.org/10.3758/s13421-01100105-0

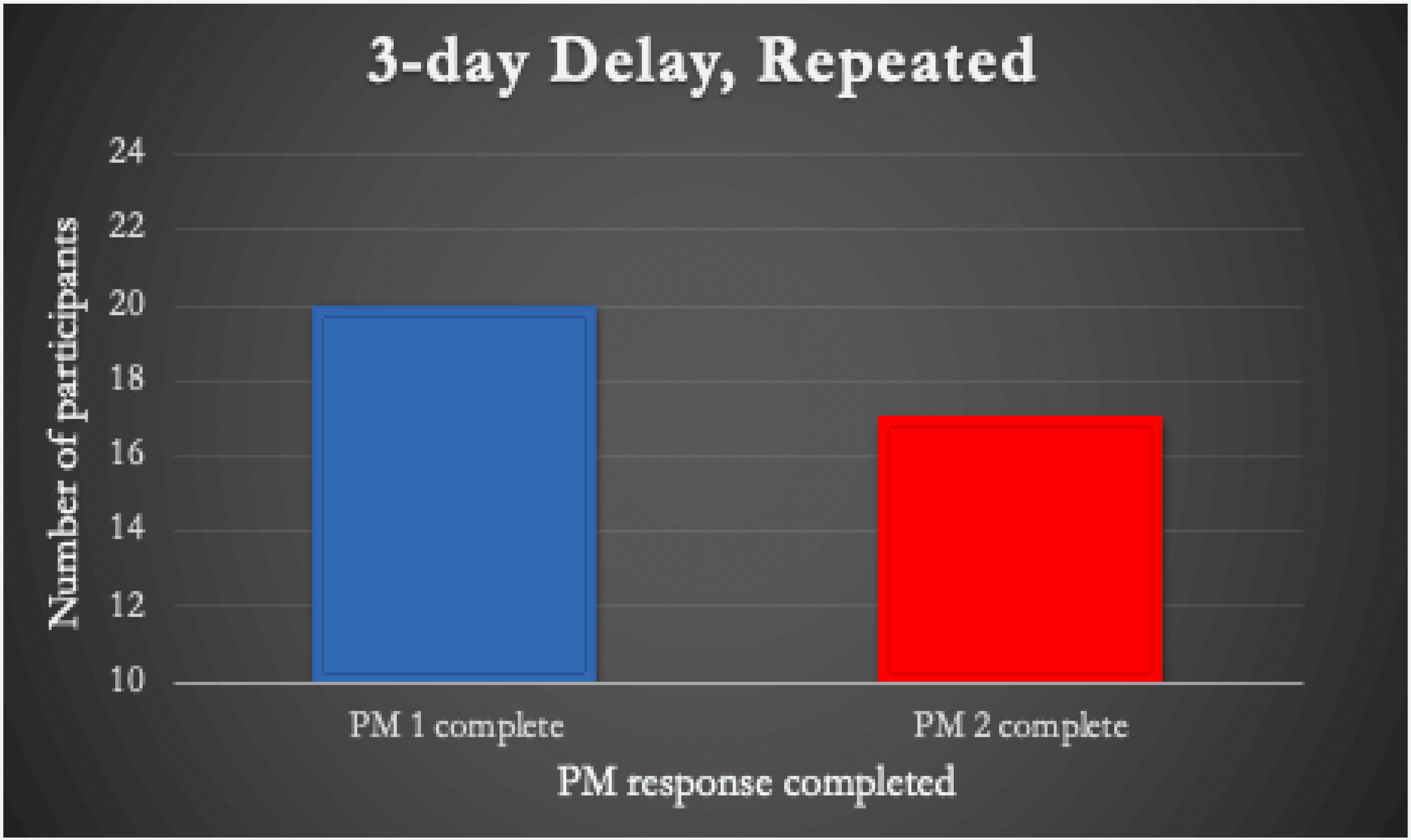
McBride, D. M., Coane, J. H., Drwal, J., & LaRose, S. M. (2013). Differential effects of delay on time-based prospective memory in younger and older adults. *Aging, Neuropsychology, and Cognition, 20*(6), 700-721. https://dx.doi.org/10.1080/13825585.2013.765937

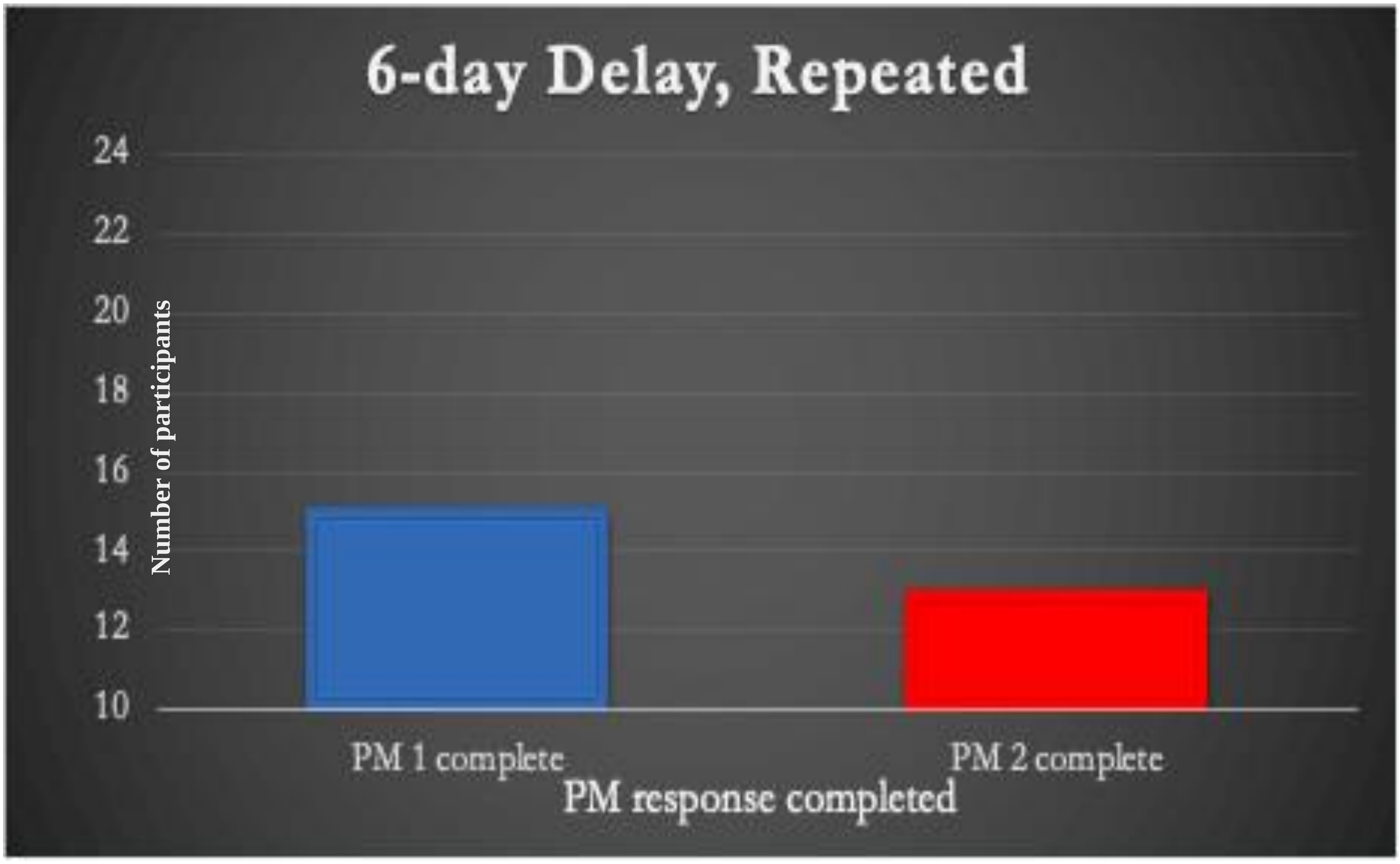
Meacham, J. A., & Singer, J. (1977). Incentive effects in prospective remembering. *Journal of Psychology: Interdisciplinary and Applied, 97*, 191-197.

McDaniel, M. A., & Einstein, G. O. (2000). Strategic and automatic processes in prospective memory retrieval: A multiprocess framework. *Applied Cognitive Psychology, 14*, S127-S144. https://doi.org/10.1002/acp.775

Department of Psychology
Illinois State University


1-day Delay, Repeated
Number of participants
24
22
20
18
16
14
12
10
PM 1 complete
PM 2 complete
PM response completed


3-day Delay, Repeated
Number of participants
24
22
20
18
16
14
12
10
PM 1 complete
PM 2 complete
PM response completed


6-day Delay, Repeated
24
22
20
18
16
14
12
10
Number of participants
PM 1 complete
PM 2 complete
PM response completed