



Introduction

- Stress is a common experience that can trigger physiological, cognitive, and behavioral changes in response to a stressor. One response believed to occur under stress is altered cognition.
- Perceptual priming is linked as a main proponent to the development of intrusive memories seen in individuals with PTSD. Trauma survivors who prime stimuli more strongly during a traumatic event are more likely to find environmental triggers that lead to intrusive memories (Ehlers & Clark, 2000).
- Holz et al. (2014) found that those who viewed traumatic picture stories showed more perceptual priming to neutral objects than those who viewed a neutral story supporting the idea that under stressful conditions, memory is enhanced.
- While studies (Holz et al., 2014) provide evidence for memory enhancement under high stress conditions, there is currently no research on the effects of mild stress on memory.
- The present study is an adaption of the Holz et al. (2014) experiment in which the traumatic stories presented in the original study were replaced with mildly stressful picture stories.

Methods

Participants. Participants included 261 students from Seton Hall University.

Materials. Participants viewed either a neutral or stressful picture story modified from the Holz et al.'s (2014) study. Participants completed an implicit memory test and a recognition test also adapted from Holz et al.'s (2014) study.

Procedure: Participants were randomly assigned to an encoding phase to view a neutral or stressful picture story upon arrival at the laboratory (see figure 1). After the picture story, all participants took an implicit memory test followed by a recognition memory test (see figure 2).

Study Phase

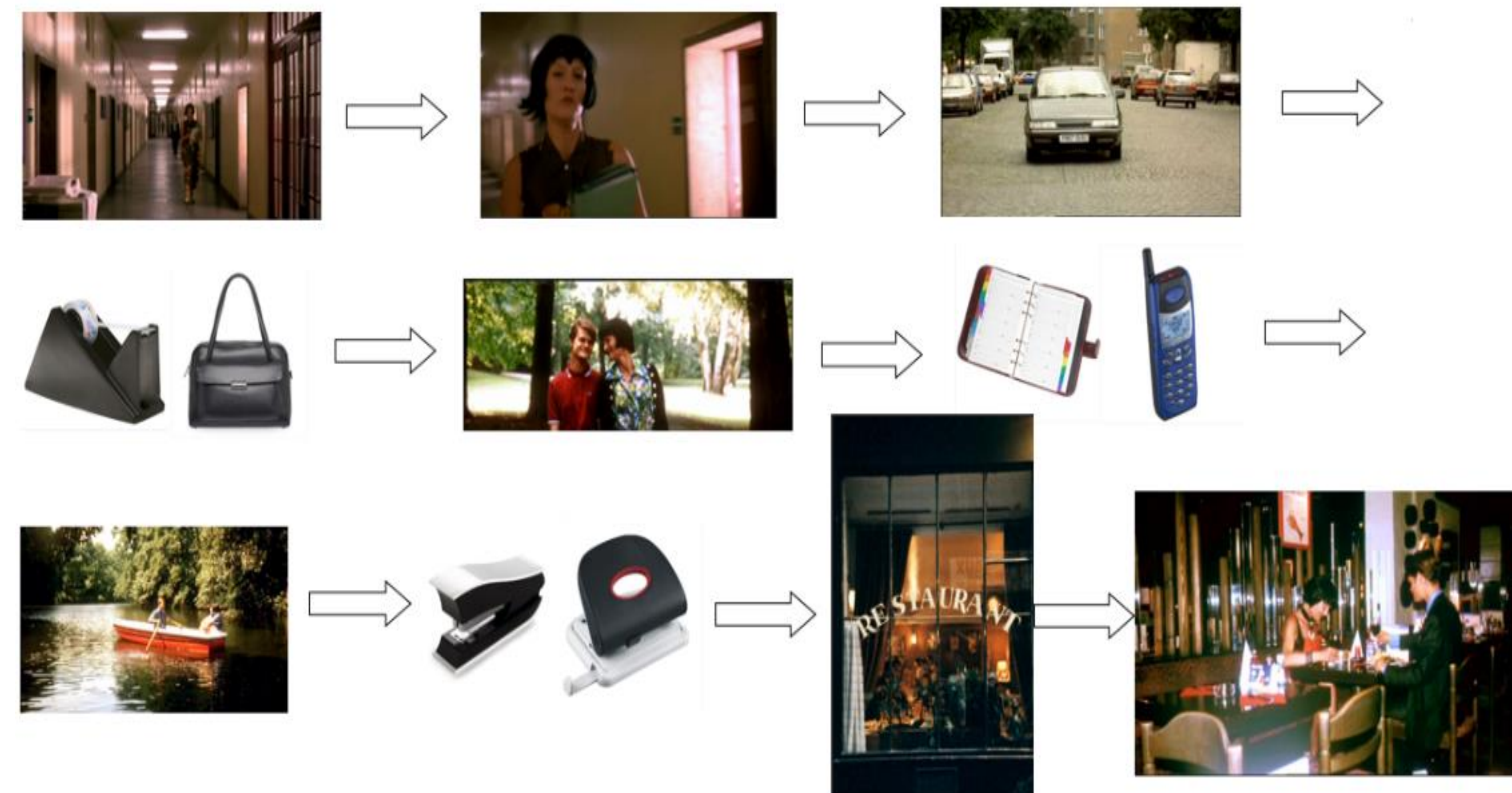


Fig. 1. Example of neutral and stressful picture story.

Test Phase

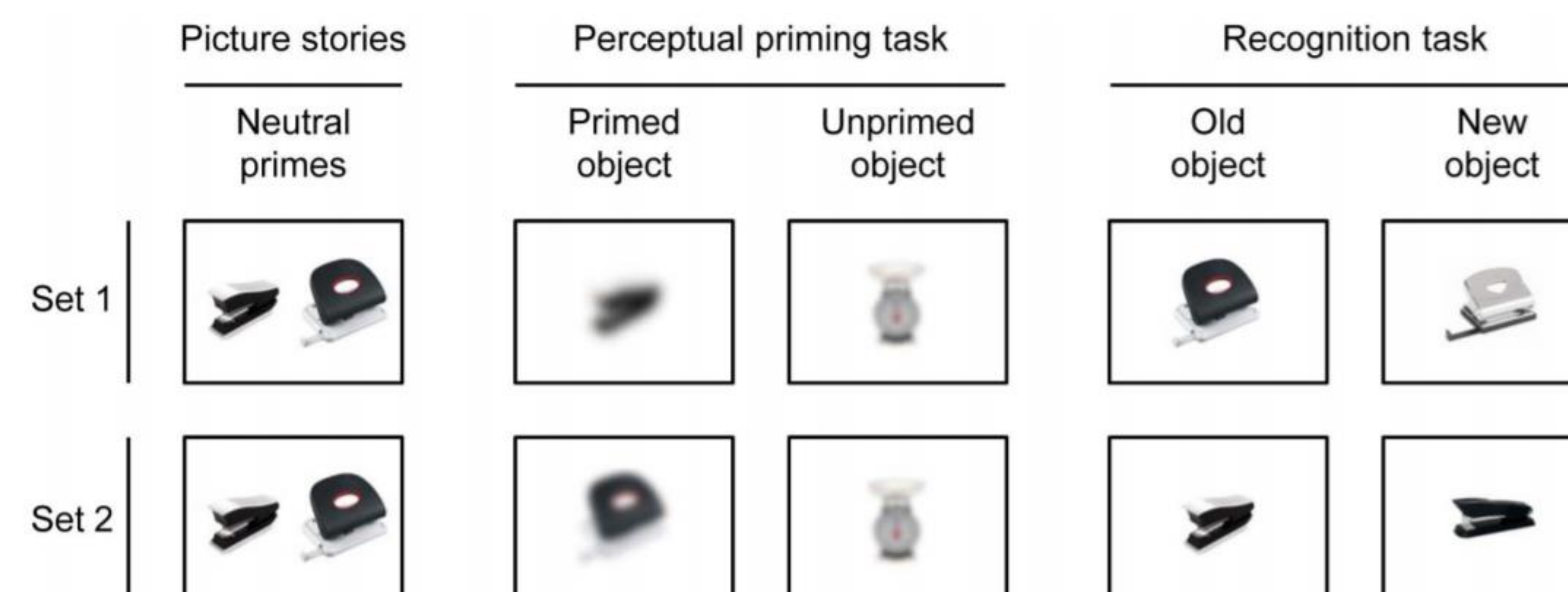


Fig. 2. Example of implicit memory test and recognition memory test

Results

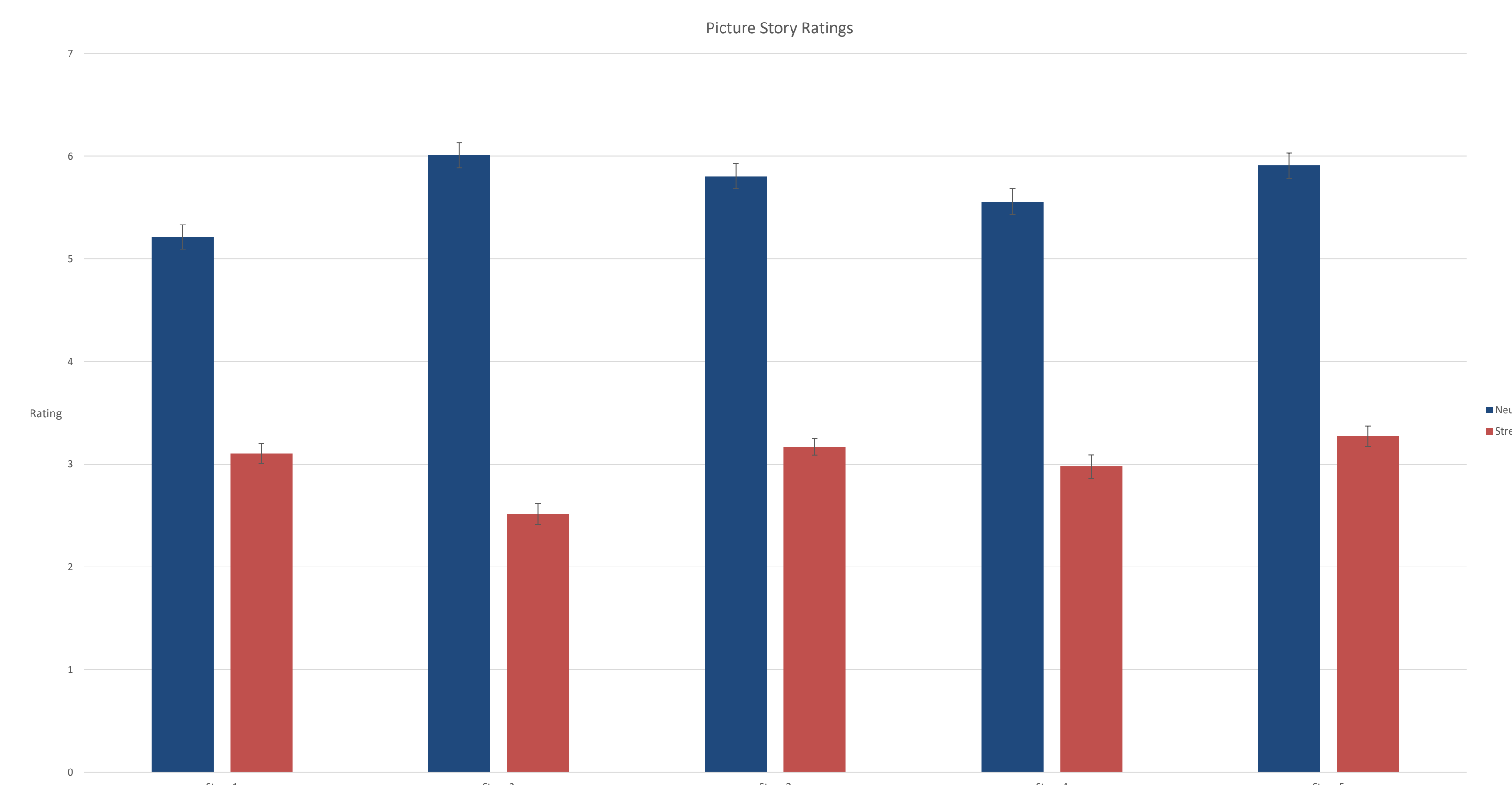


Fig. 3: Ratings for picture stories.

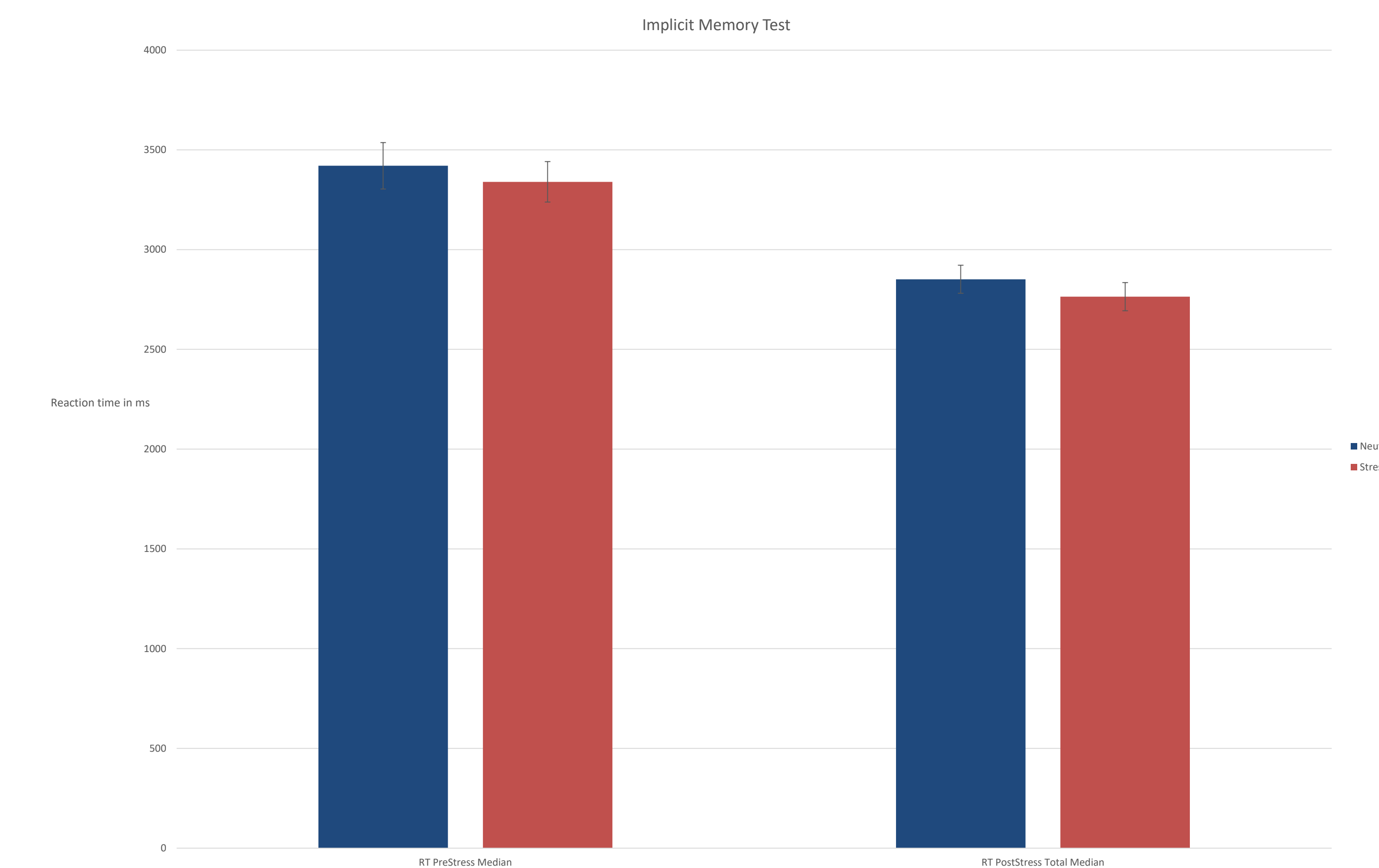


Fig. 4. Results from the implicit memory test.

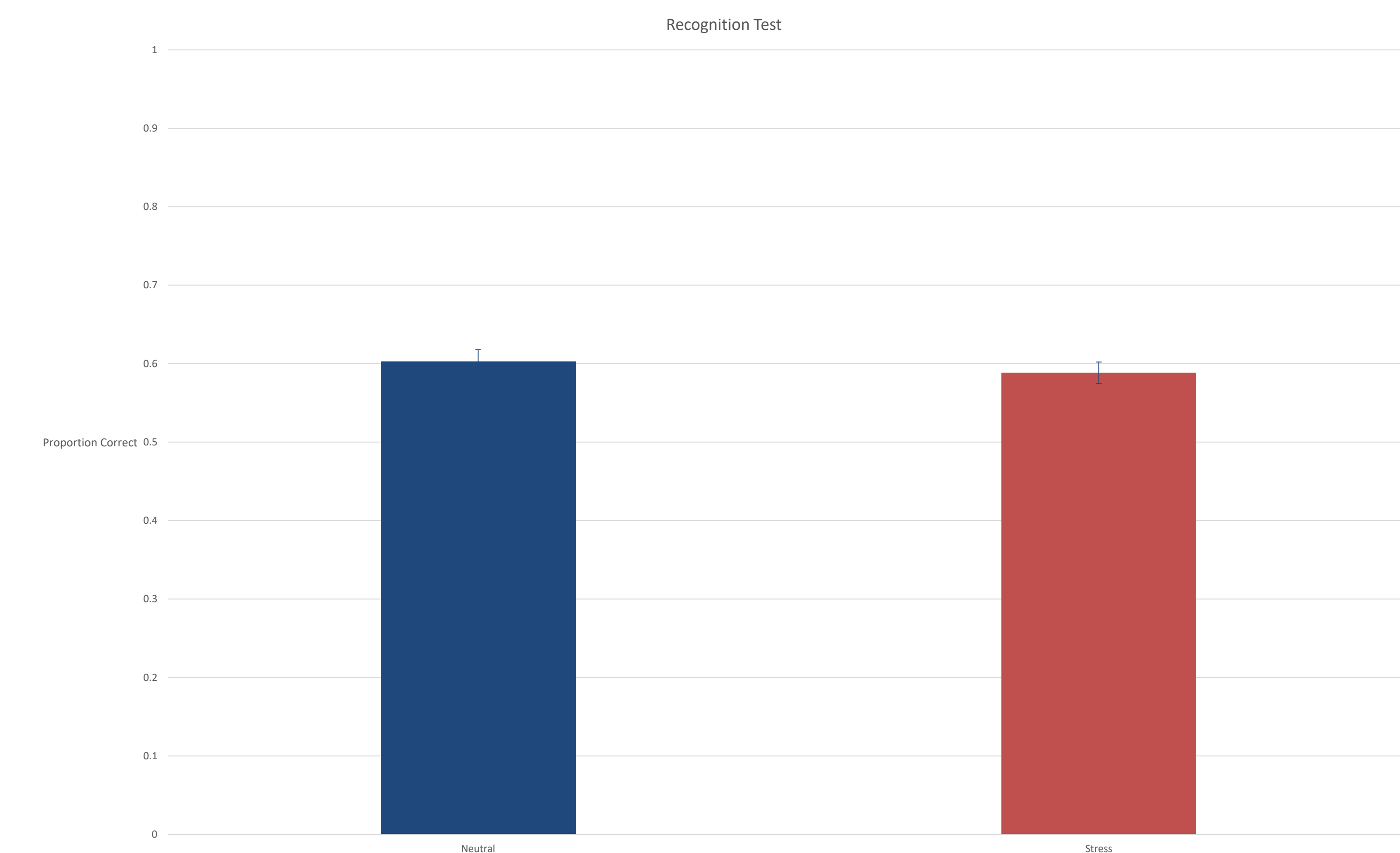


Fig. 5. Results from the recognition test.

Discussion

- Mood was successfully manipulated following the picture stories.
- Mild stress did not show any effects on implicit memory.
- Mild stress did not show any effects on recognition memory.
- Overall, the current study suggests that while individuals rate stressful stories as more unpleasant and neutral stories as more pleasant, viewing a neutral or stressful picture story had no detected effect on implicit or recognition memory.

References

- Ehlers, A., & Clark, D. M. (2000). A cognitive model of posttraumatic stress disorder. *Behaviour Research and Therapy*, 38(4), 319–345.
- Holz, E., Lass-Hennemann, J., Streb, M., Pfaltz, M., & Michael, T. (2014). Effects of acute cortisol administration on perceptual priming of trauma-related material. *PLoS ONE*, 9(9).