Reanalysis of Psychological Paper: Computer Game Play Reduces Intrusive Memories of Experimental Trauma via Reconsolidation-Update Mechanisms

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Abstract

There are a few moments in the creation and recollection of memory where this process can be interrupted. This can be used to help people who are suffering from the results of tramatic memories. This study examined the process of reconsolidation, the recollection of a memory, to determine if there is a way to inturrupt this process using a cognitive task. The cognitive task used in this experiment was a simple game of Tetris.

Keywords: reconsolidation, cognitive task

Word count: X

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Methods

Participants

52 participants (31 female, 21 males) which consisted of university students and the general public. 65% of the participants were students.

Material

The details of the trauma exposure and the reconsolidation task are detailed in James et al. (2015).

Procedure

The experiment was performed both in the lab and at home in the form of a diary. They watched a traumatic film and were then assinged to either the cognitive task group or the no task (control) group.

Results

Using a between subjects one-factor ANOVA, with intervention type as the independent variable, there was a significant difference between the different task groups (No-task control, Reactivation Plus tetris, Tetris only, Reactivation only). There was a main effect of interevention type $F(3, 68) = 3.79$, $MSE = 10.09$, $p = .014$, $\hat{\eta}^2_G = .143$. There was a

significant reduction in traumatic memory reconsolidation for the reactivation and tetris group.

Discussion

The omnibus ANOVA that was conducted replicated the results that were found in James et al. (2015). When traumatic memory reactivation was interrupted by a cognitive task (tetris) there was an overall reduction in intrusive memories.

Power Analysis

A power analysis was conducted, and the graph is shown on the final page of this paper.

References

James, E. L., Bonsall, M. B., Hoppitt, L., Tunbridge, E. M., Geddes, J. R., Milton, A. L., & Holmes, E. A. (2015). Computer game play reduces intrusive memories of experimental trauma via reconsolidation-update mechanisms. *Psychological Science*, *26*(8), 1201–1215.

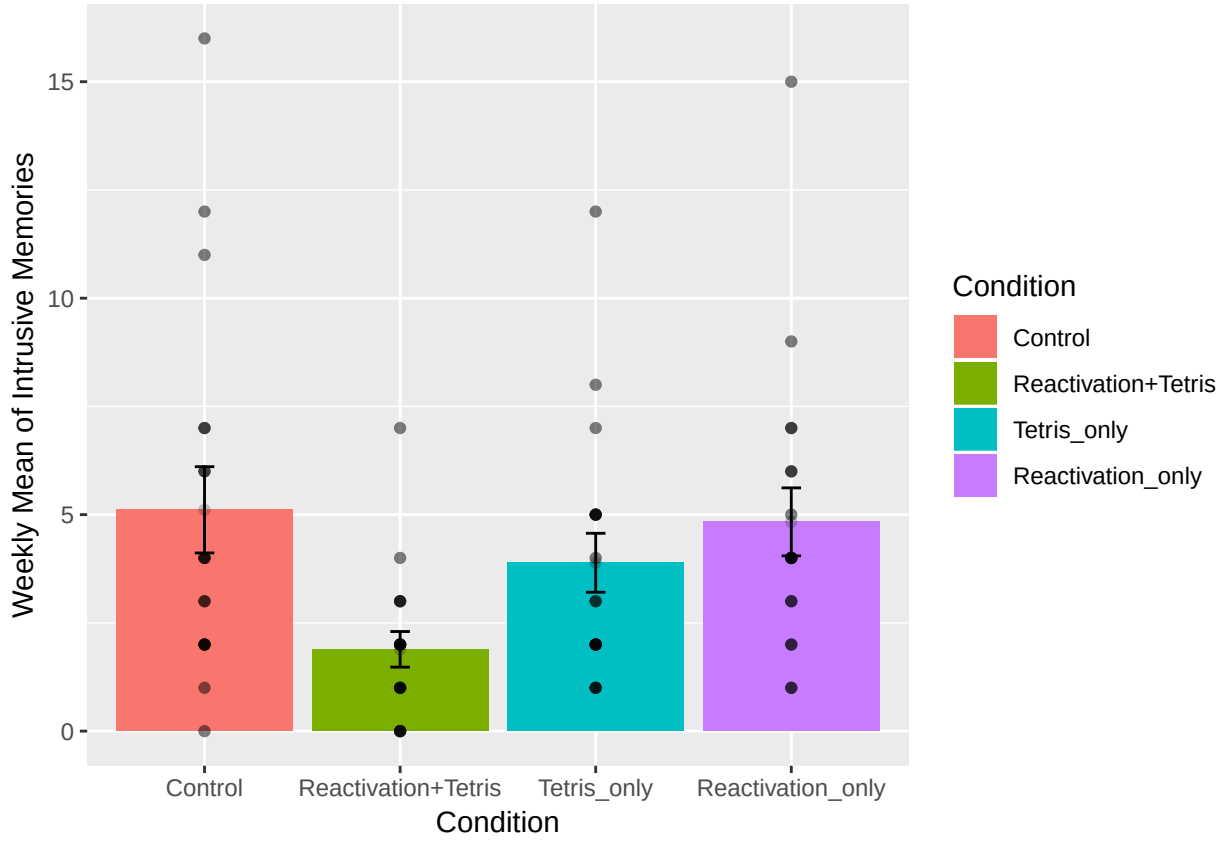
Weekly Mean of Intrusive Memories
15
10
5
0
Control
Reactivation+Tetris
Tetris_only
Reactivation_only
Condition
Condition
Control
Reactivation+Tetris
Tetris_only
Reactivation_only

Figure 1

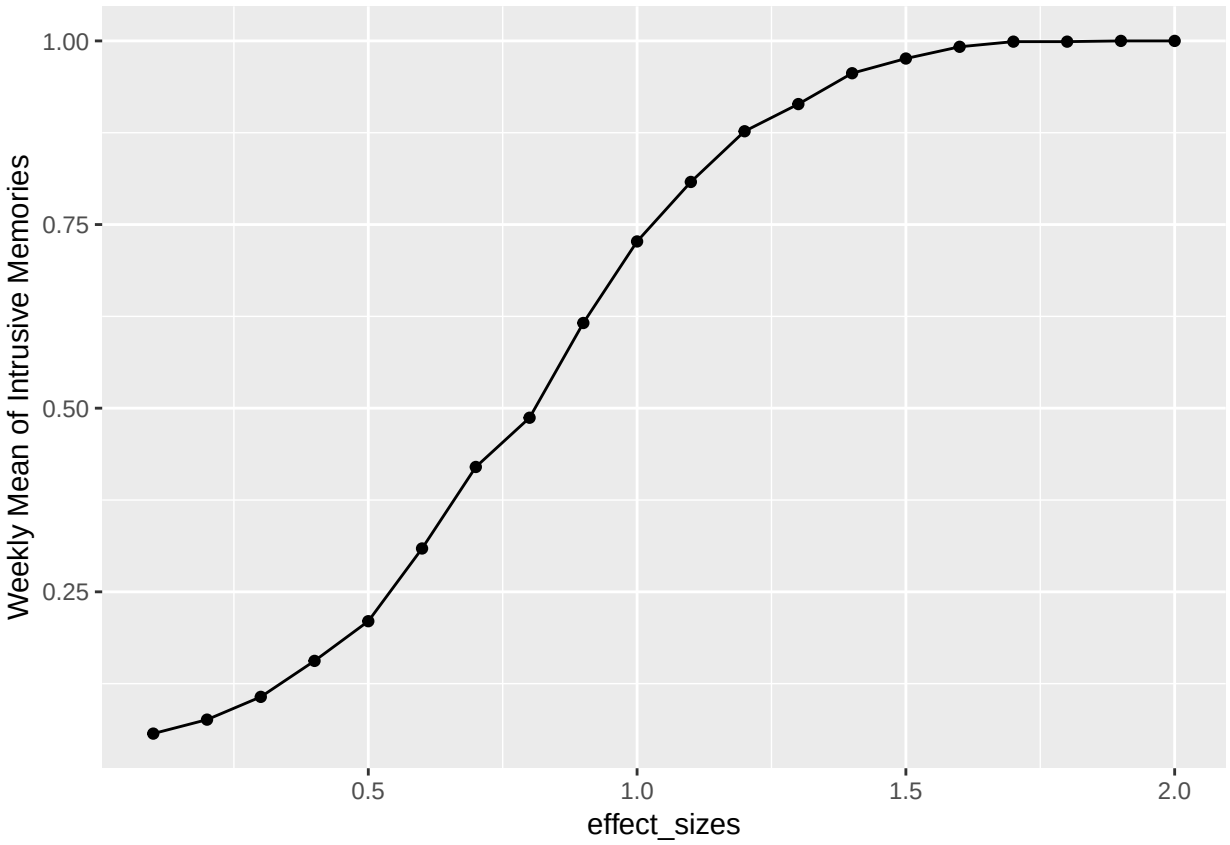
1.00
0.75
0.50
0.25
Weekly Mean of Intrusive Memories
0.5
1.0
1.5
2.0
effect_sizes

Figure 2