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, I did not find that there was a significant difference between the four intervention groups (No-task control, Reactivation Plus tetris, Tetris only, Reactivation only). There was no main effect of intervention type $F(3, 68) = 3.79$, $MSE = 10.09$, $p = .014$,

$\hat{\eta}^2_G = .143$. There was no significant reduction in traumatic memory reconsolidation between any of the task groups.

Discussion

The omnibus one-factor ANOVA that was conducted did not show a significant difference between any of the groups. This was not the finding of the original paper. There are a number of possible reasons why this occured. Firstly, when conducting any type of null hypothesis testing, there is always a chance that a Type I error has been committed and the significant value was found only due to chance. Additionally, the reanalysis that I made could have committed a Type II error, where I did not reject the null (and claimed that there was an effect) when in reality there is an effect.

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.

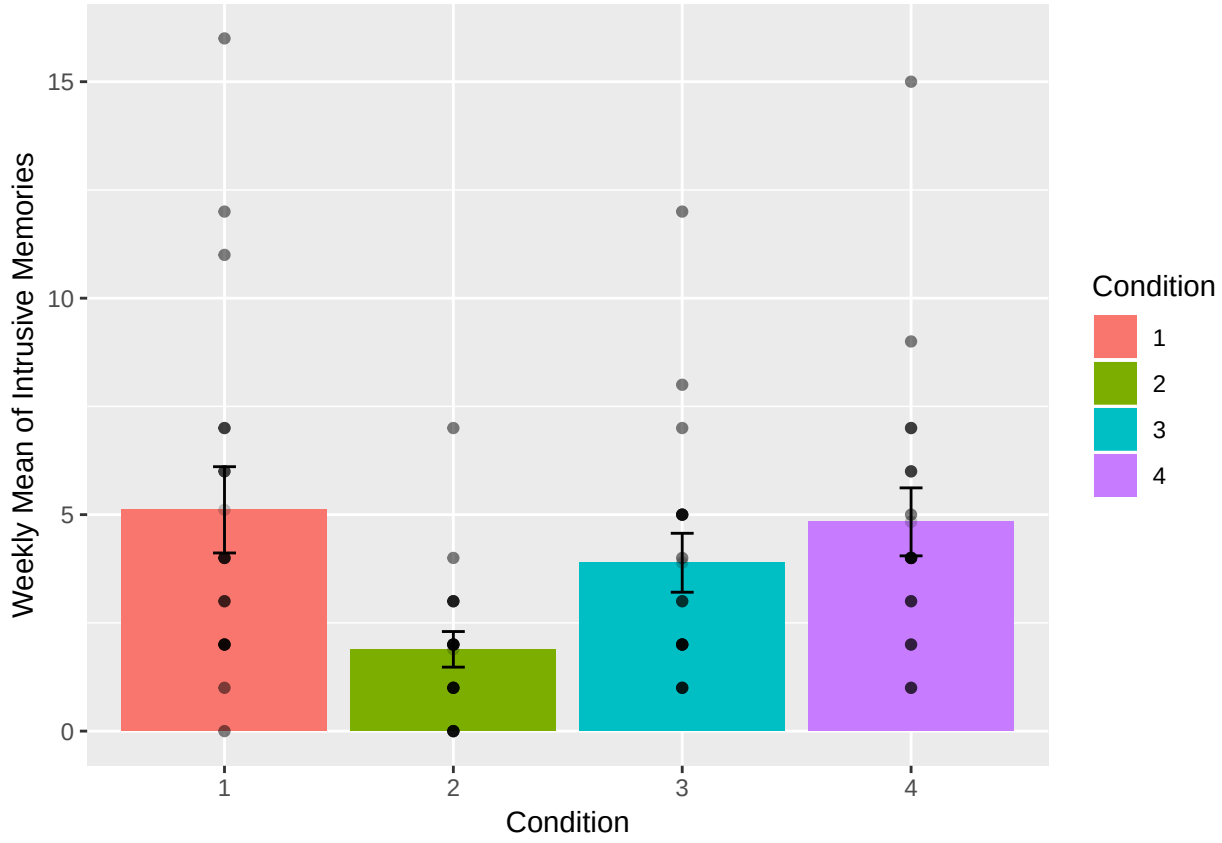
Weekly Mean of Intrusive Memories
15
10
5
0
1
2
3
4
Condition
Condition
1
2
3
4

Figure 1

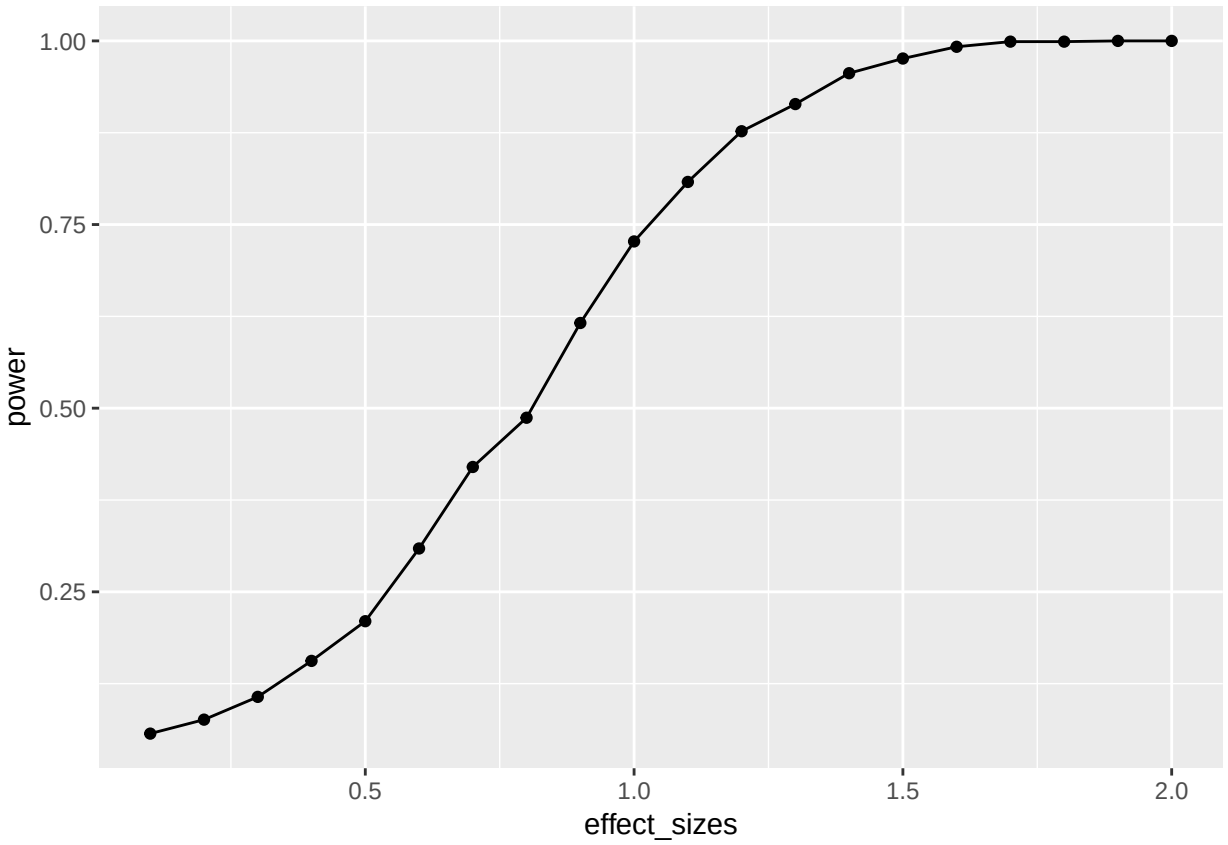

Figure 2