

THE ROLE OF SLEEP IN EPISODIC MEMORY RECONSOLIDATION: PROJECT AND PRELIMINARY RESULTS

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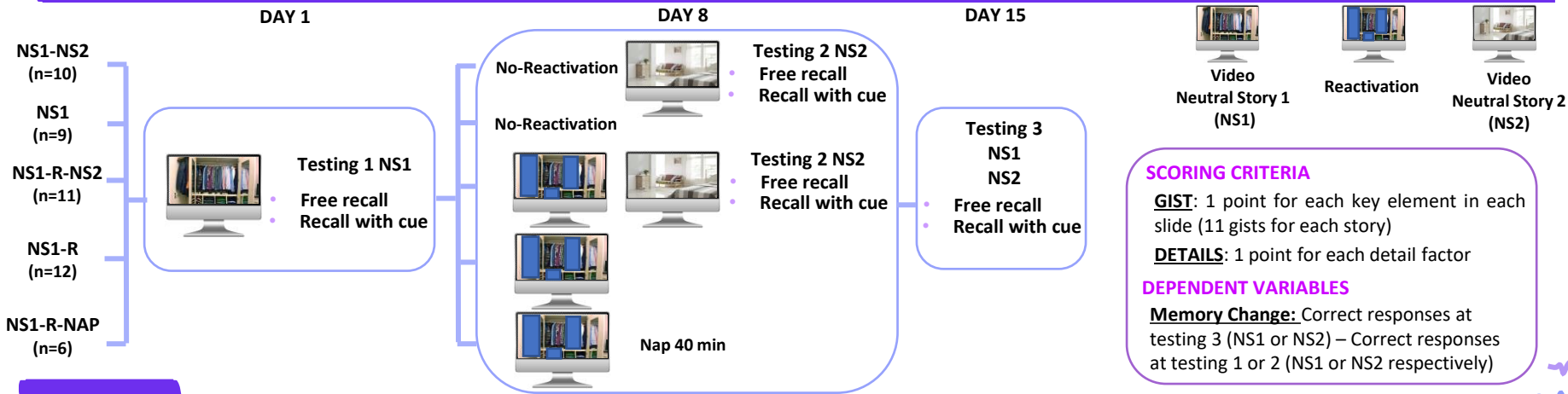
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INTRODUCTION

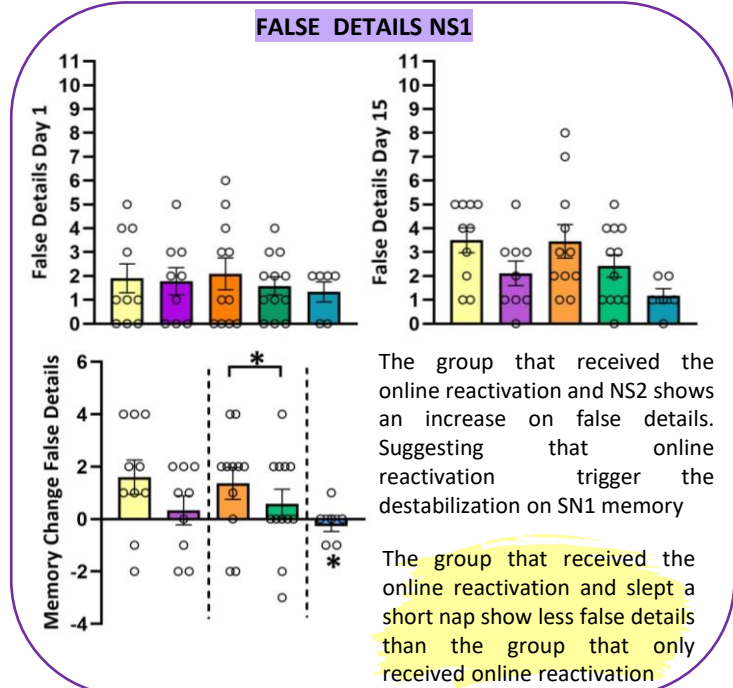
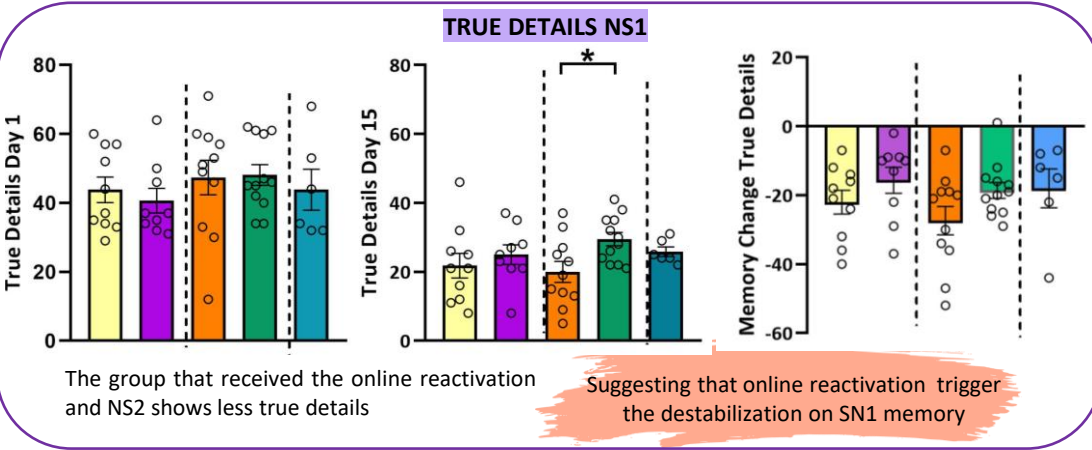
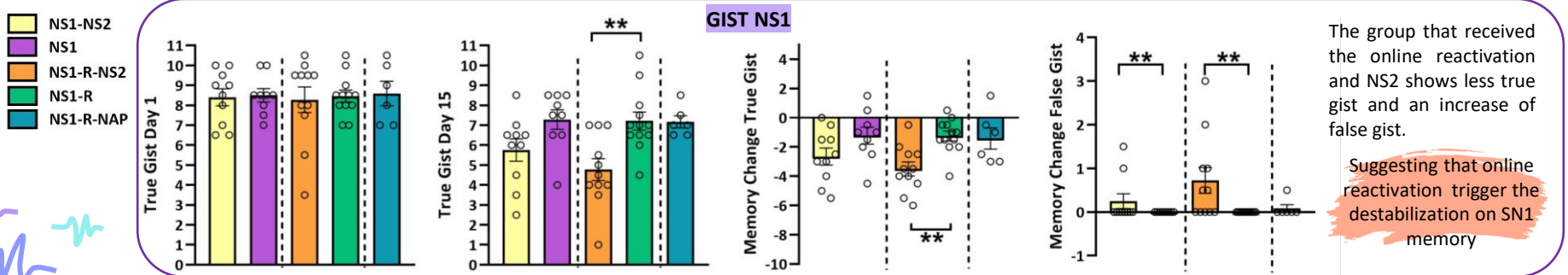
Episodic memory is a subtype of declarative memory, defined as the ability to remember how, where and when past events occurred¹. Consolidated memories can be reactivated by a reminder of the original memory and can enter a new labile state, followed by a period of re-stabilization (reconsolidation)². Sleep facilitates the consolidation of newly encoded memories³ and enhances the memory persistence 6 months after learning⁴. It was demonstrated that a short nap accelerated memory re-stabilization of a list of nonsense syllable pairs, and facilitated the reconsolidation of the reactivated object-location memory, at short-term^{5,6}. Here, we aim to study the role of sleep on memory persistence of a neutral episodic memory through the reconsolidation process.

METHODS



SCORING CRITERIA
GIST: 1 point for each key element in each slide (11 gists for each story)
DETAILS: 1 point for each detail factor
DEPENDENT VARIABLES
Memory Change: Correct responses at testing 3 (NS1 or NS2) – Correct responses at testing 1 or 2 (NS1 or NS2 respectively)

RESULTS



DISCUSSION

The preliminary results show that it is possible to trigger the destabilization of neutral episodic memories using an online environment, and the process is revealed by an interference task that acts as an amnesic agent. Although the R-nap group has very few data points, it shows significantly fewer false details on day 15, suggesting that a short nap after reactivation decreases false memories formation. Hubbach et al., 2007 showed that the reconsolidation of a list of objects was revealed by an increase in intrusions from the second list into the first, but not the other way around⁷. The difference with our results could be due to 1) the differences in the memory variables used (memory change vs. correct responses at testing); 2) the material used (neutral story vs. list of objects). Here, we observed that the second neutral story after reactivation introduced more false memories (false gist and false details) into the first neutral story. Contrary, Jingyi et al. (2021) found an increase in false memories when the second story had a positive valence compared to a neutral story⁸. One important difference between these two studies is that Jingyi et al. used an emotional story (aversive) as the first one and the second story was neutral or emotional (positive). Thus, further studies should be performed in order to analyze if the increase in false memories only occurs when both stories are neutral or both emotional.

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