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Can Reconsolidation Account for the Misinformation Effect?

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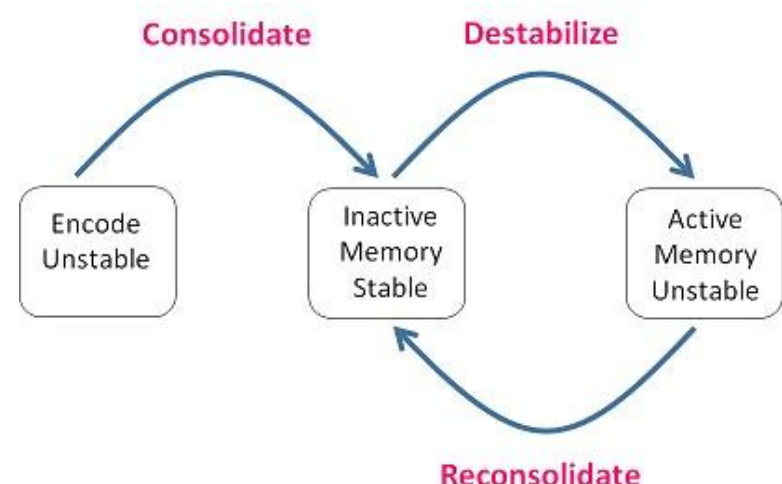
Introduction

Misinformation Effect

- The misinformation effect occurs when previously presented false information is remembered instead of the correct details.
- The causes of the misinformation effect is debated in memory research.
- One theory suggests the false information is actively incorporated into the memory of the original event.

Reconsolidation

Reconsolidation is the process whereby activating a consolidated memory can bring it into a labile state where it can be strengthened, weakened, or updated with new information.



- Receiving false information about an event, reactivates the memory and renders it susceptible to modification.
- Rindal & Zaragoza (2016) challenged the idea that reconsolidation can account for the misinformation effect.
- However, this study was limited in that it used a one-day paradigm, while reconsolidation requires multiple days of study.
- The present study is a replication that tests reconsolidation theory over a three-day paradigm, to determine if reactivating the memory for an event with false information leads to its incorporation into the original memory.
- The investigation aims to enhance existing models and shed light on the reasons behind the misinformation effect, thus advancing our understanding of human memory.
- A successful replication will result in no significant difference in memory rates for correct information between reactivation and control groups.

Method

Participants

- Participants will be N = 132, collected from SONA subject pool.

Three experimental groups:

- Reactivation
- No-reactivation control
- No-interference control

Day 1

- Participants will witness an event of an office theft.



Day 2

- Participants in the reactivation condition will read a narrative about the witnessed event that includes both correct and incorrect details.
- Participants in the no-reactivation condition will read a completely novel narrative.

The petite, dark-haired secretary Michelle was wearing a polka-dot blouse with a light purple skirt down to her knees while holding her brown leather purse on her shoulder. She had just finished her last task of the day as she glanced at her watch that read 5:00. She was getting impatient as she wanted to speak to the landladyman that was coming before she left. She had dinner plans with Tom, her boyfriend of 2 years. She was particularly excited for their date because he had made reservations at Chez Francois, an extremely fancy French restaurant. She was hoping that tonight would be the night he would propose. She wanted to go home to sleep and change into a more formal outfit.

Just when she had given up hope and was preparing to leave, Jeff the landladyman with a tool box entered. He was tall and thin, approximately six feet tall, had only dark hair and looked about 30 years old. He was wearing black, horn-rimmed glasses and was dressed in faded blue jeans and a dirty white T-shirt under his faded blue flannel shirt. He had just planned on being so warm outside that had unzipped his shirt to cool off. He wore the same pair of jeans to work every day, anything more would only get ruined. He apologized to the secretary for being late due to traffic. There was an accident on the main road due to the storm. In reality, he had lied to the secretary about why he was late. Today was his last day at this office. He had been informed that he was being laid off at Charles Industries earlier in the week. His boss had given him reasons for the layoff, but he had stopped listening by that point. The firing could not have been any worse. He had recently gotten divorced and child support payments were making it even harder to make ends meet. He had enjoyed working at this office. Even as a kid, he had always enjoyed taking things apart and putting them back together. It was a skill he had learned from his father, who was a landladyman as well. He was still upset about losing his job, but was trying not to show it.

After the man had entered the office, the secretary pointed to a chair behind her desk. She told him that it was the chair that needed to be fixed. She had leaned back and felt some creaking damage to the chair and it now made an unbearable squeak. She hastily left in order to go home in time for her date. The man glanced at the chair, walked over to the file cabinet by the door, and moved a coffee pot and a jar of Nescafe to make room for his battered tool box. He

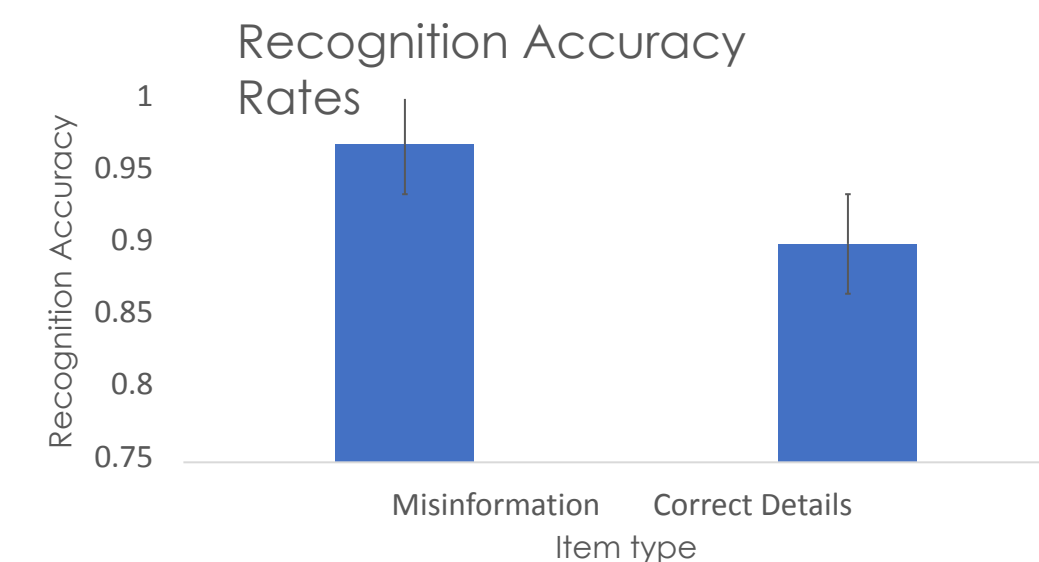
What tool did the man put in his toolbox?

1 = hammer 2 = wrench

Day 3

- Participants will take a multiple-choice test over the witnessed event.

Results



- Preliminary results suggest that participants in the reactivation group have excellent memory for the correct details of the event.
- For the reactivation group reconsolidation theory would predict low accuracy for items that were later given incorrect information for compared to the no-reactivation group and no-interference control group.

Discussion

- A successful replication of Rindal & Zaragoza (2016) would indicate that reconsolidation cannot account for the misinformation effect.
- Current preliminary data supports the results found by the original study, suggesting that an alternative theory must be explored to explain the misinformation effect.
- For example, it is possible that the original memory is not altered by the misinformation but competes with the original memory leading to temporary inaccessibility at test.
- Results from this study could influence law enforcement interview techniques to avoid false testimonies.
- One limitation of the study is that performance on the test was potentially too good; this will be addressed in future studies.

References

Rindal, E. J., DeFranco, R. M., Rich, P. R., & Zaragoza, M. S. (2016). Does reactivating a witnessed memory increase its susceptibility to impairment by subsequent misinformation? *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 42(10), 1544.

Acknowledgments

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