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Remembering False Autobiographical Memories: Comparing the Old and the Young

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Introduction

Although Freud brought popularity to the idea of false memories, his theories have been the object of much criticism. Today, false memories continue to have important applications and have spawned a wide range of research; especially within legal settings. The bulk of this research has focused on the suggestibility of children to false memories during eye-witness testimonies. However, the susceptibility of older adults has not been investigated. This study will focus on the susceptibility of older adults and the processes that may help explain this phenomenon.

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Loftus (1997) investigated memory distortion and the relation with the degree of confidence in the existence of a false memory. She calls this phenomenon the "misinformation effect". She observed that if witnesses of an event are later exposed to new and misleading information about it, their recollections become distorted (Loftus, 1997). Loftus was able to empirically demonstrate this phenomenon with autobiographical memories. With corroboration from the participants' family members, Loftus was relatively successful at implanting false autobiographical memories. In a sample of 24 individuals, 29% remembered either partially or fully the false event constructed for them, and in the two follow up interviews six participants (25%) continued to claim that they remembered the false event (Loftus, 1997). The results may be an example of source confusion, which would result in the person confusing the source and content of a memory.

In this study we will evaluate the susceptibility of younger versus older subjects to implanting a false memory. In this study we decided to replicate the procedures used by Loftus (1997), in which she implanted a false memory of being lost in a store as a child. The subject would have to then recall if this memory did indeed happen. Based on previous findings we would expect that it would be easier to implant a memory in older adults as opposed to younger adults. The decreased ability of older adults to correctly recall a memory would contribute to an increased likelihood that older adults will recall a false memory.

Methods

Participants

Participants were made up of two categories. One group (n = 6) consisted of individuals ages 60 to 84. The other group (n = 6) consisted of individuals ages 18 to 35. All participants provided one relative that was able to speak to the investigator. The rela-

tives also met with the investigator for the initial session and then a week later for a telephone follow-up interview.

Materials

All individuals were given the Wisconsin Card Sorting Test, the Raven's Progressive Matrices, the Warrington Memory Test, and a packet consisting of four autobiographical memories and one false memory that the investigators individualized for each participant.

Procedure

Phase 1 - Investigators contacted a relative of the participant to obtain 4 memories from the participant's childhood. These memories were specifically related to an incident that occurred when the participant was a child, between the ages 4 to 8. The four memories were then compiled into a packet with one additional false memory added by the investigators. The content of the false memory was "being lost while shopping with parent."

Phase 2 - The memory packet was then given to the participant. The participant was asked to read each memory and write down all that s/he remembered about the specific memory. If they could not recall anything about the memory, they were asked to write, "I don't remember."

Phase 3 - The investigator administered the Wisconsin Card Sorting Test, the Warrington Memory Test, and the Raven's Progressive Matrices, respectively.

Phase 4 - The Participants were contacted by phone one week after the first phase of the experiment. They were given cues about each of the five memories and asked to recall everything they could about each memory. If they were unable to remember the given memory they were asked to respond: "I don't remem-

ber." Thereafter, the investigator recorded what each participant recalled.

Scoring

Each of the tests, Raven's Progressive Matrices, Warrington Memory Test and Wisconsin Card Sorting Test was scored based on each tests' particular scoring method. The memory packet was scored in the following way: If the person was able to remember any element about a memory they received a score of 0; if they responded "I don't remember" they received a score of 1.

Results

Based on the design of the experiment we evaluated the results of each measure that were administered as well as the recollection of the false memory. A percentage score was obtained for each subject on the Raven's Matrices. The three scores analyzed on the Wisconsin Card Sorting Test were the number of non-perseverative errors, perserverative errors and total errors made for each subject. The total number of correct responses was used for the Warrington Memory test.

By calculating means for each of the measures and running t-tests we were able to note that there was no significant difference between the two groups. The results from a Chi-square tabulation are also not significant.

On the Raven's Progressive Matrices, the mean for the older group was 84.00 and the mean for the younger group was 70.80. This result is counterintuitive and may not be completely representative of a general sample in the ages 60 to 84.

For the Wisconsin Card Sorting Test the mean for perserverative errors was 8.40 for the first group and 8.60 for the younger sec-

ond group. For non-perserverative errors, the mean for the first group was 3.60 and the mean for the second group was 5.40. The total error score for the first group was 12.00 and the second group was 14.00. The means were the same for the categories completed.

For the Warrington Memory Test, the mean for the first group was 39.40 and the mean for the second group was 40.60. These results were not significantly different, which is important for the assumption of the study. If they were significantly different then we would have to take other deficits into account to explain the discrepancy in recollection of the false memory. Since both groups were basically the same, we can infer that age was the strongest predictor of false memory recollection.

The data revealed that older adults recalled 2 total false memories and younger adults recalled 1. Out of the sample size of 10, that value is not significant. Although, there is no significant effect, one might speculate that older adults recall false memories 50% more than younger adults. However, we are not able to make this assumption based on the sample size of only 10 subjects.

Discussion

The results of this study attempted to support two different assertions. First, no significant difference exists between the older and the younger group in terms of frontal cortex functioning. Second, older adults are more susceptible to false memory implantation because of age-related decrease in source monitoring ability. Older adults recalled 50% more false memories than younger adults. Due to the small size of the sample, we were unable to determine a statistically significant difference in support of our assertion that the older adults would be more susceptible to recall a false memory than the younger adults. The result

that older adults recalled 50% more false memories than younger adults might help to reveal a trend that may support our assertion if the sample size were increased.

The result of increased false memories in older adults might be explained by an age effect in source monitoring. The age-observed differences in source monitoring studied by Johnson, Hastroudi and Lindsay (1993) revealed a decrease in source monitoring abilities of older adults. This is what might explain the trend that we observed in our experiment. It is more difficult for older adults to remember the specific qualities of an event so that they may remember it within a contextual framework. The constant experience of difficulty in recalling events may result in the decreased ability to trust their memory. This might also contribute to their propensity to acknowledge an event that did not happen. The corroboration of a family member might also influence the subject to recall the false memory. Loftus (1997) suggested that the mere claim of someone doing something wrong such as getting lost in a store, might also contribute to the subject recalling the memory and admitting any wrongdoing. The suggestive technique in this study most likely also led to a higher chance of the subject recalling the false memory,

Generalizability of our sample to other ethnic and socioeconomic groups is limited. It is important to take into consideration that our sample consisted predominantly of Caucasian, middle-upper class males and females with at least a college education. The older adults, for the most part, were professionals in an accounting and financial services firm in New York City. These adults remained employed full-time even though most had reached the minimum age of retirement. However, the study has provided a foundation from which another research study might develop.

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