

False Memory And The Use Of Lures

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Abstract

We assessed false memory through the use of related and unrelated word recall. Exactly 36 participants completed this study from a small university. Students participated via CogLab, an online laboratory setting used by a cognitive psychology class. The percentage of words recalled had a strong correlation with the actual words shown as well as the related lure words, and there was not a strong difference in words that were unrelated to the original words. These results show that participants have a memory for words that were not previously shown, supporting the concept of false memory.

Keywords: false memory, original words, related lure, unrelated lure, word recall

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Roediger and McDermott (1995) conducted a follow up study to a previous 1959 study by J. Deese on false memory. Roediger and McDermott conducted two separate studies, each assessing false memory in undergraduate college students. They assessed false memory through memory recall, specifically using a list of words paired with completely unrelated words and weakly related words. They asked students to use free recall for what words they believed were on the list. The study was again replicated and students were asked to recall though a recognition test. The results of this study show that students did have false memories from the list of the original words.

A second study was conducted, with the goal of addressing specific problems from the first study. They firstly wanted to have students recall a larger list of words. They most importantly wanted to study the phenomenological experience that participants experienced. They examined specifically the difference between remembering information and knowing information. Overall, with the increase of information, false memory was still present, as well as high false levels of remembering information. Results from both experiments of this study support false memory.

Our cognitive psychology class from a small university replicated this study via an online laboratory program, entitled CogLab. Our particular study used recognition recall only, as well as using related and unrelated lures alongside the original words. We conducted six trials, and the original list of 15 words are shown sequentially followed by the recall task. The recognition recall contained original words, related and unrelated lures. We theorized that students would recall a significant amount of related words in addition to the original words.

Method

Participants

Approximately 36 young adults (31 women, 5 men) from a small university participated in the false memory study. Students completed the study as a class requirement for a cognitive psychology class.

Materials and Procedure

Participants completed the study through an online laboratory program called CogLab on their own time. Coglab is a program frequently used by cognitive psychology students which is a purchased access code and is used online. Modeled similarly to the Roediger and McDermott's study, participants are shown a list of words and then asked to recall what they remember using a recognition task. Participants are then walked through the procedure of the study, which includes a brief history on the study of false memory. The participants are instructed to be engaged in the study for at least 15min before directing them to the lower portion of the screen, where they saw a white screen with a focusing cross. After clicking "Start Next Trial" at the bottom of the white rectangle, 16 words flashed on the screen one at a time for 1s. The words flashed are considered the original words. Participants are then shown a word bank of approximately 16 words of which to recall the previously shown words. These are shown in dark grey boxes with one word in each box. Participants clicked on the boxes that they believed are in the original list of words shown before clicking "Start Next Trial". This is conducted a total of six times, with new words used each time. Following the six trials, participants are guided to the results section, which include defining the independent variable, the type of word presented during the recall - original, unrelated, and related lure - as well as the dependent variable, which is percentage of each type of word reported.

Results

A one-way repeated measures Analysis of Variance (ANOVA) showed that there was a significant difference between the use of original words and related and unrelated words in the study of false memory, $F(2, 72) 248.945, p < .001$.

A Bonferroni-adjusted dependent t test post-hocs showed that there was a significant difference between the original words ($M = 74.26, SD = 14.04$) and the unrelated words, $t(36) = 31.269, p < .017$, CI[65.83, 74.96](two-tailed), as well as the unrelated words ($M = 3.86, SD = 4.21$) and related words, $t(36) = -15.352, p < .017$, CI[-77.73, -59.59](two-tailed). There was not a significant difference between the related words ($M = 72.52, SD = 26.99$) and the original words, $t(36) = .469, p = .642$, CI[-5.79, 9.27](two-tailed), see Figure 1.

Discussion

The results from this study do support the idea of false memory, specifically the difference between related word lures and original words. There were significant findings to support false memory, and overall our participants did show a significant difference between original and unrelated words as well as related and unrelated words, but they did not have a significant difference between original words and related words, which supported our hypothesis. These findings also agree with the findings from Roediger and McDermott's 1995 study. As the 1995 study show, knowledge of the study beforehand do not impact the results of the study, so our previous knowledge do not effect our results. I would use the same method imposed in the 1995 study, experiment two, and expand the word bank to greater than 15 items. I would also suggest a longer amount of time pass between the initial observation and the recall, our study via CogLab had them happen almost immediately afterwards.

References

Roediger, H.L., & McDermott, K.B. (1995). Creating false memories: Remembering words not presented in lists. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 21(4), 803-814.

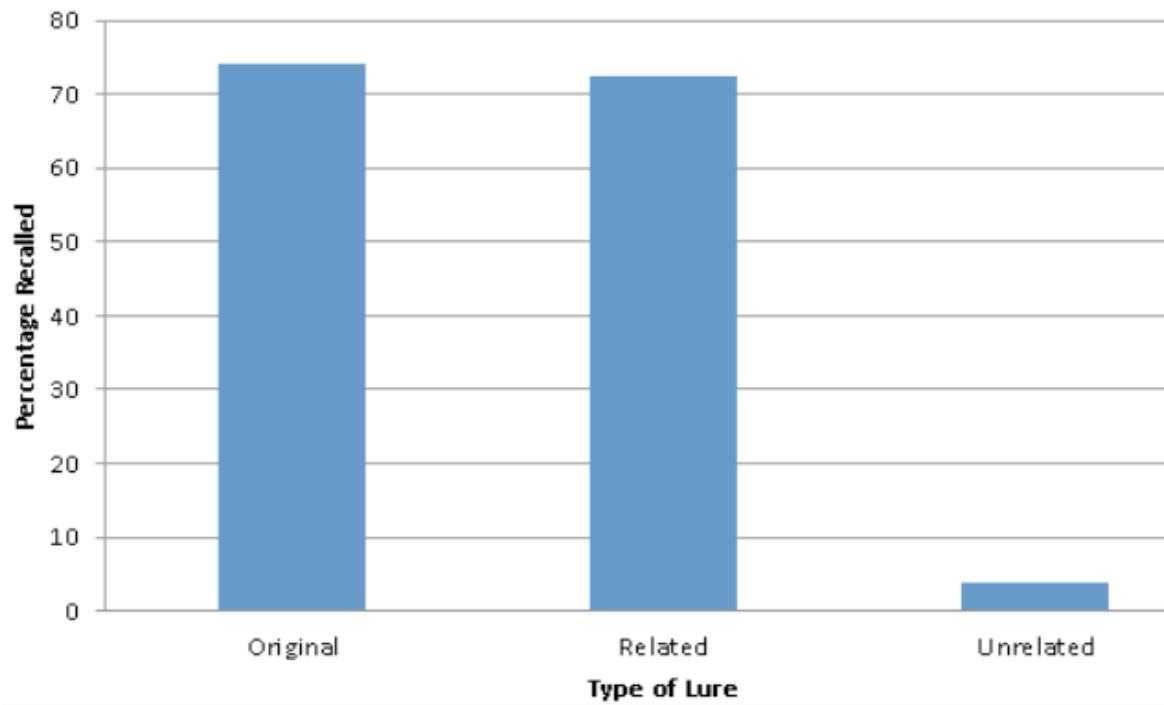


Figure 1. Participants who viewed both the original and unrelated words as well as the related and unrelated words recalled a significant percentage of words. There was not a significant difference between the original and related words.