The Effects of Task Relatedness on False Memory Production in the DRM
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Introduction
Since the Deese-Roediger-McDermott Procedure was first published in 1995 (Roediger & McDermott, 1995), there has been much research done on divided attention within the DRM Procedure. Divided attention (DA) research using the DRM Procedure has looked at the presentation of various tasks: digit span tasks, simple response tasks, articulatory suppression tasks, random number generation, digit span tasks, Stroop tasks, etc (Dewhurst et al. (2007), Perez Mata et al. (2002), Dodd & MacLeod (2004)). The findings from most of the research on divided attention and the DRM Procedure has found that DA decreases correct recall while increasing false recall (Dewhurst et al. (2007), Dodd & MacLeod (2004)). In the following research, experimenters asked how the relatedness of the tasks to the DRM lists would affect the production of correct recall and false recall of critical words.

Methods
• Participants were asked to memorize five lists of DRM words.
• DRM words were presented one at a time.
• Pictures were presented with the words on 8 of the 15 words presented except Control Condition 1, which had no pictures presented.
• Four of these pictures were related to the list presented, 4 were not.
• All of the pictures were normed to be the same size.
• Control Condition 1 Participants did not see any pictures
• Control Condition 2: Participants saw pictures but were instructed to ignore them.
• Pleasantness Condition: Participants were asked to rate the pleasantness of each picture.
• Relatedness Condition: Participants were asked to rate the relatedness of the picture to the word list.
• Recall was completed after each set of 15 words were presented and a short mental math distractor task was performed.

Theory
Two theories that are commonly used to explain the results of false memory research are: 1) The fuzzy trace theory (FTT), and 2) The activation monitoring framework (AMF) (Brainerd, Reyna, & Brandse, 1995). The AMF predicts that memories are produced by chaining similar items via activation to the initial presented item (McDermott & Roediger, 1998). In this way, memories are activated one after the other. FTT posits that there are two types of memory traces: gist and verbatim (Brainerd & Reyna, 1995). The AMF makes predictions that seem to help explain the prevalence and the strength of the false memories.

Hypotheses
• Hypothesis 1: Critical words will be produced at high levels in all the conditions; critical words will be produced at higher levels within the DA conditions.
• Hypothesis 2: Correct recall is expected to be lower within DA conditions than within the Control conditions.
• Hypothesis 3: Intrusions of the presented pictures are expected to have high levels of recall.

Results

Discussion
• Hypothesis 1 was NOT upheld: Overall, DA groups had lower critical word recall than the control conditions. This result was driven by the low false recall of critical words within the Pleasantness Condition. Critical word recall was significantly (p< 0.05) higher in the Relatedness Condition compared to the Pleasantness Condition.
• This reveals that, while divided attention affects the recall of critical words, the relatedness of the tasks within the divided attention has effects that should be investigated further.
• This could imply that the distinctive processing of the pictures within the Pleasantness Condition allowed participants to maintain source information which blocked the production of critical words, whereas the Relatedness Condition disrupted the verbatim traces allowing the gist traces to produce an increase in false recall of critical words.
• Hypothesis 2 was upheld: Participants in the Pleasantness and Relatedness conditions recalled significantly fewer correct words than in either Control Condition.
• Hypothesis 3 was NOT upheld: Intrusive recall of pictures within the list words was nonexistent.

References