July 4th, 2023

Aaron S. Benjamin, PhD

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Dear Dr. Benjamin:

Dr. Mark Huff and I are submitting our manuscript “Judgment of Learning Reactivity Reflects Enhanced Relational Encoding on Cued-Recall but not Recognition Tests” for consideration as an original research article in the *Journal of Experimental Psychology: Learning, Memory, and Cognition*.

This study investigates whether positive reactivity observed on forward paired associates (e.g., mouse – cheese) extends to semantically mediated associates (e.g., lion – stripe). Unlike forward associates which contain strong relatedness cues, mediated associates appear unrelated at encoding yet are indirectly related via a non-presented mediated (e.g., tiger). Based on Soderstrom et al.’s (2015) cue-strengthening account, reactivity should not occur on mediated associates, as per this account, reactivity requires the presence of perceptible relatedness cues at encoding. However, a relational account of reactivity predicts a memory benefit for mediated associates. According to this account, JOLs encourage relational encoding, which pre-existing strengthens cue-target associations (see Maxwell & Huff, 2022). Thus, our use of mediated associates allowed us to test these accounts. Overall, we show that positive reactivity extends to mediated associates using cued-recall (Experiment 1) and recognition test types (Experiments 2 and 3). Additionally, in Experiments 2-4, positive reactivity also extended to unrelated pairs when recognition testing was used. Thus, when cued-recall testing is used, reactivity reflects increased relational encoding, with related but not unrelated pairs incurring a memory benefit. However, JOLs also enhance familiarity cues, which are more likely to benefit recognition. Thus, unrelated pairs only benefit when recognition testing is used. As such, we propose that JOL reactivity reflects a combination of cue-strengthening and relational encoding, with the type of test ultimately determining whether strengthened cues or relational encoding influence memory.

We believe that our findings make substantive and novel contributions to the literature, particularly through our use of mediated associates and our inclusion of recognition testing. This work is original and not under review elsewhere, and we disclose no conflicts of interest. We look forward to hearing about the suitability of our manuscript in the *Journal of Experimental Psychology: Learning, Memory, and Cognition*.

Sincerely,

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