December 30th, 2024

Dr. Kathleen Hourihan, PhD

Action Editor

*Memory*

Dear Dr. Hourihan:

I have submitted a revised version of MEM-OP-24-199 “Judgments of Learning Improve Memory for Word Lists via Enhanced Item-Specific Encoding: Evidence from Categorized, Uncategorized, and DRM Lists” for your consideration. I appreciate the thorough examination provided by yourself and Reviewer 1 and am pleased that each of you were positively inclined towards the manuscript. I am particularly encouraged that Reviewer 1 viewed the manuscript as being “well-written,” found the experiments to be “well thought out,” and suggested only minor improvements.

Below, you will find my responses to each comment. To facilitate the review process, I have cited page numbers when referencing primary changes to the manuscript and have made all major modifications using blue-colored font. I look forward to your response and hope that the revised version of this manuscript is now suitable for publication in *Memory*.

Sincerely,

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**Action Editor:** Dr. Kathleen Hourihan

**Comment 1:** I wonder about the use of the term "inhibit", in the context of item-level JOLs enhancing item-specific but "inhibiting" relational processing (pp. 7, 10, 20, 22). Is there evidence that inhibition is the mechanism here? Or could it be an interference effect? Perhaps a mechanism-neutral term (e.g., "reduce") would be better unless there is evidence that making JOLs actually inhibits or suppresses processing of relational information.

***Response***: This is an interesting point. Initially, I opted to use the term “inhibit” to describe the effects of item-level JOLs on relational encoding processes, since findings from Zhao et al. (2023) suggest that the act of making item-level JOLs on word lists potentially disrupts inter-item relational processing. However, as you noted, this disruption could potentially stem from an “inhibition” process or it may instead reflect an “interference” effect. Based on your suggestion and the fact that this study was not specifically designed to test the specific mechanism by which item-level JOLs disrupt relational encoding, I have updated my description of this effect accordingly. Specifically, the terms “inhibit” and “inhibiting” have been replaced with “reduce” and “reducing” throughout the manuscript when describing the effects of item-level JOLs on relational processing (e.g., pp. 7, 10, 20, and 22).

**Comment 2:** I'm a little confused about the calculation of d' reported for false recognition in Experiment 2 (p. 25). I assume that the first d' values reported on p. 24 (and in Table A7) were computed with the hits and list-item-control FAs; this gives a standard measure of discriminability of old from new. But what was used for the d' for false recognition? Is this considering false recognition of critical lures from studied lists as "hits" and the false recognition of critical lures from unstudied lists as "false alarms" (i.e., the middle two rows of Table A7)? Please clarify, as it is unusual (as far as I know) to use false recognition as a "hit".

***Response***: In Experiment 2, *d'* for false recognition of critical lures was computed as the standardized difference between recognition of critical lures (which was used as a proxy for “hits”) and FAs for critical lure control items. While using any type of false recognition as a “hit” measure seems counterintuitive, the goal of these analyses was to get a measure of memory information for false recognition of critical lures. As such, *d'* was calculated on false recognition of critical lures following recommendations of Huff, Bodner, and Fawcett (2015; *Psychonomic Bulletin & Review*), who advocated that *d'* could be used as a viable index of the amount of memory information participants falsely encode for critical lures when false recognition of critical lures and critical lure controls FAs were used as the parameters in these analyses. Moreover, there is a precedence for using this approach in the literature, as this method of computing *d'* for false recognition of critical lures has been previously used in several DRM studies (see Corlett et al., 2009; Bodner, Huff, Lamontagne, & Azad, 2016; Huff & Bodner, 2013; Huff, Maxwell, & Mitchell, 2022, for examples).

I have revised the Experiment 2 results section on pg. 25 to clarify how *d'* was computed for false recognition of critical lures and now note that this approach is consistent with the broader DRM literature. Additionally, Table A7 has been updated to include *d'* and *c* for false recognition of critical lures. Finally, I have updated the Table A7 note to include a brief overview of how *d'* was calculated for false recognition of critical lures.

**Minor comments**

All minor points have been addressed. I appreciate you taking the time to review this manuscript!

**Reviewer: 1**

**Comment 1:** Although the data are compelling and do seem to suggest that global JOLs benefit tasks that rely on relational encoding, I’m curious mechanistically how that would work. That is, how would global JOLs made after studying a list encourage relational processing and in turn benefit memory on tests that are sensitive to relational encoding?

***Response***: Global JOLs would be expected to produce relational encoding of word lists, so long as they encourage participants to reflect on the overall theme of the list while providing their JOL. For example, a growing body of research has found that JOLs on cue-target word pairs often encourage participants to process pre-existing relations between stimuli, regardless of whether JOLs are made concurrently with (i.e., similar to item JOLs in the present study) or immediately following study of each pair. This is because, as noted on page 26 of the initial submission, pre-existing relations between study materials are a highly salient marker of later remembering, and participants use this information to inform the magnitude of their JOLs (i.e., cue-utilization; Koriat, 1997). As such, while the global JOL task was not designed as an explicit relational encoding task (i.e., the JOL instructions did not specifically tell participants to consider list themes when making their JOLs), participants likely reflected upon list themes when making global JOLs. This has now been clarified and expanded upon on pgs. 8-9 of the Introduction.

While the present study did not directly assess the type of processing which global JOLs produced (i.e., participants were not directly asked to describe what factors influenced their global JOLs), findings from the present study support a relational encoding account of global JOLs. Specifically, the finding in Experiment 1A that global JOLs only benefitted free-recall of categorized lists is consistent with cue-target pair studies showing that JOL reactivity is contingent upon processing of pre-existing relations between stimuli. Additionally, the finding in Experiment 2 that global JOLs did not reduce the DRM illusion and instead increased false recognition of critical lures is also consistent with this account, as tasks which promote relational encoding would be less likely to reduce the DRM illusion compared to item-specific tasks. However, because the present study was not designed to explore the specific mechanisms by which global JOLs encourage relational processing, more work is needed to fully explore the underlying mechanisms by which relational processing potentially occurs.

**Comment 2:** Were participants informed about the type of memory test they would be taking? Could affect their judgments.

***Response***: Although participants in all encoding groups were informed that their memory would be tested following the study phase, they were not specifically instructed as to which type of memory assessment they would be completing. This procedure is consistent with prior studies which have assessed JOL reactivity with multiple test formats (e.g., Maxwell & Huff, 2024; *Metacognition and Learning*; Myers, Rhodes, & Hausman 2020; *Memory & Cognition*). However, this raises an interesting question, because if participants knew that they would be tested via free-recall or recognition, they may adopted vastly different study strategies based on the upcoming type of test and potentially changed the way in which they interacted with the stimuli (i.e., they may put it in more “effort” at encoding if they knew they would be taking a free-recall test, as they might view this test format as being more difficult than recognition). Thus, participants’ beliefs about the upcoming test type may potentially influence their study strategies and their JOLs.

Because of this, participants were not informed of the specific test type they would be completing, as I did not want to inadvertently introduce additional noise into the data. However, to my knowledge, it remains an open question as to whether expectations of a specific test type can influence JOL reactivity effects and, if so, what factors may potentially influence this effect. As such, future research may wish to explore this question when comparing JOL reactivity effects between recall and recognition test types.

**Comment 3:** P. 11, line 26 – looks like the sentence is missing something (semantically unrelated?).

***Response***: This sentence has been updated accordingly. I appreciate your attention to detail.

Thank you for taking the time to review this manuscript!