Item-specific vs. relational processing can reduce and even eliminate illusions of competence Emily Cates, w961563

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Castel, A. D., Mccabe, D. P., & Roediger, H. L. (2007). Illusions of competence and overestimation of associative memory for identical items: Evidence from judgments of learning. *Psychonomic Bulletin & Review*, *14*(1), 107–111. doi: 10.3758/bf03194036

This study assessed how people’s metacognition can be inaccurate through the use of judgements of learning (JOLs). Two experiments were conducted using a mix of strongly associated, weakly associated, unrelated, and identical word pairs to see how the different levels of relatedness would affect JOLs. It was predicted that the identical pairs would have higher JOL ratings, but lower recall rates, and that participants would spend less time studying the identical word pairs because they may be perceived as easier to remember. The study found that JOLs for the identical word pairs were higher than the actual recall rates and that the identical word pairs received the shortest study time. The authors stated that having the word lists composed of a variety of associative strength word pairs was vital to the study because it ensured that there were varying degrees of difficulty with the word pairs. This study pertains to my research project because my study also uses a variety of associative strength word pairs and self-paced study blocks. From this study, I gained the insight that my participants may spend less time studying the word pairs they perceive to be easier, which may help explain some of my results.

Dunlosky, J., & Hertzog, C. (2000). Updating knowledge about encoding strategies: A componential analysis of learning about strategy effectiveness from task experience. *Psychology and Aging*, *15*(3), 462–474. doi: 10.1037/0882-7974.15.3.462

This study examined how experience with a task could affect memory predictions and how the predictions varied with age. Participants either deeply encoded words by using imagery or shallowly encoded by using repetition, gave their memory predictions, attempted to recall the words, and then gave post-recall predictions on their memory. It was found that older adults were still able to monitor memory, participants got better at predicting their memory for the words, and aging did not have much of an effect on participants abilities to update their knowledge about the effects of the encoding strategies. While my study does not focus on older adults, it was insightful to see that participants were capable of improving their memory predictions. This is relevant to the second experiment in my study where I have added a warning about the illusion of competence found with backward pairs. My hope with this warning was that participants would improve their JOL ratings, so this study showed that improvement may be possible.

Einstein, G. O., & Hunt, R. R. (1980). Levels of processing and organization: Additive effects of individual-item and relational processing. *Journal of Experimental Psychology: Human Learning & Memory*, *6*(5), 588–598. doi: 10.1037/0278-7393.6.5.588

This study compared relational and item-specific encoding strategies and assessed how they affected participant’s memory for unrelated and related word lists. Two experiments were conducted using a variety of unrelated and related word lists to asses how the different encoding strategies would affect memory for the words. The first experiment focused more on semantic and nonsemantic tasks, but my research follows more closely with the second experiment that focused on applying the different encoding strategies to related and unrelated word lists. It was found that the item-specific encoding worked better for strongly related word lists, but relational encoding worked better for unrelated word lists. It was also found that the two tasks used to demonstrate item-specific and relational encoding worked best when combined. This study directly applies to my research because I have applied both the item-specific and relational encoding strategies in my experiments. From this study, I’ve gained the insight that my research is trending in the right direction because I have found that item-specific encoding works well for the related word pairs and that the relational encoding works well for the unrelated word pairs.

Hertzog, C., Dunlosky, J., Robinson, A. E., & Kidder, D. P. (2003). Encoding fluency is a cue used for judgments about learning. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *29*(1), 22–34. doi: 10.1037/0278-7393.29.1.22

Hunt, R. R., & Einstein, G. O. (1981). Relational and item-specific information in memory. *Journal of Verbal Learning and Verbal Behavior*, *20*(5), 497–514. doi: 10.1016/s0022-5371(81)90138-9

This study was done as a follow up to the 1980 experiments conducted by Einstein & Hunt (cited previously). A follow up study was needed because the conclusion that the combination of the two tasks demonstrating encoding strategies was better than the encoding tasks alone may have been misguided because the memory benefit could have instead been a result of more processing. Four experiments were conducted to asses the interaction between the encoding strategies and the different types of study tasks. Overall, it was found that the benefits of the item-specific and relational encoding strategies were contingent on the context of the words being studied. The example given was that thinking of the color of the items in the words could either help relate the words together or help set the words apart. While this study does not have a direct relation to my study, I gained more knowledge on how the benefit in memory from item-specific and relational encoding strategies may be influenced by the type of words being studied.

Koriat, A., & Bjork, R. A. (2005). Illusions of Competence in Monitoring Ones Knowledge During Study. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *31*(2), 187–194. doi: 10.1037/0278-7393.31.2.187

This article studied how an illusion of competence can develop when giving JOLs for associated word pairs. Illusions of competence are present when participants give higher JOLs for their predicted recall of word pairs than their actual recall for the pairs. The illusion of competence may result from participants seeing a weak association when looking at a word pair but not being able to recall the association later when they are only given the cue word from the pair. This directly relates to my study because my experiments have focused on trying to reduce the illusion of competence found with backward associative word pairs. This study gave me more insight into how illusions of competence are formed.

Koriat, A., & Ma’Ayan, H. (2005). The effects of encoding fluency and retrieval fluency on judgments of learning. *Journal of Memory and Language*, *52*(4), 478–492. doi: 10.1016/j.jml.2005.01.001

Nelson, D. L., Mcevoy, C. L., & Schreiber, T. A. (2004). The University of South Florida free association, rhyme, and word fragment norms. *Behavior Research Methods, Instruments, & Computers*, *36*(3), 402–407. doi: 10.3758/bf03195588

Roediger, H. L., Wixted, J. H., & Desoto, K. A. (2012). The Curious Complexity between Confidence and Accuracy in Reports from Memory. *Memory and Law*, 84–117. doi: 10.1093/acprof:oso/9780199920754.003.0004

Undorf, M., & Erdfelder, E. (2013). Separation of Encoding Fluency and Item Difficulty Effects on Judgements of Learning. *Quarterly Journal of Experimental Psychology*, *66*(10), 2060–2072. doi: 10.1080/17470218.2013.777751