The judgment of learning (JOL) task is often used to assess memory monitoring at encoding. In the JOL task, participants study a cue-target word pair (e.g., mouse-cheese) and are asked to rate the probability of correctly recalling the target in the presence of the cue at test (e.g., mouse-?). Previous research has shown that the accuracy of JOLs is sensitive to perceptual cues. These cues can induce metacognitive illusions, such as the *font-size effect* (Rhodes & Castel, 2008) in which participants inflate their JOL ratings when word pairs are presented in large font relative to small font. Although the font-size effect has been reported under several conditions, the underlying factors driving the effect remain unclear. Two theories have been proposed to account the font-size effect—the fluency account and the beliefs account. First, the fluency account states that larger words are more perceptually fluent than smaller words. Due to their greater perceptual fluency, participants process larger words more efficiently and/or effectively, leading to greater JOLs relative to smaller words (Undorf, Zimdahl, & Bernstein). Alternatively, the beliefs account posits that participants beliefs about an item’s memorability is the primary factor influencing JOLs. Regarding the font-size effect, participants may assign higher JOLs to large items because they hold the belief that large pairs are easier to learn than small pairs (Mueller, Dunlosky, Tauber, & Rhodes, 2014).

The present study provides an additional test of the font-size effect while also testing whether other perceptual manipulations can influence the correspondence between JOLs and recall. First, Experiments 1A and 1B were designed to replicate the font-size effect using a mix of related and unrelated word pairs and tested whether JOL overestimation extended to a highlighting manipulation. Experiments 2A and 2B then provided additional tests of both font-size and highlighting on JOLs respectively, using only unrelated word pairs. Finally, Experiment 3 tested whether presenting pairs using Sans Forgetica—a perceptually disfluent font designed to improve memory—would result in inflated JOLs. In doing so, Experiment 3 tested the fluency and beliefs accounts of how perceptual features affect JOLs. Based on the fluency account, the disfluent nature of Sans Forgetica should result in lower JOLs relative to a more fluent font such as Arial. However, if participants hold a memory belief that pairs presented in Sans Forgetica are more likely to be correctly recalled at test, then JOLs may be inflated for the Sans Forgetica pairs. Importantly, all experiments included a pure-control group comparison in which only the standard perceptual condition is used (i.e., all pairs presented in a standard font size), rather than a mix of perceptually fluent/disfluent pairs. These control groups were included because encoding manipulations have been shown to spill over into other encoding tasks when encoding is manipulated within-subjects (Huff, Bodner, & Gretz, 2021). This additional comparison group allowed us to gauge perceptual effects on JOLs more accurately relative to a baseline condition.

Across all experiments, the perceptually fluent conditions did not result in an overestimation of later recall relative to the disfluent conditions. First, in Experiments 1A and 1B, [EXPAND]. Next, these patterns replicated across Experiments 2A and 2B, such that.. [EXPAND]. Finally, in Experiment 3, the perceptually disfluent Sans Forgetica font in Experiment 3 yielded a memory cost, though it had no effect on JOLs. Specifically, [EXPAND]. Collectively, this set of experiments provides a greater understanding of how perceptual features influence JOLs and recall, particularly within the context of cued-recall testing.

This research supports the Pychonomic Society’s mission of fostering the science of cognition via the advancement and communication of basic research in experimental psychology by (1) attempting to replicate the font-size effect, which is an established finding in metamemory research, and (2) testing whether the effect can be produced via two novel manipulations (highlighting and Sans Forgetica), and (3) [control groups]. Furthermore, this research has applied implications, as [learning strategies]. In sum, [SUMMARY]

References