

Volume, Implied Volume, and Gender's Impact on Judgments and Performance

Wilson Lester, Alan Harrison, Kenneth Hammett, Hillary Erwin, Donald Skinner, Michael Waldon, and Jodi Price
University of Alabama in Huntsville

Abstract

Prior research has found that the presentation volume in which words are presented influences learners' judgments of learning (JOLs). Rhodes and Castel (2009) found that learners provide higher JOLs to items presented loudly than to items presented quietly, despite there being no difference in recall performance as a function of presentation volume. Foster and Sahakyan (2012) also found that learners gave higher JOLs to loud than to quiet presentation volume items, but their participants recalled more items presented loudly than those presented quietly. Thus, there may be differences in the way learners use presentation volume when learning material.




The cited studies used one person's voice for presentation. However, gender-based schemas suggest men are perceived as louder than women (Kramer, 1977), raising questions whether participants' JOLs and recall performance would differ if both male and female speakers presented items loudly and quietly. We also wanted to investigate whether participants attend to the innate sound qualities associated with various words (e.g., bulldozer = loud, slipper =quiet, and pumpkin=neutral) during encoding.

The present study investigated whether JOLs, recall, and source monitoring would differ as a function of schema-based associations (i.e., presentation volume, speaker gender, and innate sound quality). A male and female speaker presented an equal number of loud, quiet, and neutral words in either loud or quiet presentation volumes across conditions. In one condition participants were presented stimuli through an audio-only format. In the second condition, each stimulus was presented in both audio and visual formats. We did this to see if there are multimodal effects that may also affect performance.

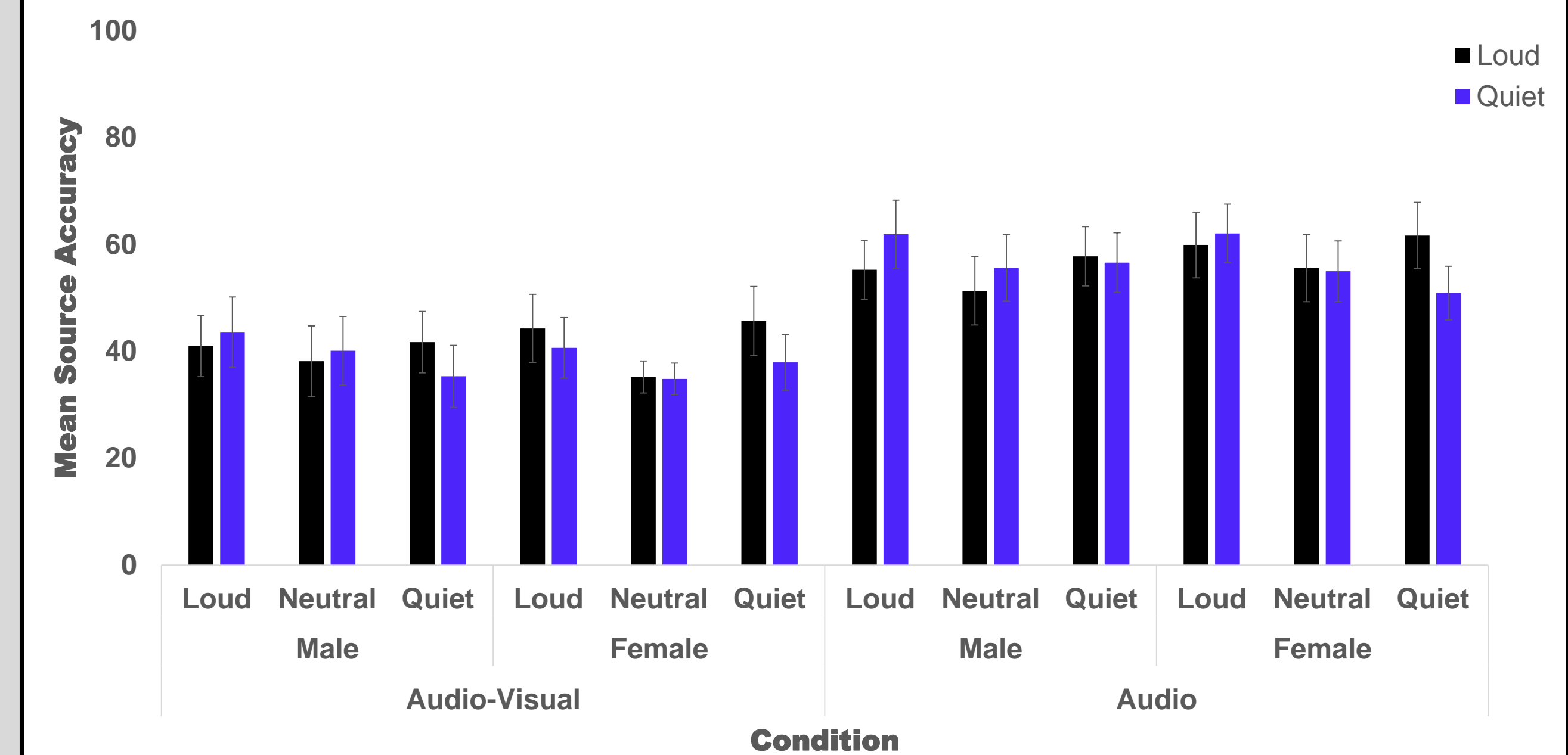
Hypotheses

- Learners will give higher JOLs to loud than to quiet presentation volumes (Rhodes & Castel, 2009).
- If word type influences JOLs, participants should provide higher JOLs to innately loud words rather than quiet and neutral word types.
- We do not expect a difference in recall performance.
- It remains possible that source monitoring performance may be affected by presentation volume and whether the volume and speaker's gender combine to fit with gender-based schemas.

Method

Audio:		→	Pumpkin
Combination:	 + 	→	Pumpkin
Presentation Volume			
Word Type	½ Loudly	½ Quietly	
Loud			
Male:	Alarm	Carnival	
Female:	Chainsaw	Construction	
Quiet			
Male:	Breeze	Cane	
Female:	Cat	Fountain	
Neutral			
Male:	Book	Banana	
Female:	Cable	Dirt	

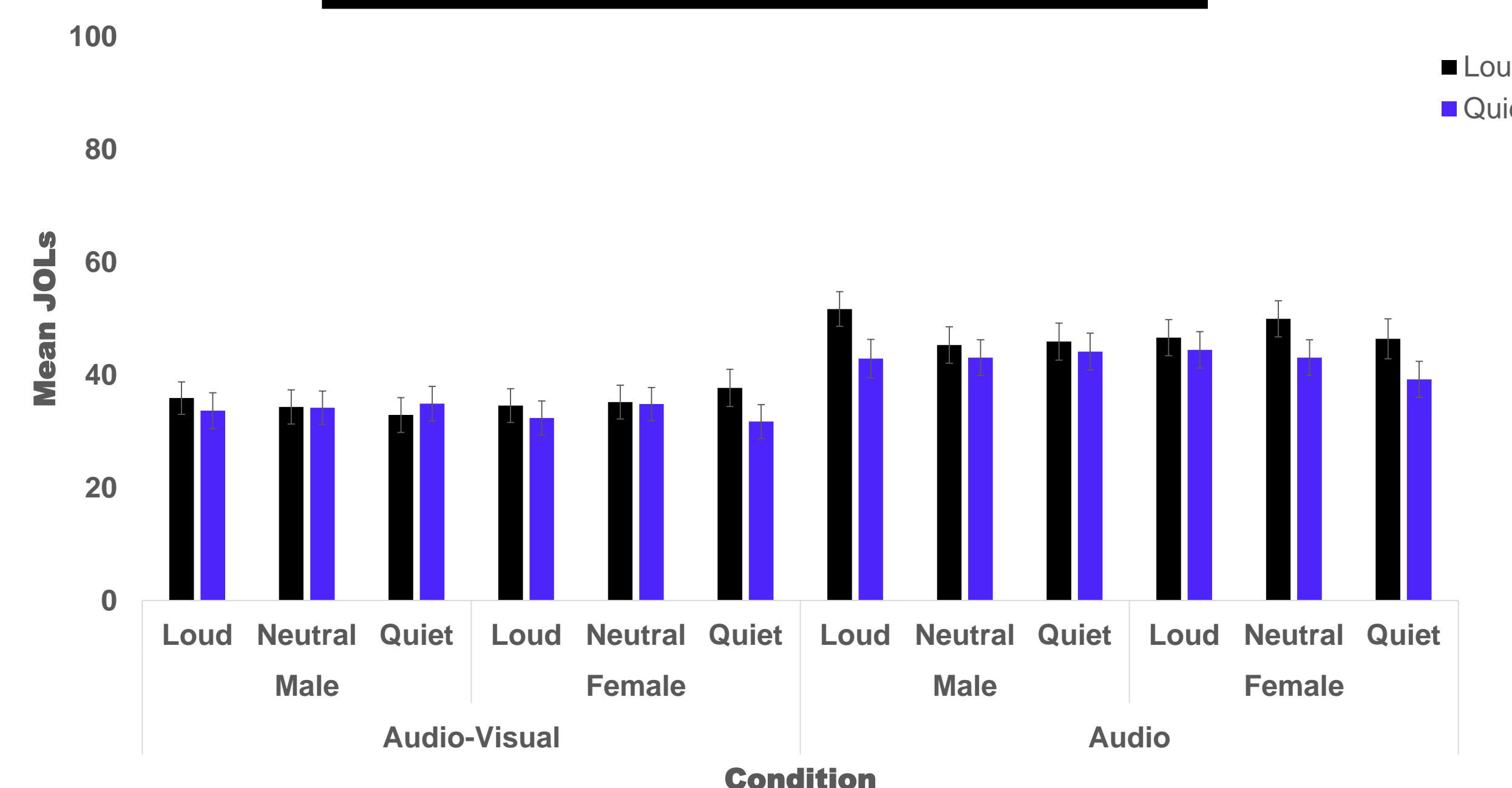
Source Accuracy



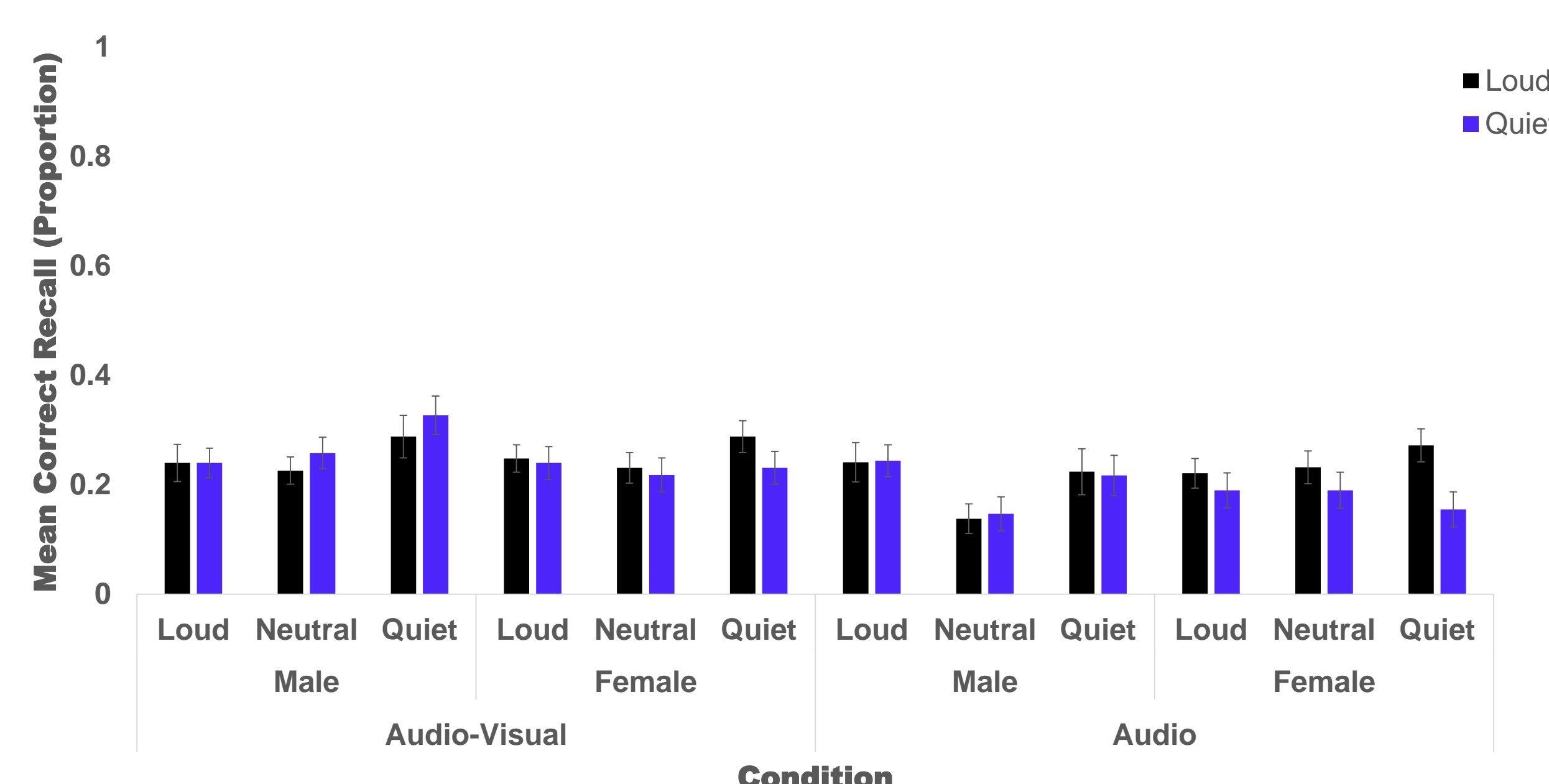
Discussion

- Higher JOLs were provided in the Auditory-only condition than in the Audio-Visual condition.
- Participants also gave higher JOLs for items presented in a loud rather than a quiet presentation volume, in keeping with prior research.
- Speaker gender and word type interacted to influence JOLs.
- Participants achieved higher recall performance for quiet than for loud or neutral word types.
- Speaker gender interacted with presentation volume to influence recall.
- Word type influenced source monitoring accuracy, with higher accuracy for loud than for quiet or neutral word types.
- Source accuracy was better for loud words presented quietly and for quiet words presented loudly.

Judgments of Learning



Recall Performance



References

- Foster, N. L., & Sahakyan, L. (2012). Metacognition influences item-method directed forgetting. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 38, 1309. doi:10.1037/a0027868
- Kramer, C. (1977). Perceptions of female and male speech. *Language & Speech*, 20, 151-161.
- Rhodes, M. G., & Castel, A. D. (2009). Metacognitive illusions for auditory information: Effects on monitoring and control. *Psychonomic Bulletin & Review*, 16, 550-554. doi:10.3758/PBR.16.3.550