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## Background and Rationale

**Judgments of learning (JOLs)** refer to individuals' predictions of future memory performance based on their evaluation of prior learning.

Increased **perceptual fluency** (i.e., subjective ease of processing) has been shown to inflate individuals' JOL ratings.

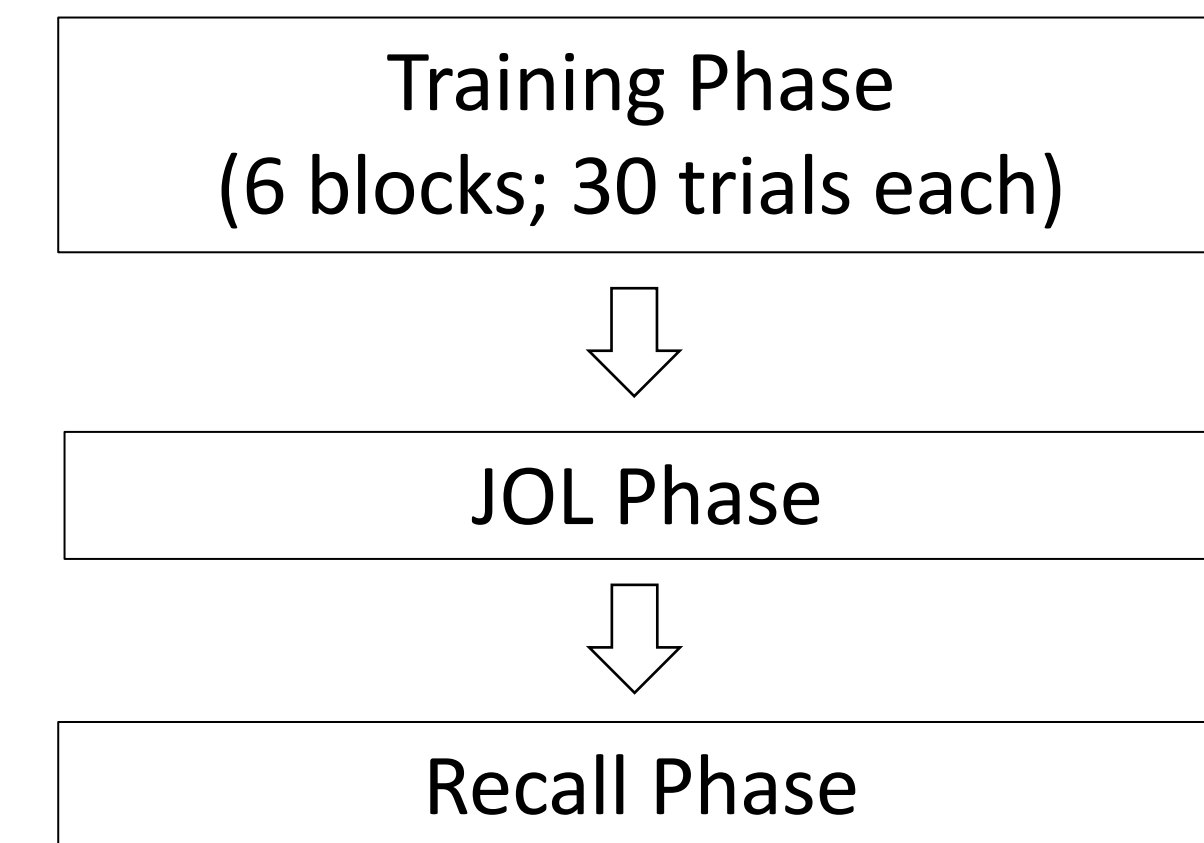
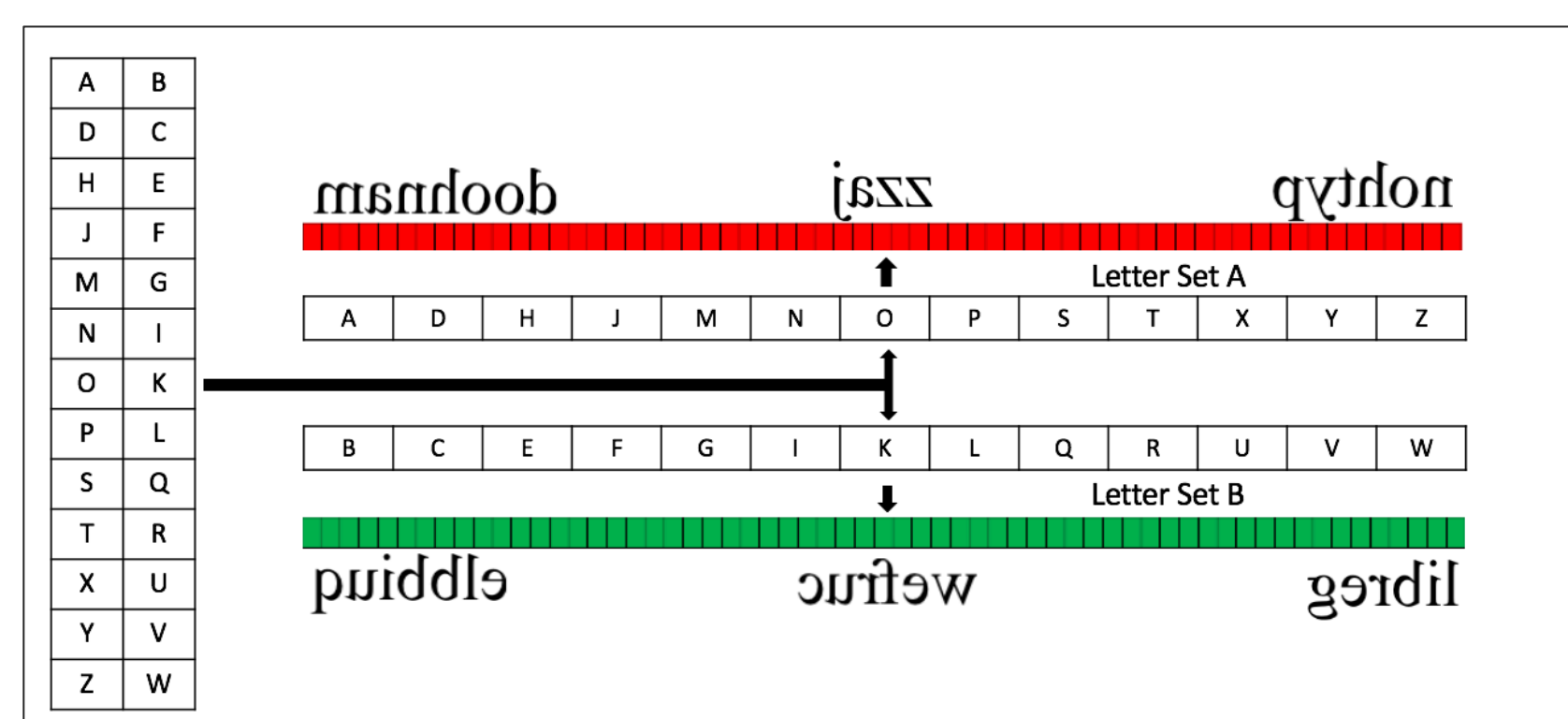
**Experience-based influences:** JOLs can be impacted by in-the-moment processing experiences that reflect properties intrinsic to experimental stimuli (i.e. perceptual fluency).

**Theory-based influences:** JOLs can be impacted by deliberate applications of prior knowledge or beliefs concerning how a given experimental manipulation affects memory performance (i.e. a belief that more fluent stimuli are easier to remember).

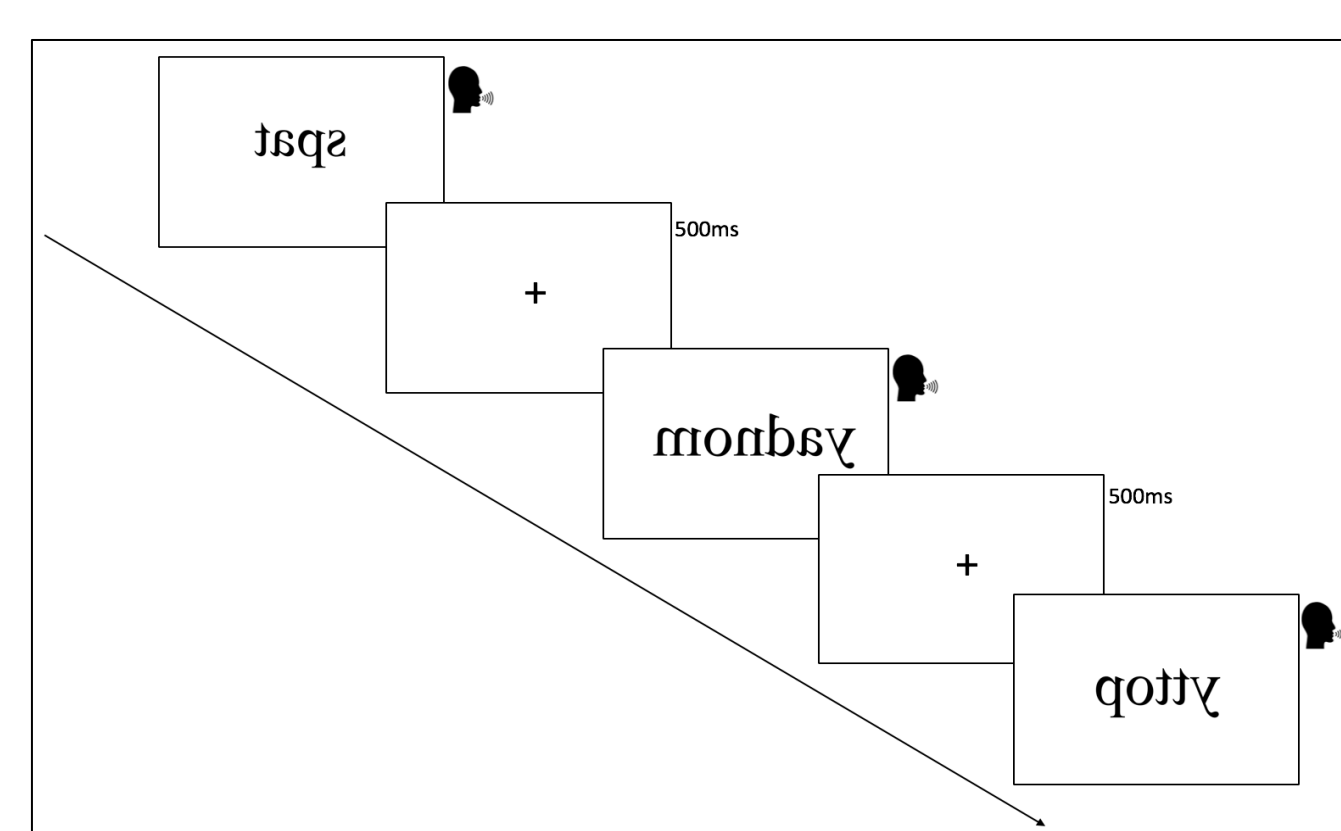
### Rationale

- Creating a manipulation of perceptual fluency that participants are unaware of
- Allows for examination of an exclusively experience-based influence of perceptual fluency on JOLs

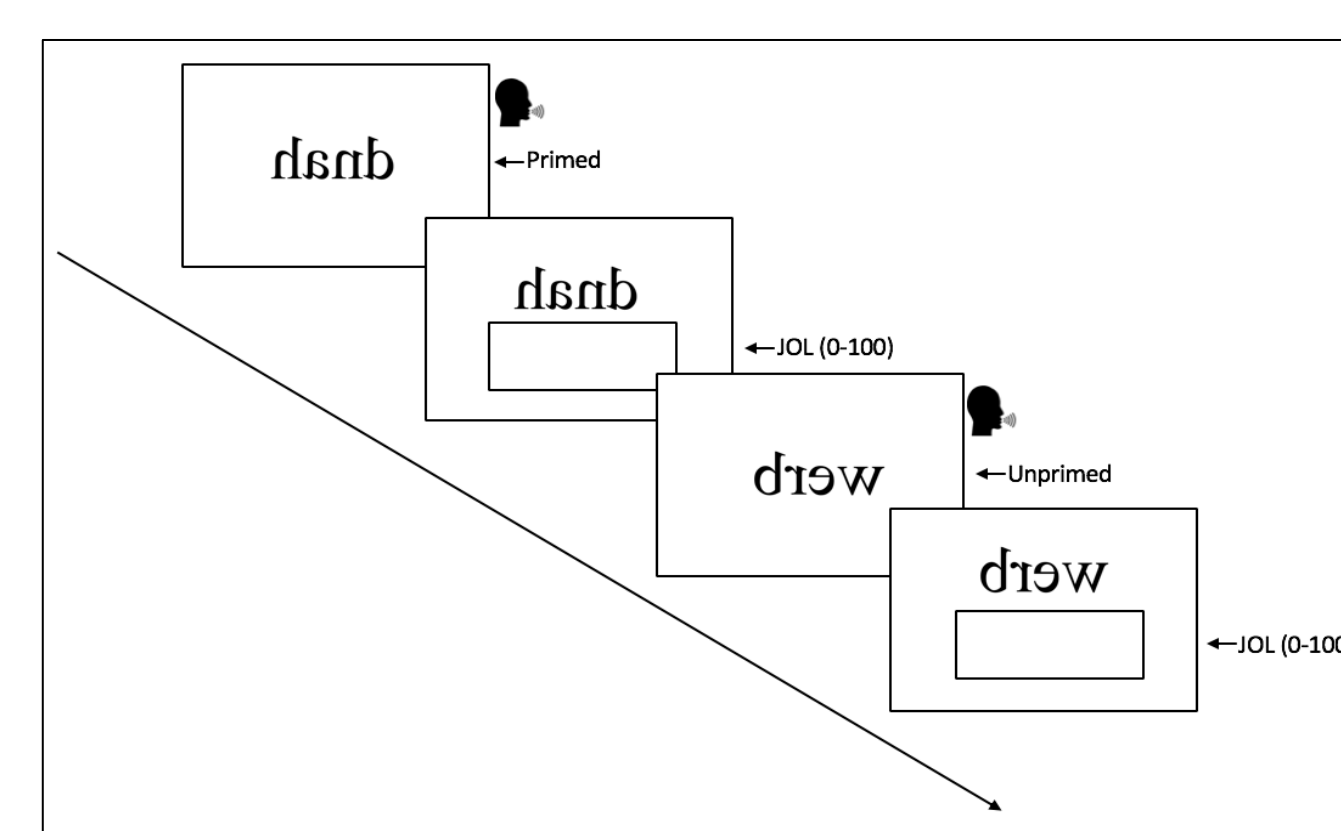
## Overview of Methods and Procedure



### Training Phase

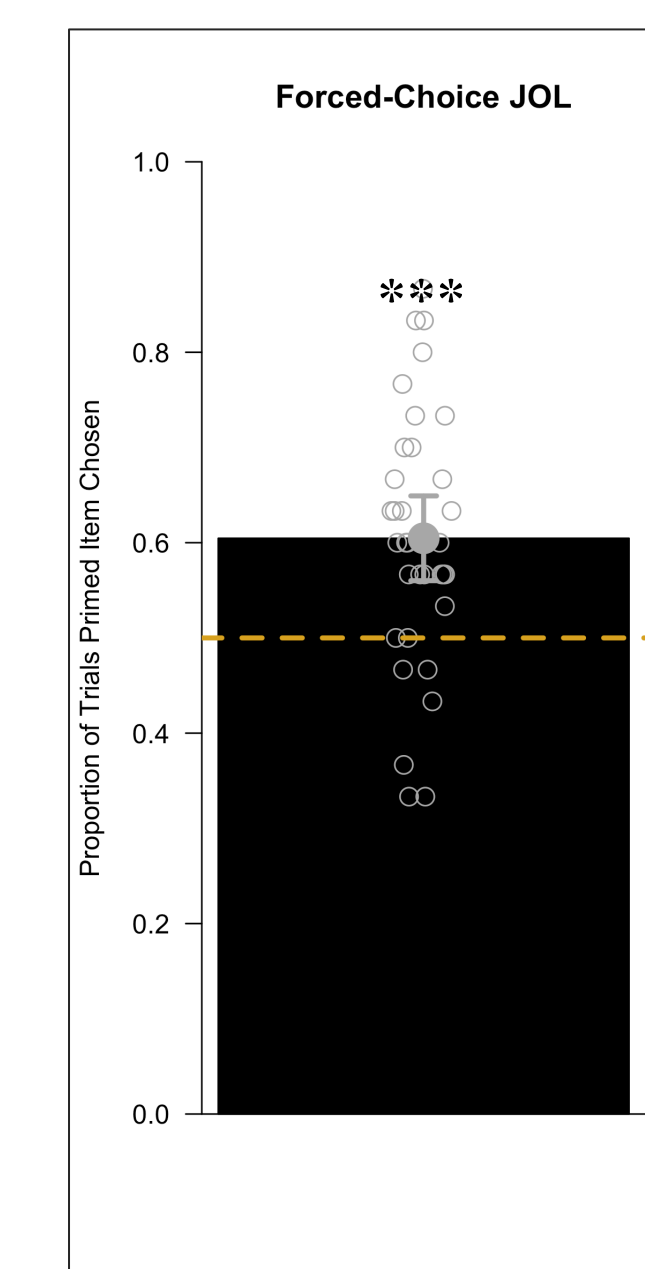
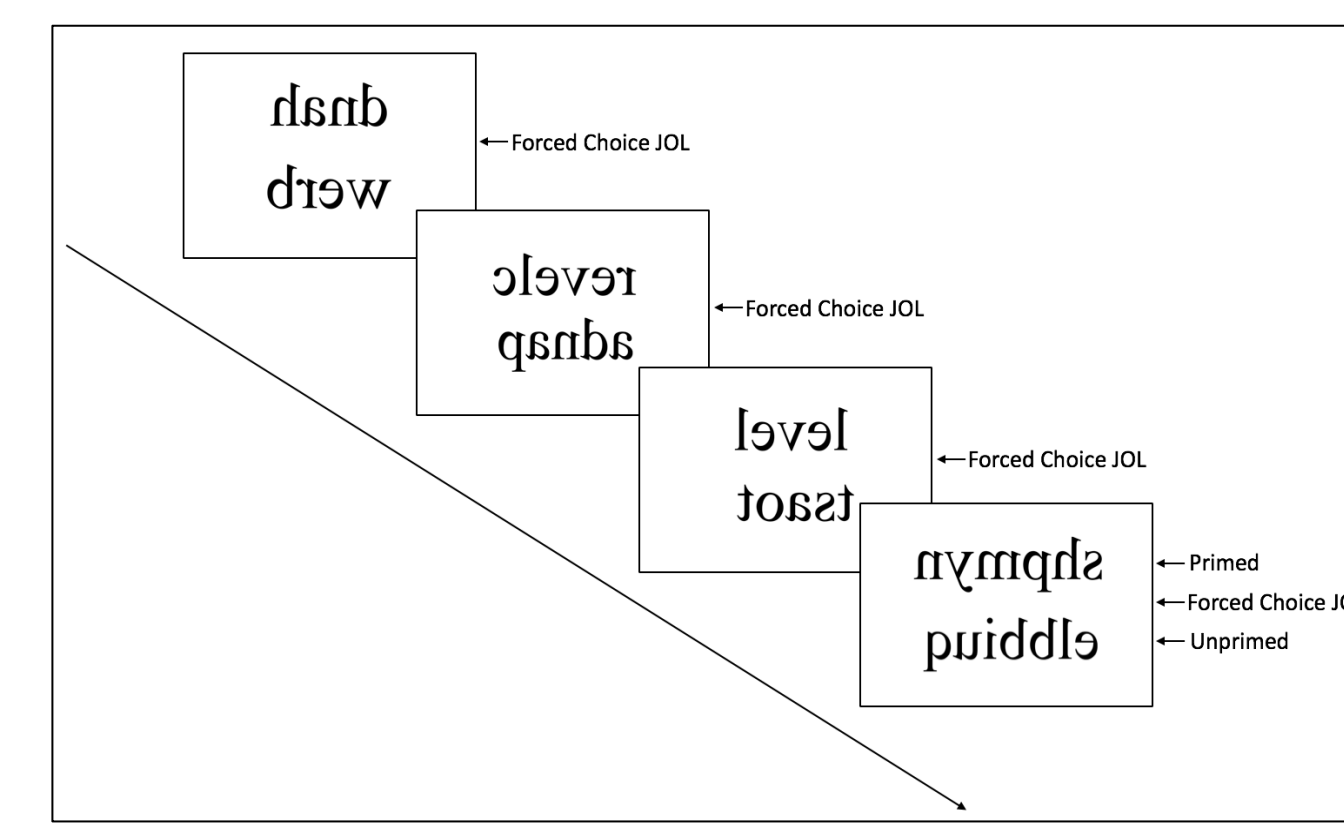


### JOL Phase Experiment 1



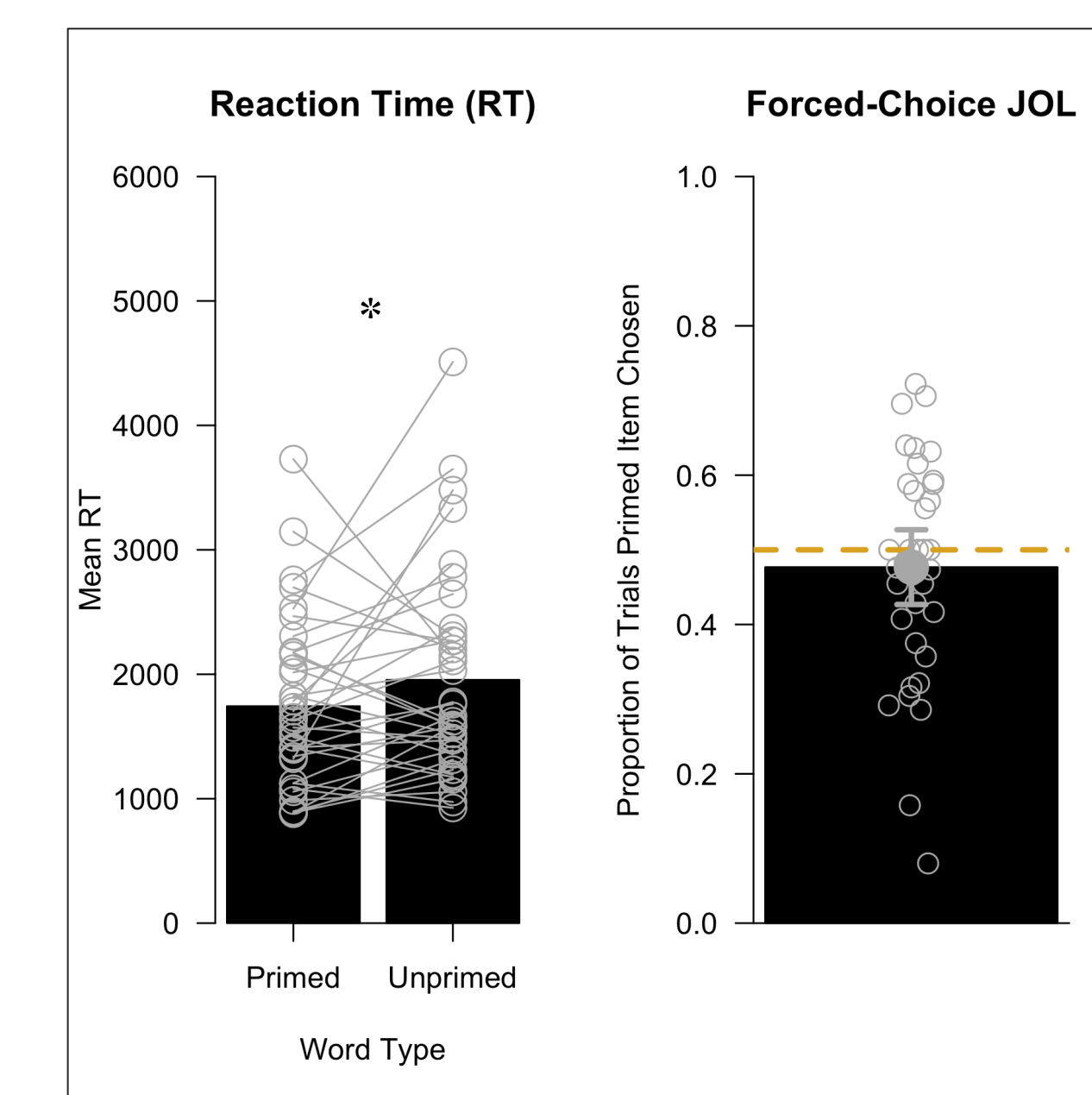
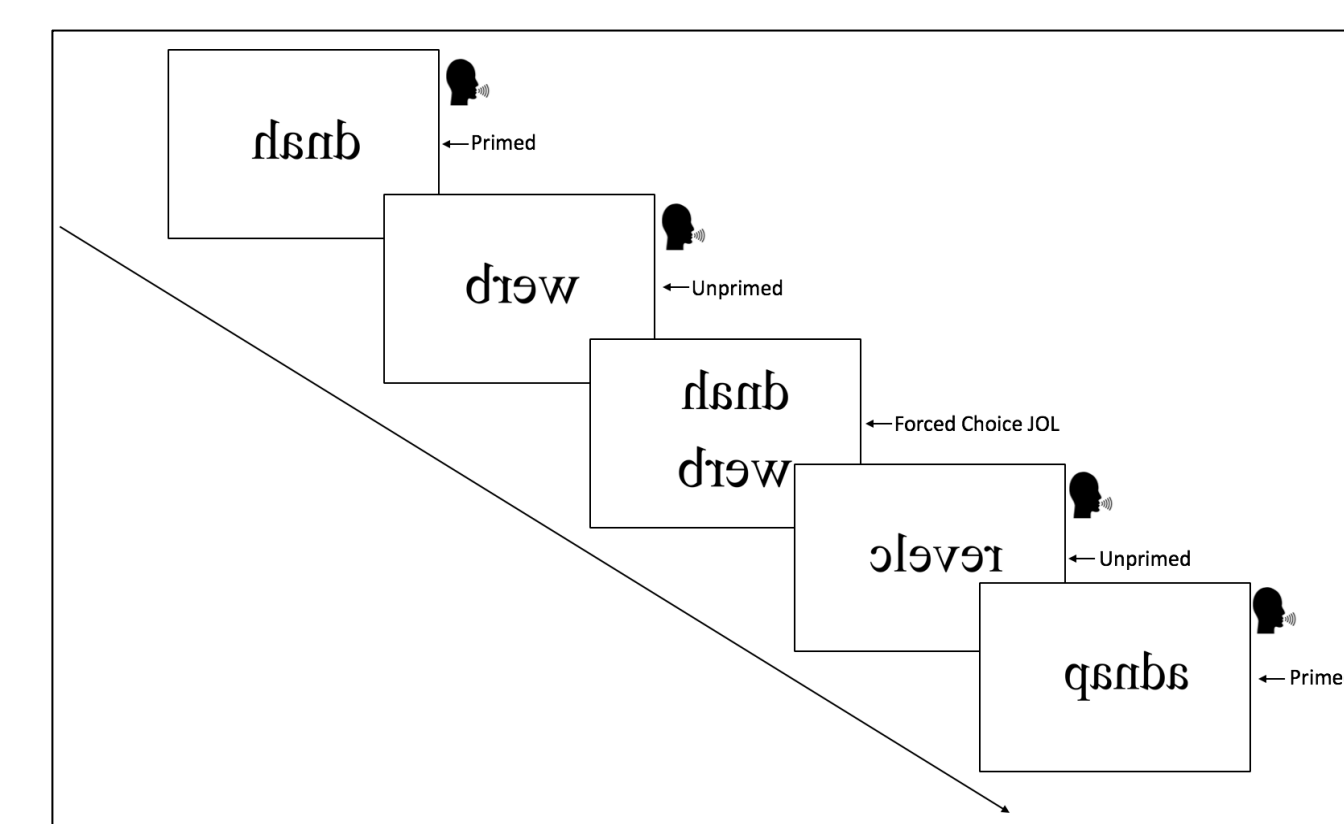
## Experiment 2a (n = 36), 2b (n = 36), & 2c (n = 36)

**2a.** Increased the saliency of the perceptual fluency of the primed letter set



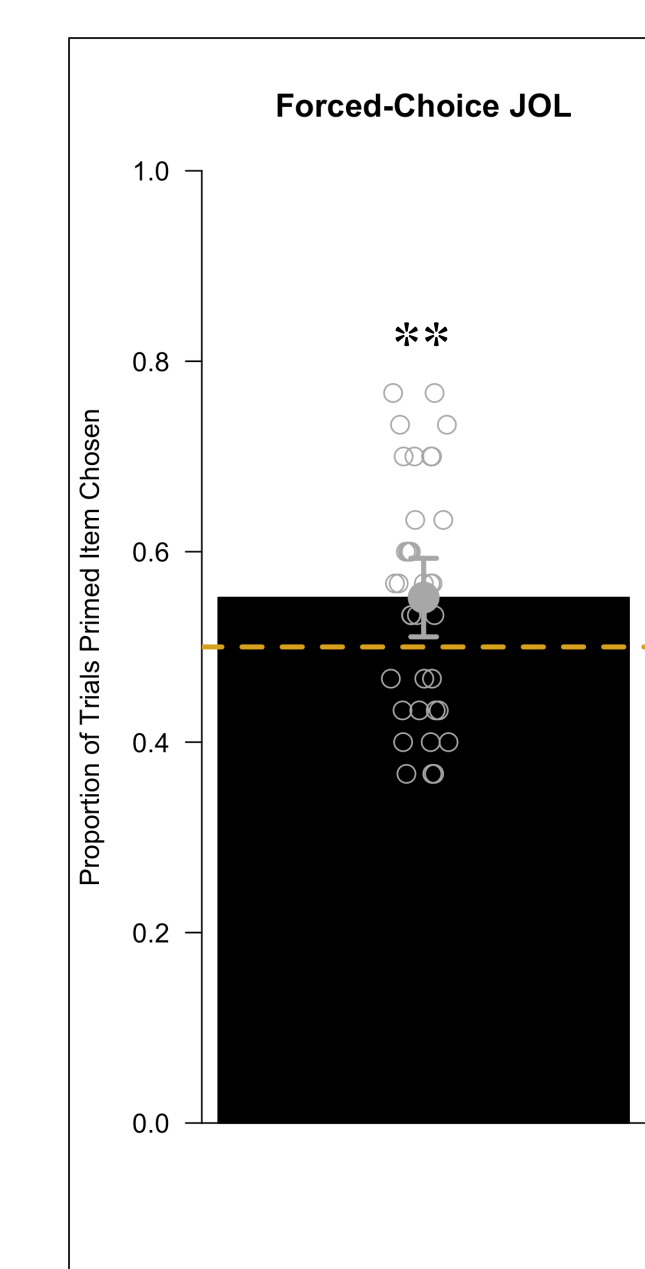
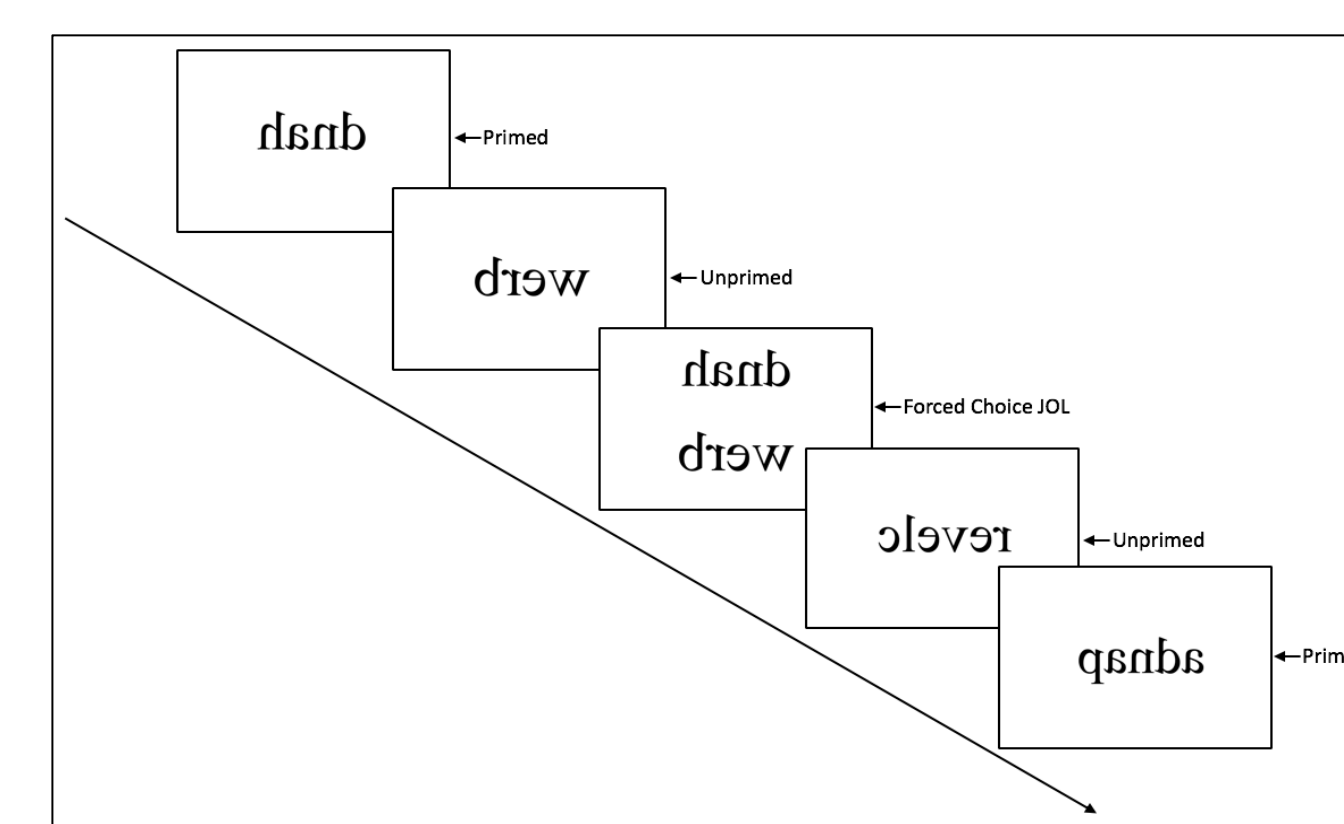
\*\* indicates  $p < .001$   
Error bars indicate 95% CI

**2b.** Added pronunciation requirement and sequential presentation



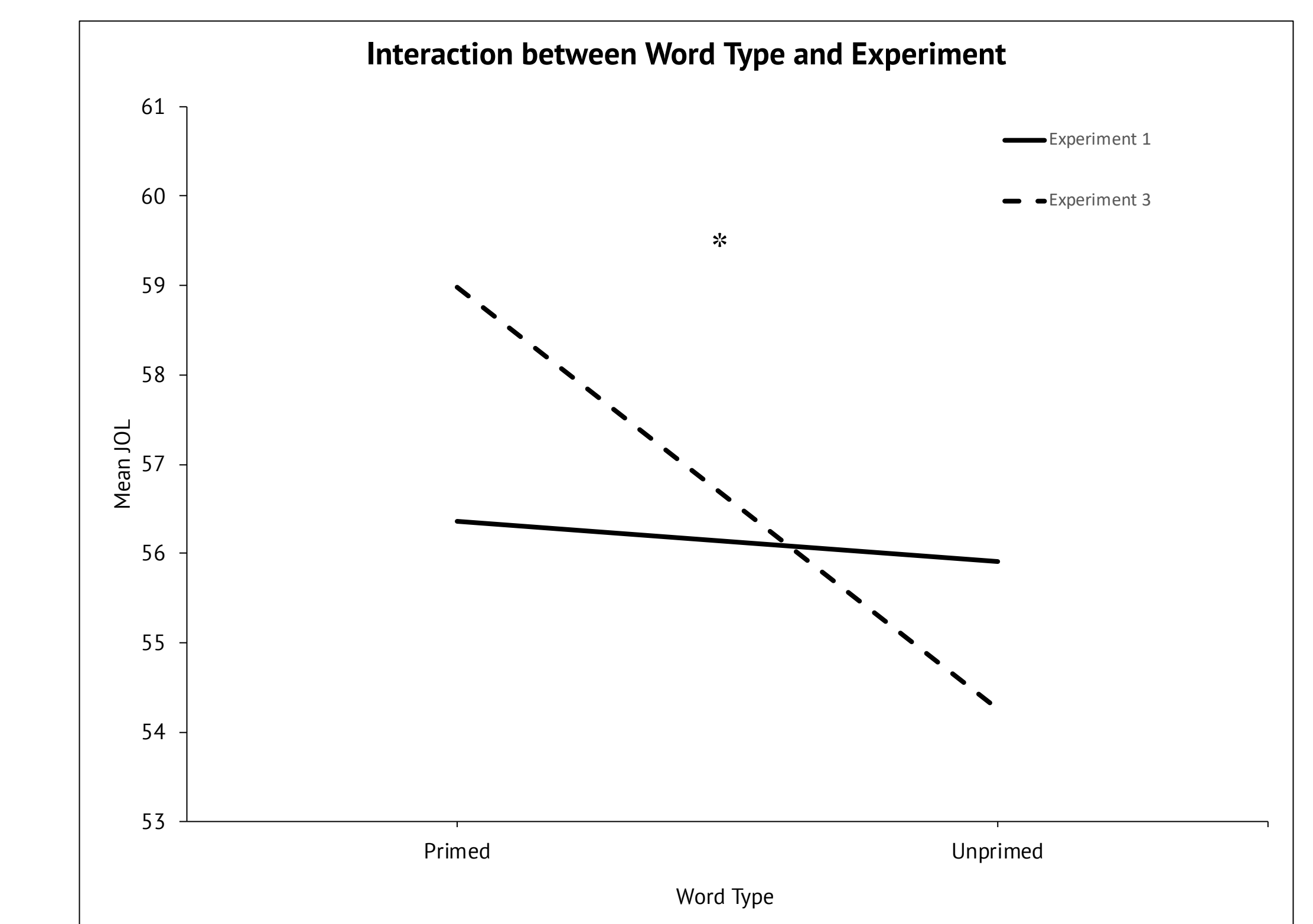
\* indicates  $p < .05$   
Error bars indicate 95% CI

**2c.** Removed pronunciation requirement and yoked presentation times to Experiment 2b



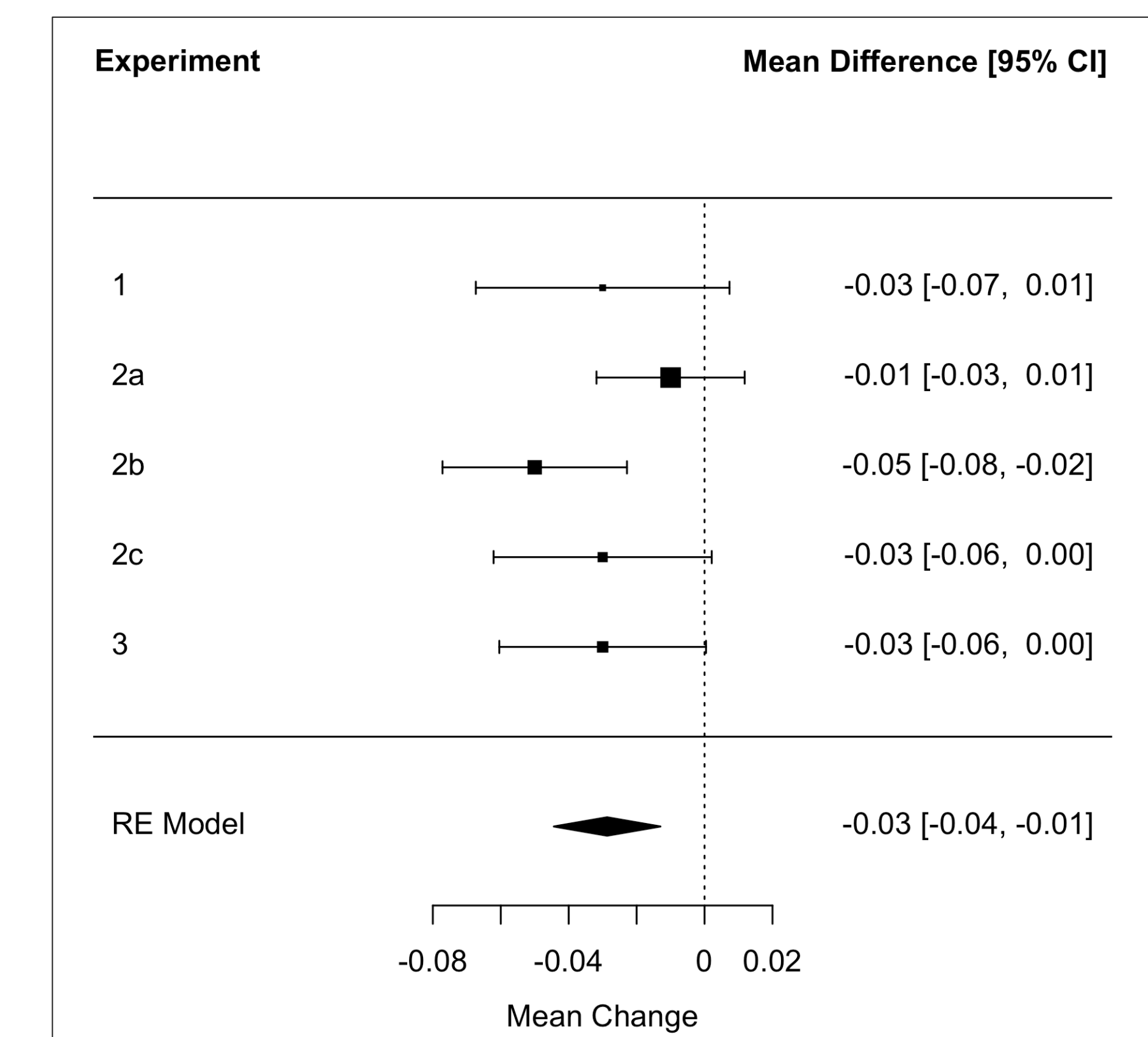
\*\* indicates  $p < .01$   
Error bars indicate 95% CI

## Interaction between JOL Ratings in Exp. 1 and Exp. 3



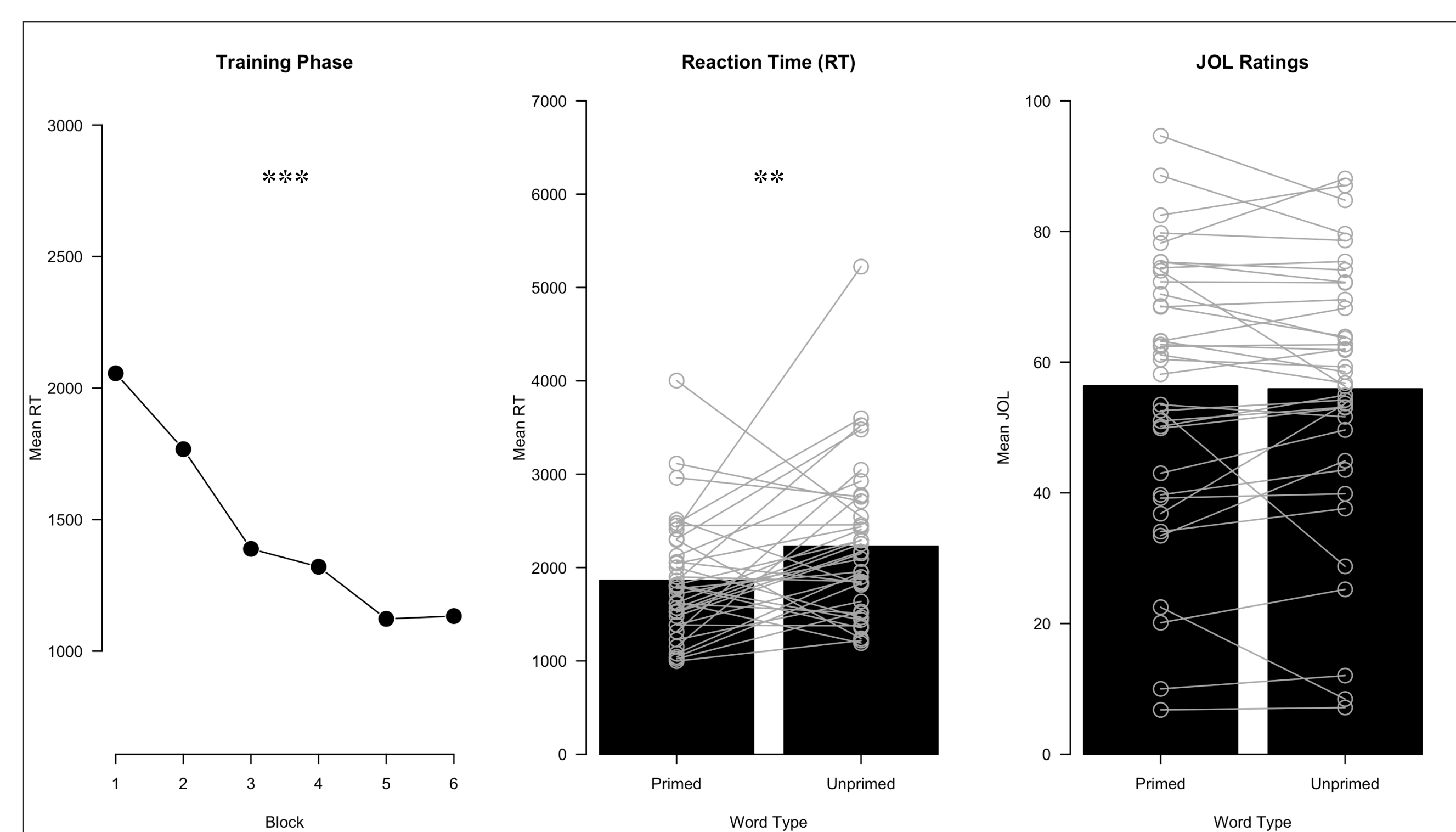
\* indicates  $p < .05$

## Recall



In all experiments the proportion of unprimed words recalled was greater than for primed words. Although only some of these differences were significant, a meta-analysis of all recall data demonstrated that there was an effect of letter set on recall.

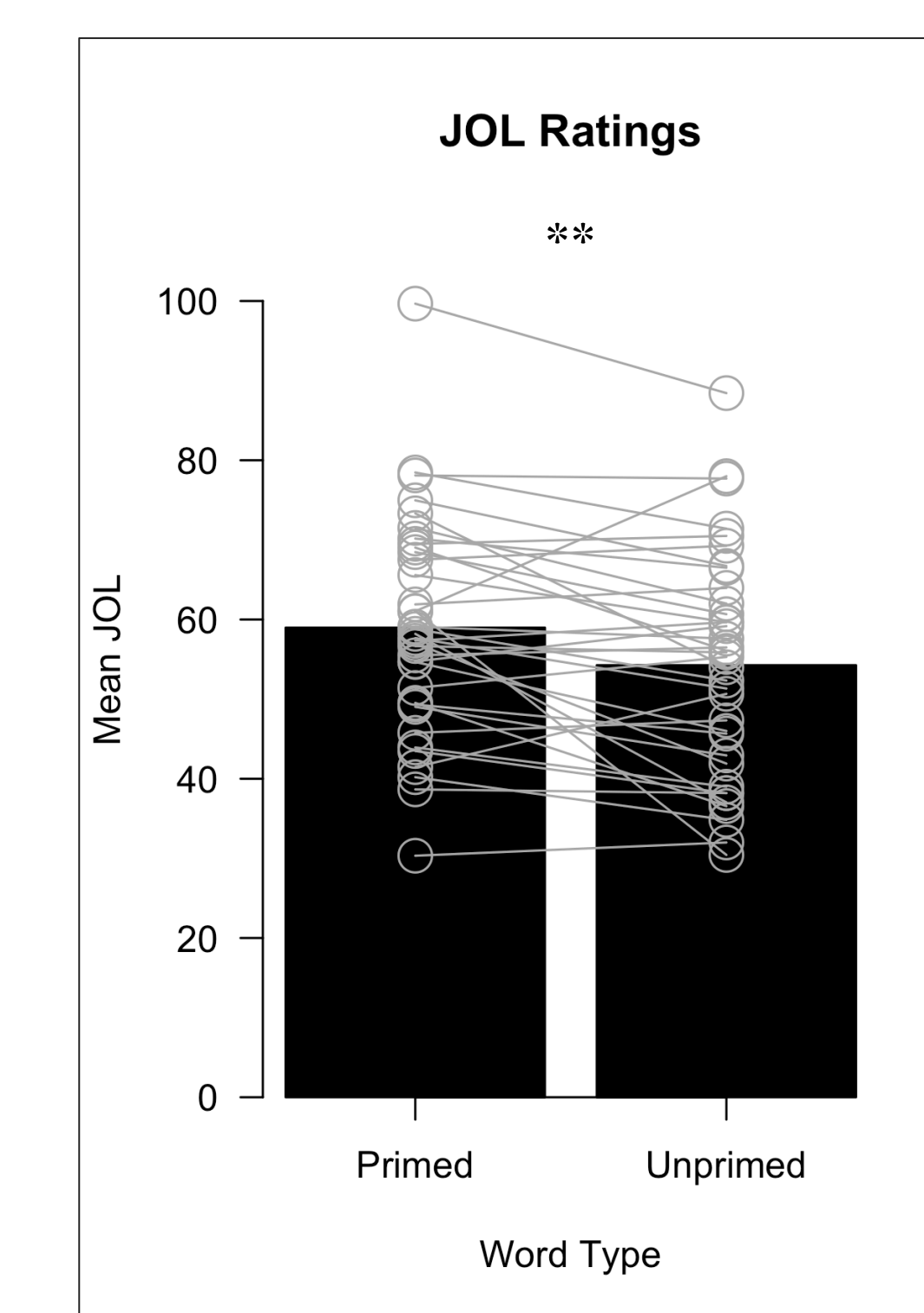
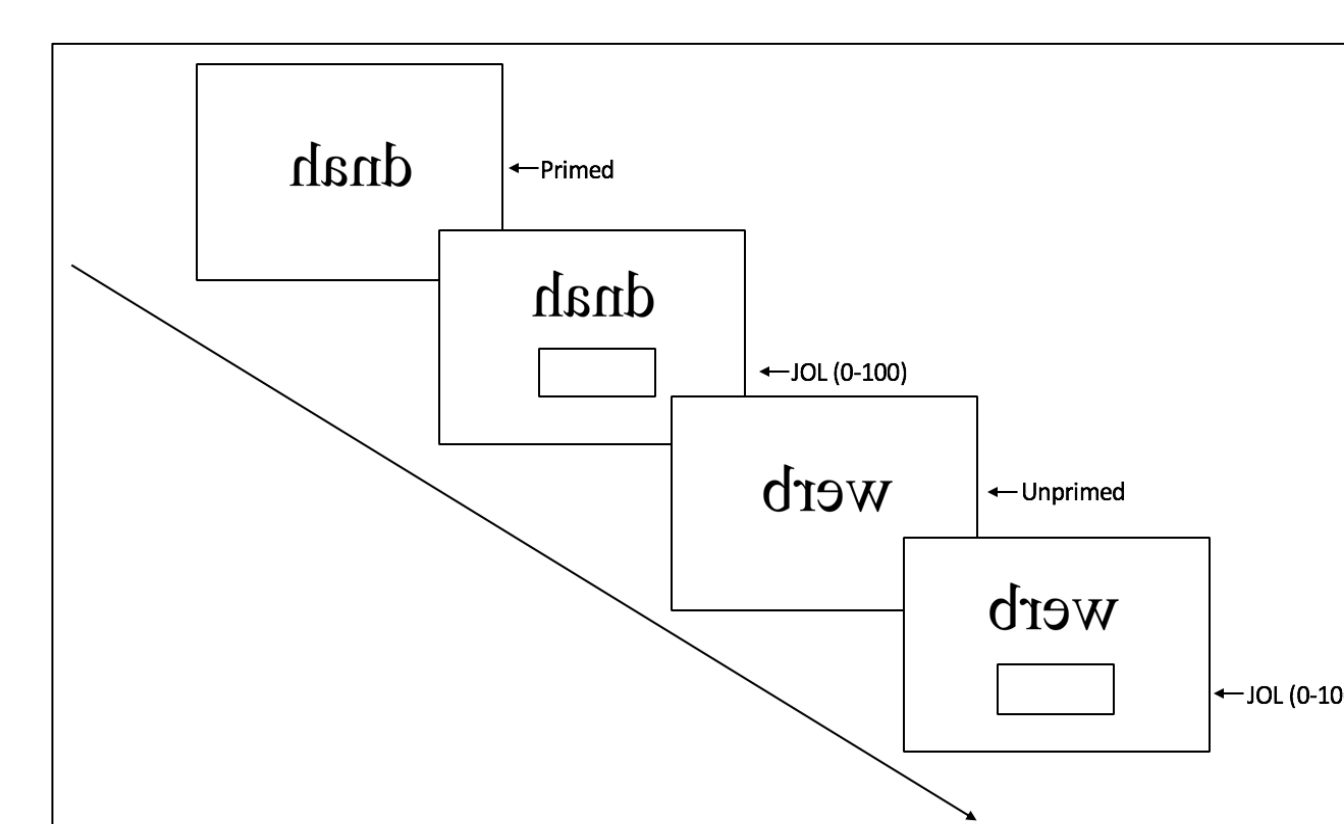
## Experiment 1 (n=36)



\*\* indicates  $p < .01$  \*\*\* indicates  $p < .001$

## Experiment 3 (n = 36)

- Removed pronunciation requirement and yoked presentation times to Experiment 1
- Used traditional JOL ratings



\*\* indicates  $p < .01$

## Conclusions

- Perceptual fluency can influence predictions of future memory performance
- Task requirements are important to consider when investigating how individuals make JOLs
- The act of measuring perceptual fluency may change how it is used to inform JOLs

## References

- Fiacconi, C. M., Mitton, E. E., Laursen, S. J., Skinner, J. (2019). Isolating the Contribution of Perceptual Fluency to Judgments of Learning: Evidence for Reactivity in Measuring the Influence of Fluency. *Journal of Experimental Psychology: Learning, Memory, and Cognition*
- Koriat, A. (1997). Monitoring one's own knowledge during study: A cue-utilization approach to judgments of learning. *Journal of Experimental Psychology: General*, 126(4), 349-370. doi:10.1037/0096-3445.126.4.349
- Masson, M. 1986. Identification of typographically transformed words: Instance based skill acquisition. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 12(4), 479 - 488 .