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Priming Prosodic Boundaries in an Online Speech Production Experiment

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Background

Do we have an independent representation of the intonational phrase structure?

- Perception studies have shown a robust priming effect of intonational phrase boundaries in the comprehension of ambiguous sentences [1, 2]
- Production studies so far [3, 4] found no priming effect of prosodic boundaries
- One possible explanation is in the material tested

Can intonational phrase structure be primed in production, when its saliency is not reduced by syntax?
Can we collect online good-quality recordings for prosodic analyses?

Methods

Stimuli

- 40 transfer-of-location sentences (original material)
- 40 globally-ambiguous relative clauses (newly created [5, 6])

Prolific data-collection

Norming study

She put the money in the basket on the table

Is the following a plausible interpretation of the sentence?

She put money in the basket that is on the table

totally implausible 1 2 3 4 5 totally plausible

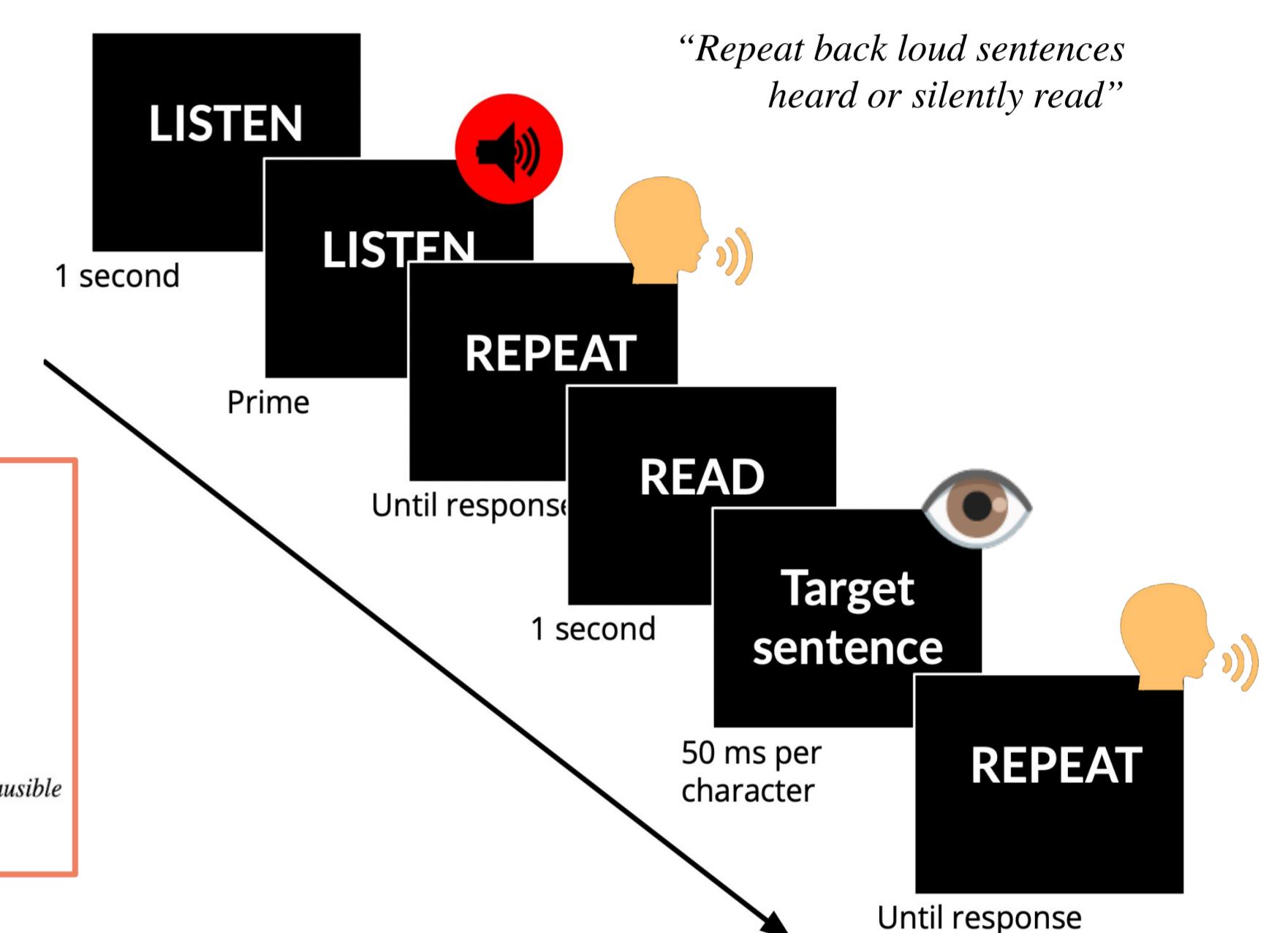
She put the money in the basket on the table

Is the following a plausible interpretation of the sentence?

The money was in the basket and she put it on the table

totally implausible 1 2 3 4 5 totally plausible

Prosodic Priming Paradigm



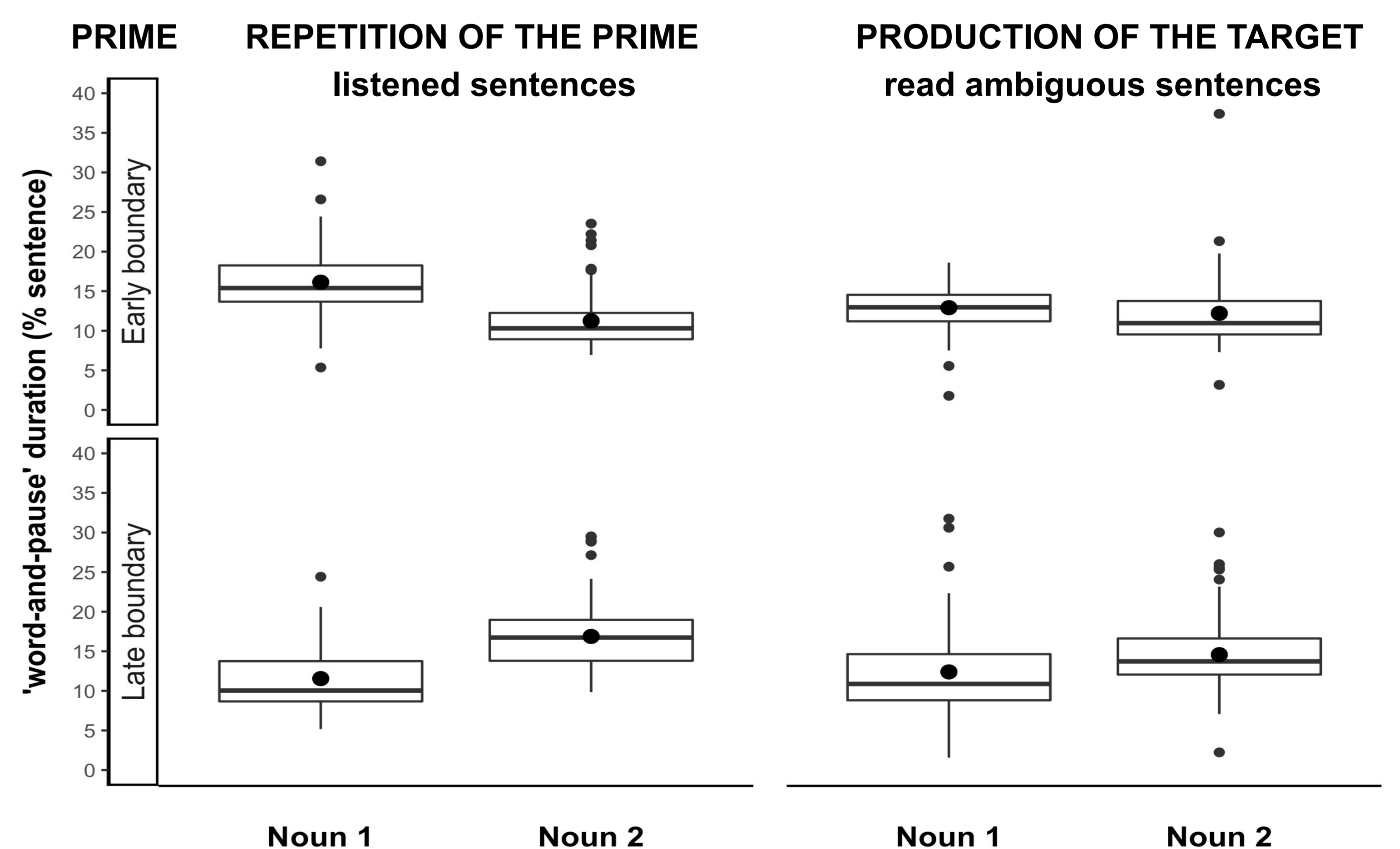
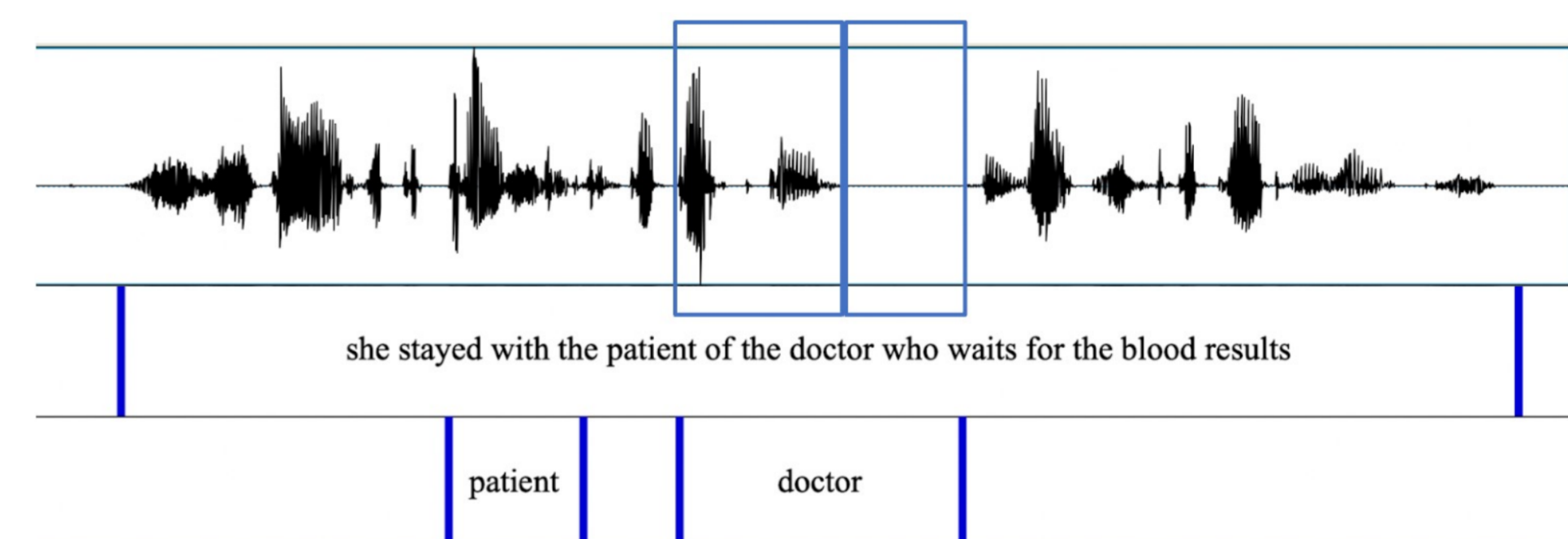
Results

Is the material ambiguous?



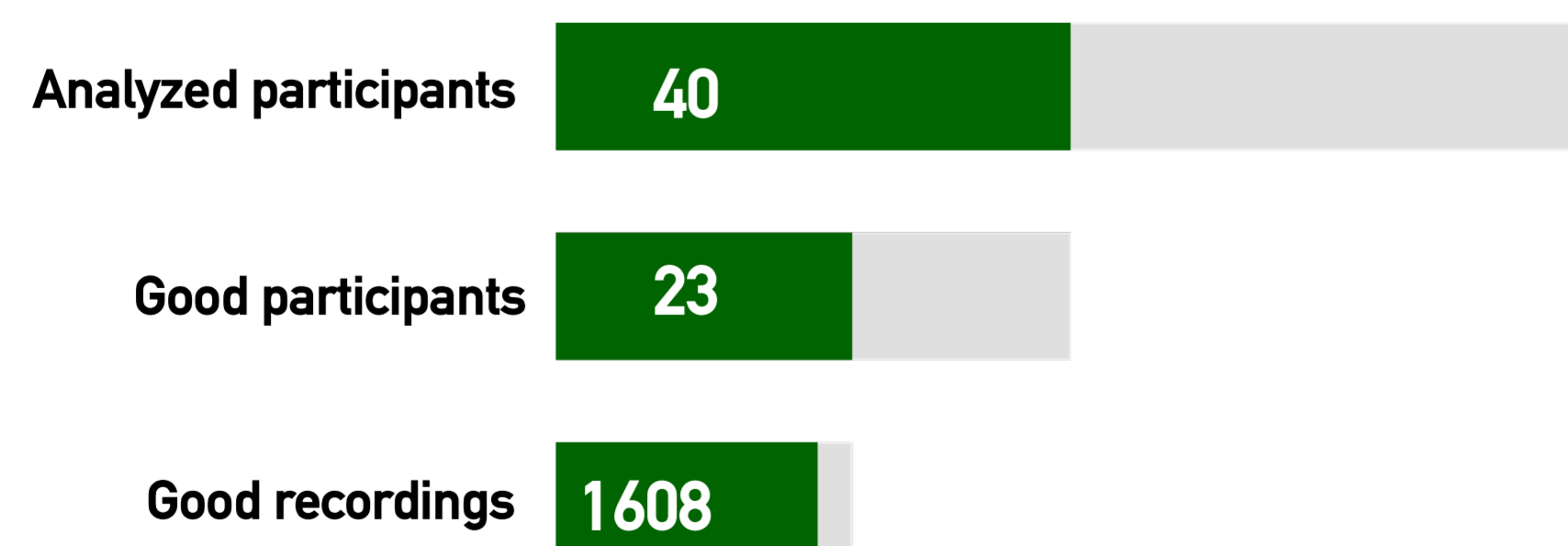
- Equal plausibility of interpretations for the relatives
- Strong bias in the original material

Can we prime prosodic boundaries?



- Longer durations at primed boundaries, when repeating the RC and when reading a new ambiguous RC

Can we collect online good-quality recordings?



Discussion

- Yes, it seems that intonation phrase structure can be primed in production in proper conditions.
- Yes, we can collect online good-quality recordings for prosodic analyses, especially for small samples (e.g., pilot study). It takes however time and work to collect the desired amount of useable data.

Essential references

- [1] Jun & Bishop (2015). *Language and Speech*, 58(4), 459–473.
- [2] Mills (2020). *Proc. Speech Prosody 2020*, 295–298.
- [3] Tooley et al. (2014). *Journal of Experimental Psychology*, 40(2), 348–363.
- [4] Tooley et al. (2018). *Memory & Cognition*, 46(4), 625–641.
- [5] Grillo et al. (2015). *Cognition*, 144, 116–122.
- [6] Hemforth et al. (2015). *Lingua*, 166, 43–64.

