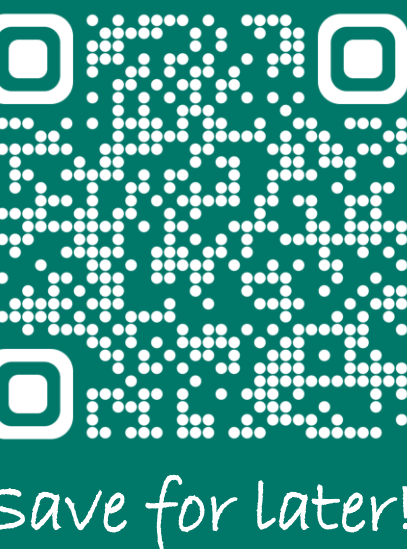


# Conflicting Talker Information May Hinder Convergence in Synchronous Speech



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## Background

- Knowing how someone speaks shapes speech perception<sup>[1]</sup>, but research on role of talker information in production is limited
- Convergence is the tendency of interlocutors to sound more like each other over time<sup>[2]</sup>, and theories that argue for shared representations between perception and production<sup>[3,4]</sup> predict an impact of talker information on convergence
- Synchronous speech tasks can reliably measure convergence to F0 (pitch) in laboratory settings using pitch-shifted stimuli<sup>[5]</sup>

**RQ1: Do speakers use talker information during production in a synchronous speech convergence task?**

**RQ2: Does knowing how a talker typically speaks help or hinder convergence?**

## Participants

In each experiment, 32 (different) healthy female native Dutch speakers

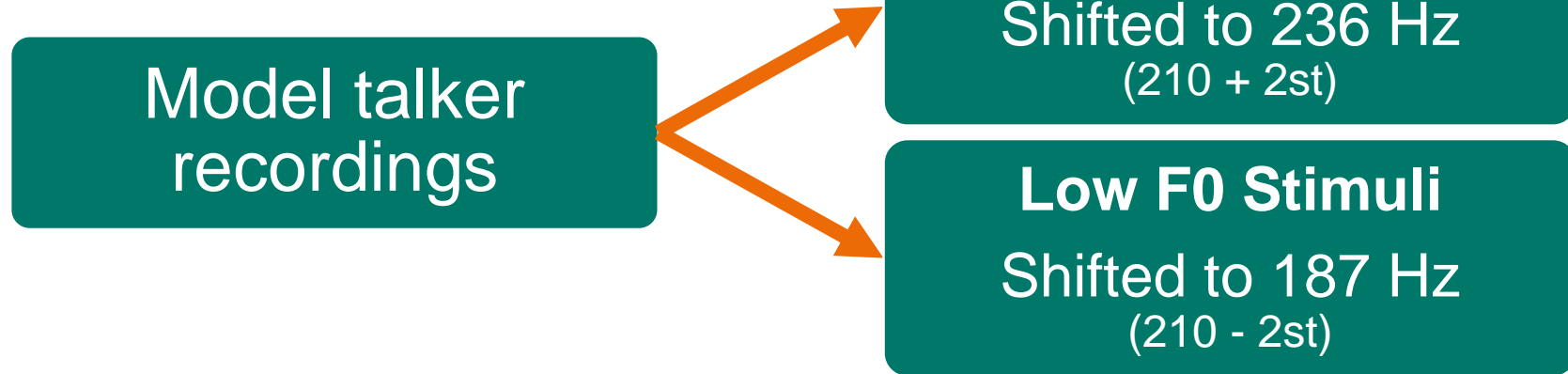
Randomly assigned to one of two groups (N = 16):

- High F0 model talker
- Low F0 model talker

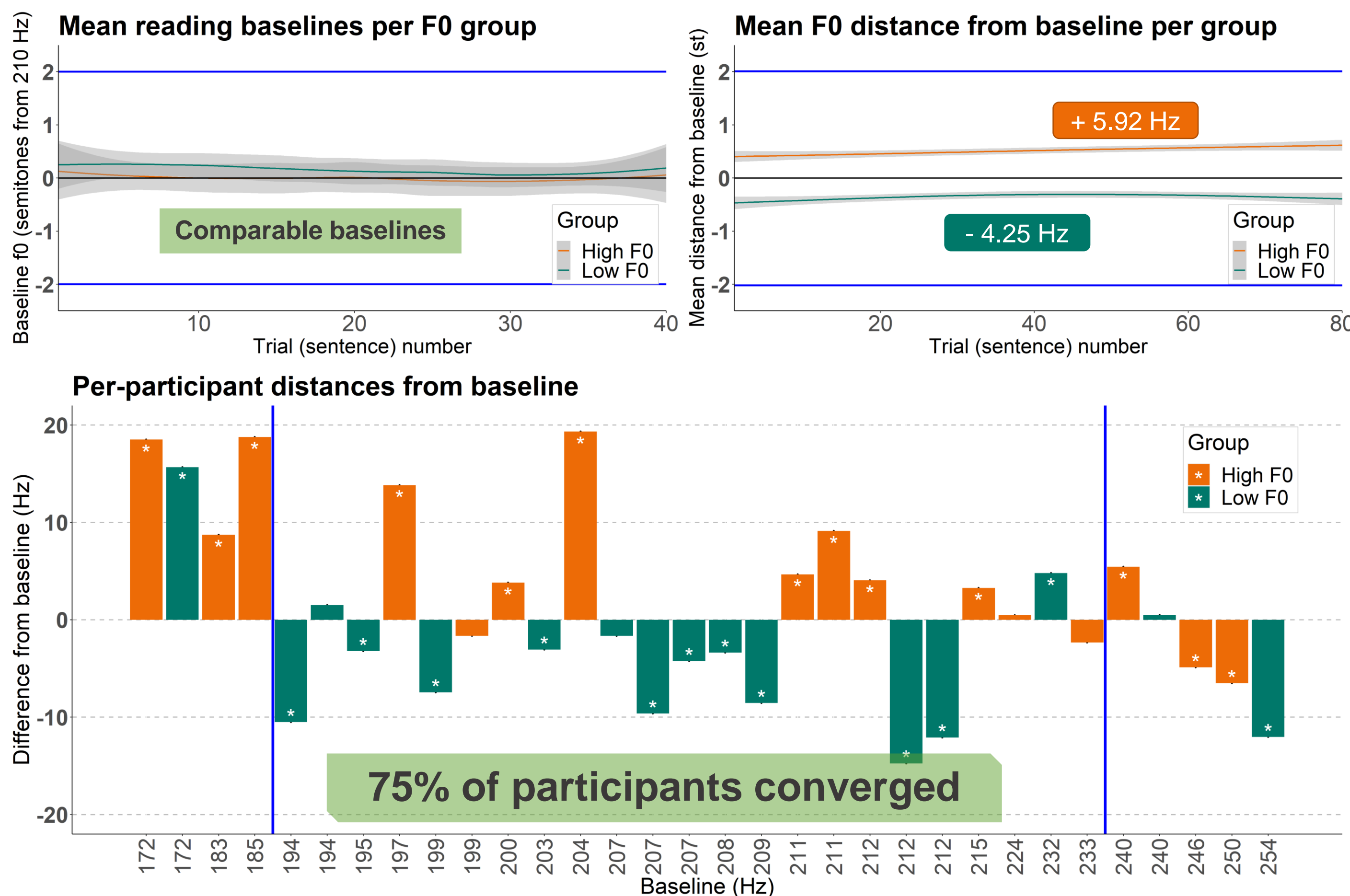
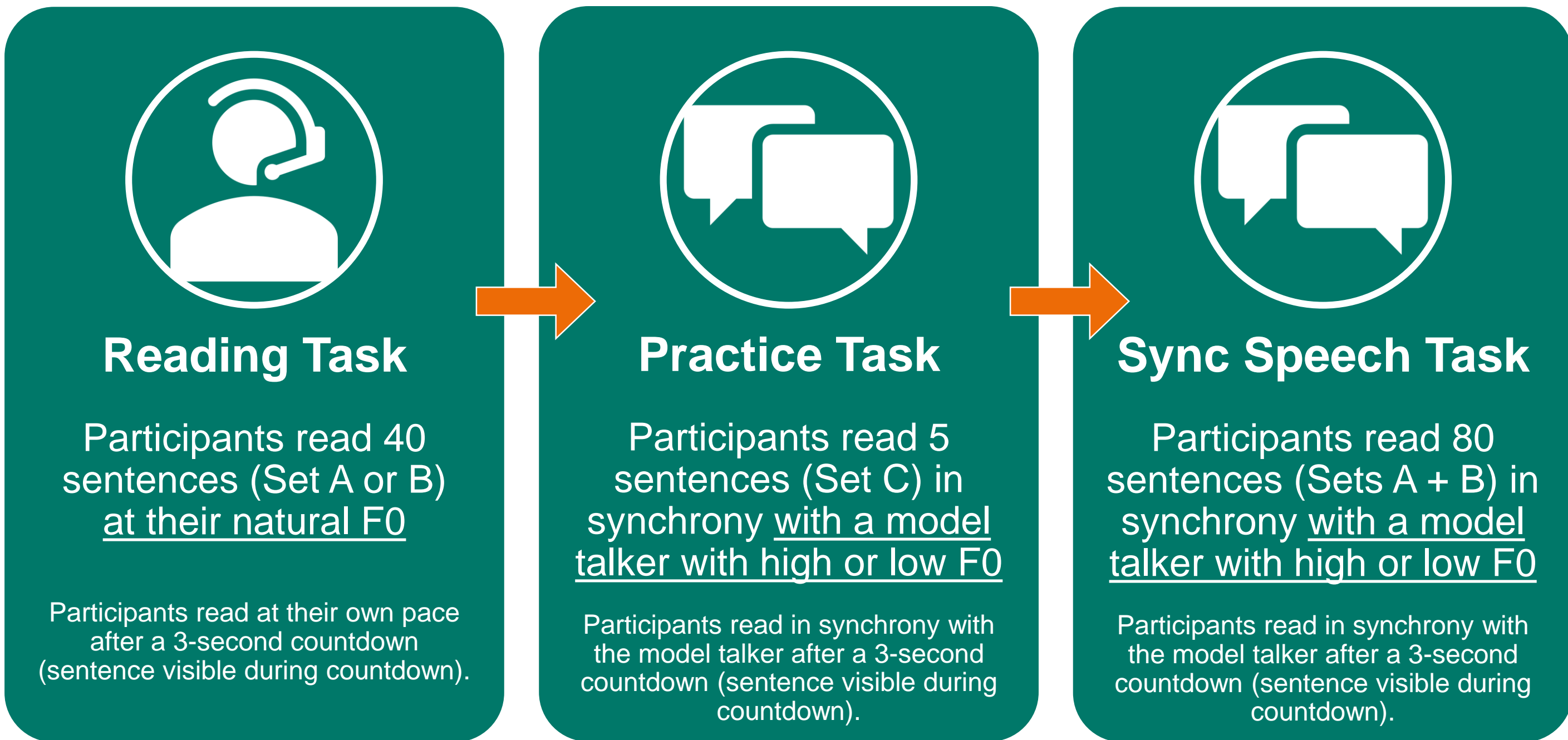
## Stimuli

85 Dutch sentences in 3 sets. Sets A & B had 40 sentences each, and set C had 5 sentences.

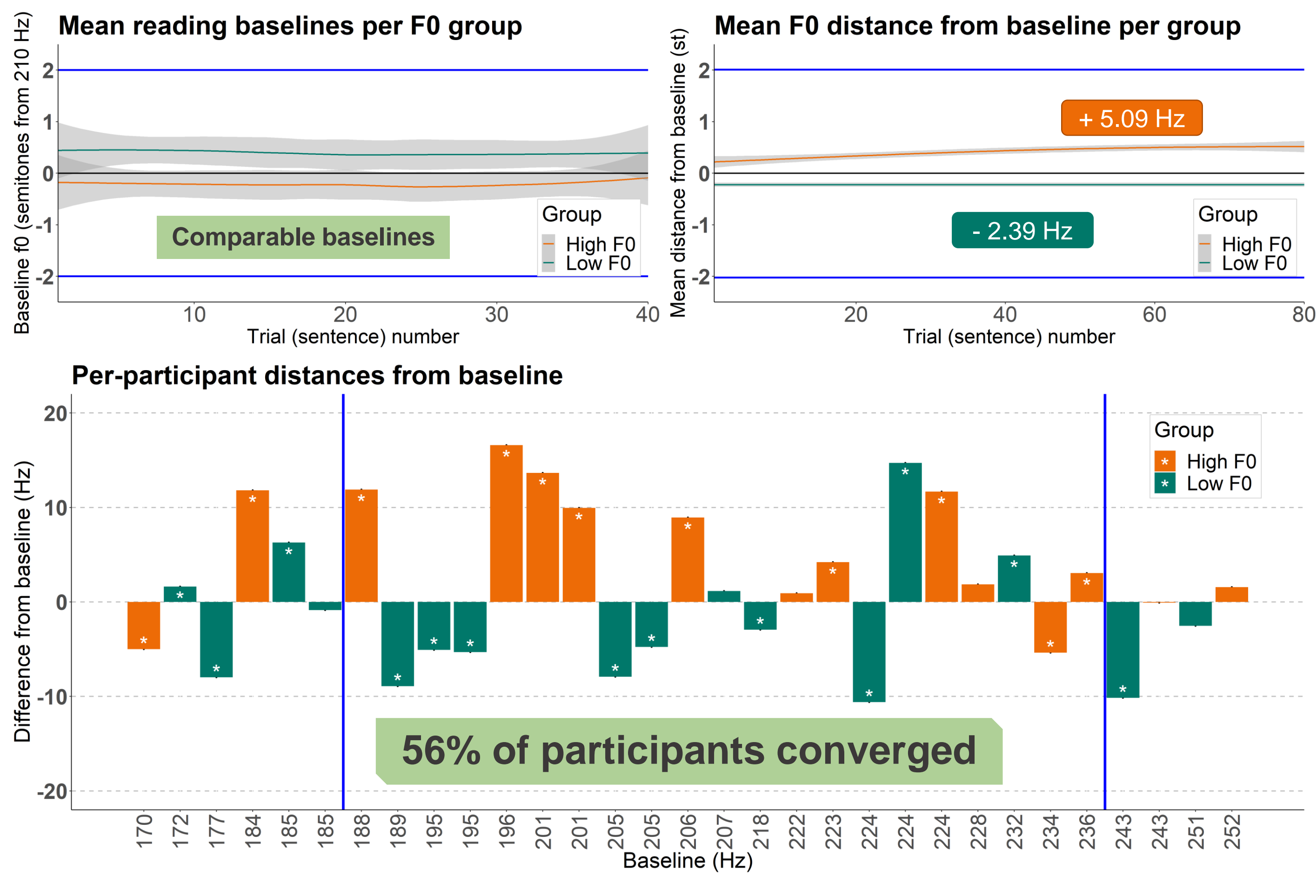
## Manipulation



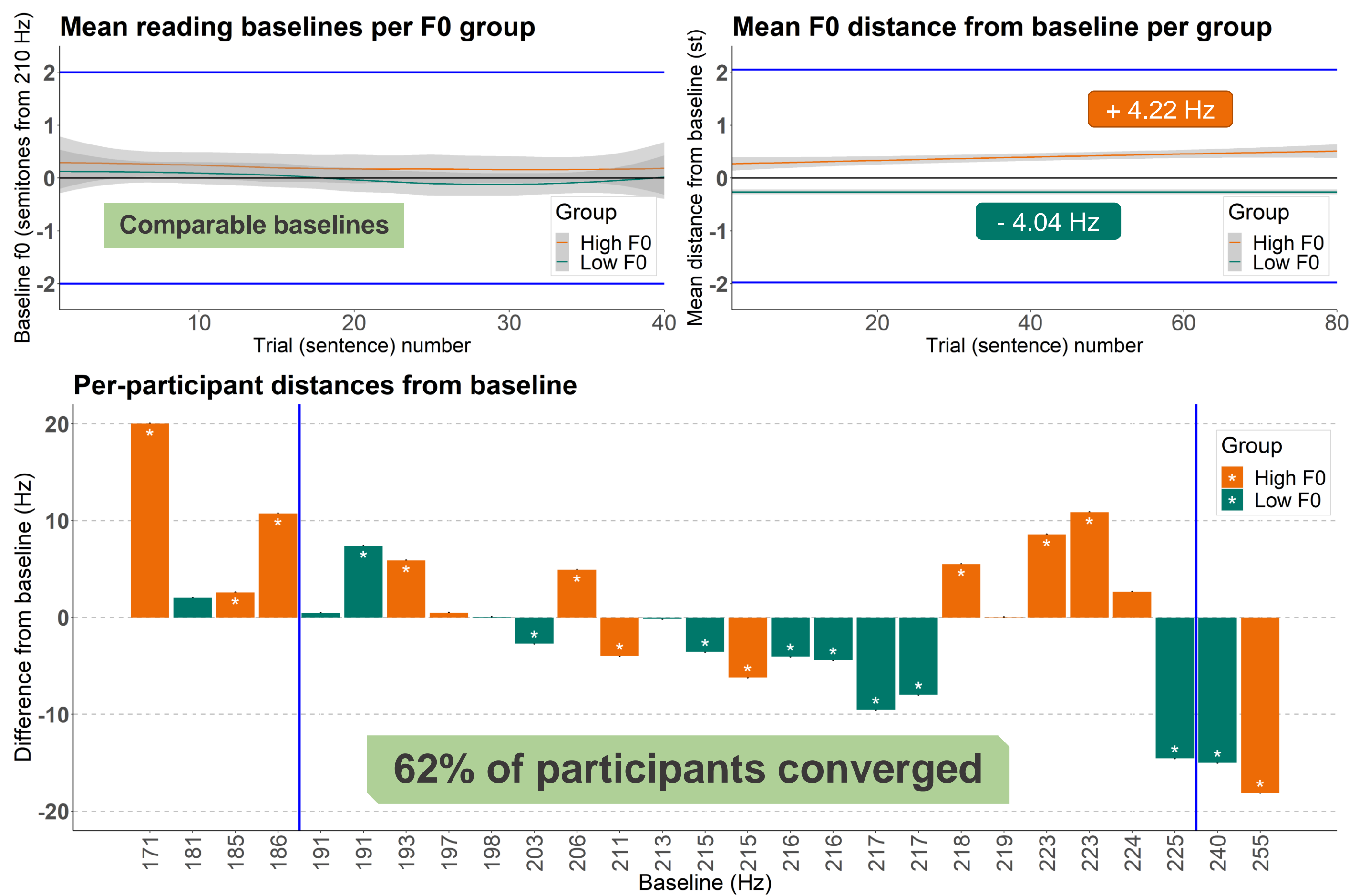
## Experiment 1 – Baseline Convergence



## Experiment 2 – Convergence to Conflicting Talker



## Experiment 3 – Convergence to Congruent Talker



## Conclusion

- Participants consistently converged to F0 across three synchronous speech experiments
- Conflicting talker information led to a numerically smaller proportion of convergers than congruent talker information

**Talker information may be used in speech production, suggesting involvement of shared representations or mechanisms across production and perception**

