



Do Personal and Interpersonal Power Influence Phonetic Accommodation?

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Background

Speech accommodation - changing aspects of speech production after hearing speech

Phonetic convergence - automatic ^[1,2] increase in acoustic similarity between talkers

Phonetic divergence can also occur due to social factors ^[3,4,5].

Accommodation can be influenced by the **role of interlocutors** ^[3] as well as **self-rated autonomy** ^[6].

↳ interpersonal power relations

↳ personal sense of power

Manipulating these directly and independently, **we ask whether power influences accommodation of pitch.**

Methods

1. Pre-interview reading

Participant and Confederate separately record list of sentences (*baseline measurements*)

2. Questionnaires

- Language background
- Social network
- Big Five Personality Inventory (Short)

Confederate: Female native AmEng speaker trained for experiment

Participants: 39 native American English speakers

FS (N=10): Power**F**ul Inve**S**tor **LS** (N=9): Power**L**ess Inve**S**tor

FN (N=10): Power**F**ul Inve**N**tor **LN** (N=10): Power**L**ess Inve**N**tor

3. Personal power manipulation

High power **Low power**

“Write about a time you felt **powerful/powerless.**” ^[7]

4. Interpersonal power manipulation

Inventor: Brainstorm new mobile app, pitch idea to Investor. **Investor:** Brainstorm questions to ask Inventor to decide whether to invest. (*Confederate always takes opposing role*)

5. Interview

10-15 min. recorded role-play conversation between Inventor and Investor, about the mobile app

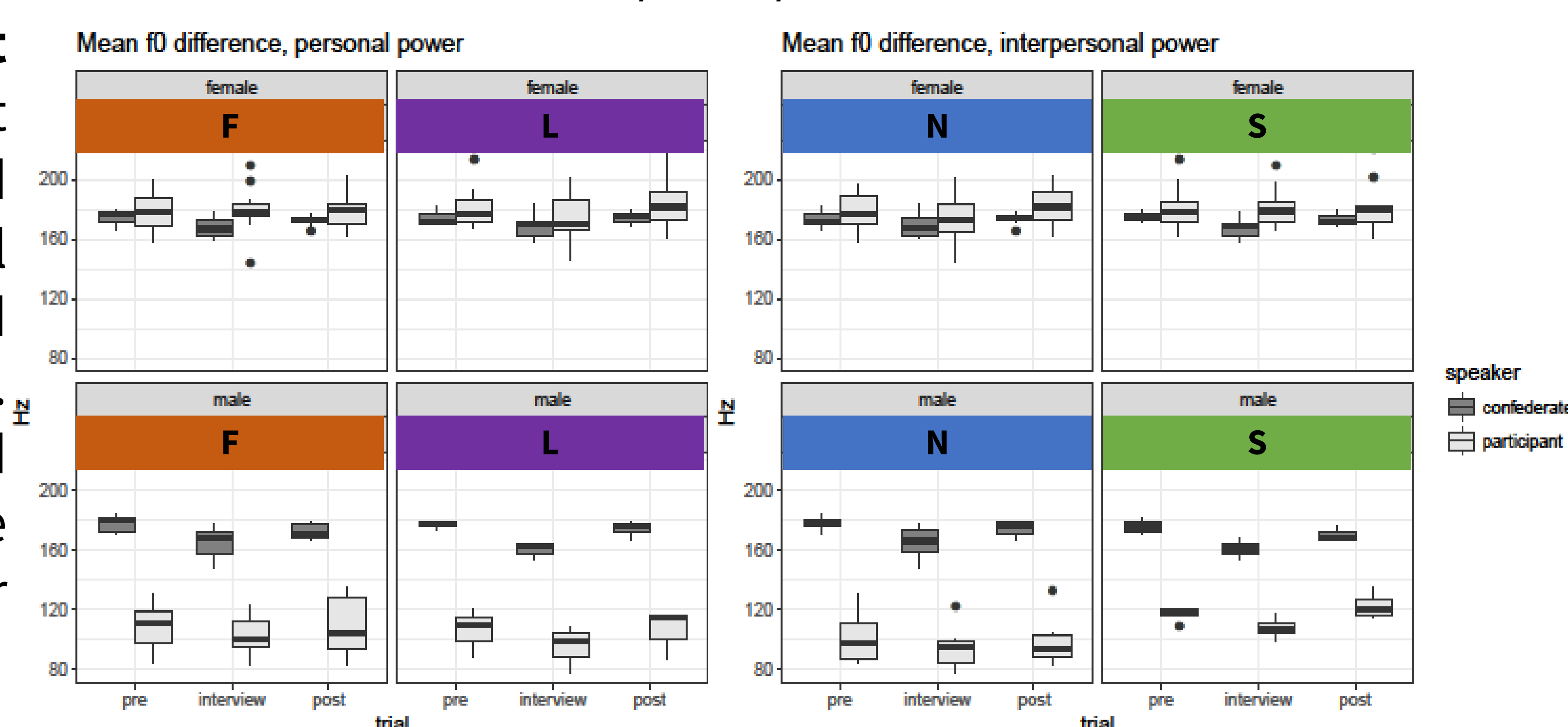
6. Post-interview reading

Participant and Confederate separately record same list of sentences from pre-interview

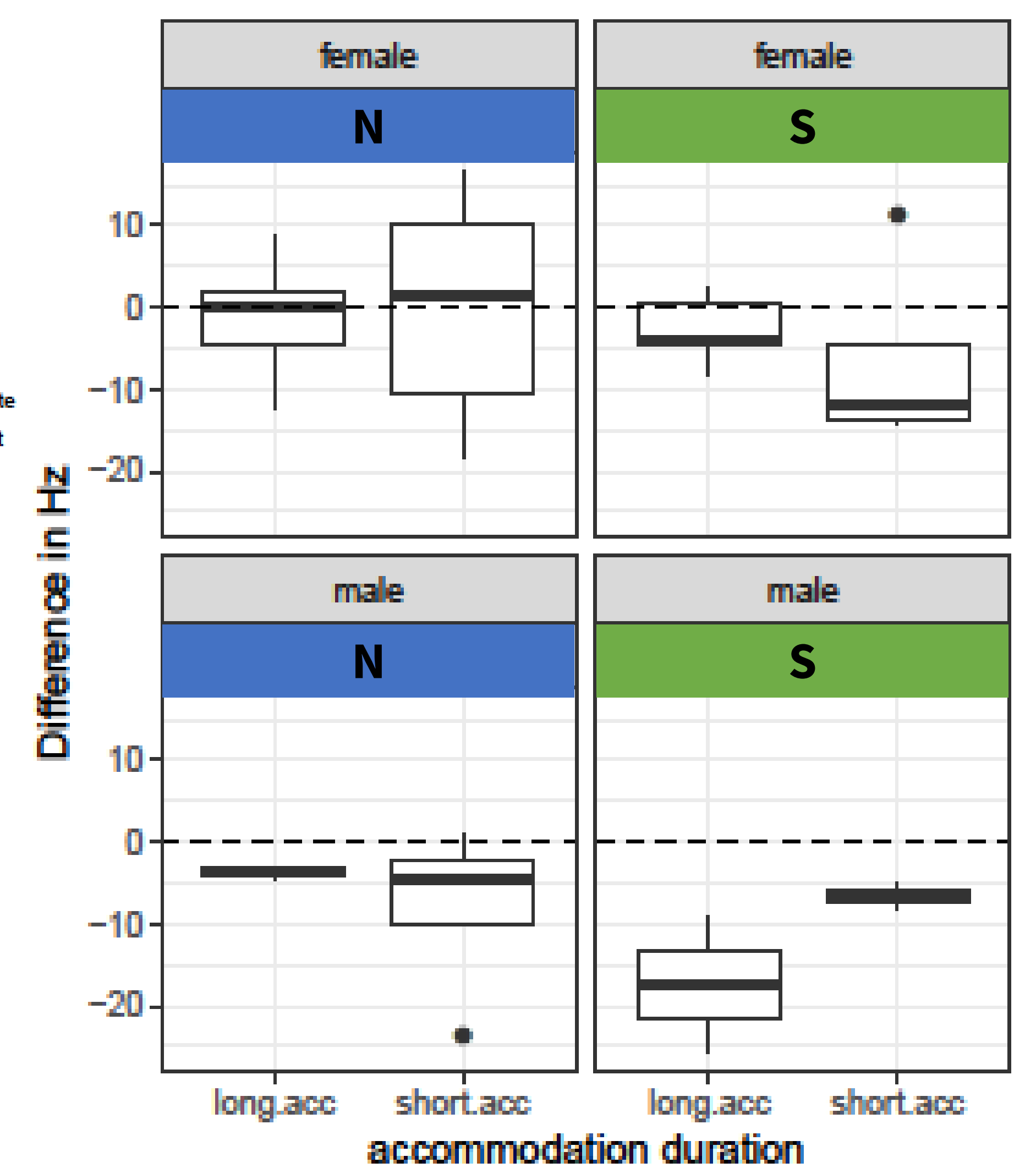
Results

Convergence = $|Participant-Confederate|_{Post} - |Participant-Confederate|_{Pre(baseline)} < 0$
Smaller absolute difference between the participant and confederate after the task, compared to the baseline.

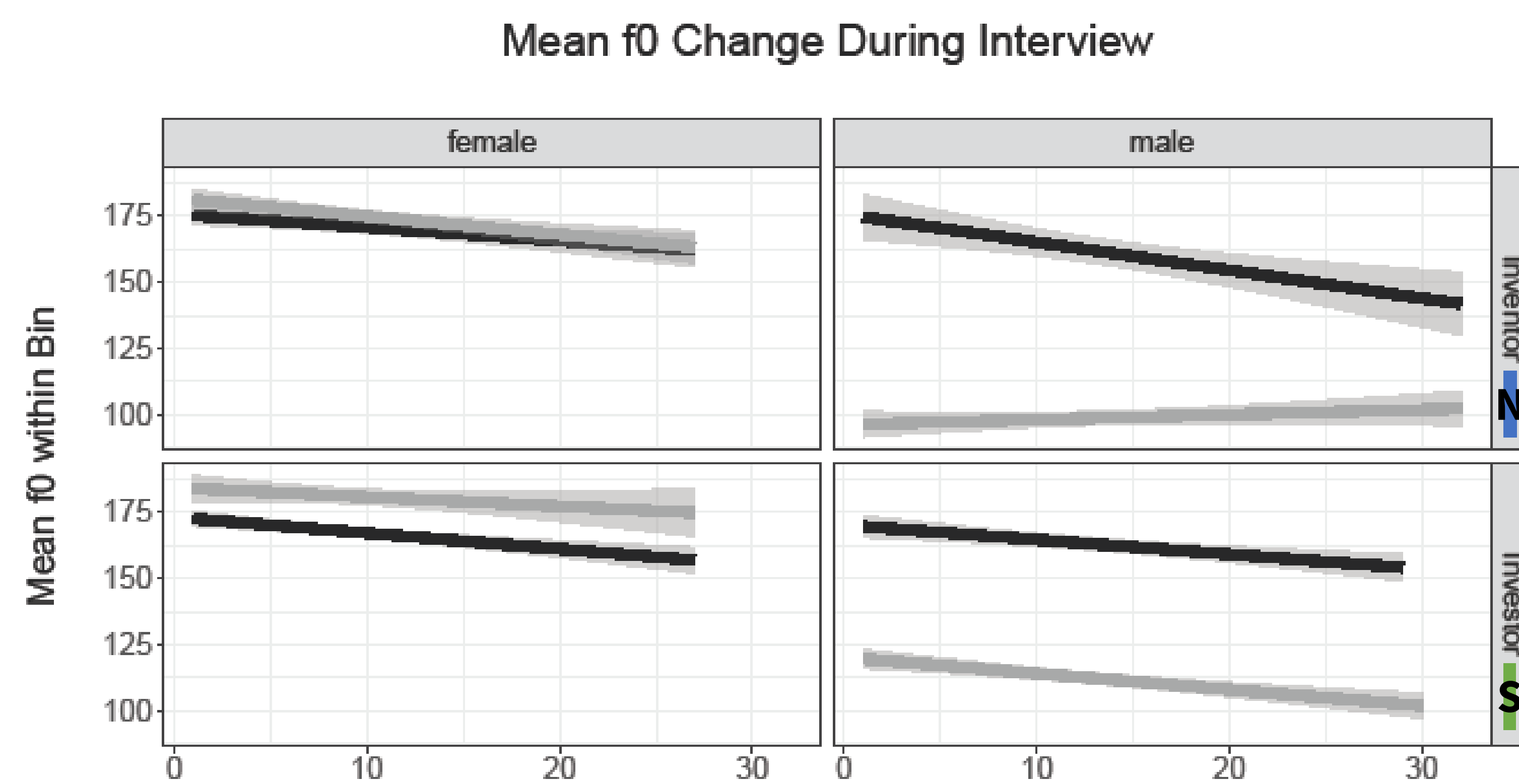
Between **pre** and **post** f0, no significant difference was found when testing powerful versus powerless, and Inventor versus Investor. I.e., participants and confederate as a whole did not converge or diverge.



Amount of accommodation, interpersonal



However, **within the interview**, the **male Inventor group differed** from male Investor and both female role groups in f0 trajectory from the beginning to the end of the interview ($p < .001$). **The male Inventors' f0 did not fall as the interview progressed.**



When comparing **long-term** (post-pre) to **short-term** (interview-pre) accommodation, an **interaction effect** was observed between gender and role ($p = .029$) only. **Male Investors converged the least.**

Discussion

Neither personal sense of power nor interpersonal power relations appeared to have a significant effect on pitch accommodation. This may be due to the task itself or how accommodation was measured. However, promising results from the within-interview analysis indicate **some interaction between gender and interpersonal power relations**. Future work will examine other phonetic properties of the speakers such as formants and stop release.

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