

1. Background

In dialogue, every speaker is also a listener. While most psycholinguistic models focus only on monologue situations, those addressing dialogue, such as the Interactive Alignment model¹, assume the speaker and listener to be separate individuals².

The Interactive Alignment model assumes that linguistic representations are shared across production and comprehension and that throughout a dialogue, interlocutors align with each other on all linguistics levels. However, since all speakers are also listeners, production and comprehension should also become more aligned within an individual in a dialogue context.

Research Questions: What is the relationship between production and comprehension within an individual and how is that influenced by dialogue context?

Prediction: A stronger relationship between production and comprehension in dialogue than in monologue.

2. General Methods

Two cross-modal syntactic priming tasks of active and passive sentences:

Comprehension → Production

Production → Comprehension

Priming³ occurs for syntactic structures with multiple options, such as describing an event using either the active (*The girl was kicking the boy*) or passive (*The girl was kicked by the boy*) voice.

Priming tasks were completed across two sessions, separated by one week. Order of the tasks was counterbalanced.

Both tasks were examined in:

Study 1 Monologue

Participants (♀) did the tasks alone
N = 22, Age: M = 18.96, SD = 1.0

Study 2 Dialogue

Participants (♂) interacted with a confederate (♀), whose utterances were pre-recorded, but appeared to speak in real-time

N = 21, Age: M = 19.60, SD = 1.07

3. Comprehension → Production Methods

Prime Trial: Comprehension

1) ♀ listens to a sentence (spoken by ♂)

The man was chased by the woman.

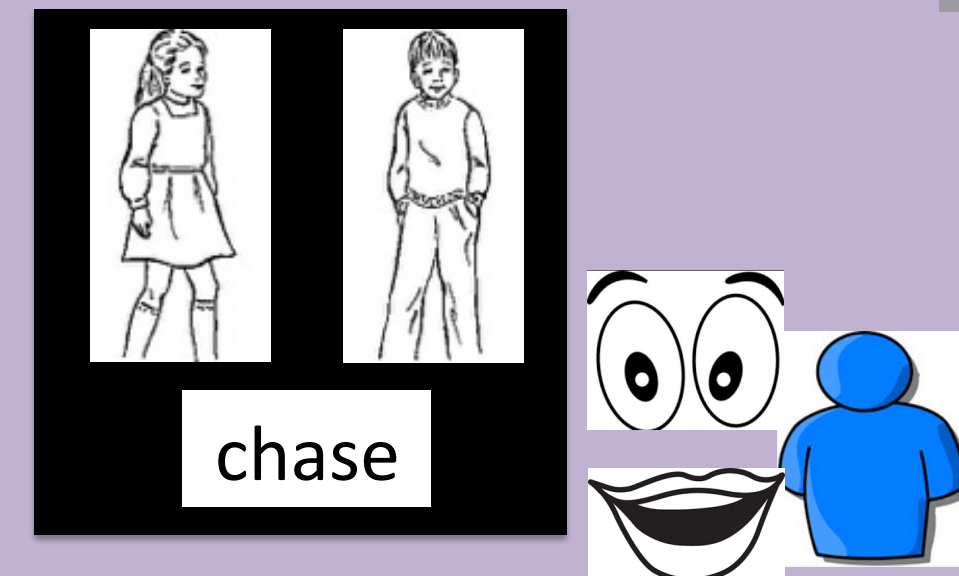
2) picture verification (on ½ of primes)



Match/Mismatch?

Target Trial: Production

1) ♀ sees and describes a picture (to ♂)



The girl was chasing the boy.
OR
The girl was chased by the boy.

Experimental Trials

Passive prime – free production target
Active prime – free production target

Fillers

Locatives, Intransitives

Measures

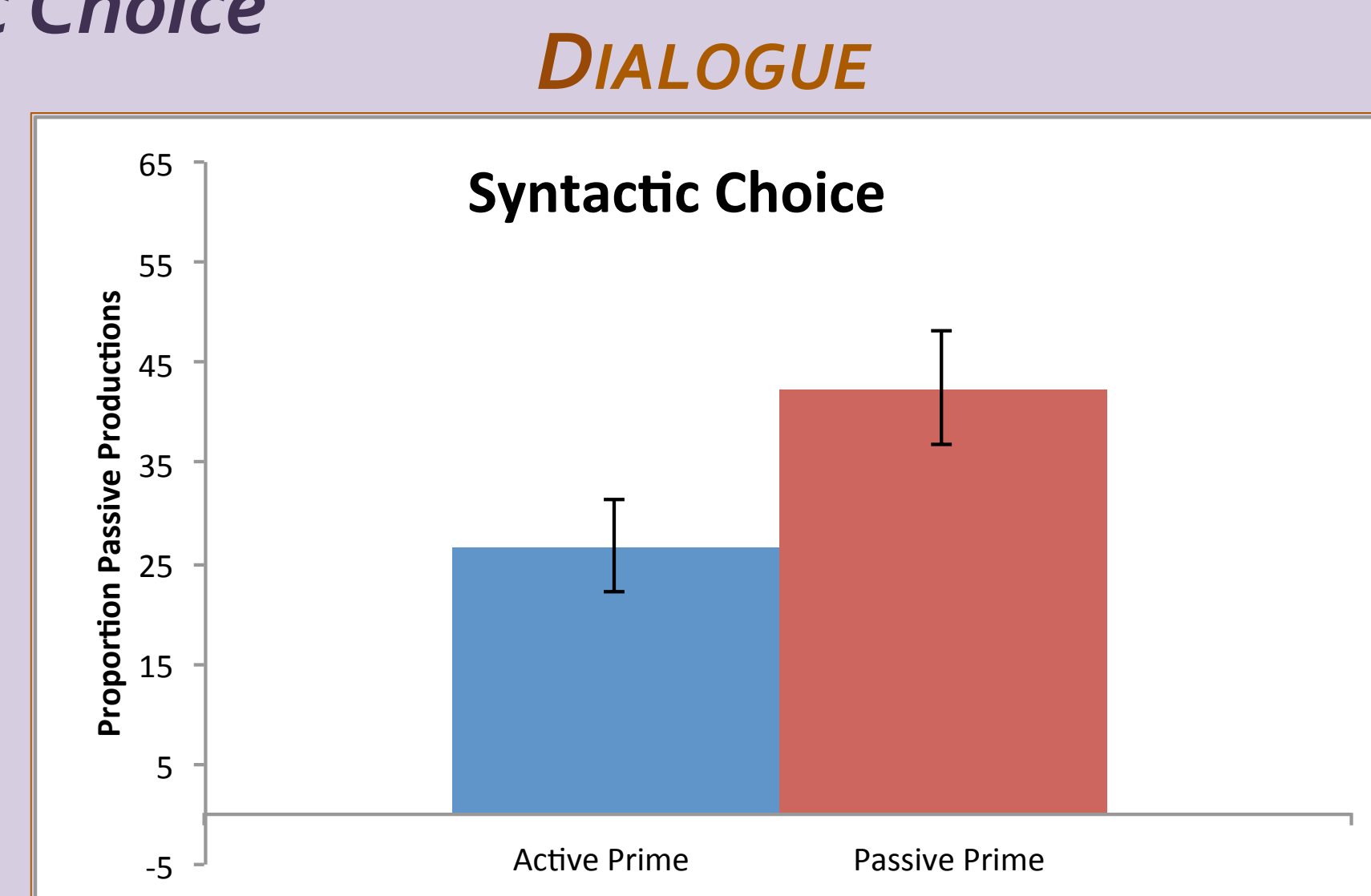
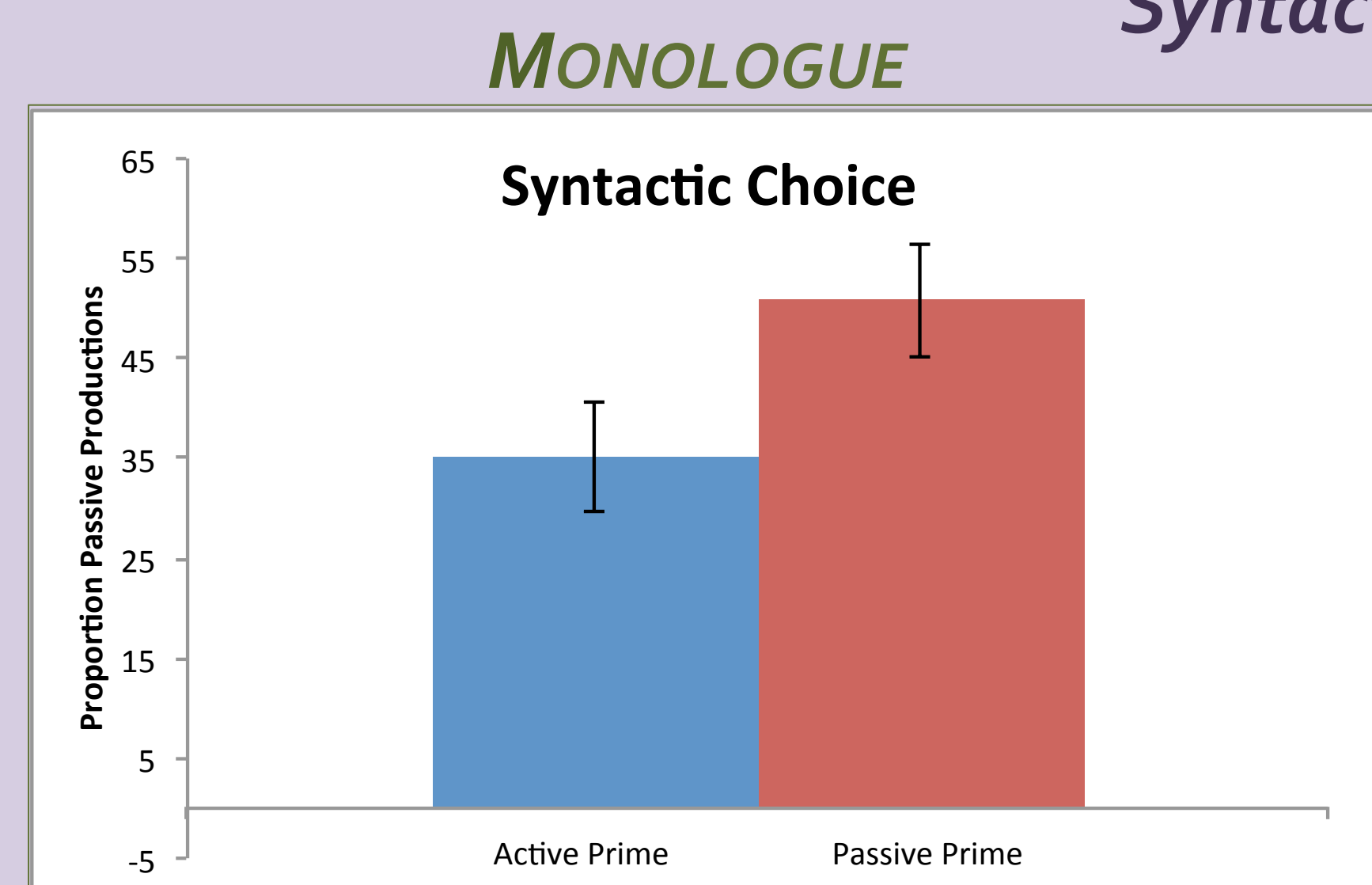
Syntactic choice, reaction time, average syllable duration

Dialogue

Simulated interaction with confederate denoted by (♂)

4. Production Results

Syntactic Choice



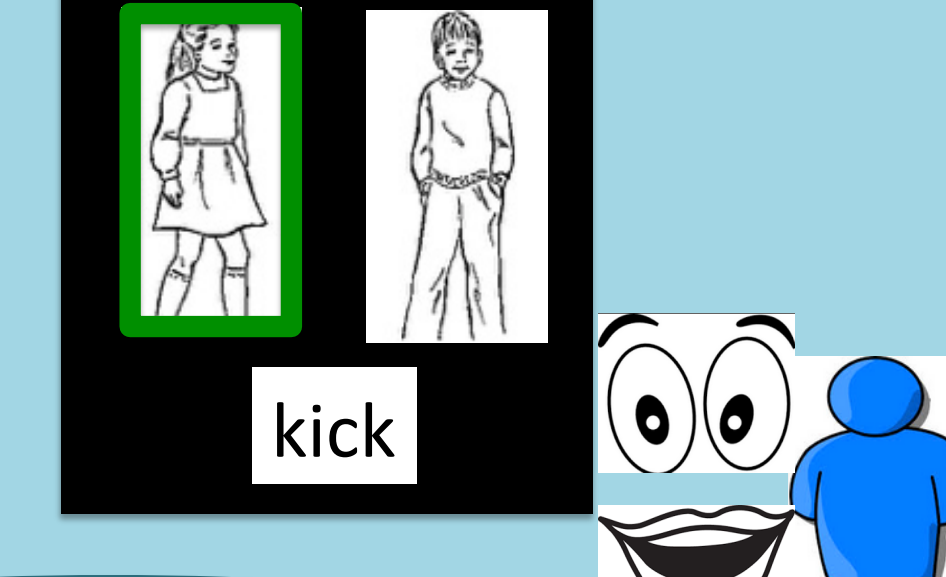
Priming: For both monologue and dialogue, more passives were produced following passive rather than active primes.

No priming for reaction time or average syllable duration.

5. Production → Comprehension

Prime Trial: Production

1) ♀ sees and describes a picture (to ♂)



The girl was kicking the boy.

To impose a specific prime type, the green box indicates the person who did the action to the other person.

Target Trial: Comprehension

1) ♀ listens to a sentence (spoken by ♂)

The nun was kicked by the chef.

2) picture verification (on ½ of primes)



Match/Mismatch?

Experimental Trials

Primed: Passive prime – Passive target
Unprimed: Active prime – Passive target

Fillers

Locatives, Intransitives

Active prime – Active target

Measure

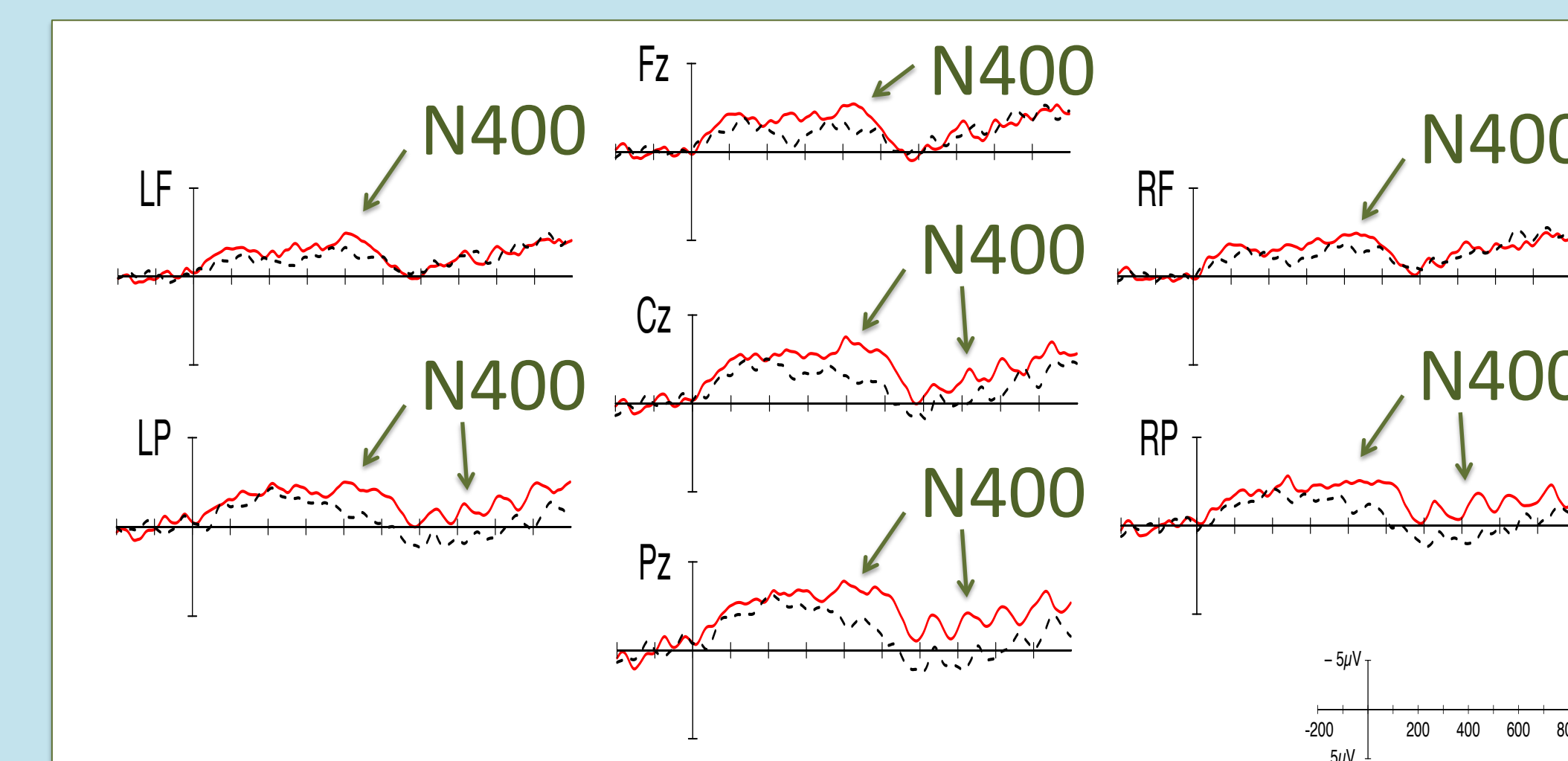
Event-related potentials (ERPs)

Dialogue

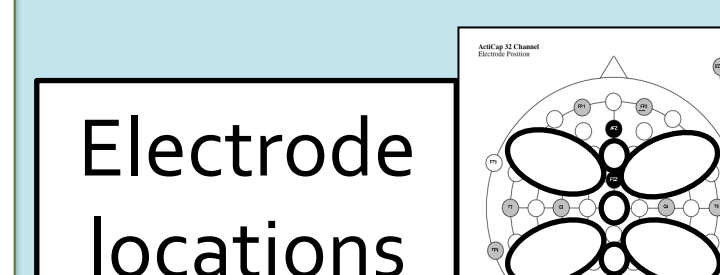
Simulated interaction with confederate denoted by (♂)

6. ERP Comprehension Results

MONOLOGUE



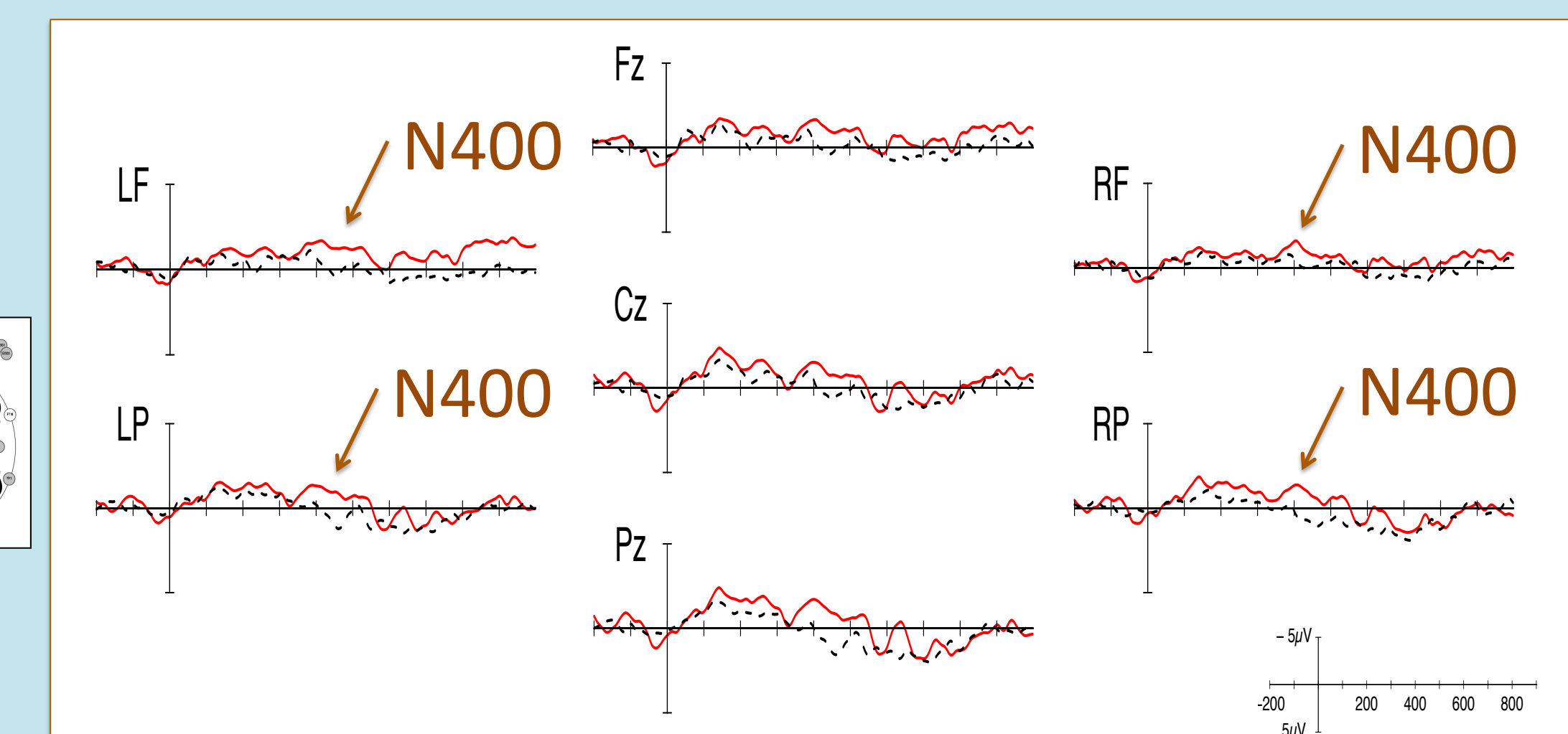
Target word: Main verb in passive targets



Primed
Unprimed

Priming: A widespread, sustained N400 was found for unprimed, as compared to primed, targets.

DIALOGUE



Priming: A lateral N400 effect was found for unprimed, as compared to primed, targets.

7. Conclusion and Future Directions

Cross-modal priming was found both from production-to-comprehension and from comprehension-to-production, suggesting similar underlying mechanisms. This priming was similar in monologue and dialogue suggesting that dialogue context does not modulate the manifestation of these processes.

Currently, we are testing whether interacting with a foreign-accented speaker modulates the relationship between production and comprehension. Given difficulties processing accented speech⁴, we expect less alignment across interlocutors, thus a weaker relationship between production and comprehension.