

Effect of hesitation sound phonetic quality on perception of language fluency and accent

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Introduction

- Native and nonnative speech have different pausing patterns
- Two types of pauses: (1) filled – speaker makes a sound; (2) unfilled – silent
- Different languages use different sounds for filled pauses; this is referred to as phonetic quality
- Native speakers' hesitation sound is "native"
- Hesitation sounds not used by native speakers are "nonnative"
- Proficiency and speech community influence production of native vs nonnative hesitation sounds

Research Question

How does the phonetic realization of a hesitation sound (the sound speakers use to pause) affect perceptions about accent and fluency?

Methods

Participants: 196 native English listeners. 124 from HSP; 72 from MTurk.

Stimuli

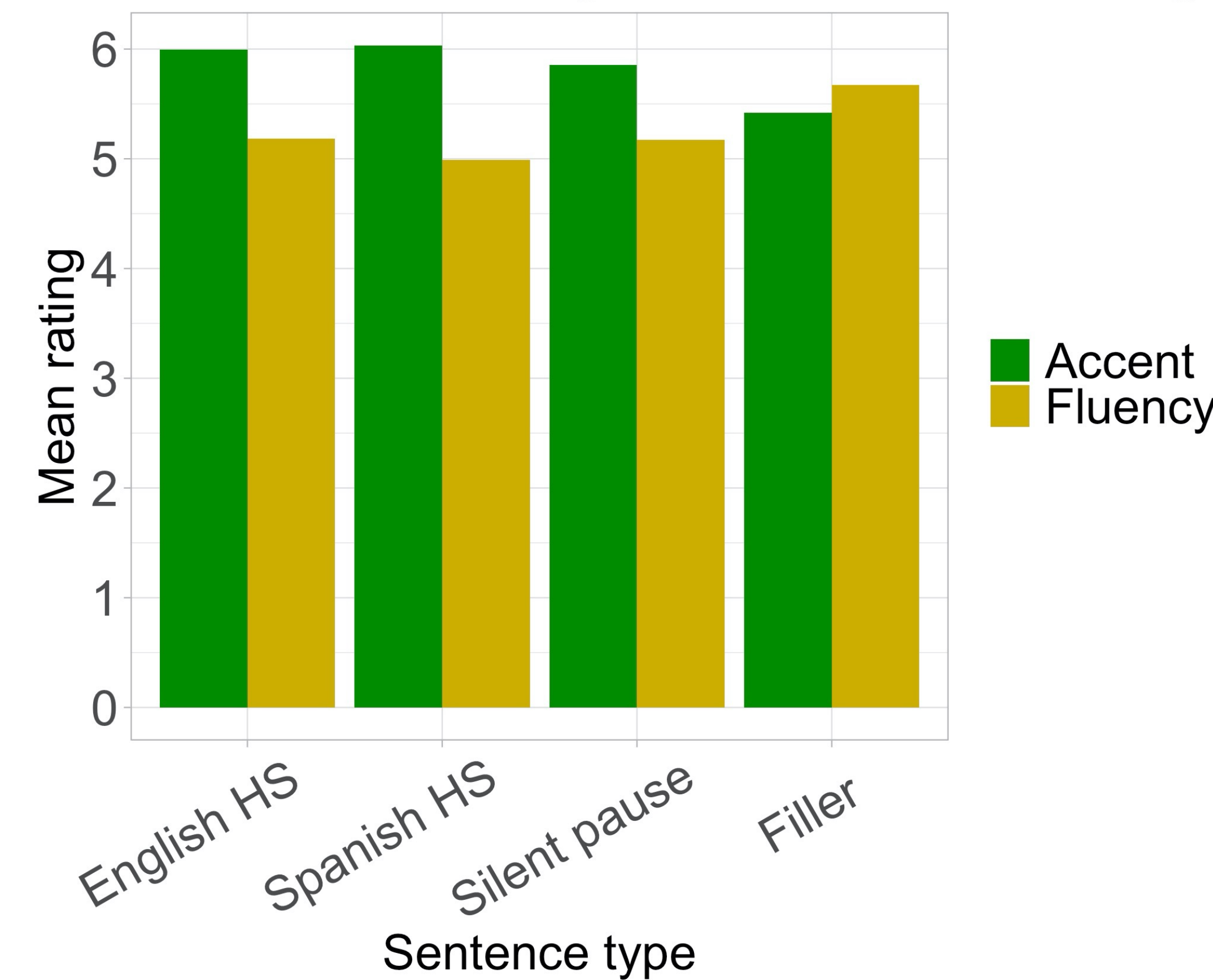
- Spontaneous speech from 8 native Spanish speakers.
- 12 fillers w/o pauses. 40 stimuli w/ pauses created from utterances with naturally occurring filled pauses.

Procedure: 4 experiments

- 1a and 2b: Listen to and rate sentences for fluency and accentedness on 1-9 Likert scale
- 2a and 2b: Listen to 2 sentences with different hesitation sounds and choose which sounds more fluent and accented

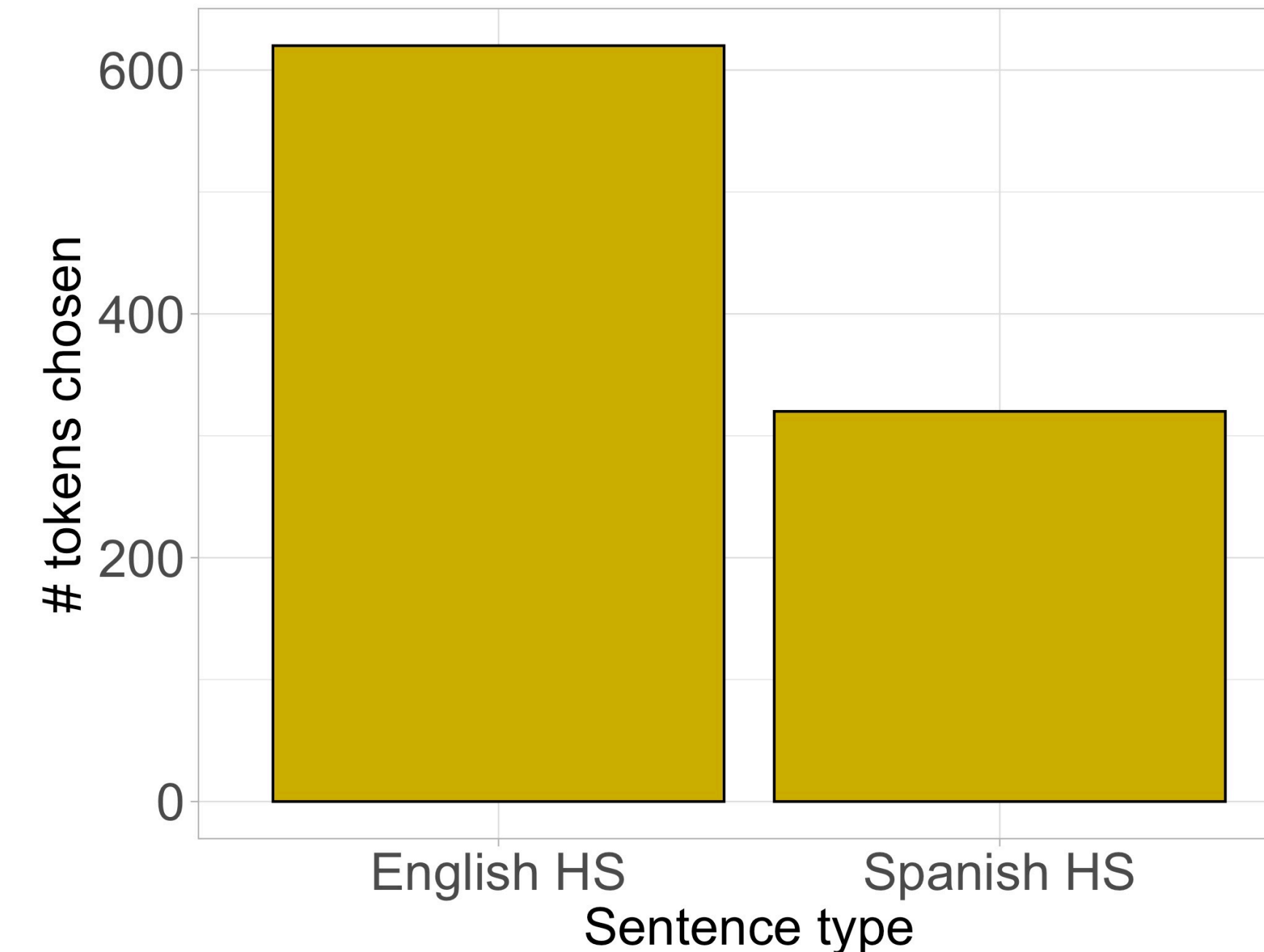
Results: Likert Rating Experiments

Mean Fluency & Accent Ratings

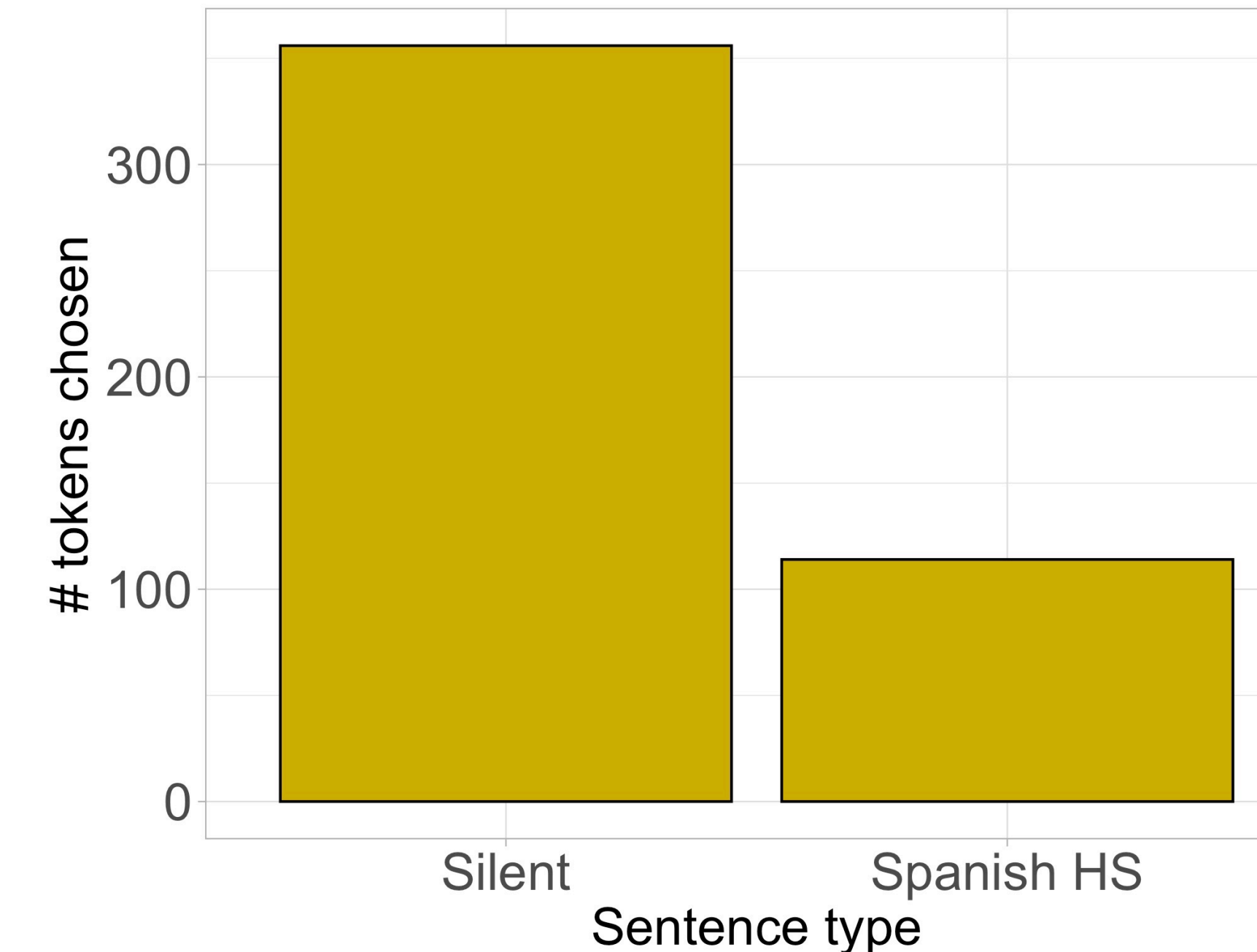


Results: FC Experiment for Fluency

of tokens chosen as more fluent in Eng vs Span pairs

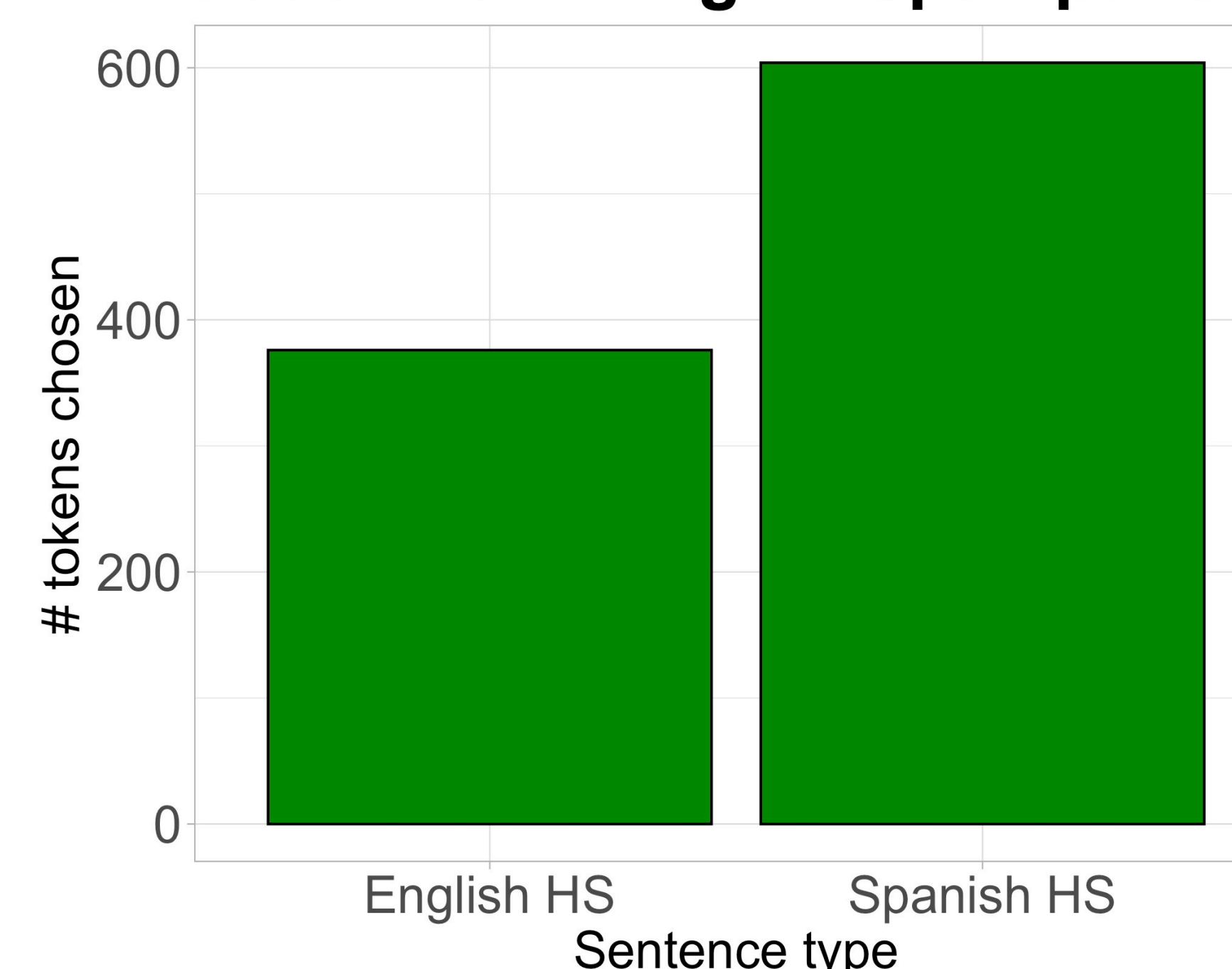


of tokens chosen as more fluent in Span vs silent pairs

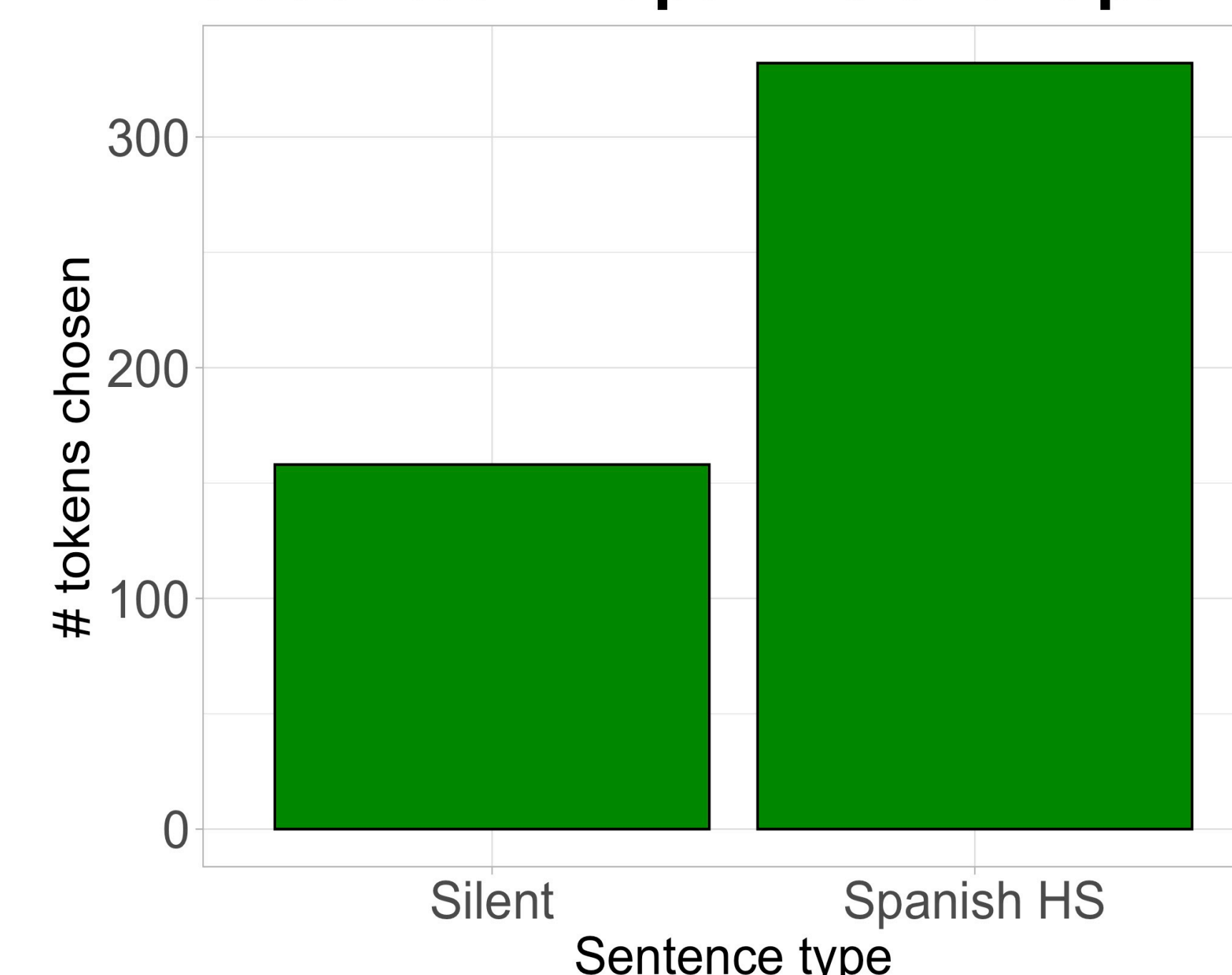


Results: FC Experiment for Accent

of tokens chosen as more accented in Eng vs Span pairs



of tokens chosen as more accented in Span vs silent pairs



Conclusions

- Phonetic realization of hesitation sound didn't affect listener judgements unless listeners attended to how a speaker paused
- Nonnative hesitation sounds were perceived as more accented and less fluent in forced choice experiments
- Attention plays an important role in pause perception
- Language teaching curriculum - focus on communicative competency

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