

Perception of L2 lexical stress in cochlear implant simulations

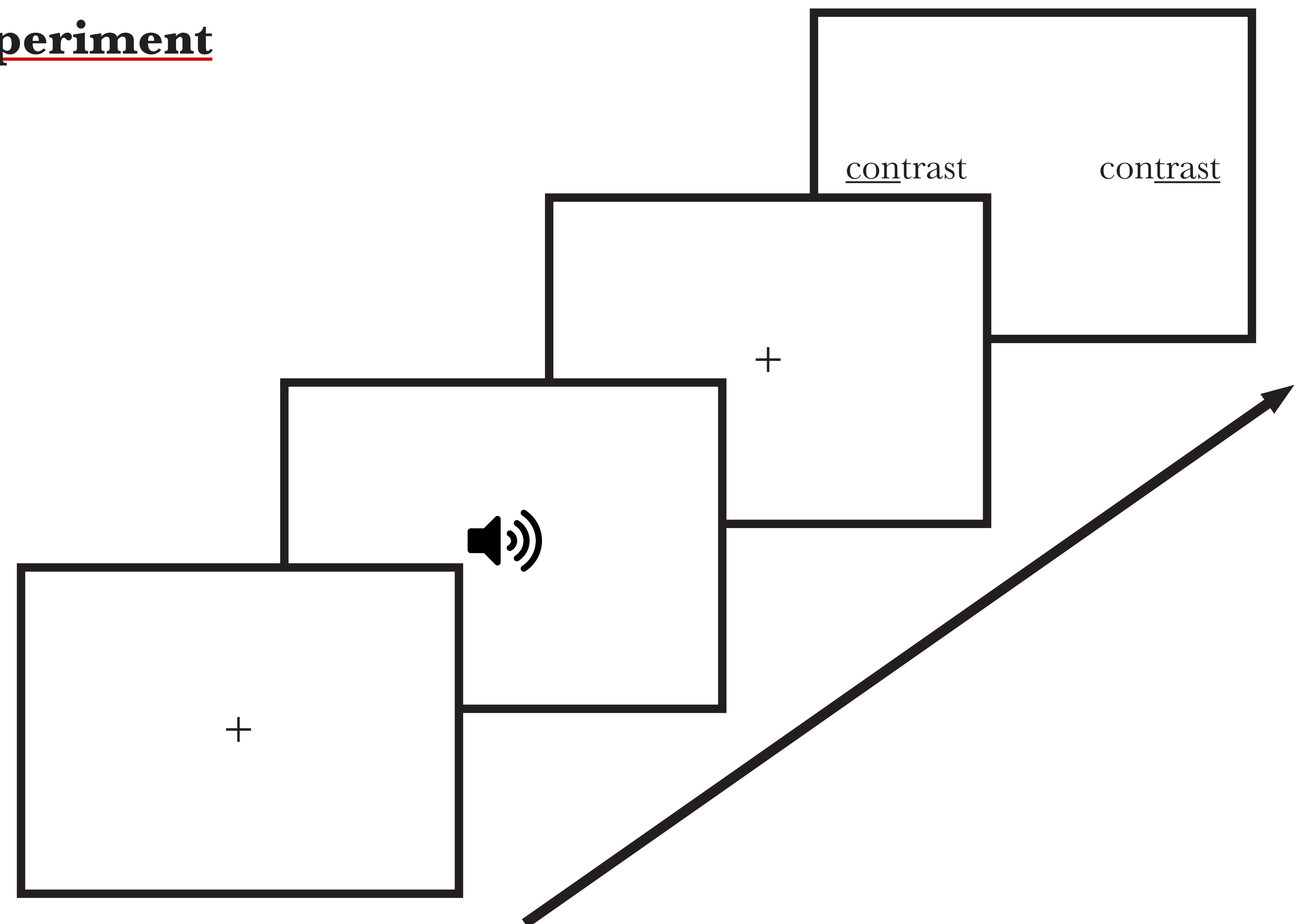
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Background

- **Cochlear implant (CI)**
 - Fine spectrotemporal detail degraded (Başkent, Gaudrain, Tamati, & Wagner, 2016)
 - Less accurate perception of F_0 & vowels
 - Perceptual hierarchy between these cues (e.g. van Zyl and Hanekom, 2013)
- **Second language (L2)**
 - Assimilation of L2 phonological patterns to those of the L1 (PAM & SLM; Best & Tyler, 2007; Flege, 1995)
 - Language specific cue-weighting patterns (e.g. Tremblay, Broersma, & Coughlin, 2018)
- **Lexical stress**
 - Signalled through prosody & vowels
 - Cue-weighting differences: Dutch vs. English (e.g. Tremblay, Broersma, & Coughlin, 2018)

Experiment



References

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Design

- Dutch L2 learners of English
- **Categorical perception (CP)**
 - 2AFC + RT
 - Continuum matrix (5x5; F_0 vs. vowel)
 - Other cues normalised
- **Manipulations**
 - Cues (PSOLA in PRAAT)
 - CI simulations (VOCODER in MATLAB)

Analysis

- Mixed effects models (LME4 in R)
 - Logistic (GLMER; response choice)
 - Linear (LME4; RT)
- Fixed effects
 - Language (Dutch vs. English)
 - Condition (natural vs. CI simulated)
 - Continuum matrix (5x5; F_0 vs. vowel)
- Random effects (e.g. participant, word)

Predictions

