English Prosody Comprehension in Heritage Speakers: Is One’s Mother’s Tongue the Same as One’s Mother Tongue?

Sten Knutsen, Shreya Sekar, Sue Peppé, Karin Stromswold
Department of Psychology, Rutgers University – New Brunswick

Contacts: sten.knutsen@rutgers.edu, shreya.sekar@gmail.com, karin@ruccs.rutgers.edu

Background
- **English Dominant Heritage (EDH) speakers:** learn a minority language from immigrant family at early age, but English is their dominant language (see Polinsky & Kagan, 2007)
- **Prosody** = modulation of the pitch, stress or rhythm of speech for communicative or linguistic effect → convey emotion, lexical differences, phrase boundaries, sentence type, or to pragmatically stress contrastive information

Question
Are there differences in prosodic comprehension between English Dominant Heritage (EDH) and native English (NE) speakers?

Methods and Materials

Participants: 84 undergraduates: 15 EDH & 69 NE

Procedure: Fully on-line test of prosody

Test: O-PEPS-C (online version of Profiling Elements of Prosody in Speech Communication, Peppé 2003)

7 comprehension subtests (16 items each)
- **Affect:** Like/Dislike
- **Declarative/Question:** Carrot. Carrot?
- **Discrimination:** Are 2 audios acoustically identical?
- **Lexical Stress:** inSULT vs. INsult
- **Boundary:**
  - **Contrastive stress:** Hear a context story about clothes shopping & indicate item forgotten: I wanted BLACK and blue socks
  - **Phrase Stress:**

Test words:
- Chocolate, cookies, and jam vs. Chocolate cookies and jam

Results

Normalized Accuracy on Comprehension Subtests
(error bars = 95% credible intervals)

Summary

- **EDH speakers = NE speakers on word-level prosody tests**
  - Affect: like vs. dislike
  - Declarative/Interrogative: Carrots. Carrots?
  - Discrimination: Acoustically same or different?
  - Lexical stress: inSULT vs. INsult

- **EDH speakers < NE speakers on prosody above the word level**
  - Boundary: chocolate, cookies, and jam vs. chocolate cookies and jam
  - Contrastive stress: I wanted BLACK and blue socks
  - Phrase stress: The green house/greenhouse spoiled the view

Discussion

1. THEORETICAL IMPLICATIONS
   - Results support linguistic theories that argue for different types of prosodic function
   - Results support psycholinguistic theories that argue for different types of prosodic function

2. DEVELOPMENTAL IMPLICATIONS
   - Results suggest no early sensitive period for prosody
   - Early critical period for prosody above the prosodic word.

   Could reflect hierarchical structure of prosody

References


Acknowledgements

Thank you to Rutgers ARESTY for travel funds to present this work. This research was supported by grants to Karin Stromswold.