Research questions

- Do native and non-native speakers produce and process prosodic focus cues in English similarly?
- Is there a relationship between speakers’ processing and production of focus prosody?

Background

Production of sentence focus

Both English and Mandarin use prosody to signal focus. (Cooper et al. 1985; Xu 1999)

However, in production of corrective focus, Mandarin speakers misaligned the pitch peak and failed to utilize intensity cues, which affected the perceived naturalness of their English focus intonation. (Kao et al. 2016)

Exp 1: Production of contrastive focus

Participants

21 native English speakers (ES)
21 non-native speakers of English whose L1 is Mandarin (MS)

Target Phrases: 12 ADJ + N (both c≠d) (Xu 2013)
- ADJ (e.g., yellow, orange, navy)
- Noun (e.g., mittens, necklace, sweater)

Procedure and Analysis

- Elicted Instruction: *Put the Adj + Noun over the Adj + Noun* (Figure 1)
- Procedure: ProxxyPro (Xu 2013) were used to measure pitch peak and average F0 per syllable.
- 44 out of 252 phrases of ES were excluded due to upward intonation.

Results

- ES aligned pitch peak with the stressed syllable of the focused word, but MS placed the peak later, within the last syllable of the focused word (Figure 3).
- Unlike ES, MS had higher average pitch on the final syllable of focused adj than on the initial (stressed) syllable (Figure 4).
- This indicates that they aligned the pitch peak not with the stressed syllable but with the word edge.

Exp 2: Processing of contrastive focus

Participants

- Same groups of ES and MS as in Production Experiment

Target Phrases: ADJ + N (both c≠d)
- ADJ (e.g., ivory, purple, flowered, dotted)
- Noun (e.g., mittens, necklace, sweater)

Procedure

- Instruction 1: Click on the Adj + N (Figure 5)
- Instruction 2: Now click on the Adj + N (Figure 6)

Results

- MS RTs significantly slower overall than ES RTs (Figure 7)
- MS - ES differences in production of contrastive focus mirror differences in production of corrective focus (Kao et al. 2016).

Discussion & Conclusion

Production

- Both groups responded more quickly to instructions with felicitous vs. infelicitous prosody, although English speakers’ response times were significantly faster in both conditions.
- Group differences did not reach significance (possible ceiling effects).

Processing

- Although Mandarin speakers showed Mandarin-like realization of focus in their production, they could nonetheless use the English prosodic patterns in their processing.

Processing - Processing Relationship

- The two groups differed in their realization of focus, with English speakers tending to align the pitch peak with the stressed syllable and Mandarin speakers with the right edge of the focused word.

References


Acknowledgement

This material is based upon work supported by NSF under Grant # IBSS-1519908. Special thanks to Sharon Benedett and Kevin Henderson for the stimuli construction.