



BACKGROUND

Native speakers adjust their speech when talking to:

- Infants/Children [5]
- > Hard-of-hearing/Intact hearing in noisy conditions [9]
- Foreigners/Non-native speakers [10], [11]
- Pets [5]

Commonly adjusted characteristics include:

- Expanded vowel space
- Reduced articulation rate
- Changes in pitch

CURRENT STUDY

QUESTION: How do **non-native** speakers adjust their speech when talking to

- > Native speakers
- > Non-natives with shared L1
- Non-natives with different L1?

METHODS

PARTICIPANTS

- 13 L1Mandarin-L2English speakers from NE China, near Beijing currently living in U.S.
- Self-reported proficient English speakers
- ➢ 8=M; 5=F
- Age range: 21-30 years
- \blacktriangleright Avg. age of exposure: 8.77 years
- > Avg. years immersion: 3.69 years Materials
- > 3 pairs of maps [1]: participant maps had route, while
- confederate maps did not 13 token phrases given as labeled landmarks on all 3 maps
- Questionnaires [3], [8] w/Likert scale language attitude questions:
- ex: I feel like myself when I speak English.
- ex: I want others to think I am a native/proficient speaker of Mandarin.

MEASUREMENTS

- Acoustic measures from token phrases analyzed in PRAAT [4]
- Articulation Rate: Syllables/Second
- Vowel Space: Area between F1xF2 of /i/, /u/, /æ/, & /a/
- \rightarrow **Pitch:** Mean f_o
- > Attitude Scores: Mandarin: English ratio from sum of Likert scale item answers



- interlocutor condition
- counterbalanced

Audience Design in Non-Native Speech

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terlocutor Languag

- Significant interaction between attitude ratio and interlocutor's language: F(2,22)=5.907, p<0.01.
- Significant effect of Interlocutor Language within the English-oriented group: F(2,10)=5.507, p<0.05.
 - Vowel space was more expanded when addressing a native English-speaking interlocutor than non-native interlocutors.
- Post hoc pairwise comparisons (Bonferroni) showed a near significant difference in vowel space expansion between English and Russian conditions within the English-oriented group (p=0.074).

- Significant interaction between attitude ratio and interlocutor's language: F(2,22)=5.631, p<0.05.
- Significant effect of Interlocutor Language within the Mandarin-oriented group: F(2,12)=4.001, p<0.05.
 - > These participants spoke more slowly when addressing the native Englishspeaking interlocutor than non-native interlocutors.
- Insignificant effect of Interlocutor Language within the English-oriented group.
- The quantitative tendency was to speak faster with the native English interlocutor.

- Significant interaction between Attitude Ratio and Interlocutor Language: *F*(2,22)=5.512, *p*<0.05.
- English-oriented participants speak with higher mean f0 when speaking with English and Russian-speaking interlocutors.
- Mandarin-oriented participants speak with higher mean f_o with Mandarin-speaking interlocutor.
- Near-significant effect of Interlocutor Language within the English-oriented group: *F*(2,10)=4.103, *p*=0.05.

Patterns based on language attitudes **English-oriented:**

- **Mandarin-oriented:**
- **Both groups:**

An emotional involvement hypothesis

orientation.

[1] Anderson, A., Bader, M., Bard, E., Boyle, E., Doherty, G.M., Garrod, S., Isard, S., Kowtko, J., McAllister, J., Miller, J., Sotillo, C., Thompson, H.S. Weinert, R. 1991. The HCRC Map Task Corpus. Language and Speech 34, 351-366.

- *Voice*, 28(4), 523-e9.
- 5:9/10, 341-345.
- 2175 2175.
- Language, 25(1), 84-104.

participants.





CONCLUSIONS

More expanded vowel space when addressing native than nonnative English interlocutors.

Trend towards speaking faster when addressing native English speakers than other groups.

 \succ Trend towards higher mean f_o with non-Mandarin interlocutors

> Addressed L1 English interlocutors more slowly than non-native interlocutors.

 \succ Higher mean f_o with native Mandarin interlocutors.

> Distinguish between native and non-native English speakers with regards to vowel space and rate of speech.

Distinguish between Mandarin and non-Mandarin interlocutors with regards to pitch.

> Correlation in previous research between speech rate/pitch and emotional involvement in conversation, with increased speech rate and higher pitch indicating greater emotional involvement. [2], [6], [7]

> Suggests speakers may be demonstrating more emotional involvement in interactions with interlocutors who align with the speaker's language-

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