

Language Attitudes Affect Perceived Intelligibility, Proficiency, and Accentedness of Non-Native Speech

Amy E. Hutchinson¹, Joshua D. Weirick¹, Suzy Ahn², Olga Dmitrieva¹

PURDUE
UNIVERSITY

1 Purdue University
2 University of California, Los Angeles

UCLA

BACKGROUND

- L2 learners with a more positive attitude tend to achieve higher proficiency (Dörnyei, 2014; Gardner & Lambert, 1972; Shuy & Fasold 1973; inter alia)
- A more positive attitude in the L2 helps the learner achieve target-like pronunciation (Elliot, 1995; Huensch & Thompson, 2017; Lord, 2008; Shively, 2008)
- L1 Mandarin speakers with a more positive attitude towards English made acoustic adjustments in their English speech (Dmitrieva et al., 2015), including:
 - hyperarticulated vowel space
 - faster articulation rate
 - higher pitch

Research Questions

- Does the **interlocutor factor** (L1 background of the person the speaker is addressing) affect judgments of Mandarin speakers' **intelligibility, accentedness, and proficiency** in English?
- Does the speakers' **language attitude** affect judgments of their **intelligibility, accentedness, and proficiency**?

METHODS

Participants (Raters)

- 70 speakers of American English (mean age 20.7, 7 male 63 female)

Materials

- Stimuli:** ~10 second sound clips of 24 L1 Mandarin speakers giving directions to a confederate in English using a map (from Dmitrieva et al., 2015)
 - Confederates (3) in Dmitrieva et al., (2015) were a native speaker **Mandarin**, a native speaker of **Midwestern American English**, and a native speaker of **Russian**
 - English/Mandarin attitude ratio** calculated for each participant
- Independent Variables:** Speaker English/Mandarin attitude ratio, interlocutor L1 (English, Mandarin, Russian) (Dmitrieva et al., 2015)
- Dependent variables:** Native speaker ratings of Intelligibility, accentedness, and proficiency (Fig. 1).
- Presentation:** Each participant (rater) rated 24 clips of non-native speech using three, 7-point scales (Fig. 1).
 - Participants rated all conditions and all Mandarin speakers, but did not rate a single speaker in multiple conditions

C2C2S11 Recording of Mandarin speaker completing map-task

0:00 / 0:12

Intelligibility rating

How well did you understand this person speaking English?

Not well at all Very poorly Poorly Moderately Fairly well Well Very well

Accentedness rating

Please rate the strength of this person's foreign accent, if any, when speaking English.

Nonexistent Very weak Weak Moderate Fairly strong Strong Very strong

Proficiency rating

Please evaluate this person's overall proficiency in English.

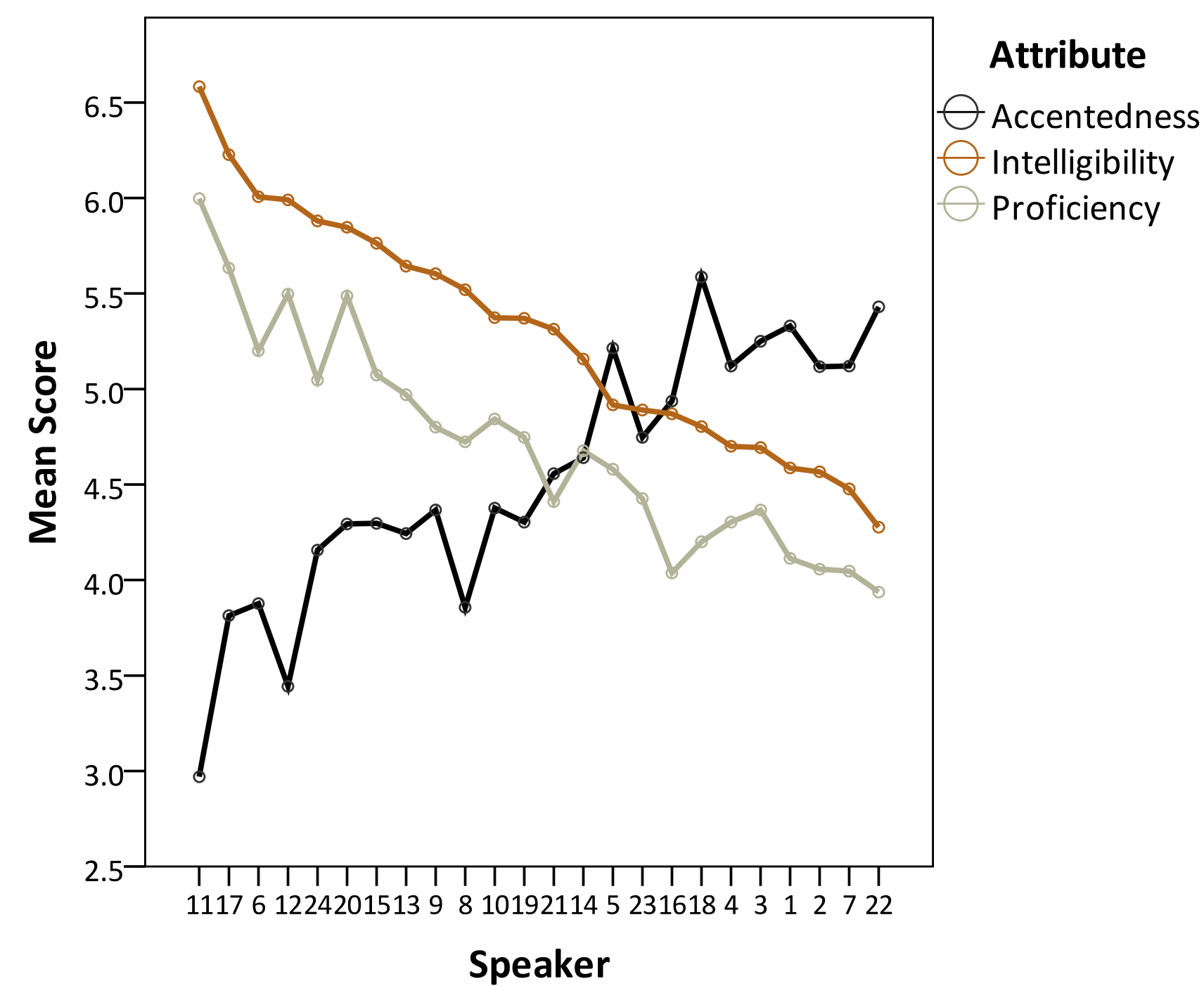
Not high at all Very poor Poor Moderate Good Near-native Native-like

Figure 1 (above): Sample item and rating scales

*Since intelligibility, proficiency, and accentedness scores were highly correlated, a global evaluation score (GES) was created by averaging the three

DESCRIPTIVE PATTERNS

Figure 2: Attribute score variability across speakers



- All speakers were rated as fairly intelligible and proficient
- All speakers were perceived as accented
- Intelligibility and proficiency were significantly correlated, while accentedness was negatively correlated with both

Figure 3 (below left): Average Mandarin/English attitude ratio across speakers

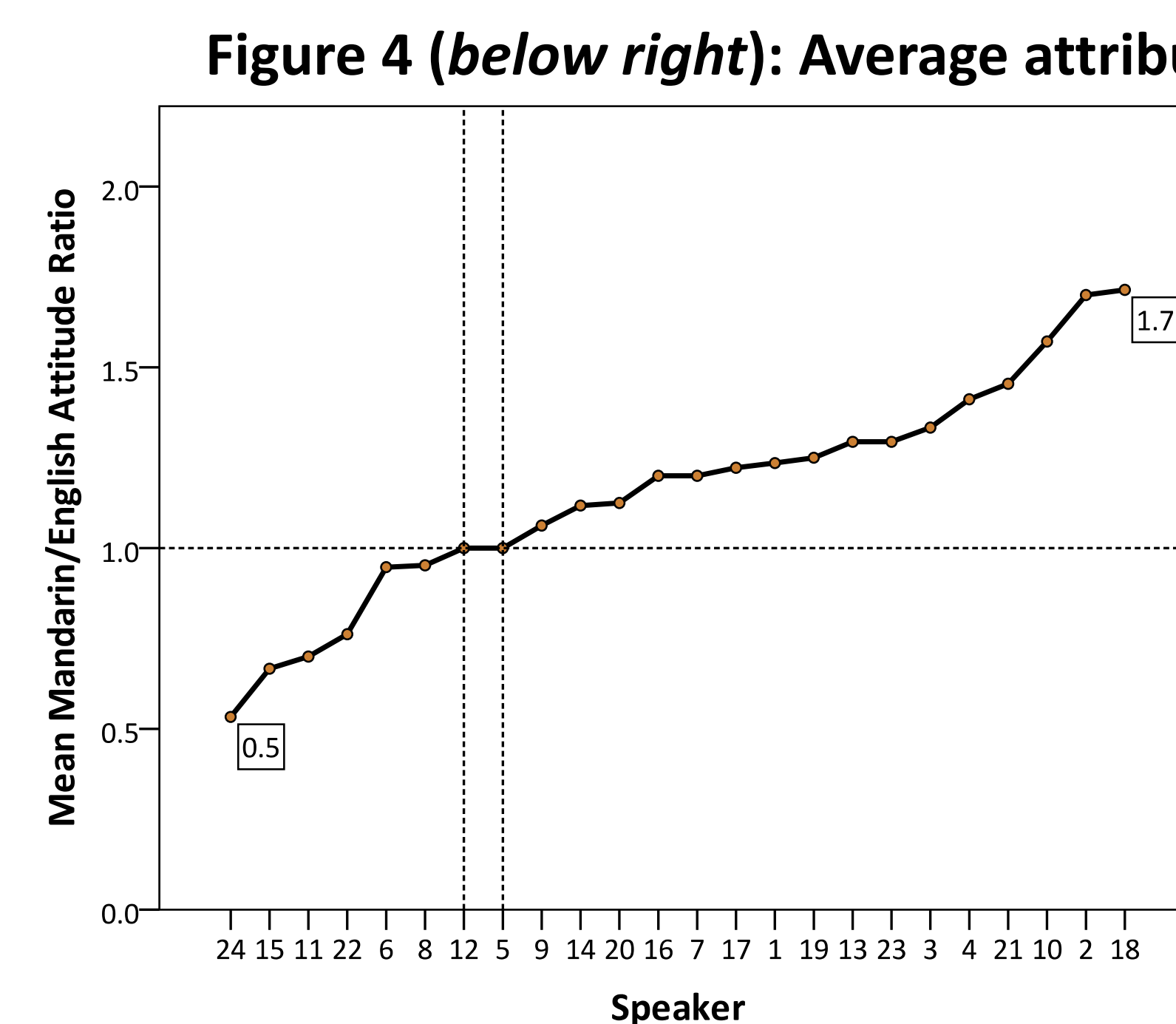
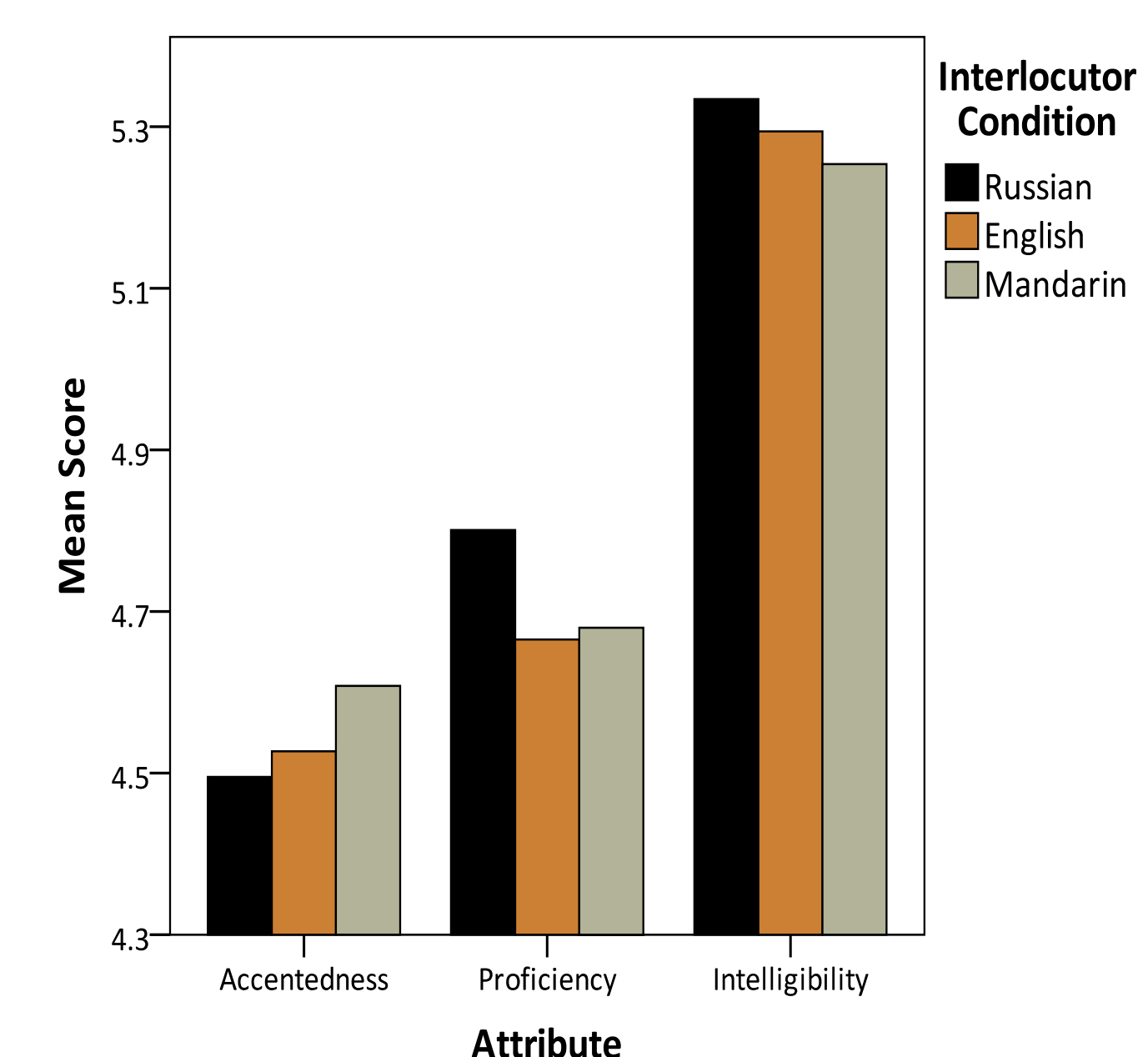


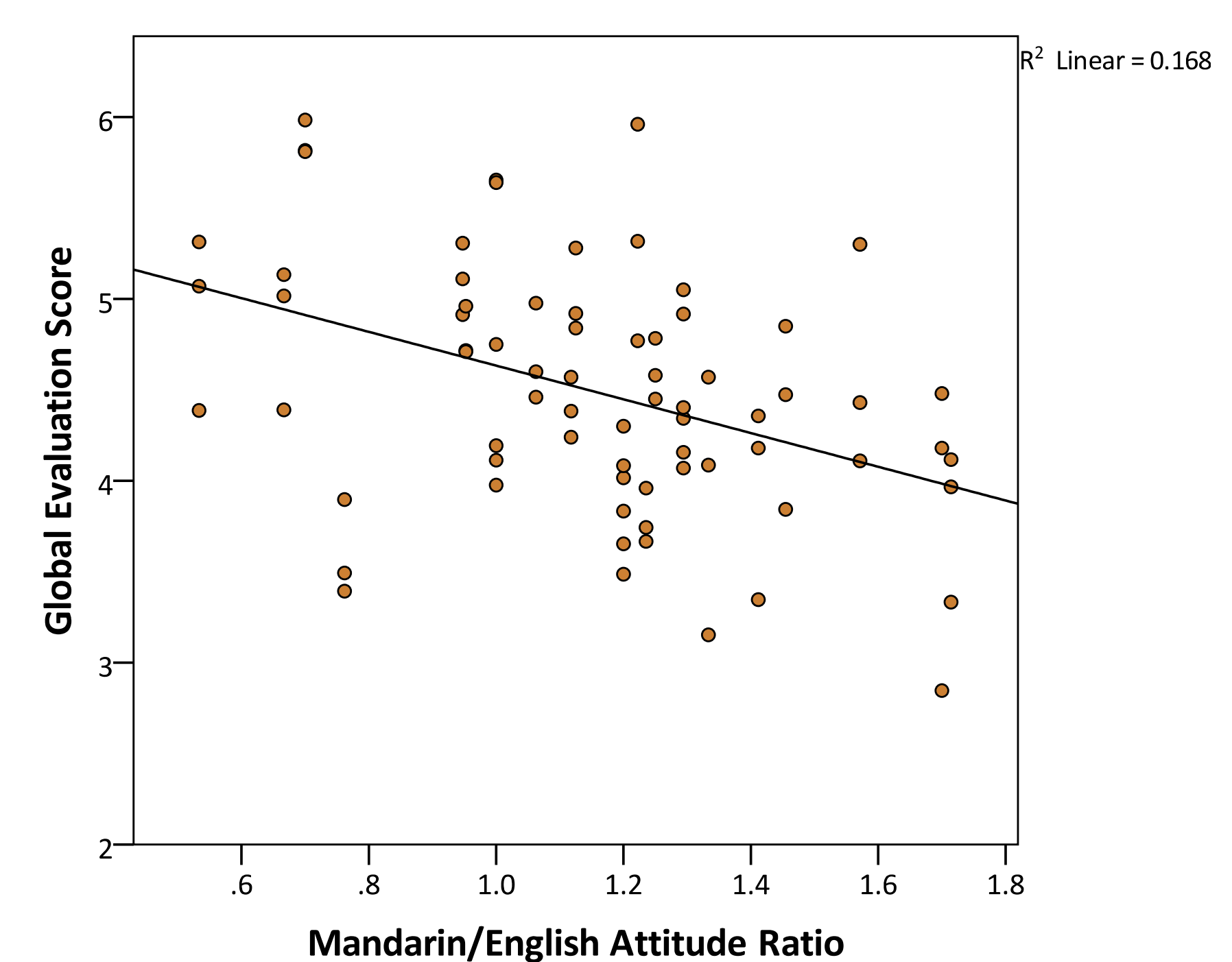
Figure 4 (below right): Average attribute scores by interlocutor condition



- 16/24 speakers indicated a more positive attitude towards Mandarin (Fig. 3)
- Speakers were rated the most proficient, intelligible, and least accented when addressing the Russian interlocutor (Fig. 4)
- Speech to the Mandarin interlocutor was rated the most accented (Fig. 4)

STATISTICAL RESULTS

Figure 5: Correlation between Mandarin/English attitude ratio and GES*



- Attitudes covariate was a significant predictor of GES ($p < 0.05$):
- Speakers who had a more positive attitude towards English were perceived as more intelligible, more proficient, and less accented

CONCLUSIONS

- There is a clear connection between L2 attitude and success in L2 acquisition, but it is unclear which precedes the other
- Attitude towards the L2 modifies L2 speech (Dmitrieva et al., 2015) and these acoustic modifications are perceptually salient and detectable by native listeners
- A positive attitude can improve L2 pronunciation, showing the benefits of a positive and supportive environment during the language learning process