Interference of L1 tonal alignment: Mandarin lexical tone to English pitch accent

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3. Introduction

- Total alignment is phonologically controlled [1,2,3].
- Prosody transfer can occur in L2 production, possibly interfering with L1 prosody [4,5].
- L2 prosody can be trained in the course of second language acquisition [6,7].

The present study investigates English L2 prosody of Mandarin L1.

Pitch function

1. Mandarin
2. English

Testing contour

Q: Does the native linguistic knowledge of tonal alignment (e.g., tonal association with syllable boundary) remain in L2 production?

2. Methodology

2.1 Recording

- A total of 18 monolinguals participated:
  - L1 = English (6 female monolinguals)
  - L1 = Mandarin, L2 = English (12 females, 4-8 yrs., 20-30 yrs.)
- Stimuli appearing in lists: 12F = 6F (1-2 yrs.), 4F (3-6 yrs.), 2F (+6 yrs.)
- Three repetitions at three speech rates (Normal, Slower, and Faster)

2.2 Measurements

- Low tone time lag (H-tlag; variable, not syllable bound [10])
- High tone time lag (L-tlag; realized a syllable boundary in Mandarin, not syllable bound in English)

3. Results

3.1 Comparable V-duration between the two groups “emma” (V’CVY)

<table>
<thead>
<tr>
<th>Group</th>
<th>V-duration (ms)</th>
<th>Proportional H-tag</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>200</td>
<td>1.2</td>
</tr>
<tr>
<td>Mandarin</td>
<td>1.3</td>
<td>1.2</td>
</tr>
</tbody>
</table>

Since vowel durations are similar between the groups, we can compare alignment (H-tlag) between the groups.

3.2 Different alignment patterns between the groups

(a) H-tlag in V1
(b) H-tlag in V2

4. Summary

- Mandarin L1 group showed a different tonal alignment pattern from English L1 when they produce English prosody.
- The L2 alignment pattern produced by Mandarin L1 group is similar to the general L2 prosody.
- No found prosody transfer in tonal alignment.
- Speech rate has a trend effect on the tonal alignment for the English L1 group, but not for the Mandarin L1 group.

References


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