The Effect of Societal Language on Sentence Comprehension in Early Bilinguals

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Introduction

- Grammaticality judgment and acceptability judgment tasks are very common tools in linguistics research to get insights into speakers’ mental grammar.
- Bilingual speakers sometimes give higher acceptability ratings than monolinguals, even when judging sentences in their native language (Fernandez & Souza, 2016; Zyzip, 2014).
- Cross-linguistic influence may be one of the sources that leads to higher acceptability judgments, especially when a structure is ungrammatical in one language and grammatical in the other (Fernandez & Souza, 2016).
- We tested whether language background variables such as age of second language acquisition, language proficiency, and the language of thought affect ratings for sentences that differ in grammaticality between the languages.
- Three groups of Spanish-English bilinguals rated sentences involving ungrammatical Spanish sentences that mimicked English lexical causatives:

  - *El entrenador corrió al deportista alrededor de la pista rápidamente.

  - *El instructor corrió al deportista alrededor de la pista rápidamente.

  - *El deportista corrió al instructor alrededor de la pista rápidamente.

  - The trainer ran the athlete around the track quickly.

  - The instructor ran the athlete around the track quickly.

  - The athlete ran the instructor around the track quickly.

Research Questions

1. Do the subjects’ proficiencies in the two languages affect sentence ratings?
2. Does age of second-language acquisition influence sentence ratings?
3. Does the language that bilinguals normally think in affect sentence ratings?

Predictions

1. If knowledge of English grammar influences sentence acceptability, we should see correlations between the English proficiency level and causative ratings.
2. If grammaticality judgments are shaped in childhood, we should expect to see a correlation between age of English acquisition and causative ratings.
3. We expect bilinguals who report thinking in only Spanish to perceive causative sentences more like Spanish monolingual controls.

Methods

Sentence comprehension task

- Spanish-English bilinguals and Spanish controls listened to sentences in Spanish; English monolinguals listened to equivalent sentences in English.
- Each sentence was rated on a scale from 1 (completely unnatural) to 5 (completely natural).
- Causative sentences were compared to two control conditions: ungrammatical controls were ungrammatical in both languages, and grammatical controls were grammatical in both languages.

Participants

- All participants were tested in New York City.
- The bilinguals were highly proficient in Spanish and English; the control groups were functionally monolingual.
- Heritage speakers started learning English by age 10 and grew up in the U.S.
- Early bilinguals started learning English by age 10 but moved to the US in adolescence or adulthood.
- Late bilinguals began learning English after age 10.

Results

- There is no correlation between English proficiency and causative sentence rating.
- Speakers with lower Spanish proficiency tended to rate causative sentences higher.
- Speakers with lower Spanish proficiency tended to also rate ungrammatical control sentences higher.
- Heritage speakers’ ratings for causative sentences were significantly higher than the other two bilingual groups (p < .01).
- English controls’ ratings for causative sentences were significantly higher than every other group (p < .05).
- Spanish controls’ ratings did not differ significantly from the bilingual groups’ ratings. (1 > p > .05)

Comparison of Thinking Languages for Bilingual Groups

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Age range</th>
<th>Mean Age</th>
<th>Mean L2 Ache</th>
<th>Mean SP Proficiency (1-7)</th>
<th>Mean EN Proficiency (1-7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heritage speakers</td>
<td>25</td>
<td>12-24</td>
<td>18.0</td>
<td>5.7 yrs</td>
<td>6.1</td>
<td>6.5</td>
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<tr>
<td>Early Bilinguals</td>
<td>16</td>
<td>18-28</td>
<td>23.3</td>
<td>6.4 yrs</td>
<td>6.5</td>
<td>5.2</td>
</tr>
<tr>
<td>Late Bilinguals</td>
<td>12</td>
<td>21-37</td>
<td>29.1</td>
<td>15.8 yrs</td>
<td>6.7</td>
<td>4.6</td>
</tr>
<tr>
<td>Spanish Controls</td>
<td>25</td>
<td>18-45</td>
<td>32.1</td>
<td>N/A</td>
<td>6.4</td>
<td>N/A</td>
</tr>
<tr>
<td>English Controls</td>
<td>25</td>
<td>21-37</td>
<td>26.8</td>
<td>N/A</td>
<td>N/A</td>
<td>5.8</td>
</tr>
</tbody>
</table>

* Proficiency ratings are self-assessed and range from 1-7

Discussion

- Early and late bilinguals both rated the sentences similarly to Spanish controls. Heritage speakers generally rated the sentences higher than Spanish controls and the other bilingual groups. This suggests that the societal language may play a significant role in the development of grammatical intuitions in the heritage language.
- We predicted that higher English proficiency might correlate with higher causative sentence ratings since this structure is grammatical in English but not in Spanish, but there was no correlation with English proficiency.
- Higher Spanish proficiency correlated with lower naturalness ratings for both causative sentences and ungrammatical controls, suggesting that speakers with lower Spanish proficiency were less likely to reject structures that violated Spanish grammar.
- The language of thought appears to affect perception of ungrammatical sentences, as shown by the fact that English thinkers tend to rate the sentences higher than Spanish thinkers. This may indicate that not just speaking, but also thinking primarily in English makes Spanish sentences with English-like structures sound more acceptable.

Future Explorations

- Explore possible reasons why Spanish controls rated showed so much variability in their ratings.
- Examine other individual differences like the proportion of English/Spanish use on a daily basis, the diversity of contexts in which the languages are spoken, and the context of English learning (e.g., naturalistic or academic).

References


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