Crosslinguistic Transfer in the Acquisition of Compound Words in Farsi-English Bilinguals

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Crosslinguistic interference or transfer

• What is it?
  > The influence of one language on the structure of another language when a child knows two languages
    - Syntax
    - Lexicon
    - Morphology
    - Phonology

• Possible explanations:
  > Structural overlap
  > Language dominance

Structural overlap hypothesis (Hulk & Müller, 2000)

When language A allows more than one option for a structure and language B overlaps with one of those options, transfer occurs from language B to language A

Other empirical evidence for this hypothesis (Döpke 1998, Müller 1998; Paradis & Navarro, 2003)
Language dominance hypothesis (Yip & Matthews, 2000)

The language with stronger proficiency is responsible for the structure that the child favors.

A Farsi-English bilingual child being dominant in Farsi will be influenced by the Farsi pattern.

- Other empirical evidence (Nicoladis, 2003; Paradis, 2001)

Motivation for the current study

- Look at overlap and dominance together in the same study
- Look at the effects of transfer with a task, a larger sample size, and both languages
- Farsi has not been often investigated in studies of crosslinguistic interference

Current study

- Novel compound elicitation task in Farsi and English
Structure of compounds in English

• X+Y as a basic structure

• Y as a head holding the core meaning

• rigidly right-headed

(1) Doorbell
(2) Sunflower
(3) Blueberry
(4) Blackboard

Structure of compounds in Farsi

• X+Y as a basic structure

• Either X or Y as a head holding the core meaning

• Could be both left- or right-headed

(4) ab
   water
   ‘apple juice’

(5) gol
   flower
   ‘green house’

(6) zemestan-e
   winter
   ‘cold winter’
Research questions & predictions

- Is there any cross-linguistic influence in Farsi-English bilinguals’ compounds?
  - There should be a difference between bilingual and monolingual groups
- Can structural overlap explain the cross-linguistic interference?
  - Unidirectional transfer from English to Farsi only in Farsi task
  - Bilinguals should behave like monolinguals in English task
  - Dominance should not have any effect
- Can language dominance be responsible for the cross-linguistic interference?
  - Transfer from Farsi to English for Farsi dominant children
  - Transfer from English to Farsi for English dominant children
  - Structural overlap need not have any effect

Participants

<table>
<thead>
<tr>
<th>Participants</th>
<th>Number</th>
<th>Mean age</th>
<th>Place</th>
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<tbody>
<tr>
<td>Farsi monolinguals</td>
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<td>4;8</td>
<td>Iran</td>
</tr>
<tr>
<td>Farsi-English bilinguals</td>
<td>16</td>
<td>4;5</td>
<td>Canada</td>
</tr>
<tr>
<td>English monolinguals</td>
<td>17</td>
<td>4;6</td>
<td>Canada</td>
</tr>
</tbody>
</table>

Inclusion criteria

- Bilinguals:
  - Acquisition of both languages before the age of 3 (simultaneous and very early sequential)
  - A reasonable level of vocabulary comprehension (PPVT test)
- Monolinguals:
  - Acquisition of only one language from birth
**Materials**

1. A receptive vocabulary test (PPVT)
   - Child vocabulary comprehension in English

2. A Farsi translated PPVT
   - Child vocabulary comprehension in Farsi

3. English novel compound production task (Nicoladis, 2002)
   - Picture of 16 English novel compounds

4. Farsi novel compound production task
   - Picture of 16 Farsi novel compounds

**Procedures**

1. Parental questionnaire
   - Child language background

2. Vocabulary test in English and Farsi (PPVT)
   - We asked children to identify a picture in a group of four pictures

3. Novel compound elicitation tasks in English and Farsi
   - We asked children to make new names for pictures
     - Farsi-English bilinguals performed tasks 2 & 3
     - English monolinguals performed only task 3 in English
     - Farsi monolinguals performed only task 3 in Farsi
Task description

This is a car
These are balloons
This is a balloon car

Coding

- Only responses that bore the characteristics and structures of compounds were considered for analysis

- We coded each compound as either left-headed or right-headed

frog + finger
frog finger → frog hand → finger frog
Responses to compound production task by each group

![Graph showing percentage responses to compound production task]

- Significant difference in the rate of left- and right-headedness between Farsi and English monolinguals
- Significant difference in the rate of left- and right-headedness between bilinguals and Farsi monolinguals
- Significant difference in the rate of left- and right-headedness between bilinguals and English monolinguals

Description of results

As predicted by structural overlap hypothesis:
- Farsi monolinguals had significant bias for left-headed compounds whereas English monolinguals had significant bias for right-headed compounds
- Bilinguals had more right-headed compounds than Farsi monolinguals in Farsi
  - Influence from English
  - Evidence for overlap hypothesis

Not as predicted by structural overlap hypothesis:
- Bilinguals produced more left-headed compounds than English monolinguals in English
  - Influence from Farsi
  - Not explainable with overlap hypothesis
• Significant difference in the rate of left-headedness in Farsi between Farsi dominant and English dominant children

Description of results

As predicted by language dominance hypothesis:

- Compared to English dominant children, Farsi dominant bilinguals looked more like Farsi monolinguals

- Farsi dominant bilinguals produced more left-headed compounds than English dominant children in Farsi task

- Individual analysis showed that Farsi dominant children clearly followed this pattern
  - 8/8 Farsi dominant children produced more left-headed compounds whereas only 1/8 English dominant children produced more left-headed compounds
Comparison among English monolinguals, English dominant and Farsi dominant bilinguals in English

No significant difference in the rate of right-headedness between English dominant and Farsi dominant children

Description of results

Not as predicted by language dominance hypothesis:

- There was no influence of language dominance in English task
- The English dominant bilinguals did not show greater inclination for right-headedness than Farsi dominant bilinguals in English
- The individual analysis also supported the group data.
  - 4/8 English dominant and 5/8 Farsi dominant children produced more right-headed compounds.
Discussion

- Is there any cross-linguistic influence in Farsi-English bilinguals’ compound?
  - Yes, there was a difference between bilingual and monolingual children

- Can structural overlap explain the cross-linguistic interference?
  - Yes, transfer from English to Farsi occurred in Farsi task. No, transfer from Farsi to English occurred in English task

- Can language dominance be responsible for the cross-linguistic interference?
  - Yes, an influence of dominance from Farsi to English. No, no influence of dominance from English to Farsi

Conclusion

Both structural overlap and dominance seem to play a role

Why?

- The unexpected influence of the optional language (Farsi) on the non-optional language (English) could be because of language learning context
  - Not one parent one language bilinguals

- The influence of dominance in Farsi only could be because of the optionality in Farsi

- Bidirectionality
  - Syntax versus morphology?
Simultaneous and sequential bilinguals’ responses in Farsi
Simultaneous and sequential bilinguals’ responses in English

Fig 5. Average percentage responses on English production task by sequential and simultaneous bilingual children (regardless of language dominance)