Emerging Self-Regulation and Language Skills in a Sample of Bilingual Preschoolers

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RESEARCH QUESTION
Is there a greater effect of self-regulation on expressive language or expressive language on self-regulation over time?

INTRODUCTION
- Children with exposure to a second language have been shown to exhibit higher self-regulation skills when compared to monolingual children (Carlson, 2008).
- Low-income minority students demonstrate lower language skills than their Caucasian, middle-income counterparts (Qi, 2012).
- Minority children living in poverty have been shown to have poorer language and self-regulation skills when compared to their Caucasian, middle-class counterparts (Vallotton, 2012).
- Children who come from low-income households have been shown to exhibit decreased self-regulation skills and language development when compared to their Caucasian, middle-income counterparts (Vallotton, 2012).
- A positive relationship has been established between lexical diversity and inhibitory control in bilingual (English- and Spanish-speaking), low-income children (Peredo et al., 2015).

METHOD
Participants
- Sample of (N = 39) low-income, Hispanic preschool 3 year old (n = 18) and 4 year old (n = 21) children recruited from a private school that emphasizes socio-emotional health
- 18 boys; 21 girls
- 92% retention rate from T1 to T3 (N=36)
- Bilingualism (parent reported)
  - Mostly Spanish (n = 15)
  - Mostly English (n = 15)

MEASURES
- Self-Regulation
  - Complex Response Inhibition Task (CRI)
- Expressive Language
  - Narrative Retell Language Sampling

Assessments were conducted within the school.

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PROCEDURE
- Children were assessed in English & Spanish
- All measures were collected at 3 time periods: Fall, Year 1; Spring, Year 1; & Fall, Year 2
- Assessments were conducted within the school
- HTKS scored for responses over 30 trials, 10 each per phase
  - Correct responses = 2 pts
  - Partially correct responses = 1 pt
- NDW is a lexical diversity measure that tracks the number of different (uninflected lexemes) words produced

GROWTH IN EXPRESSIVE LANGUAGE AND SELF-REGULATION

<table>
<thead>
<tr>
<th>Language (NDW)</th>
<th>Fall, Year 1</th>
<th>Spring, Year 1</th>
<th>Fall, Year 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>46.8 (21.1)</td>
<td>60.8 (18.2)</td>
<td>79.4 (23.6)</td>
</tr>
<tr>
<td>Spanish</td>
<td>54.7 (24.6)</td>
<td>55.5 (20.6)</td>
<td>61.7 (26.3)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Self-Regulation (HTKS)</th>
<th>Fall, Year 1</th>
<th>Spring, Year 1</th>
<th>Fall, Year 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>13.9 (17.6)</td>
<td>17.4 (19.0)</td>
<td>34.1 (20.1)</td>
</tr>
<tr>
<td>Spanish</td>
<td>11.6 (15.0)</td>
<td>18.1 (19.0)</td>
<td>30.1 (20.8)</td>
</tr>
</tbody>
</table>

3 WAVE, CROSS-LAGGED PATH ESTIMATES FOR EXPRESSIVE LANGUAGE AND SELF-REGULATION

BETWEEN LANGUAGE, WITHIN MEASURE CORRELATIONS

<table>
<thead>
<tr>
<th>Time 1</th>
<th>Time 2</th>
<th>Time 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>NDW (E-S)</td>
<td>.83*</td>
<td>.51*</td>
</tr>
<tr>
<td>HTKS (E-S)</td>
<td>.75*</td>
<td>.57*</td>
</tr>
</tbody>
</table>

Note. NDW = Number of Different Words; HTKS = Head, Toes, Knees, Shoulders; E-S = English-Spanish; * p < .05.

Differences found for T1 & T2, T1 & T3 (but not T2 & T3) NDW.
No differences found for HTKS measures (Using r to transformation for dependent r differences).

FINDINGS & DISCUSSION
How consistently did children score across language?
- In terms of language, consistency weakens over time, BUT
- In other words, it doesn’t matter what language in which the children were assessed

Why do we see “growth” in English but not Spanish?
- Children’s school emphasizes English
- Children are likely to experience [Spanish] “first language loss” the more they are exposed to English language
- In this sample, path analysis indicates that expressive language is making a greater contribution to self-regulation than vice versa
- The relation emerged between time 2 and time 3, but not between time 1 and time 2
- Findings are consistent with prior work (Bohlmann et al., 2015)

REFERENCES
Mayes, M. Frog, where are you? (1989); Frog on his own (1973); Frog goes to dinner (1974); One frog too many (1975). New York, NY: Dial Books for Young Readers.