Language development in bilingual (Spanish-English) preschool-age children

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BACKGROUND

- English Learners (ELs) are one of the fastest growing student populations in the United States (Fry, 2008).
- 10% of US students (Hoff, 2013).
- >75% of ELs are Spanish-speaking (Swanson, 2009).
- 41% of Dallas ISD students (Dallas ISD, 2014).
- The amount of exposure to each language is related to ELs’ language vocabulary size and grammar complexity (Hammer, 2014).
- Bilingual children are often behind in English vocabulary (relative to monolinguals) by the time they enter first grade (Han, 2014).
- Preschool experience can strongly predict English vocabulary in bilingual kindergarteners (Uchikoshi, 2006).
- Mean Length of Utterance in words (MLUw): Indicates language maturity via the average length of an utterance in words (Wood, 2016).
- Number of Different Words (NDW): Measure of lexical diversity by tracking number of uninflected root words (Goldberg, 2008).
- Code Switching (CS): Alternating use of languages between phrases and sentences (Guiberson, 2006).

Hypotheses:
- H1: Bilingual children who attend preschool will have (a) higher MLUw (utterance complexity) and (b) NDW (lexical diversity) in English and Spanish relative to children who do not attend preschool.
- H2: Bilingual children who attend preschool will (a) CS less when speaking in English, and (b) CS more when speaking in Spanish, relative to children who do not attend preschool.

METHOD

Participants
- 71 Spanish-English bilingual preschool-age children.
- 36 attended an English immersion preschool (Preschool group).
- 35 attended a half-day per week parent-child education program (No Preschool group).

Spanish and English language samples collected using wordless picture storybooks (Mayer, 1969; 1974; 1975a; 1975b).
- The Systematic Analysis of Language Transcripts (SALT) software (Miller & Iglesias, 2015) used to calculate MLUw, NDW, and Code Switching.
- The proportion of CS was obtained by dividing the number of CS words by the number of total analyzed words per narrative.
- Maternal Education level was obtained through a Home Language Survey completed by the caregivers of the participants, on a scale of 0-14 (no education to post-doctorate degree).
- Paired samples t-tests and effect sizes (Cohen’s d) were conducted for MLUw, NDW, CS proportion, and Maternal Education level in each language for the Preschool and No Preschool groups.

RESULTS

- Paired samples t-tests for MLUw in Spanish, NDW in English, NDW in Spanish, and proportion of CS words in Spanish were non-significant.
- Paired samples t-test for MLUw in English showed a statistically significant difference, with a large effect size, between the Preschool group and the No Preschool group (t(17)=<.001; d=1.69).
- Paired samples t-test for CS proportion in English showed a statistically significant difference, with a large effect size, between the Preschool group and the No Preschool group (t(16)=<.001; d= -1.32).
- Paired samples t-test for Maternal Education level also showed a statistically significant difference, with a large effect size, between the Preschool group and the No Preschool group (t(13)=<.001; d= 1.26).

DISCUSSION

Conclusion
- The findings indicated that attending an English immersion preschool affected some aspects of bilingual (Spanish-English) language development, namely MLUw and CS proportion in English.
- The findings partially supported both hypotheses: Children who attended preschool showed (a) higher MLUw in English and (b) lower CS proportion when speaking in English, relative to those who did not attend preschool.
- However, the findings did not support the hypotheses for differences among the two groups of children in MLUw in Spanish, NDW in each language, or CS proportion when speaking in Spanish.
- Although not statistically significant, the Preschool group showed a relatively higher rate of CS in Spanish (16.2%) relative to No Preschool (7.8%) group. This may be due to some language loss of Spanish.
- Future research should investigate the possible correlation between attending preschool and loss of Spanish in bilingual children.

Clinical Implications
- Results indicated that bilingual children who attended preschool had higher MLUw in English than those who did not, and may therefore be at a lower risk of falling behind in school.

Selected References

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