The Effect of Language Context During Word Recognition: When Bilingual Infants Adjust to Linguistic Modes

Brandon Darr¹,², Dr. Giovanna Morini³, & Dr. Rochelle Newman⁴

¹Department of Hearing & Speech Sciences, The University of Maryland, College Park ²The University of Delaware ³The University of Tennessee, Knoxville

Introduction

- Research has shown that bilingual adults freely switch between their two languages, sometimes within sentences (Hereda & Altarriba, 2001).
- Bilingual parents often switch languages (or codeswitch) when speaking with their children whose language skills are developing (Ball, Morini, & Newman, 2015).
- Child-directed speech (CDS) often has short sentences, and sometimes words in isolation, and infants are faster at recognizing words in sentences rather than in isolation (Fernald & Hurtado, 2006).
- While there has been research on bilingual adults who codeswitch, there has been little research on the effects of parental codeswitching on how and when bilingual children can understand the meaning of sentences.
- The main purpose of this research project is to determine the effects of language context in word recognition for bilingual children in understanding an English or Spanish target word presented in three conditions: in isolation, at the end of a same-language sentence, or at the end of a mixed-language sentence.

Hypothesis

Target words heard at the end of sentences will be more understood than target words in isolation, and target words heard at the end of same-language sentences will be understood better than target words heard at the end of mixed-language sentences.

Methods

Participants

- 42 children (19 male & 23 female) from Spanish-English bilingual households
- They had been exposed to a minimum of 30% in each language since birth and had not been exposed to any other languages
- The children were between 17.5 and 24 months (M = 20, SD = 1.8)

Procedure

- Infants sat in their parent’s lap and watched a video that displayed pairs of familiar objects while hearing speech stimuli in three possible conditions—isolation, same language, or mixed language—with the target words being entirely Spanish or English for each participant.
- Using a split-screen preferential-looking paradigm we examined children’s looking behavior to determine children’s ability to correctly identify words in the 3 listening conditions. Looking behavior was coded on a frame-by-frame basis, using Supercoder (Hollich, 2005).

Results

- Although the difference was not statistically significant, the present findings suggest that the participants looked slightly more at the target word when it was presented in isolation.
- These data do not support previous findings that infants are faster at recognizing words in sentences rather than in isolation. Rather, the infants had no preference for a specific condition.
- To further explain the results, a follow-up study is necessary to provide more about these participants’ knowledge in each language.

Preliminary Conclusions

- The original study looked at how well young bilingual children understood sentences that mixed two languages as they were first learning the languages.
- In the follow-up study, we wanted to see if children who were more successful at understanding their parents’ codeswitching sentences had more opportunities to learn from speakers of English and/or Spanish in the child’s environment.
- The follow-up study assesses the participants when older to see their vocabulary development with increased language exposure and practice.
- We predict that the children who understood codeswitching better in the lab should have better language outcomes than the other participants.

Follow-Up Study

- The participants for the follow-up study are the same participants from the original study.
- They are asked to come back into the lab for the follow-up study at any point between the ages of 4 and 6 years old for a one-time visit.
- The parent fills the Mixed-Language Questionnaire (Byers-Heinlein, 2013) to provide information about parent language use with the child.

Future Research

- This study is ongoing. Continuation of this study will involve expansion of sample size for the overall study and additional behavioral testing to assess the vocabulary development of the participants as they age.

Acknowledgements & References

We are grateful to our team of graduate and undergraduate students of the Language Development Lab at the University of Maryland for their technical assistance.