

# Does Bilingualism Predict Academic Stimulation in Young Children?

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## Background

Bilingualism is defined as a person's ability to speak two languages. In this study, bilingualism was specifically defined as a child who speaks English and another language other than English.

Prior psychological research studies on bilingualism have assessed bilingualism and learning success and found that bilingual individuals better process information from their environments which hence improve their language learning abilities (Kaushanskaya & Marian, 2009). They have further found that being bilingual changes the way in which brain regions process information (Marian & Shook, 2012; Mohades, Struys, Van Schuerbeek, Mondt, Van De Craen, Luypaert, 2012). However, when examining different environments, the home environment of bilingual children has been understudied, particularly with regard to academic stimulation.

**The present study examines the relation between bilingualism and academic stimulation as measured by differences in academic stimulation scores between monolingual and bilingual children ages 4-7.**

## Methods

### Sample

- 85 children (ages 4-7).  $M_{age} = 4.97$  (SD: 0.78); 51.8% female, 48.2% male
  - 78 English-speaking only; 17 bilingual

This project is part of a larger study, the Wellness, Health, and Life Experiences (WHALE) Study (PI: Margaret Sheridan). Data was collected as part of Visit 1, a home visit, which included structured interviews with the child's caregiver administered by a research assistant, along with cognitive tasks administered to the child participant, which were not analyzed at this time.

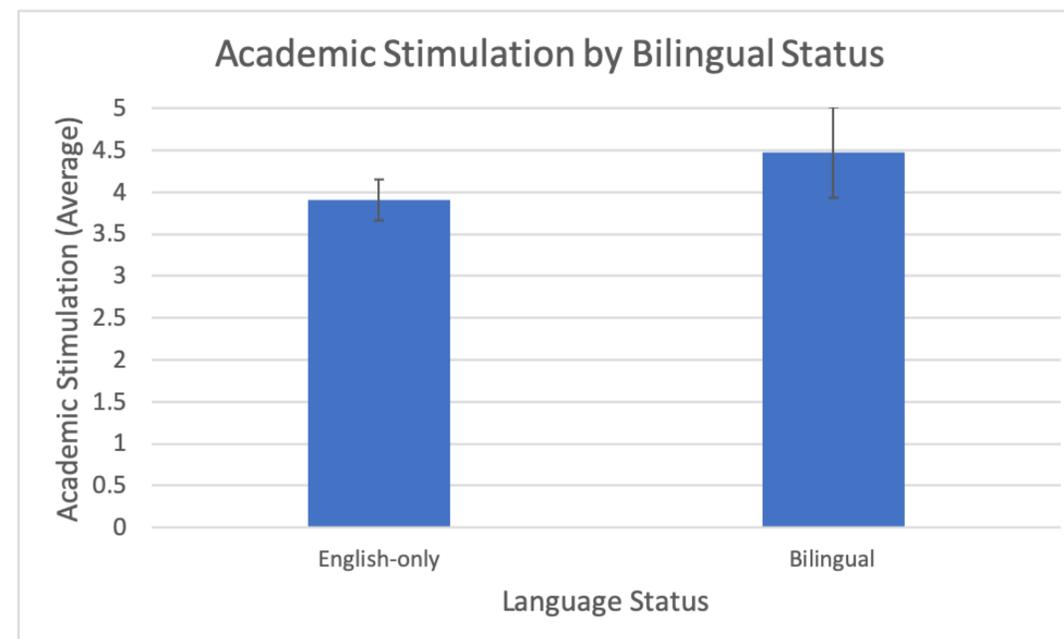
### Measures

- Demographics
  - **Bilingualism** was assessed using a single-item: whether (0 = No, 1 = Yes) the child speaks another language other than English.
- Early Childhood Version Home Observation Measurement of the Environment (HOME; Bradley, Corwyn, McAdoo, & Garcia Coll, 2001).
  - **Academic Stimulation (AS)** subscale was used as a measure of child's academic stimulation in the home.
  - AS is defined as "encouragement of the child's intellectual development." Five items assessed whether (0 = No; 1 = Yes) the child is encouraged to learn colors, patterned speech, spatial relationships, numbers, and how to read a few words. The AS subtotal score was summed from these five responses (range: 0-5).

## Results

Univariate analyses were conducted using SPSS Version 27.0

- Predictor: Bilingual Status
  - 0: English-speaking only, 1: Speaking English & another language
- Covariates: Gender, Age
- Outcome: Academic Stimulation



- There was a higher mean academic stimulation for bilingual children (4.47) compared to mean academic stimulation for English-speaking only children (3.91).
- The overall model was statistically significant
  - $F(3) = 2.82$ ,  $p = .044$ ;  $R^2 = 0.095$
- When controlling for the effects of age and gender, bilingualism significantly predicted academic stimulation ( $p = .049$ )
- Age was also a statistically significant predictor of academic stimulation ( $p = .042$ ) but there was no significant interaction effect of age and bilingualism.

## Conclusion

Based on this sample, bilingual children are more academically stimulated at home than monolingual, English speaking only children. This study also demonstrates high parental involvement in bilingual children's academic stimulation.

## Future Directions

- Continue exploring the relationship between bilingualism and academic stimulation in a larger sample
- Possibly identify if certain forms of academic stimulation (teaching colors or teaching words) are more prevalent for bilingual children, and whether this occurs in one language or both
- Examine if there are differences in academic stimulation based on language used to teach those skills to their children
- Utilize a more comprehensive measure of cognitive stimulation (e.g. STIM-Q) in analyses
- Explore if there is a relationship between bilingualism and executive function in young children

## References

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