



# Young Children's Tendency to Name Objects in the Direction of their Native Text

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## Introduction

- Learning to read is a foundational skill that predicts long-term educational outcomes (Nikas et al., 2016)
- Adult readers show biases in their visual attention that reflect the direction of their native writing system: English and Spanish readers tend to look from left to right (Shaki et al., 2012)
- Young children's perception can be influenced by cultural conventions (Kuwabara et al., 2012)

## Research Questions

**RQ 1: Is children's visual attention shaped by their native writing system?**

**RQ 2: Do language-specific biases increase with age?**

## Methods

### Data Collection Site

- *La Nube STEAM Discovery Center*

### Participants

- 28 English-learning and Spanish-English bilingual children, (12 Males, 16 Females, *Mean Age: 3.3 years, Range: 2.5-4.0 years*)

### Naming Task

- Children were asked to name 3 familiar objects

#### Practice trials

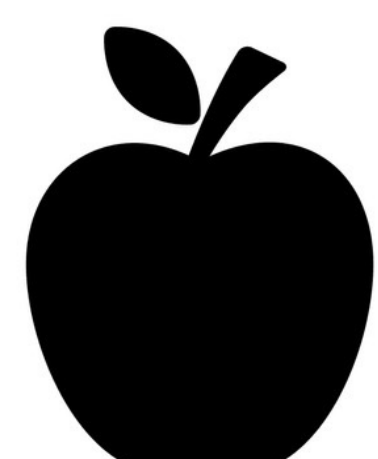
- Children saw 2 practice trials in vertical orientation to familiarize them with the task

#### Test trials

- Children saw 3 images in a horizontal line (see below).
- An experimenter recorded the order in which the child named/pointed to the objects

### Other Measures

- Parents completed a survey with questions about family literacy habits



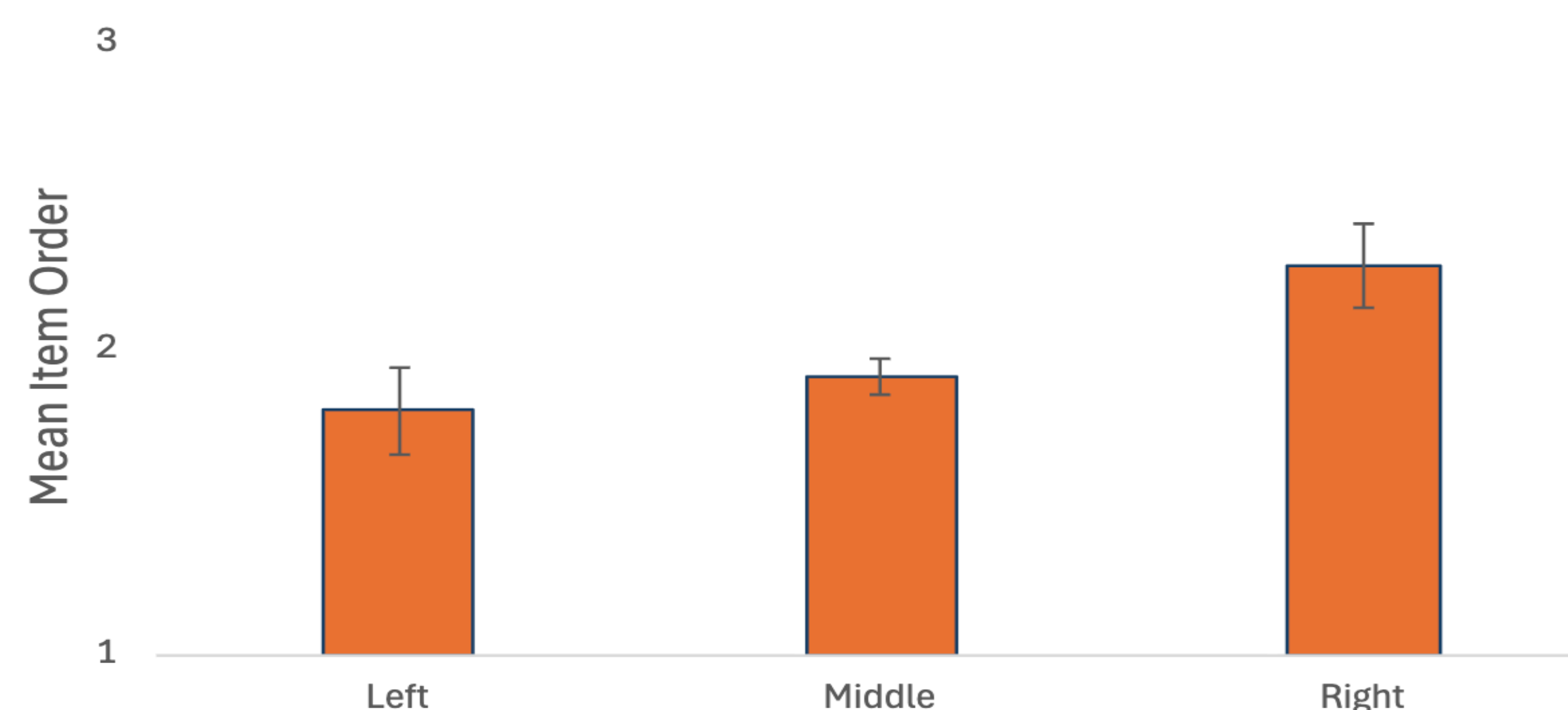
Example Stimuli

## Community Partnership: Living Lab at La Nube



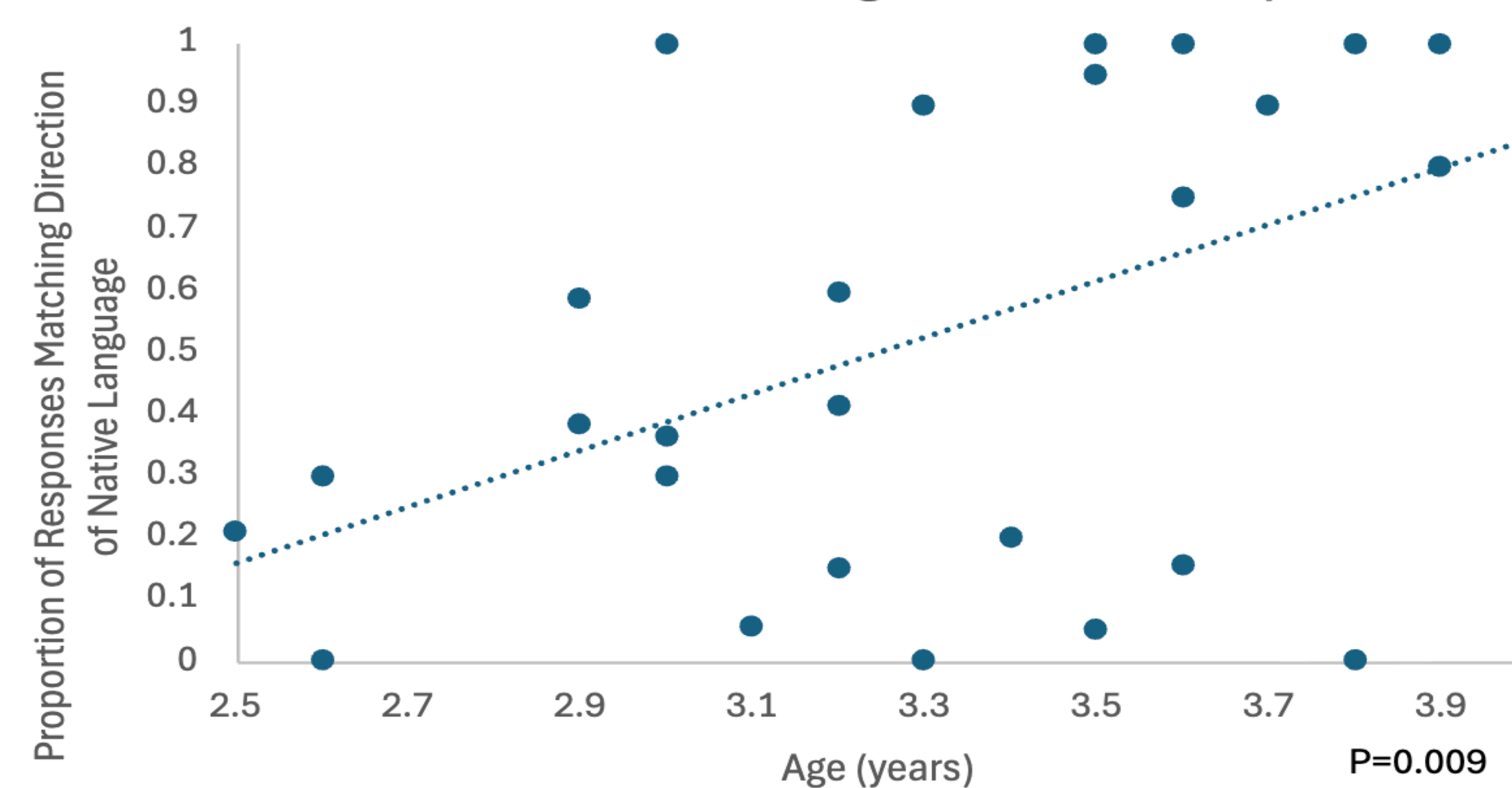
## Results

Children's Naming Patterns



- Children were more likely to name left-most object first and right-most object last

Correlation between Age and Culture Specific Bias



- Older children showed a greater tendency to name objects in the direction of their native writing system

## Discussion

- Before they learn to read, children detect and follow patterns found in their everyday environments
  - Complementing patterns from English and Spanish learners, Hebrew-learning children (tested in Israel) show a right-to-left bias, consistent with their writing system
- Cultural experiences shape children's behavior at early ages and exert stronger influences as children get older

## Future Directions

- Could attentional biases predict advantages in learning to read?
- Would interventions that focus on visual attention support reading skills?
- Could patterns in children's attention be used to identify children at risk for reading difficulties?

## References

- Kuwabara, M., Smith B. L., (2012). Cross Cultural Differences in cognitive development: Attention to relations and objects. *Journal of Experimental Child Psychology, 112(1)*, 20-35.
- Nilkas, F., Cohrsen, C., & Tayler, C. (2016). The sooner, the better: Early reading to children. *Sage Open, 6(4)*.
- Shaki, S., Fischer, M. H., Göbel, S. M. (2012). Direction counts: A comparative study of spatially directional counting biases in cultures with different reading directions. *Journal of Experimental Child Psychology, 112(2)*, 275-281.

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