

## Introduction

Research suggests an older-sibling effect:

- Infants with older siblings (later-borns) have slower language development<sup>1</sup>
- Could be attributed to differences in language input:
  - e.g. quantity<sup>2</sup>
  - e.g. interactive properties such as joint attention

Joint attention (JA) occurs when two social partners attend to a third object or event at the same time<sup>3</sup>.

- Infants who engage in more JA with their parent have larger vocabularies<sup>4</sup>.

Here, we aim to investigate how moments of JA differ for first-born and later-born infants, and whether JA is related to infant vocabulary size.

Participants: n = 28 (final sample: n = 60)

- 8 dyads with 9–15-month-old **first-born** infant and parent
- 20 triads with 9-15-month-old **later-born** infant, parent, and 3–5-year-old sibling.
- Infant: 11.32 months (range 9-15 months)
- Older sibling: 3.75 years (range 3-5 years)
- Vocabulary checklist (CDI, for infant)
  - Receptive: 68 words (range 0-232 words)
  - Productive: 5 words (range 0-34 words)

Provided toys:



Toys and books that were provided to all families.

## Methods

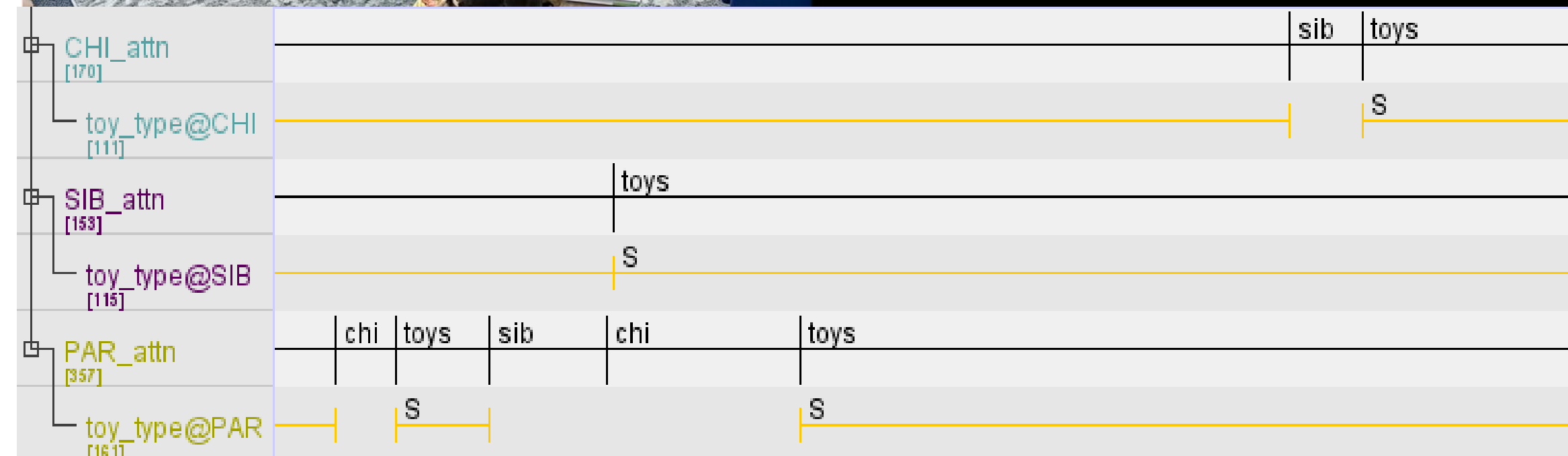
We collected 15-minute in-lab play sessions using NOLDUS system. Families were told to play as they would at home.

Coding: for each person (infant, parent, sibling)

- ATTN: What are they looking at (infant, parent, sibling, toys)
- ToyType: What specific toy are they looking at

We calculated three measures of JA:

- Number of bouts
- Average bout length (in seconds)
- Total amount of time spent in JA (in seconds)



Screenshot of play sessions from three points of view, ELAN transcription tiers for attention and specific toys.



Parent and infant dyad engaged in joint attention to food toys.

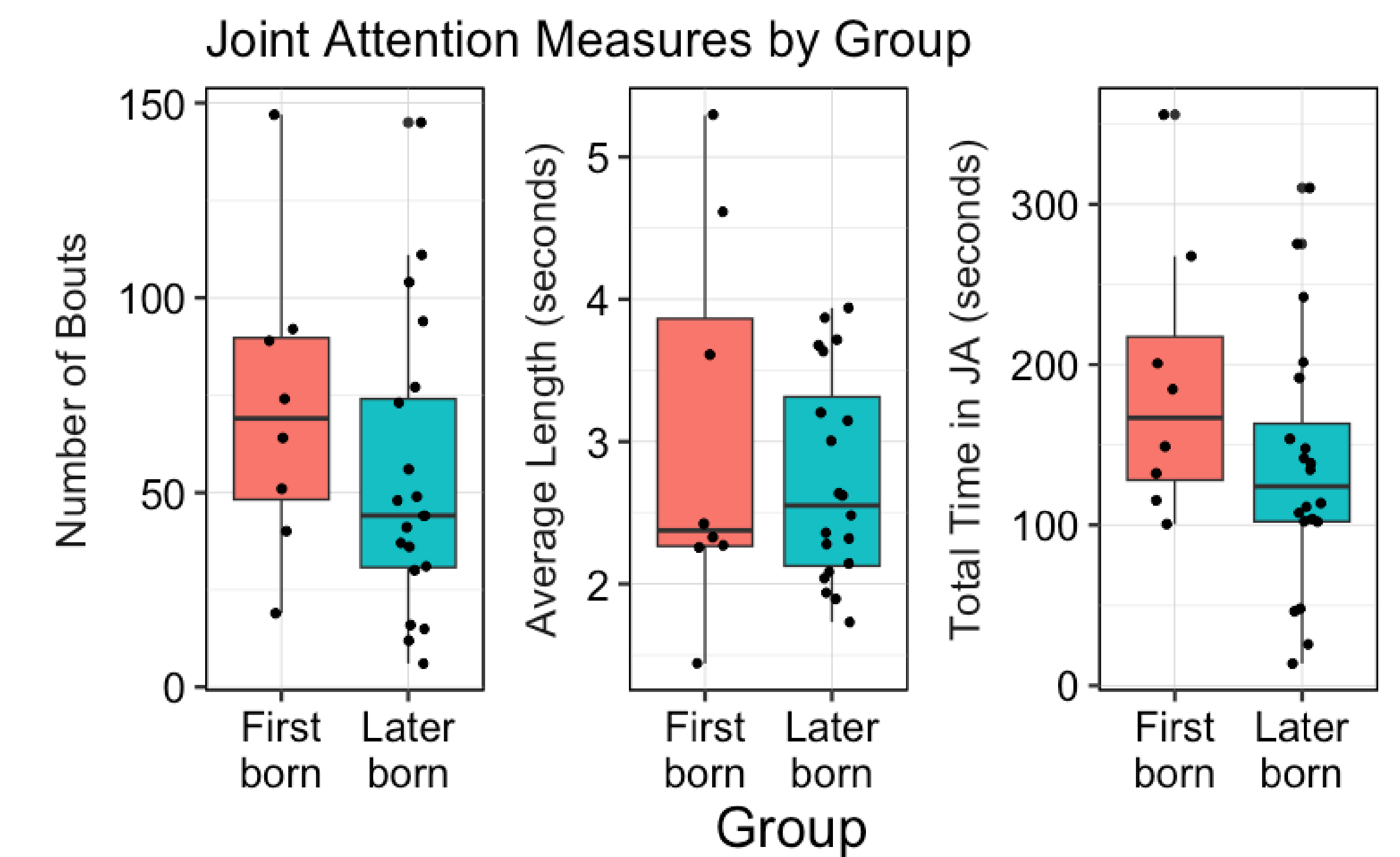


Parent, infant and sibling triad engaged in joint attention during book reading.

## Results

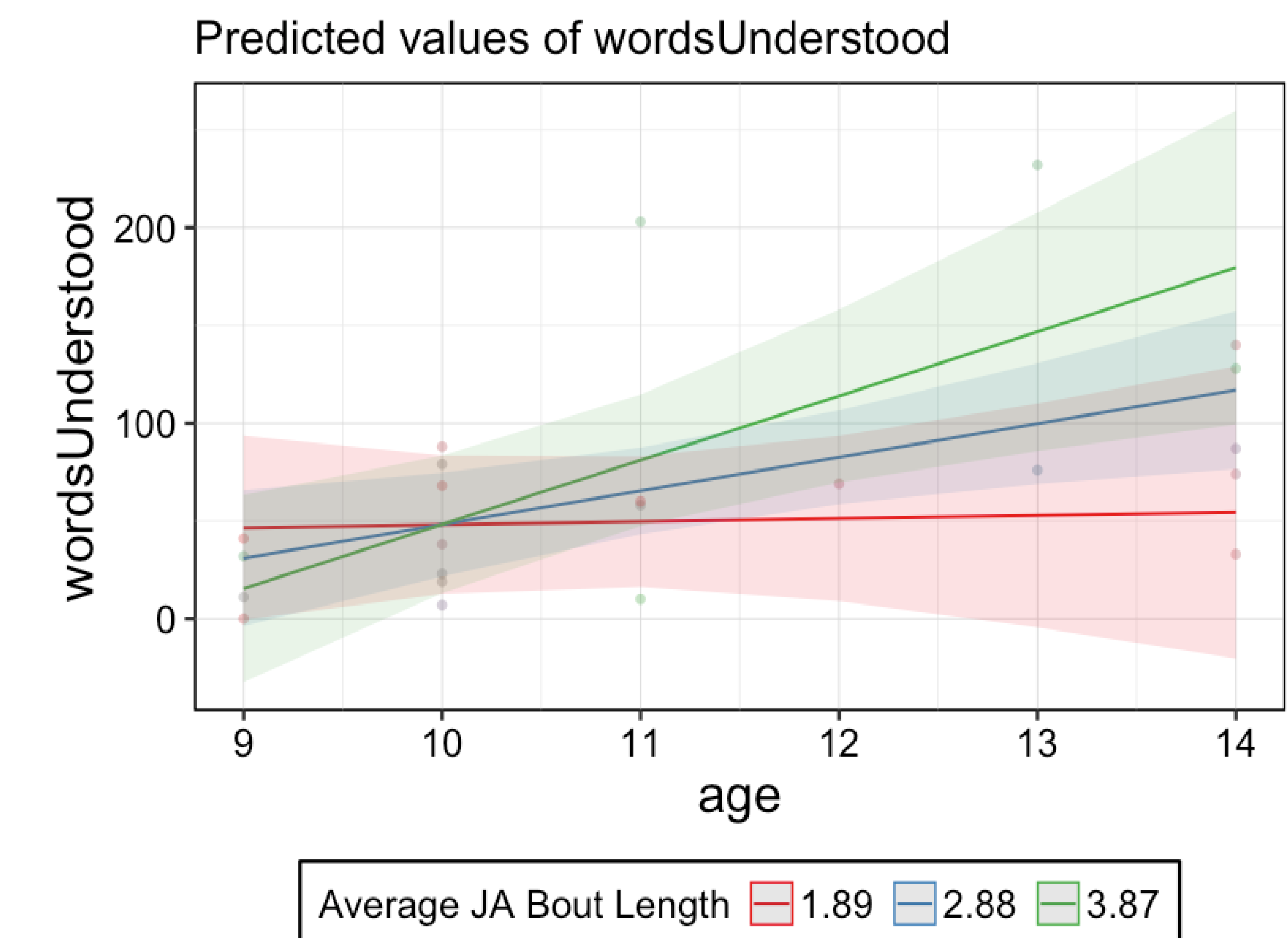
**Do moments of joint attention differ for first- and later-born infants?**

- No significant differences in first- and later-born JA experiences



**Is joint attention related to concurrent vocabulary?**

- Longer joint attention bouts may predict larger vocabularies for older infants ( $p = .07$ )
- No current effects for number of bouts or total time spent in JA



## Conclusions

Preliminary data suggests that moments of joint attention are similar for first-born and later-born infants

- Interactional properties of language input between parent and infant may not differ for later-borns in this context

Joint attention bout length may predict receptive concurrent vocabulary for older infants

- May be related to benefits of sustained attention specifically<sup>5</sup>
- Future analyses will test this pattern for first- and later-borns separately

Future directions:

- Combine transcriptions (ongoing) to investigate what is being said during JA bouts and how it relates to language development

## Acknowledgements

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## Citations

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4. Tomasello, M., & Todd, J. (1983). Joint attention and lexical acquisition style. *First Language*, 4(12), 197-211
5. Yu, C., Suanda, S. H., & Smith, L. B. (2018). Infant sustained attention but not joint attention to objects at 9 months predicts vocabulary at 12 and 15 months. *Developmental Science*, 22(1), e12735.