

## Introduction

Bilingual language development is shaped by the input children receive in their everyday environments<sup>1</sup>. Previous studies ask parents to estimate the overall proportion of each language a child hears<sup>2</sup>, and assume this is relatively consistent across daily experiences.

In reality, children may hear different languages<sup>3</sup>:

- from different people
- across different activities

Previous research finds that:

- the presence of other adults<sup>4</sup> or children (siblings)<sup>5</sup> results in relatively more English use
- activity shapes language input structure
  - more structured during bilingual picture-book reading<sup>6</sup>
  - more flexible during free play<sup>7</sup>.

Here we quantify how bilingual children's language input varies throughout the day.

We specifically ask:

RQ1. How do the people present and the activities children engage in vary throughout the day?

RQ2. Do the number of people and activities predict changes in children's language input in English and Spanish?

RQ3. Is variability in children's English-Spanish language input throughout the day related to their receptive and productive vocabulary in each language?

## Current Study

Method:

Ecological Momentary Assessment (EMA)

Participants: Families of 12-to-18-month-old infants, who regularly hear English and Spanish at home (≥25% exposure per language), recruited from the UB CHILDatabase and ChildrenHelpingScience.

- n = 5 (mean age = 15.8)
- Data collection in progress (pre-registered sample = 30)

Procedure

- Zoom setup (consent, demographics, DLL-ES checklist<sup>8</sup>, EMA setup)

Example:

Who speaks English around Emma outside of daycare?

Dad | Sister | Cousin | Playmate

Who speaks Spanish around Emma outside of daycare?

Mom | Dad | Grandma

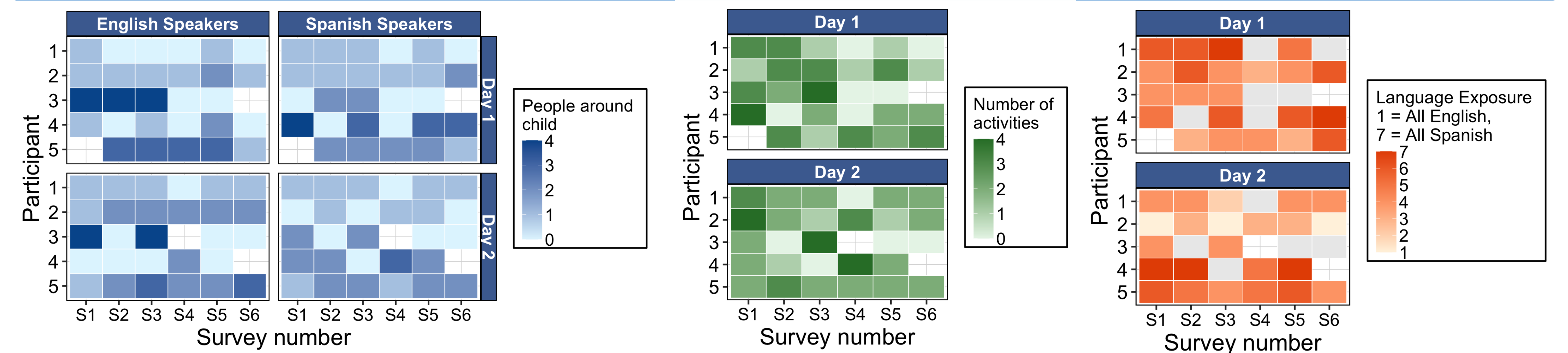
- Two days of EMA reporting (6 brief check-ins per day)

Check-in items:

- In the last 2 hours, what activities did Emma participate in?  
Feeding | Grooming | Booksharing | Object play | Other (please specify)
- What languages were spoken around Emma during this time?  
English | Spanish | Other (please specify)
- During this time, how would you describe the relative amount of English and Spanish heard by Emma? (Likert Scale: 1 = Mostly English, 5 = Mostly Spanish)
- Who spoke English around Emma during this time?  
Dad | Sister | Cousin | Playmate | Other (please specify)
- Who spoke Spanish around Emma during this time?  
Mom | Dad | Grandma | Other (please specify)

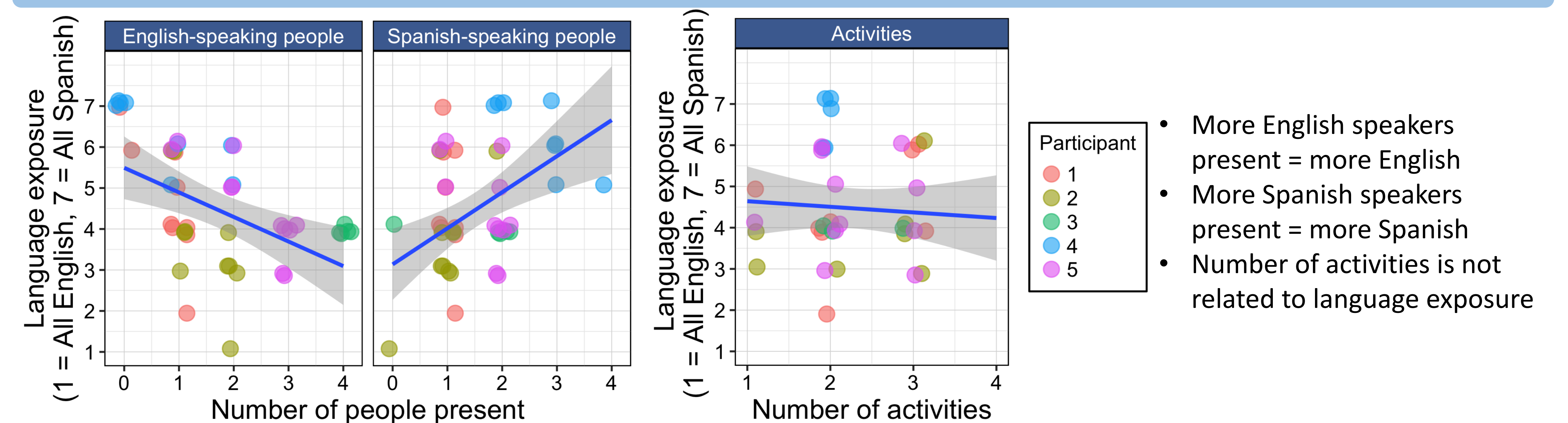
## Results

RQ1: Characterize the people, activities, and language exposure at each time point.



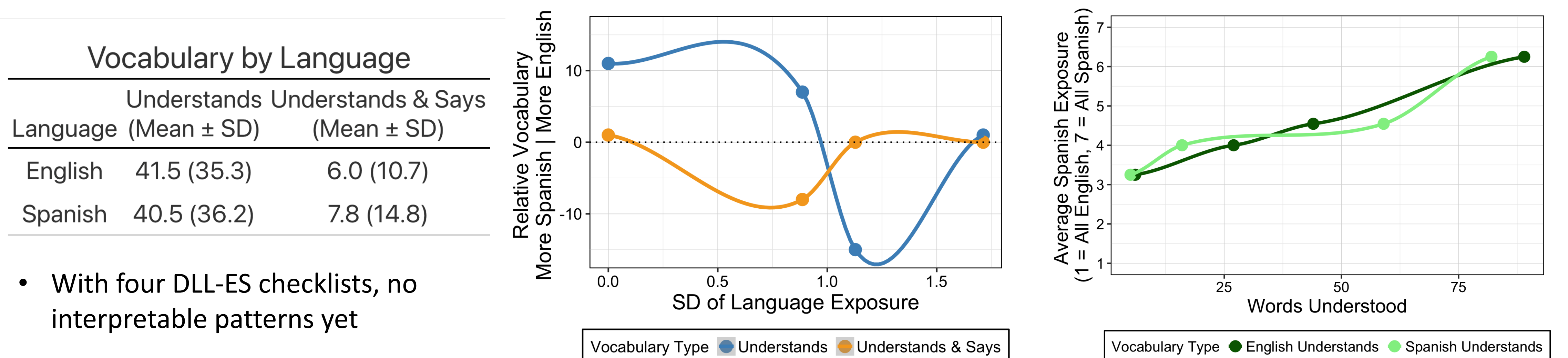
- Mean: 2.1 English speakers, 1.8 Spanish speakers
- Mean: 2.4 activities
- Mean: 4.38 (slightly more Spanish)

RQ2: Relationship between people and activities and language exposure.



- More English speakers present = more English
- More Spanish speakers present = more Spanish
- Number of activities is not related to language exposure

RQ3: Relationship between variability in language input and vocabulary in each language.



- With four DLL-ES checklists, no interpretable patterns yet

## Conclusions

- The heatmaps for RQ1 indicate that bilingual children's language environments are dynamic, with clear variation in the number of speakers of each language, activities, and language exposure across time points.
- Preliminary results for RQ2 indicate that, at a given time point, the number of speakers of a language predicts that language's relative prevalence.
- No current relationship between exposure variability and vocabulary in either language, but stay tuned for more.

Citations:

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