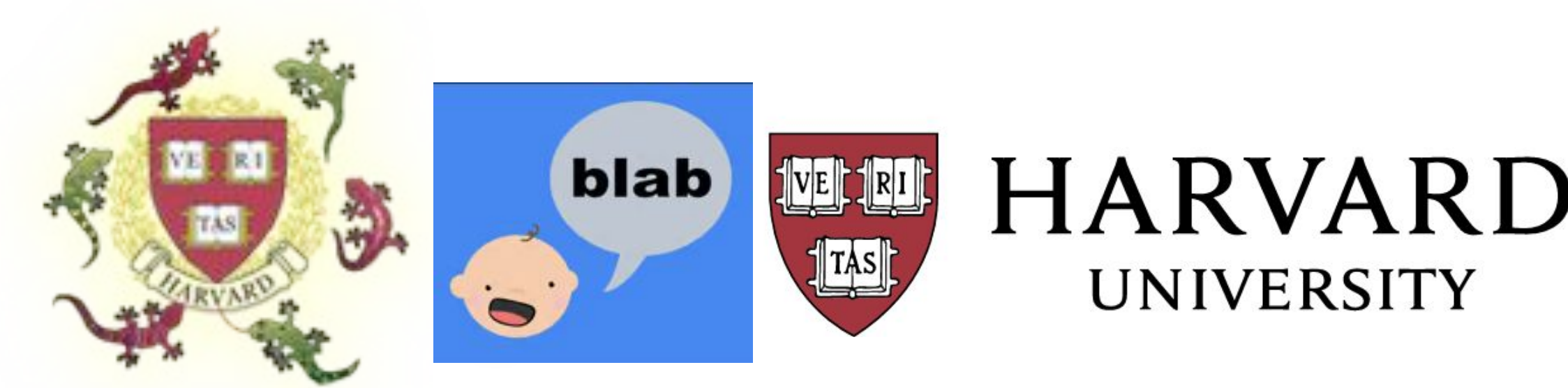


Novel noun learning during naturalistic picture book reading in 14-, 18-, and 22-m.o.s

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Background

Babies start to understand **common nouns** (e.g. “banana”) more robustly in year two (“comprehension boost”) [1,2,3,4]

Babies can learn **novel words** in the lab (e.g. “blick”) in some circumstances but don’t retain these words well [5,6,7,8]

Open Questions We Tackle:

- **How much or what type of exposure to new concrete nouns do infants require for learning?**
- **How big of a role does age (as a proxy for development) play?**

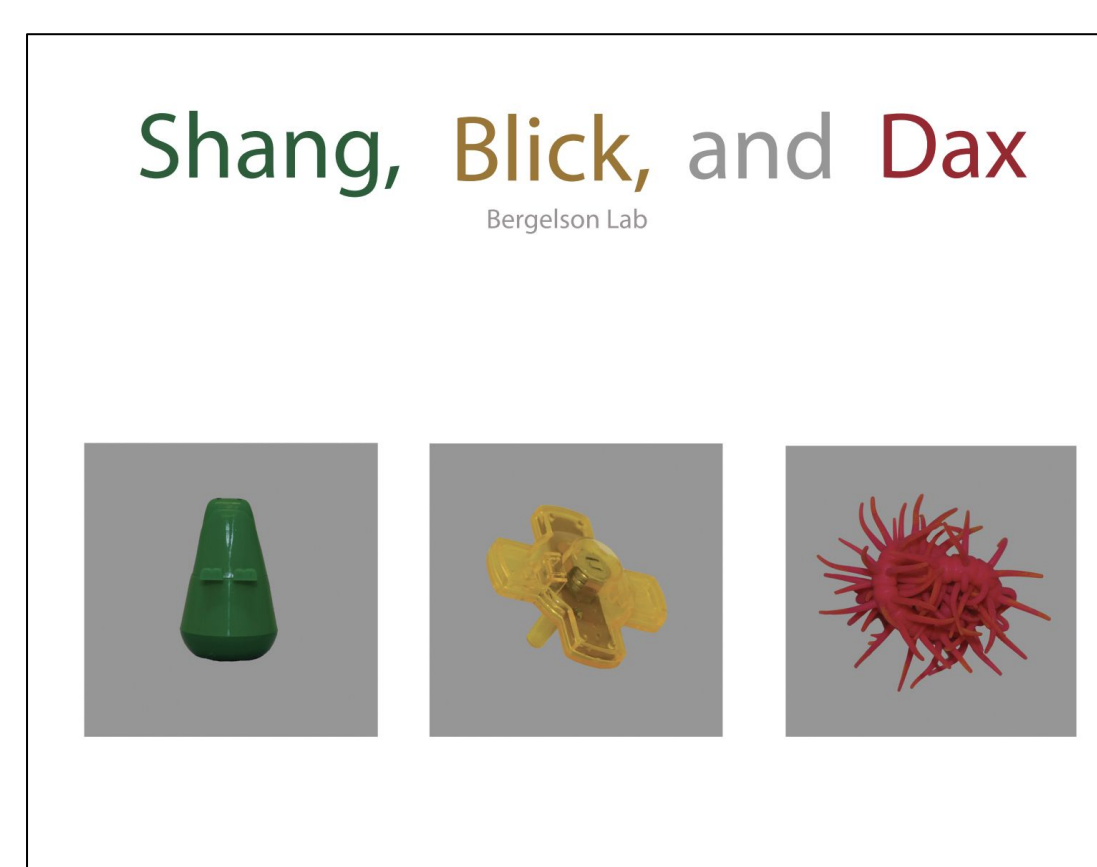
Home Book Reading

- provides a time to observe the word learning process over time during a naturalistic routine [9,11]

Method - Naturalistic Reading

Caregivers read a new book containing **3 novel words: shang, blick and dax.**

Caregivers read the book with their infants **2/day for 2 weeks.**



Participants (so far!): **20 dyads**

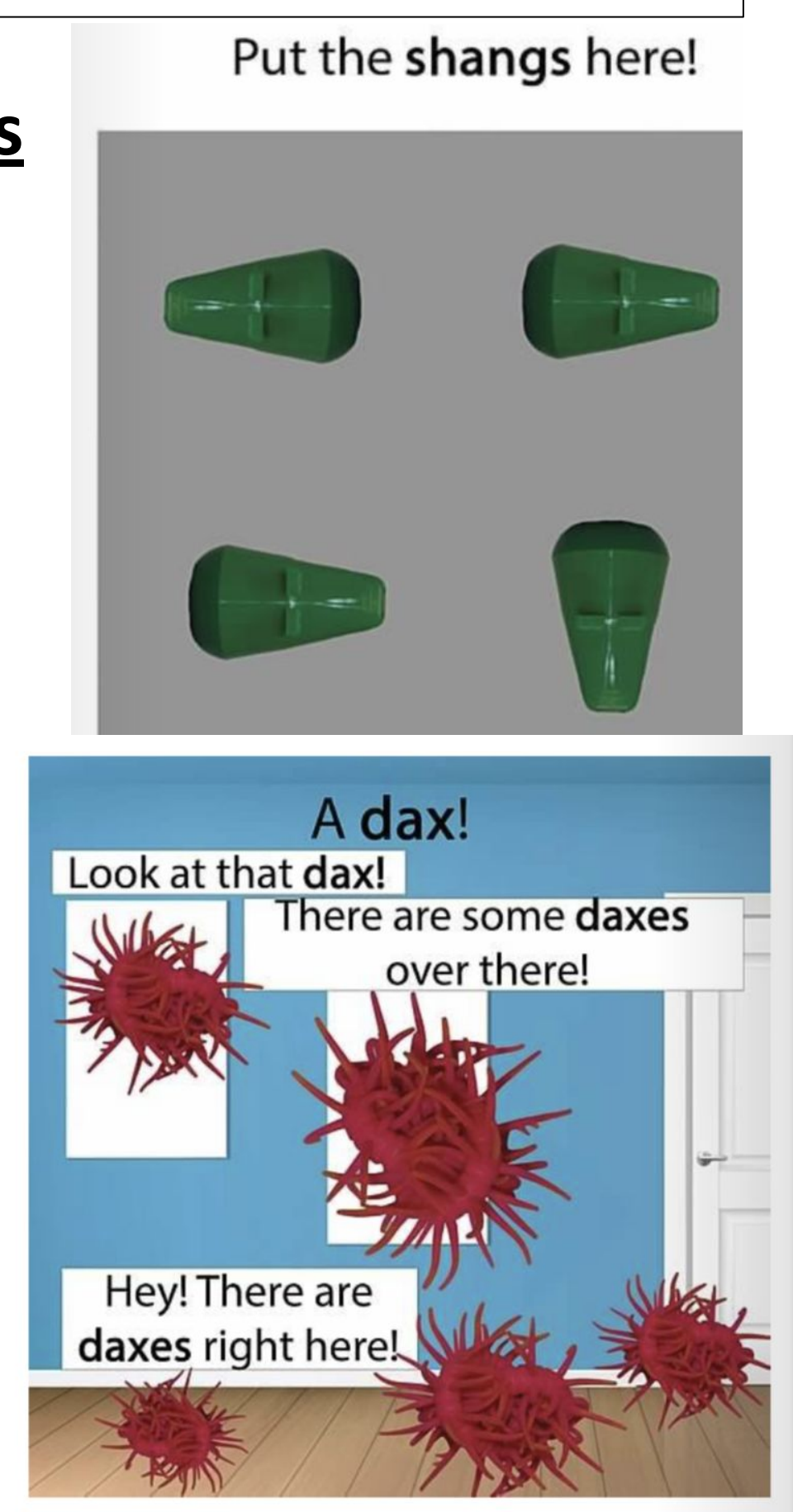
- **14-mos (n= 5)**
- **18-mos (n= 5)**
- **22-mos (n=10)**

We quantified **extratextual exclamations** [9,10] caregivers used to engage the infants, e.g.:

“Let’s count all of **those!**”

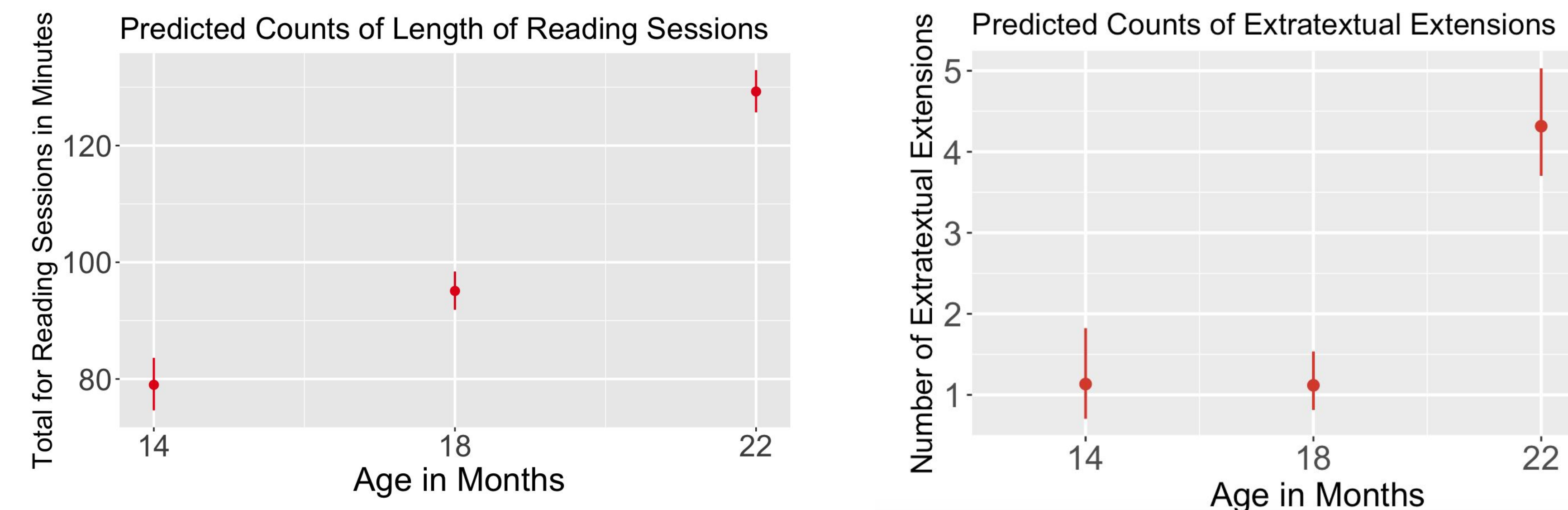
“Is that **the same color** as your pjs?”

“Where should the **this one** go?”

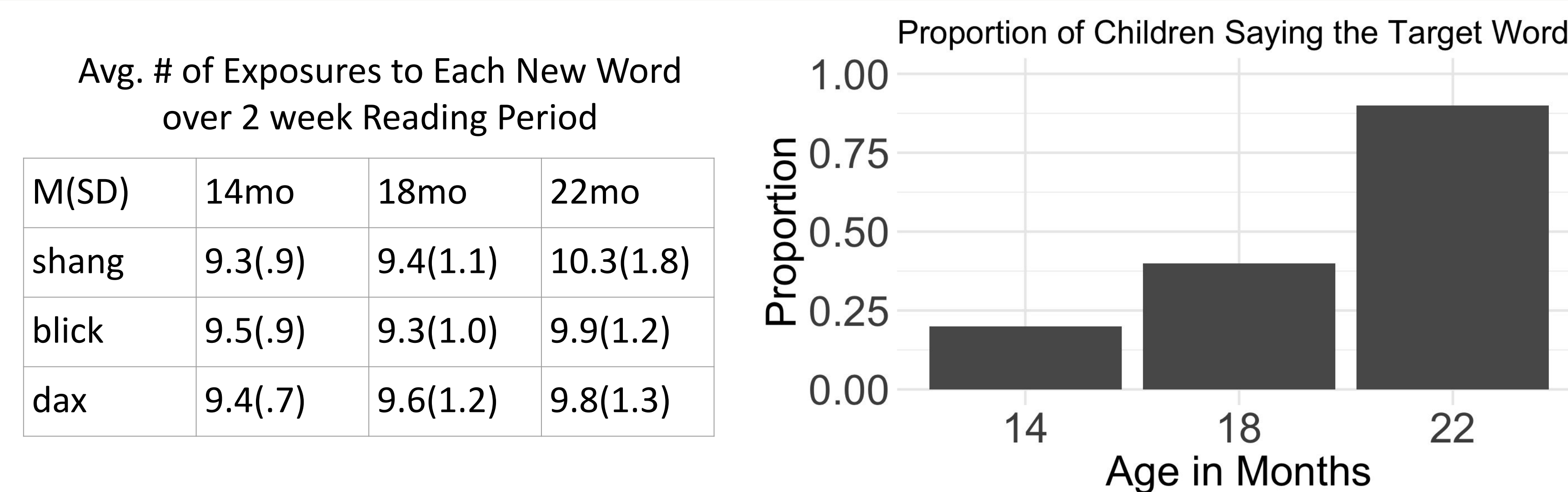


Results

Caregivers read the same simple book differently to 14-, 18-, & 22- mos

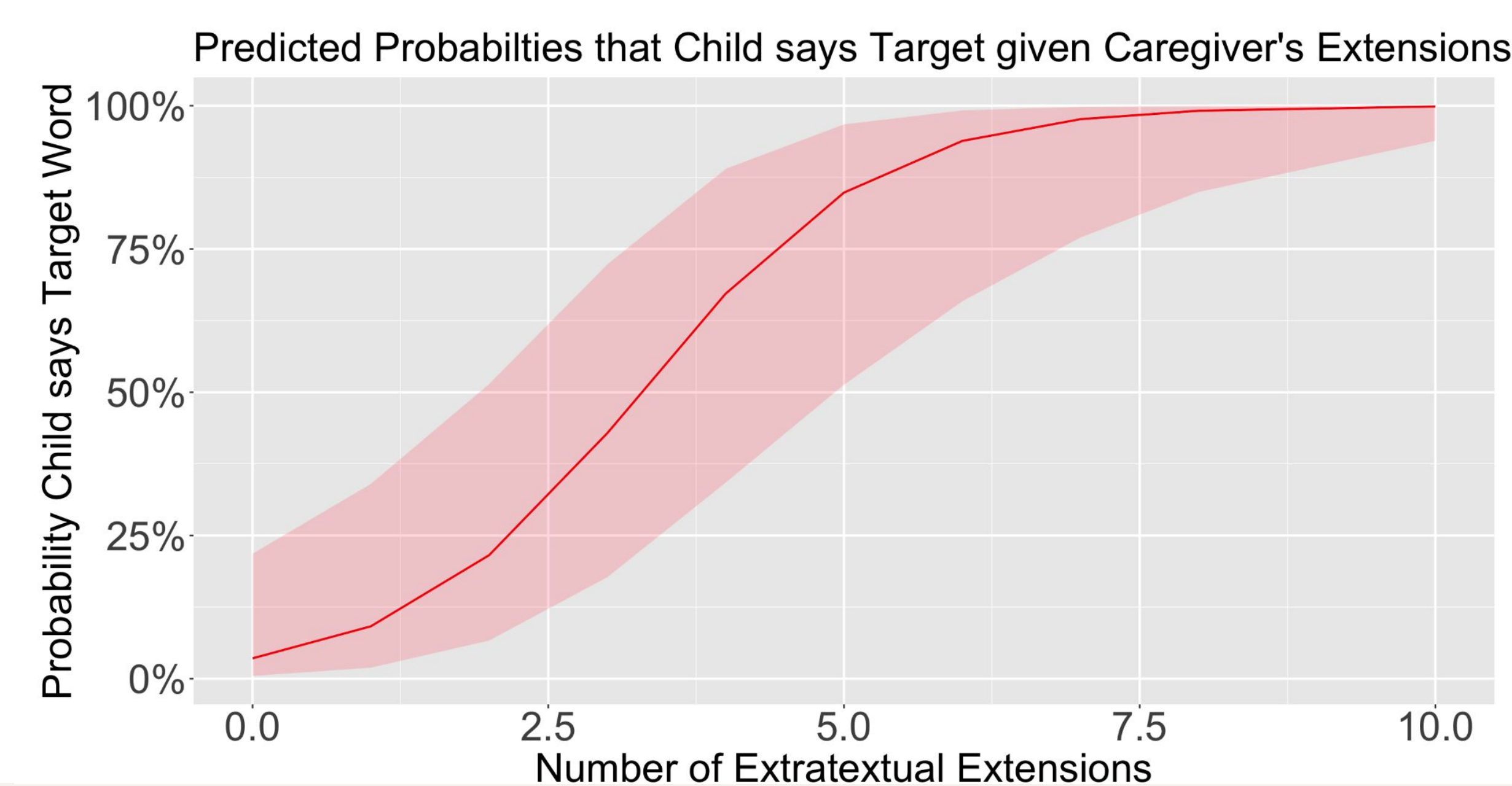


- Caregivers of older kids read the book for **significantly longer** ($p=.0037$ in LMM model)
 - 14mo: $M = 79$ minutes ($R: 58-102$ minutes); 18mo: $M = 95$ ($R: 48-194$); 22mo: $M = 129$ ($R: 78-302$)
- Caregivers of 22-mos **use more extensions** than caregivers of 14/18-mos ($p=.0065$ in LMM model)
 - 14mo: $M = 1.1$ extensions ($R: 0-5$ extensions); 18mo: $M = 1.2$ ($R: 0-7$); 22mo: $M = 4$ ($R: 0-10$)



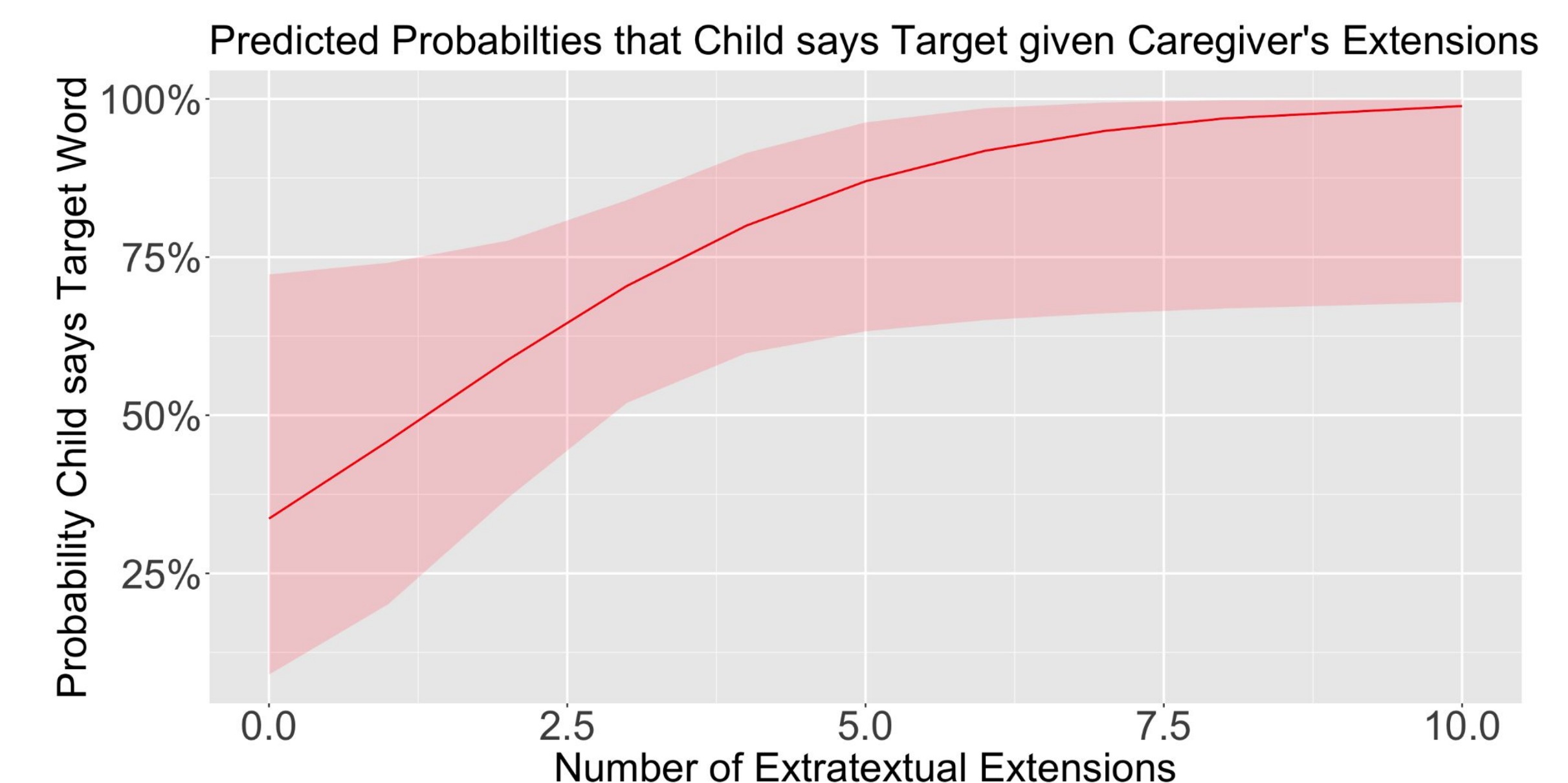
- # of word exposures largely consistent across words and ages
- most 22mo produced at least 1/3 new words during 2 weeks of reading sessions (90% in week 1)
 - 50% of 22-mos produced **all 3 words**

Caregivers’ extensions link to children’s production of the novel target word overall



- As the number of caregiver’s extensions increased, the probability that their child said the target word increased significantly ($p = 0.00532$)
 - Logistic Mixed Effects Model: $child_says_target \sim extensions_number * age + (1|child)$

Even just in 22-mos: extensions link to children’s likelihood of producing the target words



- Overall effect holds for just 22-mos
- **Not just a novel word exposure effect:** no such relationship for reading time or # of times target word was said

Discussion

- Are caregivers’ extensions just providing more novel word exposure?
 - No. (Max of 3 extra labeling instances)
- What leads **older infants to produce new words more?**
 - more/different caregiver input during learning
 - better learning capacities
 - interaction of the two

Are caregivers responding to the abilities of their infant?

- Preliminarily: Yes! Responses to engagement/voc’s

- **Why** did parents of older children read differently?
 - stay tuned: parent survey in progress!

• **Future directions:**

- Categorize caregivers’ extratextual extensions
- Integrate eye tracking data on novel word comprehension
- Compare familiar word comprehension to novel word learning

Questions? Comments? Contact: kristen_gilyard@g.harvard.edu

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