Does Infant Vocalization Increase when Sitting in Daily Life?

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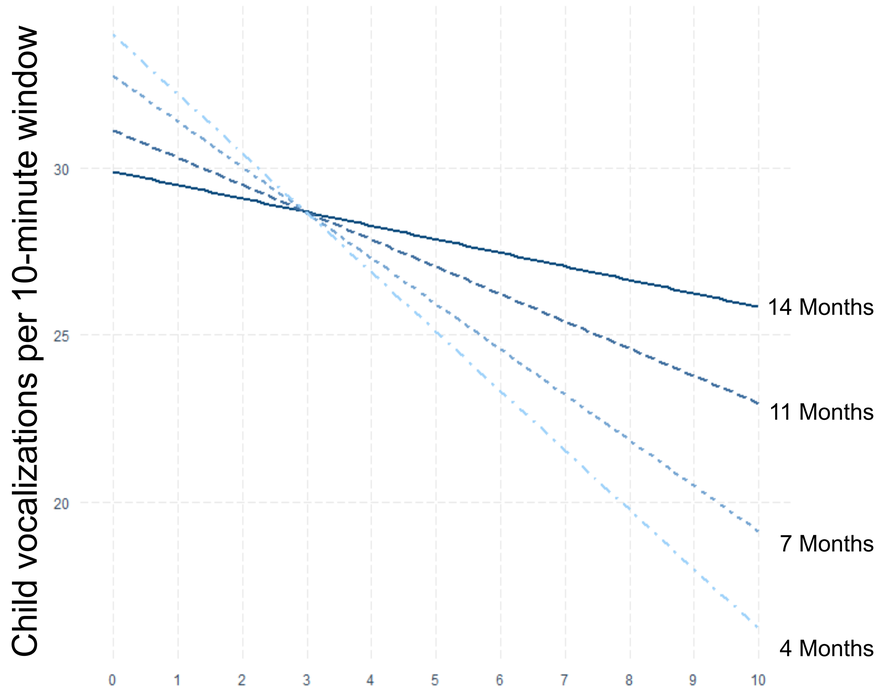
Introduction

- Motor behaviors, such as sitting and walking, are related to language development (Libertus & Violi; Walle & Campos FIND CITES).
- Not all motor effects are facilitative: For example, walking AND vocalizations (West & Iverson, 2020)
- Does sitting relate to infants' vocalizations when measured across a typical day?
  - Vocalizations may increase when sitting if sitting provides physiological support for vocal production (Iverson, 2022)
  - Vocalizations may decrease when sitting if everyday sitting activities, such as eating or watching television, may discourage social interaction

Infants vocalized less frequently when they spent more time sitting



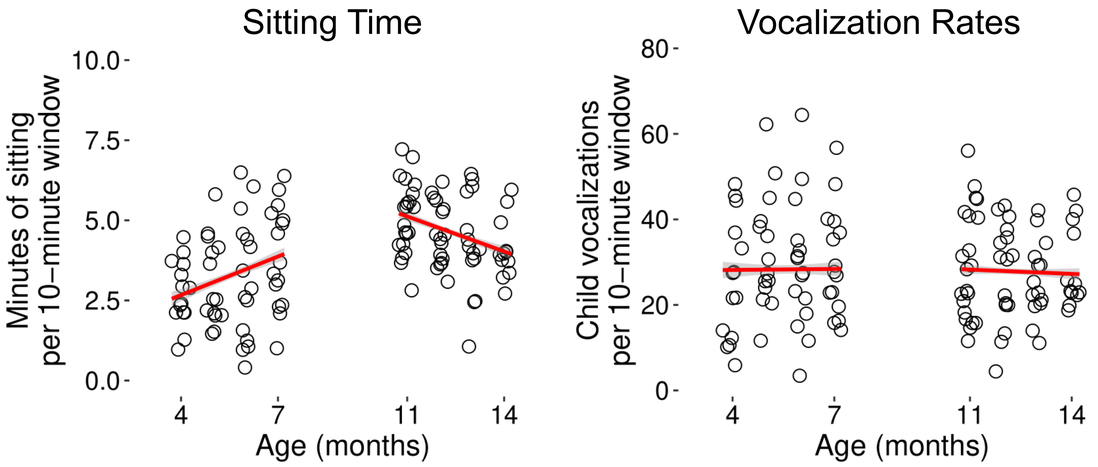
	Estimate	SE	*t* value	*p* value
Sit Time	-1.04	0.87	-11.9	<.001*
Age	0.14	0.37	0.39	.284
Sit Time x Age	0.14	0.02	5.66	<.001*

- Linear mixed-effect models tested how sitting time and age predicted the vocalization rates
- Overall, sitting time was negatively related with vocalization
- Age moderated the relation between sitting and vocalization rates
  - 4- to 7-month-olds vocalized much less often during periods where they sat more
  - For 11- to 14-month-olds, sitting and vocalization were only weakly related

Methods

- 61 infants completed 129 sessions across 4-7 and 11-14 months
- Infants wore motion sensors and a LENA recorder from morning to evening
- Motion sensors determined whether infants were sitting (Franchak et al., 2023)
- LENA software automatically counted the frequency of infant vocalizations
- Each session was divided into 10-minute bins for analysis to determine how sitting and vocalization were related across the day

Overall sitting time and vocalization rates



- Sitting increased with age, from 3.3 min/10-min in younger infants to 4.58 min/10-min in older infants
- Vocalization rates did not vary with age, averaging XX/10-min

Conclusions

- Within-day variations show the value in full-data data for uncovering heterogeneity in infants' natural experiences
- Older infants' sitting may be less related to vocalization if their sitting time becomes more independent—and less social—with age
- Future work should aim to distinguish between supported and independent sitting contexts