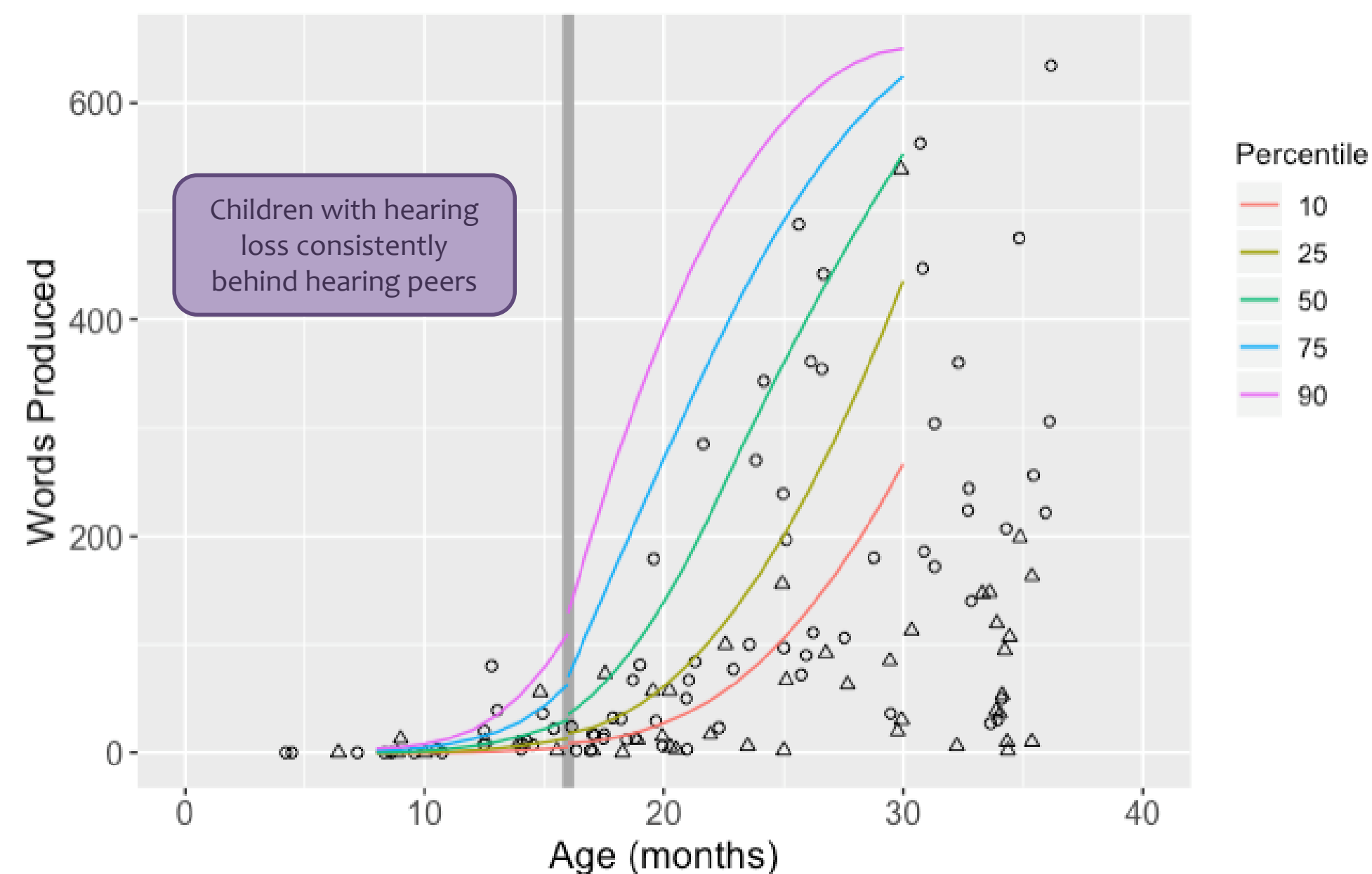


Predicting Spoken Language Outcomes in Children with Hearing Loss: It's Complicated

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BACKGROUND

- 2-3 of 1,000 children are born with detectable hearing loss¹
- Considerable variability in language outcomes for children with hearing loss²



Research Question:

What factors influence vocabulary size in children with hearing loss?

METHODS

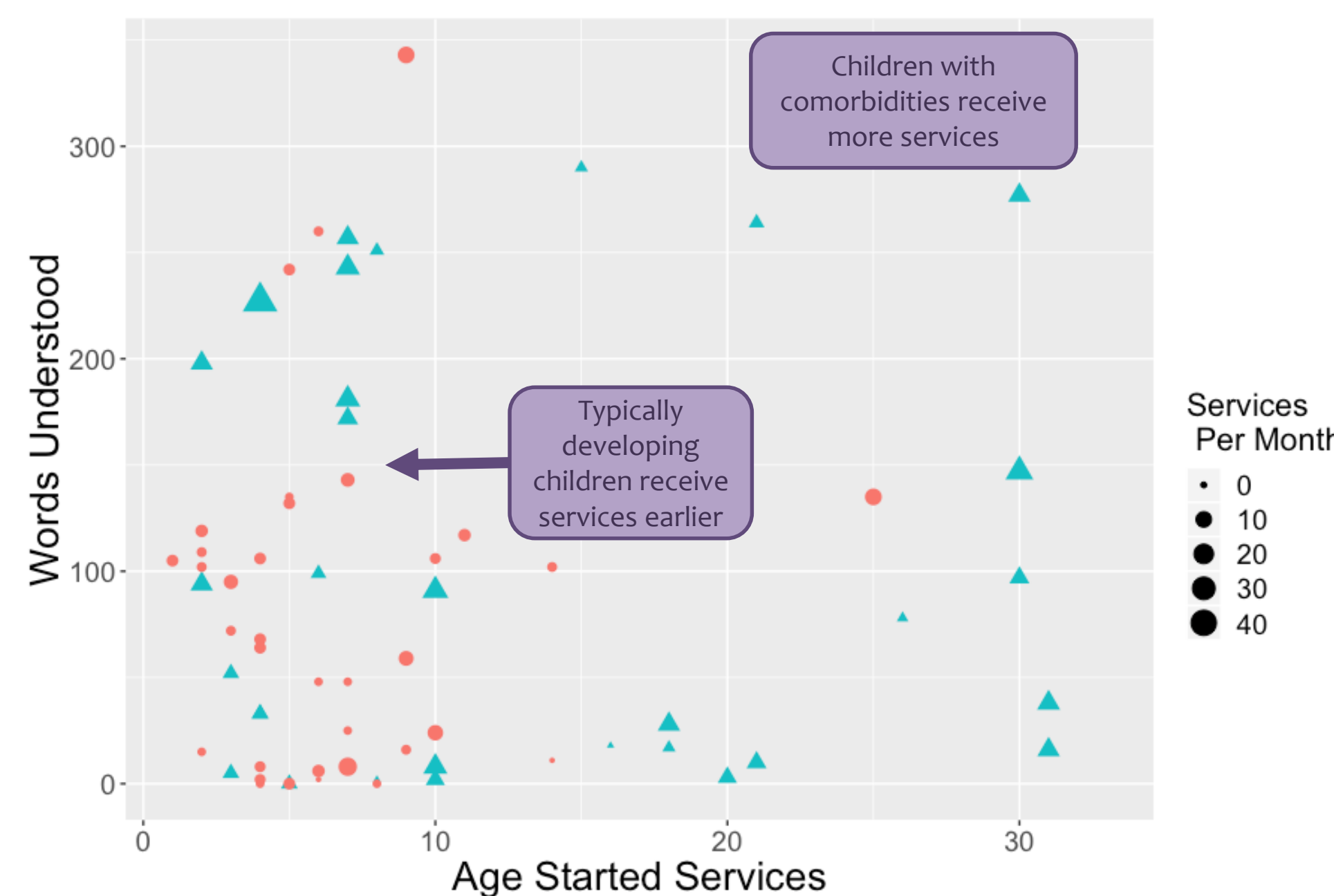
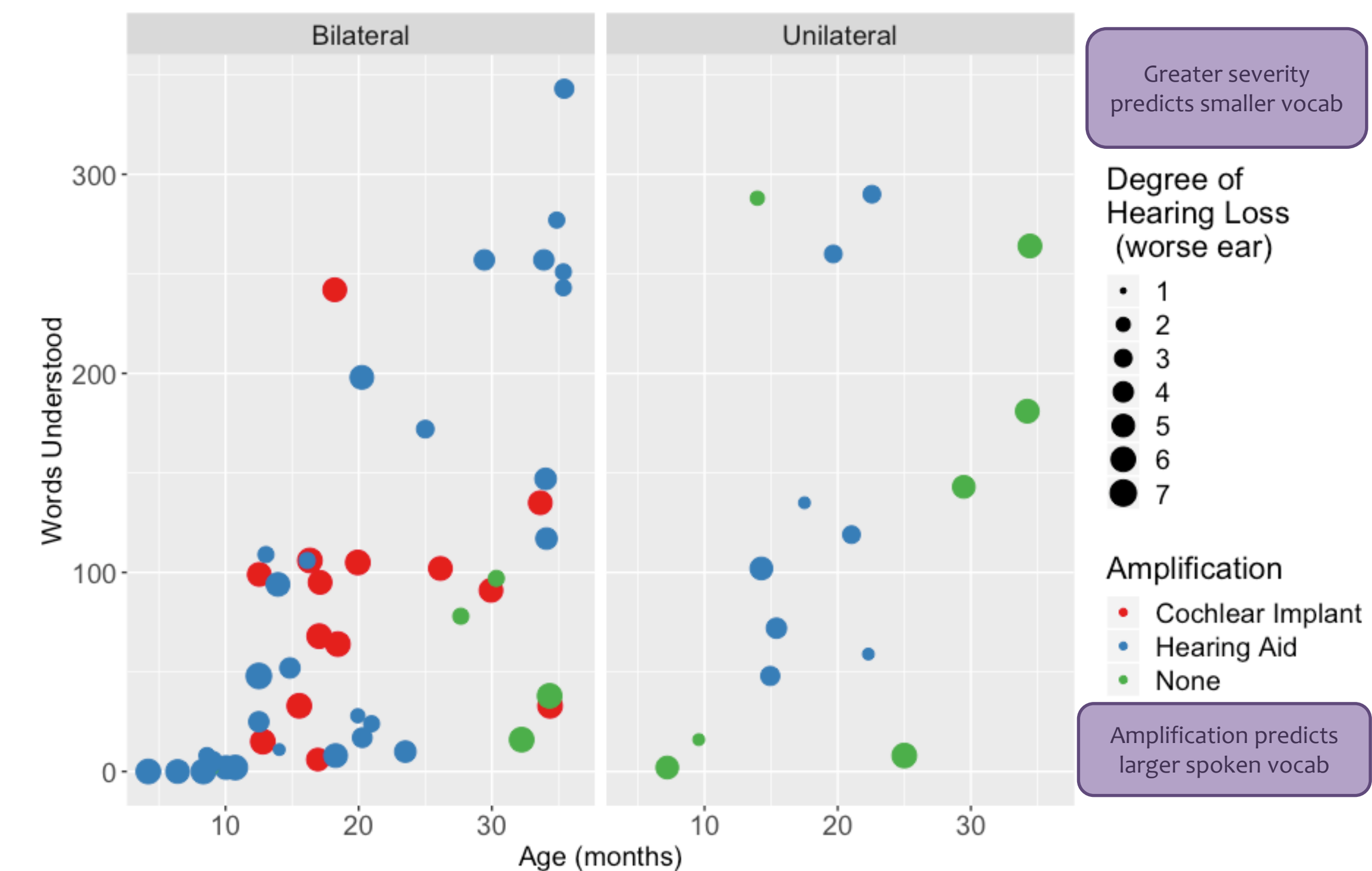
- Participants: 81 children receiving early intervention services for hearing loss in North Carolina
- Collected clinician reports:
 - demographic information intervention records
 - language assessments
 - **CDI scores** (parent-report vocabulary measure)
- Analyzed 17 predictors of receptive and productive vocabulary: stepwise AIC model selection

RESULTS

Best Model

- Age*
- Etiology of hearing loss*
- Degree of hearing loss in worse ear
- Unilateral vs. bilateral*
- Prematurity
- Developmental delay
- Health issues*
- Amplification*
- Age started services*
- Number of services received

Multiple R²: 0.742
Adjusted R²: 0.666
p < .001



Comorbidities in the Sample



What Didn't Work

- Age at identification of hearing loss
- Communication
- Age at amplification
- Degree of hearing loss in better ear
- Gender

CONCLUSIONS

- As predicted, age, severity, and comorbidities mattered
- Early intervention and amplification help spoken language!
- Still considerable variability

ONGOING WORK

Home recordings

Eyetracking

Event – related potentials

References

¹Centers for Disease Control and Prevention (CDC). Identifying infants with hearing loss - United States, 1999-2007. MMWR Morb Mortal Wkly Rep. 59(8): 220-223.

²Pisoni, D. B., Kronenberger, W. G., Harris, M. S., & Moberly, A. C. (2018). Three challenges for future research on cochlear implants. *World journal of otorhinolaryngology - head and neck surgery*, 3(4), 240–254. doi:10.1016/j.wjorl.2017.12.010