



The Interdependence of Vocabulary & Morphosyntax Development in Blind and Sighted Children



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Introduction

Background

- ★ Blind children lag ~7 months behind sighted children in vocab size (Campbell et al. submitted)
- ★ Sighted children: lexicon and syntax are deeply related, grow symbiotically (Bates & Goodman 1997)
- ★ Lexicon and syntax *may* show a different degree of linkage in blind children:
 - To attain the same level of vocab, may be MORE attuned to syntax (Gleitman 1990) without visual cues to word meaning
 - OR vision may be equally supportive (e.g. observing the relationship between agent/patient & referents)

1. Do morphosyntactic skills differ for vocab-matched blind vs. sighted children?
2. What is the relationship between vocabulary, age, and morphosyntax for blind children?
3. How well does vocabulary mediate the effect of age (i.e. visual experience) on morphosyntax for blind vs. sighted children?

Instrument MCDI: Words and Sentences

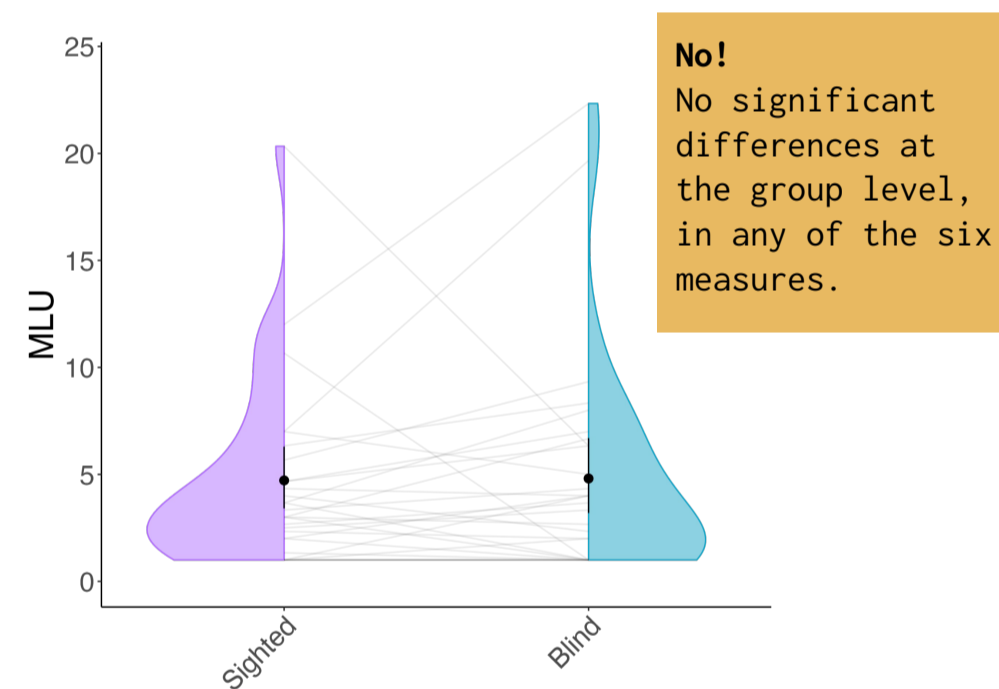
- ★ Parent report: Total Vocab
- ★ 6 Morphosyntax measures derived from:
 - Multiple Choice Questions:
 - Endings: -s, -ing, -ed, 's?
 - Irregulars: Children, drank?
 - Overgeneralization: Run vs. runned vs. ran
 - Sentence Complexity: "Turn on light" or "Turn on the light so I can see"
 - Free response: "3 longest utt's your child has said"
 - Converted to MLU & scored for syntax features

Participants

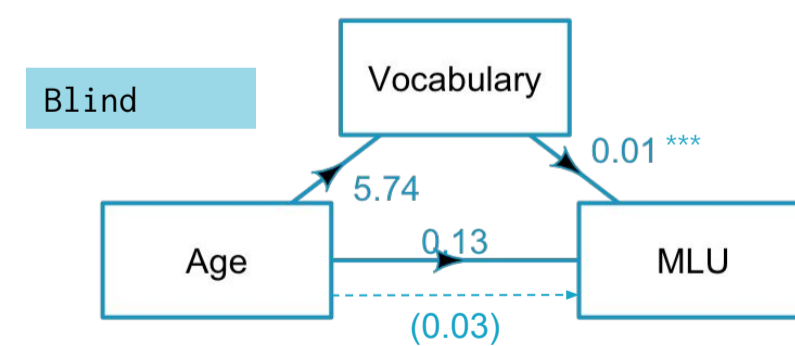
- ★ 32 blind children, 14-57 mo. (M=31.4)
- ★ 33 sighted children, matched to blind children by **productive vocabulary**, 13-36 mo. (M=24.5)

Results (MLU as sample measure)

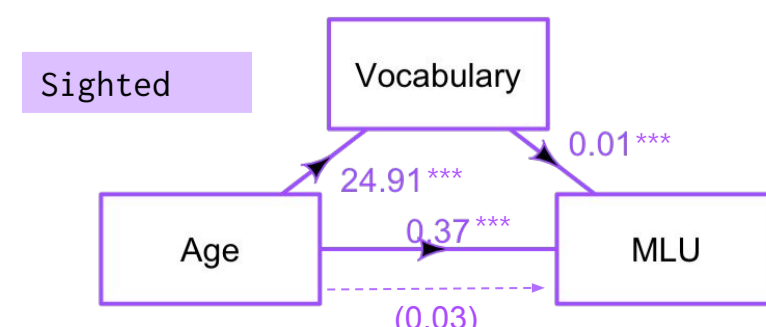
1. Do morphosyntactic skills differ for vocab-matched blind vs. sighted children?



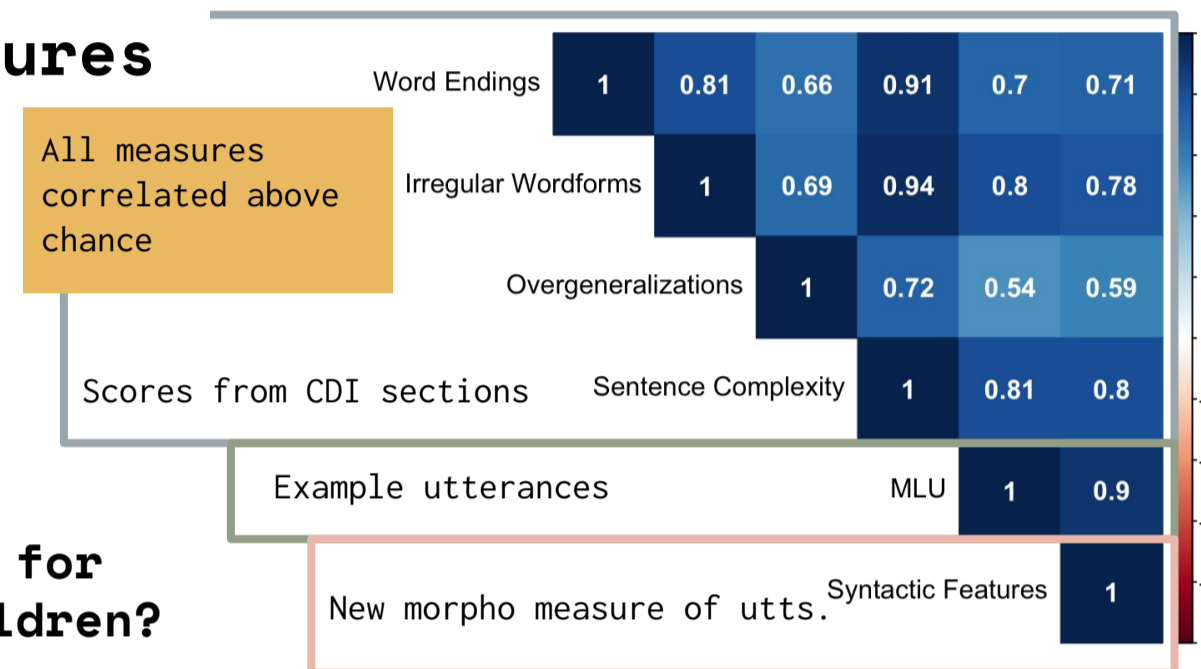
3. Vocabulary as a mediator of age & morphosyntax? Mediation analysis



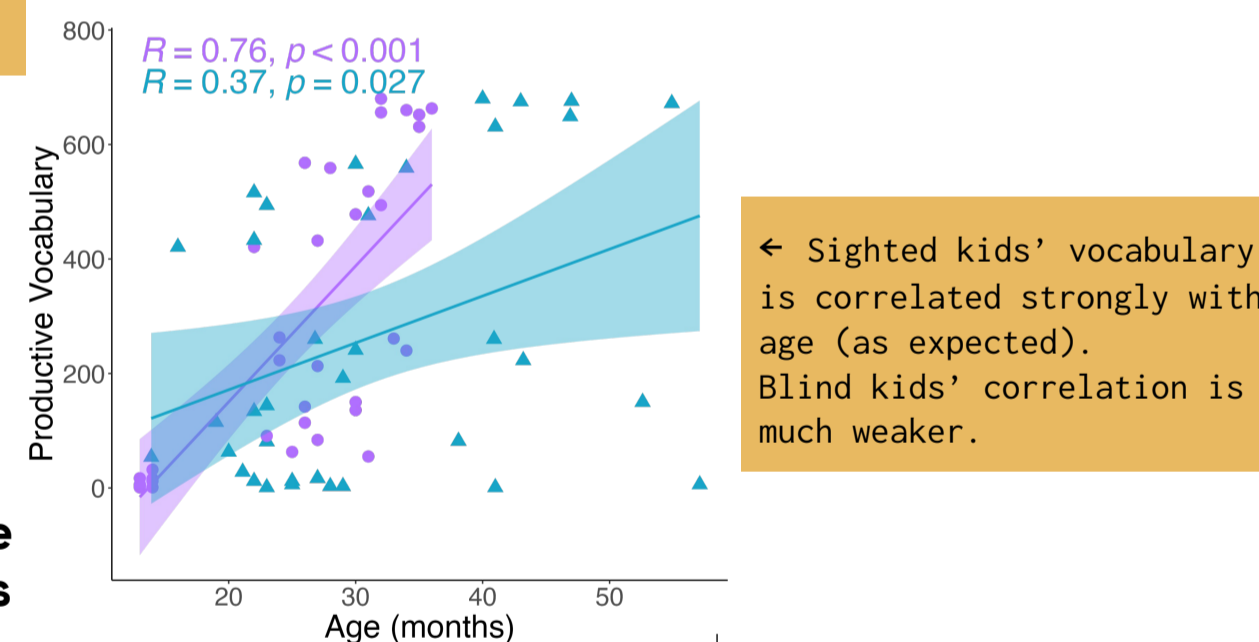
For both groups, vocabulary mediated the majority of the relationship between age and morphosyntax (Prop.Mediated_{Blind} = 62%; Prop.Mediated_{Sighted} = 92%).



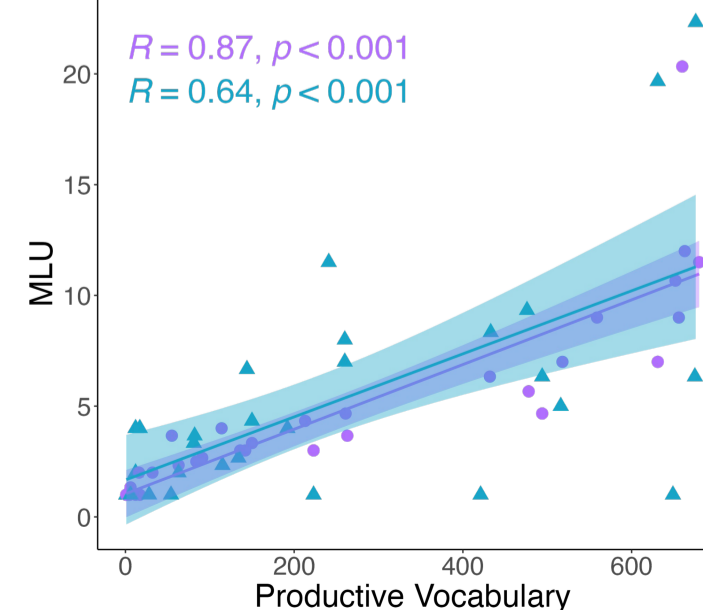
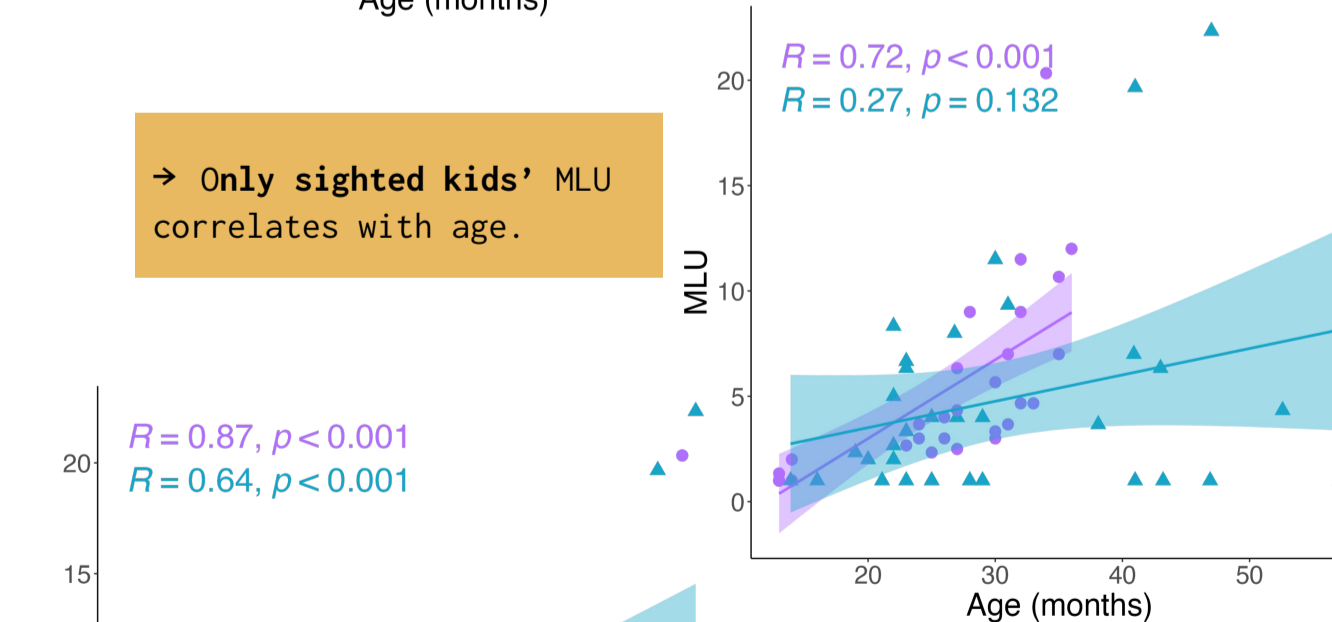
Measures



2. Relationship between age, vocab, and morphosyntax skills



→ Only sighted kids' MLU correlates with age.

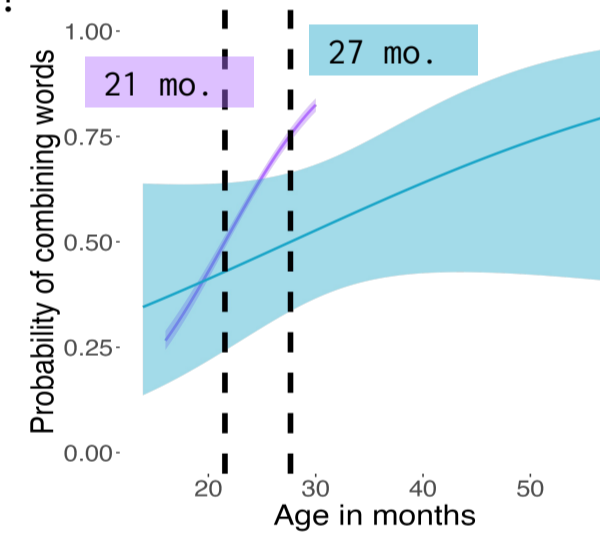


Outcomes

Discussion & Future Work

- ★ Vocab delay + mediation → maybe vocab delay *causes* morphosyntax delay (rather than missing vision separately slowing morphosyntactic growth)
- ★ Measuring production may obscure morphosyntactic knowledge. How can we measure **receptive** morphosyntactic skills in blind children?
- ★ If age matched, how big is morphosyntax delay? Is it aligned with vocab delay or is it additional?

→ 50% probability of combining words using data from Wordbank (Frank et al. 2021). 6 month delay!



Conclusions

1. When matched on vocabulary, blind and sighted children's morphosyntax skills are on par: neither advanced nor deficient.
2. Vocab & morphosyntax are deeply related in blind children, but weaker/not correlated with age.
3. Vocab mediates the relationship between age and morphosyntax, perhaps more strongly in sighted kids
 - a. Both facets of language ~half a year delay in blind vs. sighted kids

Thank you

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