

How does parental speech affect early language learning?

Parents' Linguistic Alignment Predicts
Children's Language Development
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How do kids learn language so quickly?

Learning a language is easy?



Kids are smarter than adults?



Kids get input tuned specifically for them?

Linguistic Tuning Hypothesis (Snow, 1972)

How do we measure this?

Linguistic Alignment (Pennebaker et al., 2015; etc.)

Features of interlocutors' language
dynamically interact over time

Parent: I don't know. I'll have to think about it.

Child: I was going to do the people across street.

Parent: across the street?

Child: yeah.

How do we measure this?

We can borrow formal notions of conversational dynamics to investigate linguistic tuning!

- Specifically, dynamics at the syntactic level

Parent: I don't know. I'll have to think about it.

Child: I was going to do the people across street.

Parent: across the street?

Child: yeah.

Language Development Project (Goldin-Meadow et al., 2014)

In-home conversations between parents and children from across Chicago

- 59 parent-child pairs
14-58 months old at 4 month intervals



1 year

Estimate alignment over time and
measure relationship with vocabulary



5 years



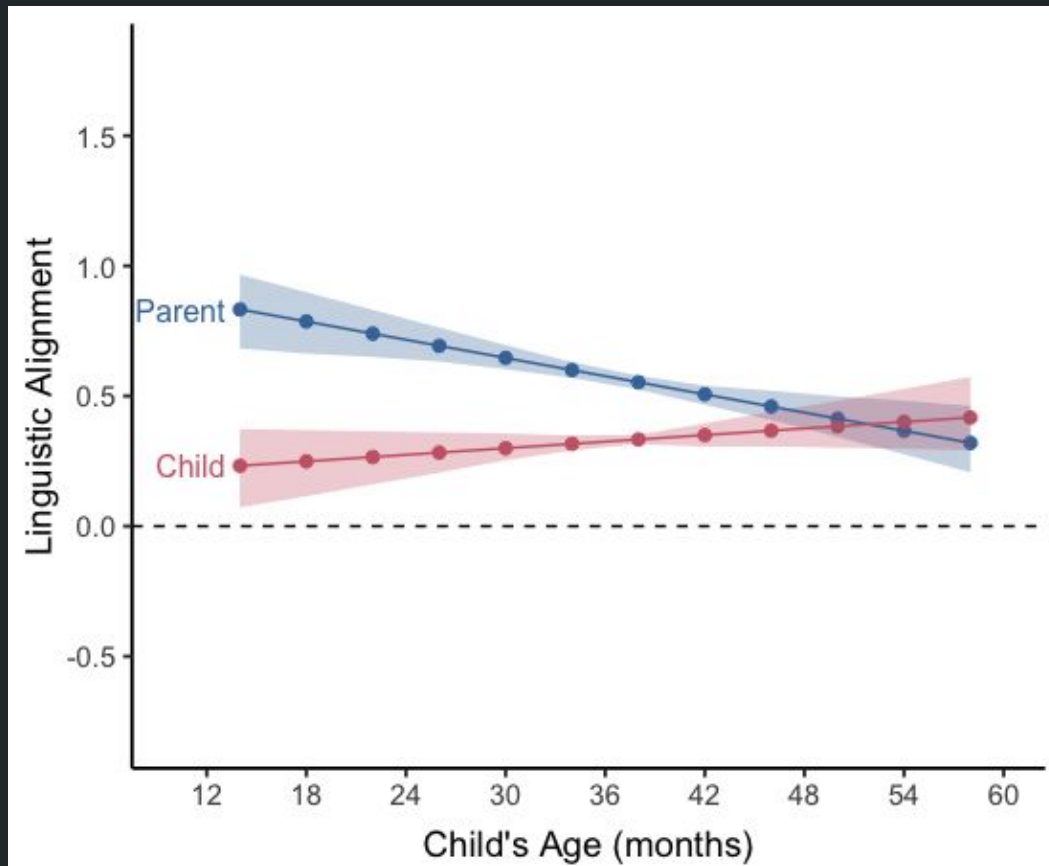
Hierarchical Alignment Model (Yurovsky et al., 2016)

1. Alignment = increase in odds of using a syntactic category after your partner uses it
2. Use alignment to predict vocabulary (alongside demographic variables)



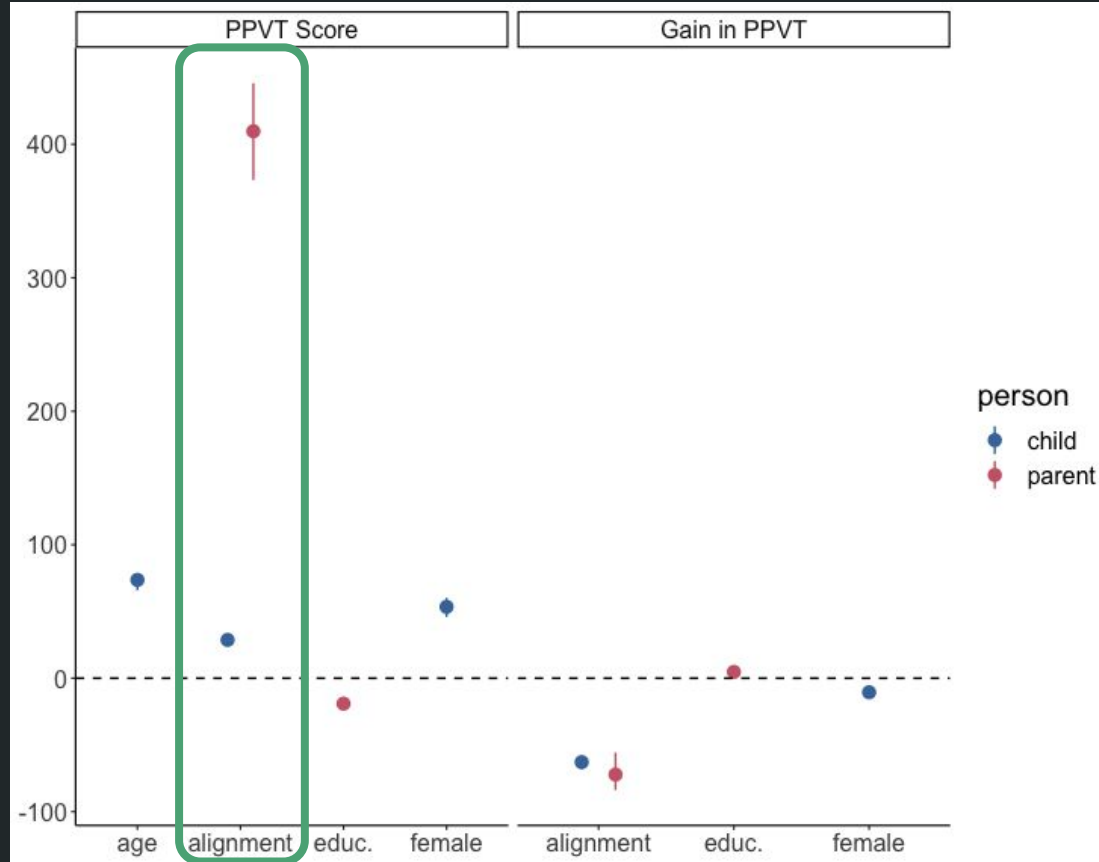
Estimated using Stan, a Bayesian MCMC sampler

Alignment exists between parents and children (and vice versa)



Parental alignment predicts vocabulary development

Controlling for demographics
(e.g., education,
gender)



Summary

- Presence of syntactic alignment is replicated in a new dataset
- Moreover, alignment effects on development are significant
 - Indicates that alignment affects language development beyond demographics
- Future work
 - Tinkering with alignment model
 - Extending to / aggregating more outcome measures



Thanks!
