

Comparing utterance composition and conversational content in everyday language input to blind and sighted toddlers



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Background

Blind babies:

- do not have visual access to information about the world.
- eventually acquire language on par with their sighted peers (Andersen et al, 1984).
- could be relying on **linguistic input** from their parents to bridge the gap
- receive the **same quantity** of input (MLU, conversational turns) as sighted babies (Campbell et al, submitted).
- What about the **content** (Hirsch-Pasek et al, 2015)?

Does the **informativeness of the linguistic content** blind and sighted infants hear differ?

Method - Corpus

Participants: 15 blind, 15 sighted infants, 6-30 mo. (matched on: age, maternal education, # siblings)

Corpus: 16hr recordings of child speech enviro.

Transcribed regions: 40 min/child = 1200 min total

15 2-min. clips/child randomly selected from full day
5 2-min. clips/child from high-talk volume regions

~4k utterances per group (blind, sighted)

Present study tags child-directed utterances for:

Utterance type:

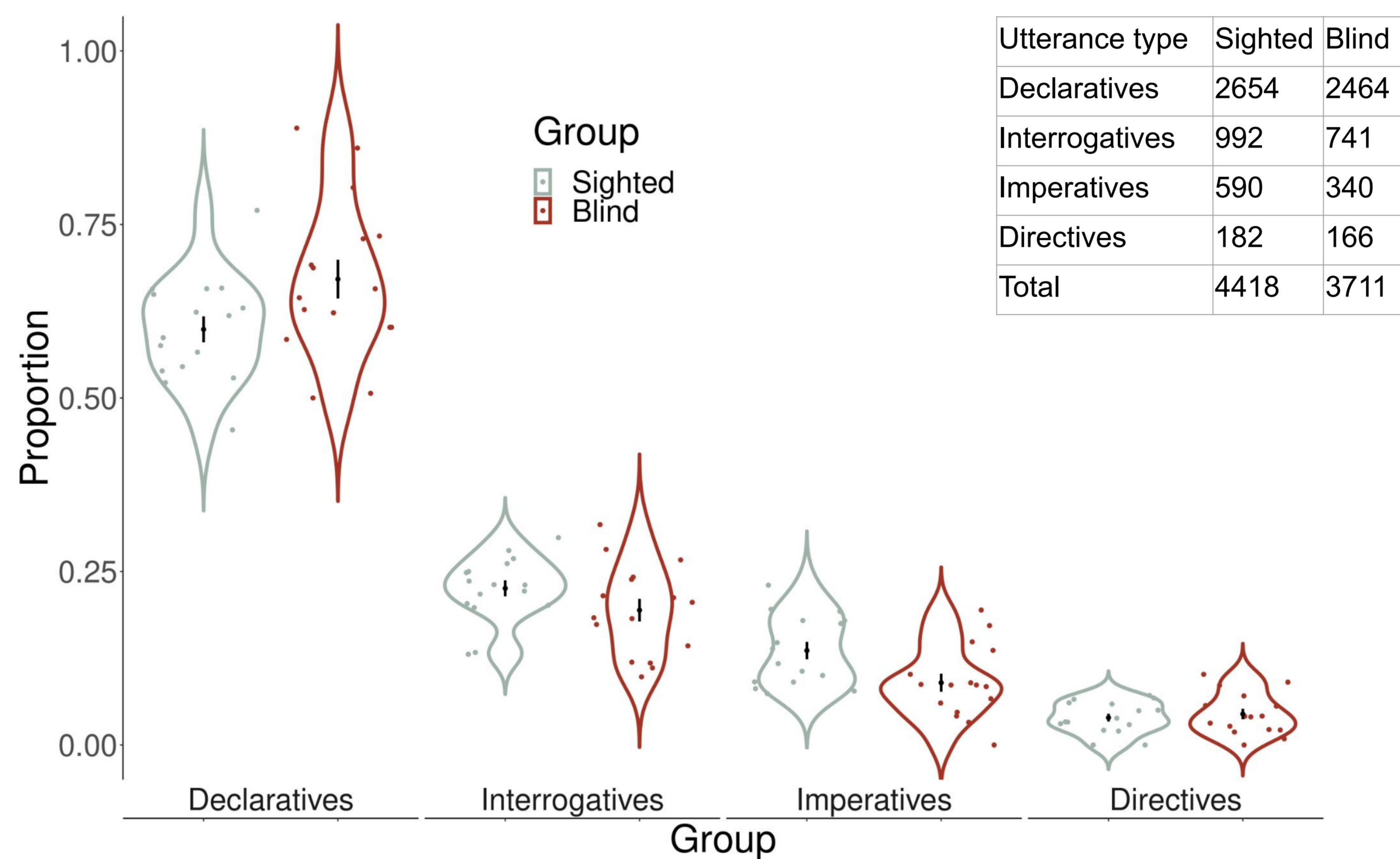
- Imperatives – “Come here!”
- Directives – “Let’s go to the park, shall we?”
- Interrogatives – “What color is the truck?”
- Declaratives – “The truck is red.”

Conversational content:

- Expansions – “Church” “Say squirch.”
- Extensions – “Ducky.” “That’s a gull, innit?”
- Affirmations – “Again!” “Again?? Okay.”
- Repetitions – “And he will squash you like a...” “Flea.” “Flea, right!”
- Reading and Singing – “You are my sunshine...”
- Initiations – “Hey!”

Results

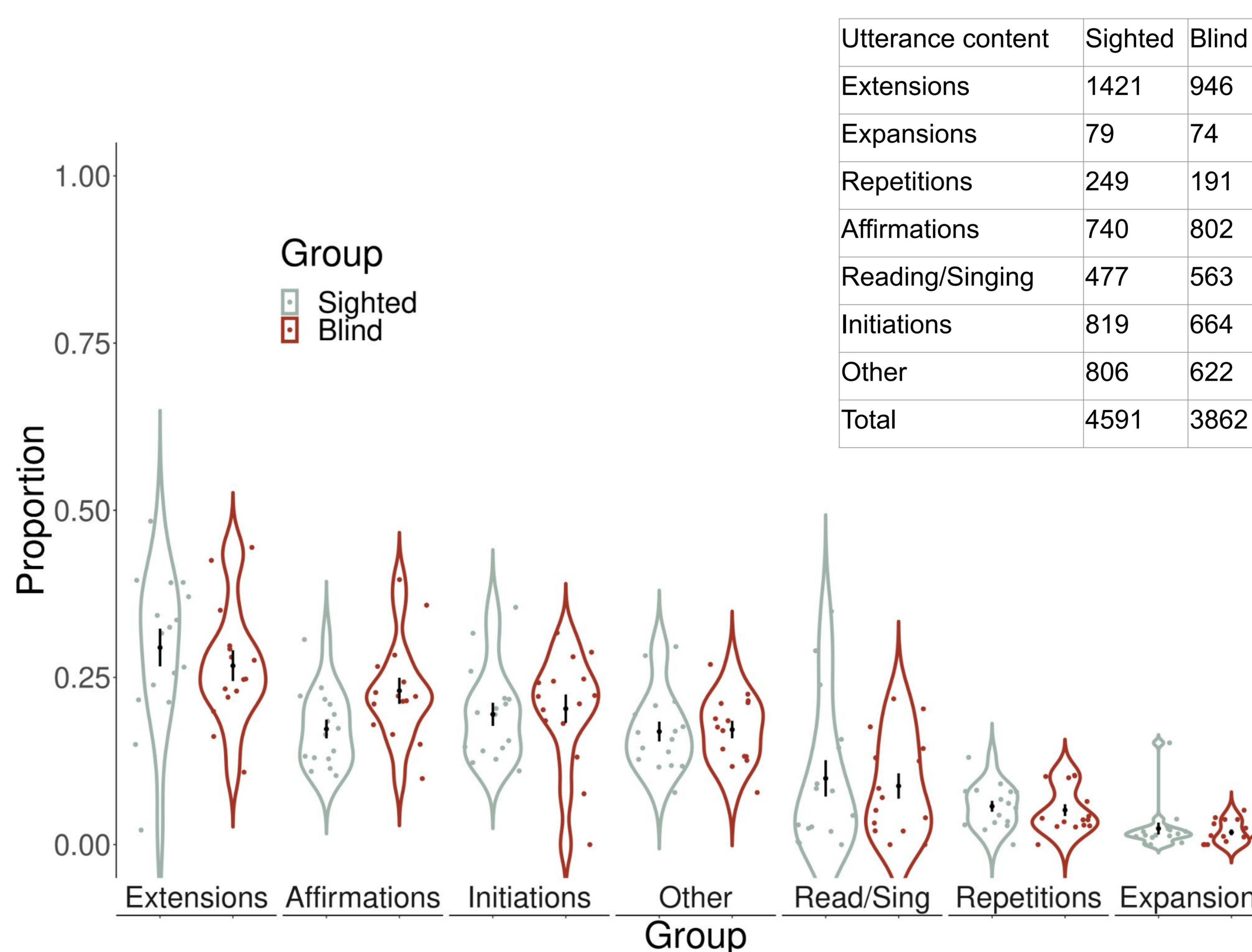
Do blind and sighted infants hear the same distribution of utterance types?



More or less. Blind infants hear a *slightly* higher proportion of declaratives, but no differences across other utterance types

- Im(prop. utt ~ group * utt-type) provides a strong fit to the data (Adj R²=.94, p<.001)
- including this interaction significantly improves model fit, driven largely by a small but reliable increase for declaratives

Do blind and sighted infants hear the same distribution of conversational content?



Yes! Blind and sighted infants hear **the same** (i.e. a statistically indistinguishable) proportion of conversational content across all categories

- no evidence that including a ‘group’ term improves model fit (p>.05 by model comparison)

Discussion

- Other conversational content types or classifications to consider?
 - 17.5% of utterances were “Other”
 - “Other” contains non-response repeats, asides, negations, etc.
- Analyzed only child-directed utterances
- Future directions:**
 - Unpack ‘Other’ category
 - Analyze adult-directed utterances
 - Attempt to discover how blind infants use what they hear

Conclusions

- Blind and sighted infants hear highly similar utterance and conversational content distributions
- The informativeness of linguistic content, as measured here, does not differ for blind vs. sighted infants
- Whether blind infants *use* their (highly similar) input differently from sighted infants to acquire language remains an open question

Thank you

- NSF CAREER Grant BCS-1844710 to EB
- Duke CHILD Studies
- Our participating families

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