

EXPECTATIONS FOR UPCOMING CONTENT:

Do children reason about speakers' informativity goals?

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BACKGROUND

A comprehender's estimate of what events or situations are typical in the world is distinct from their estimate of what a speaker is likely to report on.

Even so, there seems to be a discrepancy between what type of estimates is used by comprehenders and speakers

Plausibility and **typicality** are favoured in comprehension:

taking a sip from the *waterfall* > taking a sip from the *transmitter*¹

the man will ride the *motorbike* > the man will ride the *carousel*²

→ **transparent** language use

Speakers tend to **omit typical content** and **include informative** content:

brown banana > *yellow* banana³

stabbed with an *icepick* > stabbed with a *knife*⁴

→ **filtered** language use

Recent work shows that comprehenders also pay attention to speakers' production choices⁵. The more the speaker's role as an **intentional communicator** is emphasised, the more **comprehenders expect contributions about non-typical content**, i.e., filtered language use - the ability to reason about speakers' informativity goals guides comprehenders' expectations⁶.

RESEARCH QUESTION

Do children reason about speakers' informativity goals in adult-like ways?

If so, they should expect speakers to make contributions that are **filtered**, i.e., conveying **informative** and **non-typical** content.

If child-directed speech favours mention of typical events and properties, particularly at younger ages⁷, children may instead expect speech to **transparently** reflect what the world is like.

There might also be a developmental pattern, whereby older children are more likely to take the speaker's production choices into account when estimating what a speaker will say.

METHODS

Sentence continuation task⁸ about what can be found at 11 different locations as an index of expectations for upcoming content.

Participants aged 5-11 (US school grades 0-5) with English as first language (N=111).

Manipulate the presence or absence of a speaker in two conditions (between participants):

[bare] N=39

At the zoo, there's _____

[visible speaker] N=38

I'm at the beach,
and there's _____



Typicality baseline was elicited from the remaining participants:

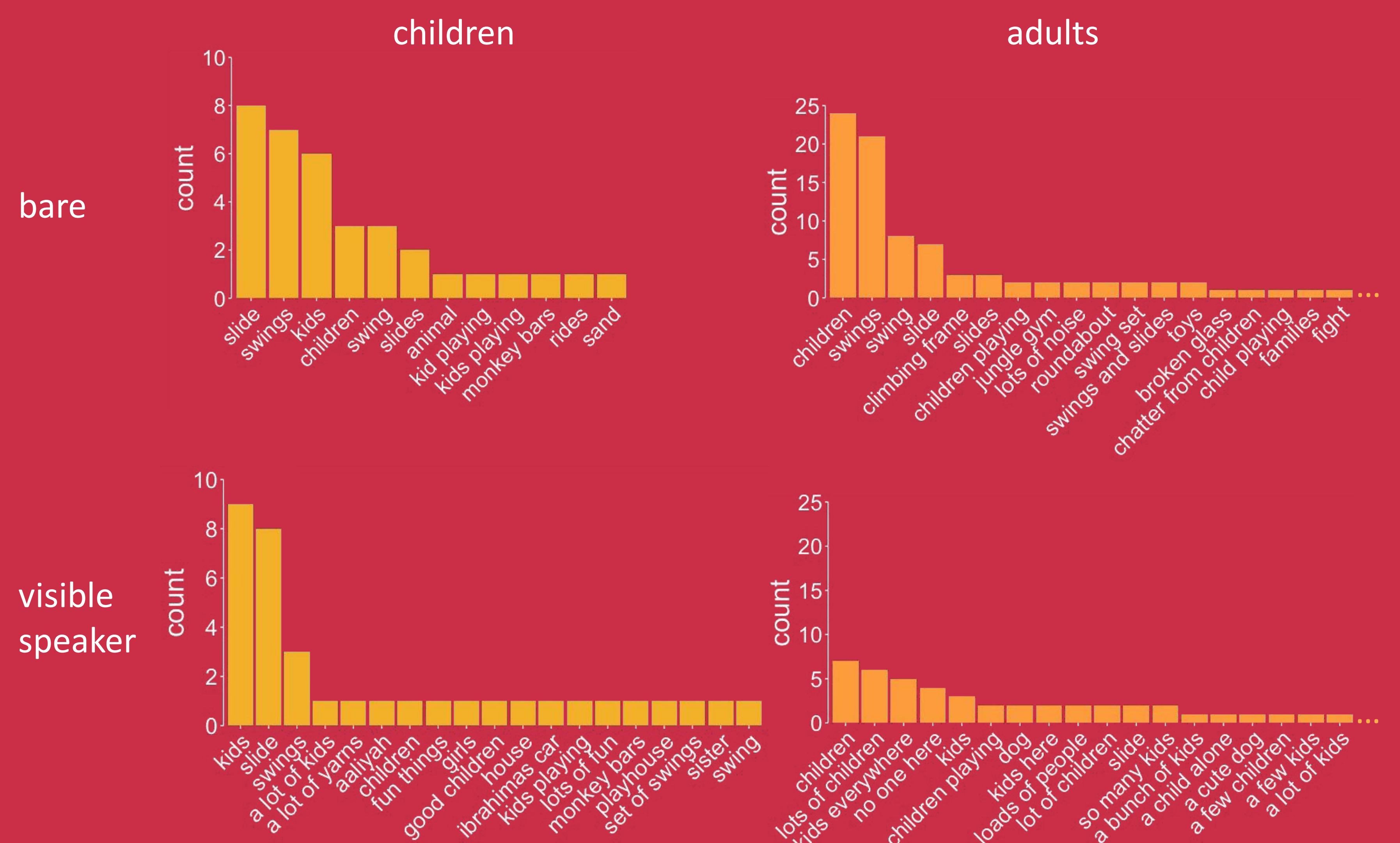
[typicality baseline task] N=34

What do you usually find in a playground?

Data collection is ongoing.

RESULTS

Example responses for the playground item:



Like adults, children's responses are **more informative** in the **visible speaker** condition:

- higher entropy
- less use of typical nouns
- more modification

Also some indication of a **developmental pattern**:

- less entropy as age increases
- marginal interaction for typicality, such that the children better distinguish between the two conditions as they get older

TAKEAWAY

Yes – children are attuned to speaker informativity, possibly with changes across development. Stay tuned for more data collection!

¹Kutas, M., & Hillyard, S.A. (1980). Reading senseless sentences: Brain potentials reflect semantic incongruity. *Science*, 207, 203–205.
²Kamide, Y., Altmann, G.T.M., & Haywood, S.L. (2003). The time-course of prediction in incremental sentence processing: Evidence from anticipatory eye movements. *Journal of Memory and Language*, 49, 133–156.
³Degen, J., Hawkins, R.D., Graf, C., Kreiss, E. & Goodman, N.D. (2020). When redundancy is useful: A Bayesian approach to "overinformative" referring expressions. *Psychological review*, 127(4), 591–621.
⁴Brown, P.M., & Dell, G.S. (1987). Adapting production to comprehension: The explicit mention of instruments. *Cognitive Psychology*, 19, 441–472.
⁵Rohde, H., Futrell, R., & Lucas, C.G. (2021). What's new? A comprehension bias in favor of informativity. *Cognition*, 209, 104491.
⁶Reksnes, V.R.S., Rees, A., Cummins, C., & Rohde, H. (submitted). Tell me something I don't know: Speaker presence and style affect comprehenders' expectations for informativity.
⁷Bergey, C., Morris, B.C. & Yurovsky, D. (2020). Children hear more about what is atypical than what is typical. *42nd annual meeting of the Cognitive Science Society*.
⁸Taylor, W.L. (1953). "Cloze procedure": A new tool for measuring readability. *Journalism quarterly*, 30(4), 415–433.