Duke University
DEPARTMENT OF PSYCHOLOGY & NEUROSCIENCE

BOX 90086   TEL: (919) 660-5716
DURHAM, NORTH CAROLINA 27708-0086   FAX: (919) 660-5726

Dear Editor,   12/30/2017

We hereby submit for consideration in *Developmental Science* an article titled "**Talk, You're On Camera! Or, Comparing Naturalistic Audio and Video Recordings of Infants.**"

We report new research examining infants' language input at six and seven months, during unstructured interaction with caregivers. We find that across a dozen measures that span from words to talkers to situations, children hear <u>2-4x more input</u> in hour-long videos than in daylong audio-recordings, per unit time. **These results offer sorely needed refinement in the fields' understanding and interpretation of 'typical' input infants learn from in their daily lives.**

Ours is the first study, to our knowledge, to directly compare and contrast language quantity, talker variability, sentential context, and referential transparency as a function of sampling method. In a single group of 44 infants, we evaluate the conclusions one would draw from hour-long videos vs. daylong audio-recordings using >30 hours of annotated data from four days for each child. This work builds on a recent important publication in Developmental Science by Tamis-Lemonda and colleagues (2017), but pushes even further in probing the influence of methodological decisions on conclusions about language input.

We find that not only is the input in hour-long videos denser across linguistic measures, but that infants in these videos hear relatively more questions and fewer declaratives than do those same infants, at the same age, in daylong audio recordings; this is particularly relevant for evaluating what 'data' infants have on hand when learning their language's grammar. We also find that our estimates of the prevalence of top words or certain utterance-types (e.g. singing) across families is less robust (sometimes holy unattested!) with the shorter video-recordings, even though they feature far more language input per minute. As scientists, we perpetually extrapolate from our samples to 'real life'. Our results suggest that understanding the biases of the sampling process can help constrain, or at least clarify, the errors in this extrapolation process.

As *Developmental Science* often highlights, new research constantly reveals astounding abilities infants acquire in year one. Yet, the field has vanishingly few publicly available corpora of young infants. Here we not only add a rich resource (the recordings, and all code used for the paper will be shared with the research community), but also report results linking the quantity and quality of home interactions with important theoretical and methodological choices that underlie our conclusions.

These results not only elucidate early language development, but also tie this knowledge to the highly variable day-to-day aspects of infants' experience. This provides groundwork for future interventions for children at-risk for language delays and deficits, and basic science grounding that can be used to inform estimates of successful intervention uptake. These results represent a significant step forward in our understanding of young infants' environments, and the caregiver interactions that give rise to their knowledge. Our work would be of particular interest to the broad readership of Developmental Science, especially to psychologists and cognitive scientists, but also to pediatricians, educators, and parents, who are always curious to better understand the early learning environment.

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The data in this paper have not been published and are not under consideration for publication elsewhere.

The contact information for four potential referees is below:
1) Catherine Tamis-Lemonda: Catherine.tamis-lemonda@nyu.edu
2) Anne Warlaumont: awarlaumont@comm.ucla.edu
3) Erika Hoff: ehoff@fau.edu
4) Caitlin Fausey: fausey@uoregon.edu

This work is also eligible for the Early Career Research Prize; I received my PhD in 2013.

Sincerely,

Elika Bergelson (corresponding author) Assistant Professor, Psychology & Neuroscience, Duke University, 614-598-6937, elika.bergelson@duke.edu

Andrei Amatuni, Lab Technician, Duke University
Shannon Dailey, Graduate Student, Duke University
Sharath Koorathota, Lab Technician, Columbia Medical School
Shaelise Tor, Graduate Student, Syracuse University