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Dear Members of the Editorial Team,

We submit to you our manuscript entitled, "Early language experience in a Tseltal Mayan village". Decades of research, primarily from linguistic anthropology, has reported that Mayan children are only infrequently directly addressed, that most of their directed speech comes from other children, and that the quantity of directed speech increases as they grow older. Despite this, Mayan children have been reported to acquire language skills at more or less the same rate as Western children. If so, we as developmental language scientists would need to shift our current notions about the role of child-directed speech as the primary "input" driving language learning forward.

The data in our submitted study come from a set of manually transcribed short clips from 9–11-hour photo-linked audio recordings made and annotated over four field trips to a rural, indigenous Mayan village in Southern Mexico. The clips in our main analyses were selected at random to get a true baseline of children's average hourly language experience. However, we also used a second set of manually selected clips to investigate what children's input looks like during "peak" interaction. To our knowledge, this study is the first to present a highly rigorous investigation of how often children are talked to (and how much speech they hear) over the course of an entire day using **fully manual annotations** from **daylong audio recordings**—even for English, current best daylong estimates are based on automated tools using the LENA system. Nearly every aspect of this study is novel. From the combination of methods and population, to the use of photo-linked daylong audio recordings and our statistical approach for clip-based analysis, this work is unique.

<u>Our findings are exciting:</u>

We show **the first empirical support that Tseltal children are efficient learners.**
- Children under 3;0 heard 3.6 min/hr of directed speech (approx. 1/3 the rate currently estimated for American English; Bergelson et al., 2019 *DevSci*).
- Children's use of non-canonical babble, canonical babble, first words, and multi-word utterances is on track with normative expectations developed on the basis of Western populations.

Our data **overturn two major predictions** from the linguistic anthropology literature.
- Most child-directed speech comes from adults, not other children, with no increase in child-directed speech from other children with age.
- There is no overall increase in child-directed speech with age.

Finally, the daylong data provoke further questions about the **burstiness of child input** and its **relation to specific activities**.

- There is an afternoon dip in speech directed at children (as found in North American English LENA studies: Greenwood et al., 2011 *CommDisQtly* and Soderstrom & Wittebolle, 2013 *PloSOne*).
- Older children are more likely to show these time-of-day effects, receiving much of their directed speech in the morning and midday.
- Much of children's input over the day comes in short, interactive bursts.

In the paper, we discuss our main finding—that Tseltal children *do* appear to learn efficiently—in light of multiple possible explanations that we set up for future work to explore, including: (a) learning from other-directed speech, (b) increased linguistic input with age, and (c) possible advantages of the natural bursts and lulls of interaction over the day.

We are thrilled to submit our work to Child Development because the Editorial Team has expressed an active interest in seeing greater diversity in its represented populations (Garcia Coll, 2015:7 *ChiDev*). We believe our study can contribute to this goal while also meeting the journal's high standards for methodological rigor and theoretical import. We hope that our research can follow up on a line of inspiring work on non-WEIRD populations that has shown up recently in Child Development, including a previous study of children's language environment (though that study was without audio; Cristia et al., 2017 *ChiDev*; Tsimane-acquiring children in Bolivia).

We verify that these data and analyses have been presented (and are currently submitted for presentation) at conferences, but are not published nor under consideration elsewhere, online or otherwise. The authors have all agreed to the content and declare no conflicts of interest. The work follows the SRCD's ethical standards.

We care about the replicability of our work and the growth of these analyses as more data become available in the future. For that reason, all the data, code, associated scripts, and text are available from various open science repositories. To keep review double-blind, we have stripped the manuscript of these repository links, and we instead provide a temporary link in the main text to an anonymous OSF repository where the basic data and analyses presented in the paper can be found:
https://osf.io/9xd5u/?view_only=03a351c1172f4d17af9fce634aefb65e

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We do not recommend asking the following researchers or their students/postdocs to review this manuscript as they are active co-authors with the first author and may therefore have a conflict of interest: Drs. Elika Bergelson, Alejandrina Cristia, Melanie Soderstrom, and Adriana Weisleder.

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