Past research has often focused on how parents talk to children. The idea is that, when talking to children, adults unwittingly use speech patterns that help the child learn language more easily. However, research on non-Western societies has suggested that, while child-directed speech may be helpful for some parts of language development, it is not the norm around the world; in many places children typically learn their home languages without much child-directed speech at all. If so, how much child-directed speech is necessary for learning language? How else might children learn from their speech environments? We followed up on these questions by measuring the language environment and linguistic development of children in a community where young children have previously been reported to hear little child-directed speech.

The children in our study were learning a Mayan language called Tseltal in a rural, indigenous farming community in Southern Mexico. We studied speech data from 10 children under age 3 years. The children wore a vest containing a small audio recorder and a wearable photo camera for approximately 10 hours during a day at home. We then transcribed one hour's worth of short clips from the day and made notes about who was talking to whom. In each clip we also found all vocalizations by the child wearing the recorder and noted what the maturity level of the vocalization was (for example, speech-like babbling, recognizable words, etc.).

We found that, on average, the children heard 3.6 minutes of directed speech per hour and 21 minutes per hour of speech directed to other people ("overhearable" speech). While this rate of directed speech may seem low compared to previous estimates from North American children (e.g., 3.6 vs. ~11 minutes of directed speech per hour), the Tseltal children's vocalization data shows that they hit early language development milestones, such as the beginning of speech-like babbling, first words, and first sentences, around the same time we would expect for Western children who hear much more child-directed speech.

While these results are preliminary, they do suggest that Tseltal children show no obvious signs of developmental delay in their language despite hearing much less child-directed speech. In our report we suggest several routes through which they may accomplish this, including listening to some of the 21 minutes per hour of speech around them, a proposal put forth by other researchers working with similar communities in the past. The results do not mean that child-directed speech doesn't matter---past work has shown a strong influence on early vocabulary development and more. What they do suggest is that there is more to the picture than just child-directed speech in promoting early language development, including the other types of speech children can learn to attend to, considerations of what is relevant for children to learn in their language(s), and how their speech experience is distributed over different activities during the day and different interactional partners as they grow older.