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Communicative pressure can lead to input that supports language learning

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Abstract

While children must learn language from the statistical structure of the input they receive, parents play a critical role shaping the structure of this input. Even without an explicit pedagogical goal, parents' desire to communicate successfully may cause them to produce language calibrated to their child's linguistic development. We designed a Mechanical Turk study to experimentally validate this idea, putting Turkers in the role of parents talking with children less familiar with a novel language. Participants could communicate in 3 ways: pointing expensive but unambiguous, labeling cheap but knowledge-dependent, or both. They won points only for communicating successfully. Participants adapted their communicative behavior to their own knowledge and their partners knowledge. Teaching emerged when the speaker had more linguistic knowledge than their partner. We implemented a rational planning model that fits these data and demonstrates that such patterns could result from maximizing expected utilities, accounting for the expected utilities of future interactions.