

## **Social responses to babbling catalyze speech development and word learning**

How do infants learn to talk? Over the first year, infants' vocal behavior changes dramatically. Prelinguistic vocalizations (babbling) increasingly resemble the sound patterns of the ambient language, blending into and becoming words. Babbling constitutes an important part of language development. For example, the onset of words correlates with the onset of canonical (speech-like) babbling, and patterns of parental responsiveness to prelinguistic vocalizations are linked to later language development. However, there is little research on the mechanisms that cause babbling to become more speech-like.

My studies show that caregivers' responses to babbling infants provides crucial, real-time guidance to the development of prelinguistic vocalizations. Playback experiments, in which adults react to prerecorded examples of infant behavior, show that mothers use prelinguistic vocal cues to guide their responses to infants. Vocal learning experiments reveal that infants use social feedback from their mothers to build more developmentally advanced forms of vocalizations. Infants who received contingent feedback rapidly restructured their babbling, incorporating phonological patterns from caregivers' speech. In addition, word learning studies show that caregiver's contingent verbal responses to object-directed vocalizations influence word learning and predict vocabulary development, indicating that prelinguistic learning influences the development of the lexicon.

These studies demonstrate that infants' prelinguistic vocalizations, and caregivers' reactions to those immature sounds, create opportunities for social learning that afford infants knowledge of speech and language. Thus immature, prelinguistic vocalizations have important functional significance. The way we talk when we react to an infant's babbling has immediate consequences for vocal learning. Babbling, when studied in social context, constitutes a crucial and formative phase in language development.