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Secrets of baby talk: Why mothers say coo while fathers stay cool

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A small child participating in acoustics research. Credit: Speech & Language Lab/Washington State University

Even to the casual observer, there's no mistaking how some perfectly mature parents will affect an infantile elocution when talking to their

young children, speaking in higher-pitched voices with a wider range of pitches and frequently switching between highs and lows. This sort of babytalk is sometimes known as "motherese," in part because most research on parent-child interactions has traditionally focused on the mother's role. Scientists study the common behavioral phenomenon because they want to understand what role such speech patterns play in the child's language acquisition.

But in an era of shifting parental roles and increased paternal involvement, researchers from Washington State University are now investigating whether fathers modify their speech in the same way as mothers when talking to their children.

Their initial experimental results suggest that even when fathers are interacting with their children, they engage less in some of the intonational hallmarks of motherese—research the team will present along with a possible explanation at the 169th meeting of the Acoustical Society of America, held May 18-22, 2015 in Pittsburgh.

Observing Natural Interactions "In the Wild"

The Washington State team outfitted preschoolers and their parents with recording devices to monitor social interactions over the course of a normal day. They used speech-recognition software to pull apart the recordings and determine who was talking to whom, and when—ultimately comparing the difference between the way the mothers and fathers spoke to their children compared to how those parents spoke to adults.

The work confirmed previous studies, which showed that the mothers used higher pitch and varied their pitch more when interacting with their child than with adults. The fathers, on the other hand, did not show the same pattern, and instead talked to their children using intonation

patterns more like when they talked to other adults. This is the first study that has examined fathers' verbal interactions with their children in a real-world setting and using automatic data processing.

Motherese is believed to be a bonding tool because it is particularly attractive to babies and young children, with its attention-catching cadence and exaggerated vocal features. So are fathers failing to engage with their children by not using babytalk?

"This isn't a bad thing at all—it's not a failing of the fathers," said Mark VanDam, a professor in the Speech and Hearing Sciences department at Washington State, who headed the study. "We think that maybe fathers are doing things that are conducive to their children's learning but in a different way. The parents are complementary to their children's language learning,"

The data support what VanDam refers to as the bridge hypothesis—that fathers, by speaking to their children more like adults, might act as a link to the outside world by helping them to deal with unfamiliar speech.

Furthermore, the fathers' less frequent use of classic babytalk doesn't mean that they aren't modifying their speech in other ways—by using different vocabulary, for instance, or changing the volume or duration of their speech. VanDam believes the age and sex of the child might also influence the father's interactions.

The pilot study looked only at families with a mother and father who both lived full-time with the child, so the researchers don't know how the results might differ in single-parent families or those headed by same-sex couples. This study is just one part of a larger initiative at Washington State to examine how fathers support their children's language development from infancy through early childhood.

Ultimately, VanDam and his colleagues are interested in addressing these same questions in families with children with hearing loss in order to understand how hearing loss impacts speech production and learning.

More information: Presentation #2aSC8, "Fathers' use of fundamental frequency in motherese," by Mark VanDam, Paul DePalma and William Strong will be presented during a poster session on Tuesday, May 19, 2015, from 8:00 AM to 12:00 noon in Ballroom 2. The abstract can be found by searching for the presentation number here: asa2015spring.abstractcentral.com/planner.jsp

Provided by Acoustical Society of America

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