

Study listens in on speech development in early childhood

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Credit: SupportPDX via Flickr

If you've ever listened in on two toddlers at play, you might have wondered how much of their babbling might get lost in translation. A new study from the University of Toronto provides surprising insights

into how much children and adults understand when they speak to each other.

The study by Elizabeth Johnson, associate professor of psychology at U of T Mississauga, and post-doctoral researchers Angela Cooper and Natalie Fecher investigated how well toddlers understand [words](#) spoken by themselves, adults and other children.

"Children have to know so much before they can actually produce a word. it's incredibly complicated," says Johnson, who runs U of T Mississauga's Child Language and Speech Studies Lab. "We were interested in how well toddlers could understand themselves."

Working with 54 pairs of [mothers](#) and children aged 30 to 36 months, the team recorded participants saying 32 words of varying difficulty – such as dog, cup, stroller and strawberry – that were commonly understood by toddlers. On a return visit, participants were shown two unrelated images as they listened to the recorded words. Eye-tracking technology recorded whether they looked to the correct image when hearing words spoken by themselves, another [toddler](#), their own mother, or another child's mother.

The researchers discovered that children could readily identify words spoken by [adults](#), but faced more difficulty identifying words spoken by other children or themselves.

"We found that two-and-a-half-year-olds can understand their own mother just as well as an unfamiliar mother," Johnson says. "Crucially, they understand adult voices better than either their own voice or the [voice](#) of another child."

Johnson says she knows of no study that has looked at children at this age and their perception of other children's voices.

"These findings have important theoretical implications for how [children](#) mentally represent words," she says. "The way they pronounce a word isn't the way it's represented in their mind."

"This is an age where kids are producing substantial vocabulary, but their pronunciations are quite distinct from the adult form," she adds. "Their perception and comprehension far exceeds their production of speech."

Her conclusion: "Children understand so much more than you think they do, and they know so much more about the sound structure of words than they let on by the way they speak. They understand you better than they understand themselves."

The study, "Toddlers' comprehension of adult and child talkers: Adult targets versus vocal tract similarity," will appear in the April 2018 edition of *Cognition*.

More information: Angela Cooper et al. Toddlers' comprehension of adult and child talkers: Adult targets versus vocal tract similarity, *Cognition* (2017). [DOI: 10.1016/j.cognition.2017.12.013](https://doi.org/10.1016/j.cognition.2017.12.013)

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