

## Baby talk seems consistent across cultures, from Tanzania to Beijing

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Study participants in South Sudan. Credit: University of Auckland

When singing and speaking to young infants, people alter their voices in a way that is consistent across cultures, according to a study published in the journal *Nature Human Behaviour*.

The findings suggest that the way in which humans speak and sing to soothe "fussy" infants may have a common, evolved function.

More than 40 scientists collected 1,615 recordings from 21 societies and used computers to study the acoustic features that differentiate adult-

and infant-directed vocalizations.

Acoustic features consistently differed between infant- and adult-directed recordings. For example, infant-directed recordings had purer timbres, songs were more subdued, and speech had a higher pitch.

When the recordings were played to 51,065 people from 187 countries via [The Music Lab](#), a research site that taps citizen scientists, listeners could guess when vocalizations were directed at infants more accurately than by chance.

The senior author of the research was Dr. Samuel Mehr, a Harvard University psychologist who is joining the University of Auckland in September, bringing The Music Lab with him. (Another arm of the lab will be at Yale University's Haskins Laboratories, an institute for auditory research.)

"Human vocalizing for infants seems to be strongly stereotyped across cultures, but these effects differ in magnitude across societies," says Dr. Mehr.

"For example, across all sites, people use a higher voice when speaking to infants than they do when speaking to adults, but the difference in pitch is much larger in some societies than others—some of the biggest differences were in New Zealand English, whereas other languages, like Hadza in Tanzania, had smaller effects," he says.

The cross-cultural regularities suggest that the two forms of vocalizations are a common feature of human psychology, according to Professor Quentin Atkinson, a University of Auckland psychologist and one of 43 co-authors of the study.

The study featured 18 languages and societies in North America, South

America, Africa, Europe, Asia and the Pacific. Professor Atkinson and Dr. Tom Vardy collected recordings of parents and babies from Vanuatu, where they have long-term research projects with local communities.

Societies varied from cities with millions of residents (Beijing) to smaller cities such as Wellington to small-scale hunter-gatherer groups of as few as 35 people (Hadza people in Tanzania.)

Four small-scale societies (Nyangatom people on the border of Ethiopia and South Sudan, Toposa people in South Sudan, Sápara/Achuar people in the Amazon, and Mbendjele people in the Congo) lacked access to television, radio or the internet, and therefore had very limited exposure to language and music from other societies.

The Music Lab draws on ideas and tools from cognitive and [developmental psychology](#), [data science](#), and evolutionary anthropology, to ask "what music is, how music works, and why [music](#) exists," says Dr. Mehr.

Dr. Mehr—himself a musician who plays the clarinet, the flute, the saxophone, the bassoon and the oboe—says: "In a sense, one half of things is about what adults do musically and the other is what infants understand of it."

Research is showcased on The Music Lab site—"[Sound-induced motion in chimpanzees does not imply shared ancestry for music or dance](#)," is one example—and citizen scientists can also play games which, in some cases, contribute to research projects.

For example, you can check whether you're tone deaf or a "super listener" able to tell tricky sounds apart, or you can engage with a robot that will try to guess your favorite songs.

**More information:** Courtney B. Hilton et al, Acoustic regularities in infant-directed speech and song across cultures, *Nature Human Behaviour* (2022). [DOI: 10.1038/s41562-022-01410-x](https://doi.org/10.1038/s41562-022-01410-x)

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