

HIGHLIGHTS

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Kuhl lab:
<http://cmbi.washington.edu/kuhl/>

LANGUAGE

Listen and learn

Many of our readers will have first-hand experience of the problems involved in learning a new language as an adult. As well as having to memorize new vocabulary and grammar, we often come across sounds that we cannot distinguish from each other, even though they sound quite different to a native speaker. Although young infants can distinguish between all of the sounds used in different languages, this ability declines sharply between six and twelve months of age, when they start to specialize in their own language. A study in *Proceedings of the National Academy of Sciences* shows that the ability to perceive phonetic units can readily be rescued during this time — but only by social interaction with foreign-language speakers.

Given that infants can acquire more than one language, the loss of

foreign-language speech perception cannot be inevitable. Kuhl *et al.* investigated how much, and what kind, of exposure to a second language is needed to prevent the decline in perception of its phonetic units. They exposed 9-month-old English-speaking infants to about five hours of Mandarin speech, in short sessions over four weeks. The Mandarin speakers read children's stories and interacted with the infants naturally.

Even this short exposure to a foreign language was enough to reverse the decline in perception of Mandarin speech sounds seen in a control group. Crucially, though, a similar amount of exposure to either audio or audiovisual recordings of Mandarin speakers had no effect, indicating that social interaction might be vital for phonetic learning at this age. Interestingly, other species,

such as songbirds, also learn communication skills more easily when cued by social interactions.

A predisposition to learn language skills during interactions with people would help infants to learn appropriately, rather than being influenced by non-language sounds in the environment. Previous work has shown that adults instinctively use 'motherese' when speaking to infants — they exaggerate their vowel sounds in a way that facilitates language learning. But the new results show that other cues, such as body language and gaze direction, might also be a crucial part of the collaboration between infants and their parents that enables such remarkable language learning during the first years of life.

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References and links

ORIGINAL RESEARCH PAPER Kuhl, P. K. *et al.* Foreign-language experience in infancy: effects of short-term exposure and social interaction on phonetic learning. *Proc. Natl Acad. Sci. USA* **100**, 9096–9101 (2003)

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