

Japanese infants hear foreign words by 14 months, research shows

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A new study on Japanese and French infants by researchers at the RIKEN Brain Science Institute (Japan) and their collaborators has provided first-ever clues on the development of mechanisms governing how people perceive the words of a foreign language.

The findings show that by only 14 months old, Japanese infants are unable to distinguish between words with sound sequences foreign to the Japanese ear, suggesting they have tuned their perception to how sounds are sequenced in their native [language](#) before even learning its words or grammar.

The question of how infants learn to perceive and segment speech is central to our understanding of the origins and development of language. Studies have shown that young infants can already distinguish patterns common to their language from those that are not, but it is not clear how this capacity relates to the highly-tuned [perception](#) of speech known to occur in adults.

One way to explore this connection is through the phenomenon of "phonological illusions", in which adults hear sound sequences from a [foreign language](#) as if they were "repaired" to fit their native tongue. To determine at what age such illusions first develop, the researchers conducted experiments on Japanese and French infants testing their ability, at 8 and 14 months of age, to distinguish series of utterance pairs such as "abna" and "abuna", only the latter of which is pronounceable in Japanese.

Earlier research by the team had shown that adult Japanese perceive such utterances as the same, inserting an illusory vowel "u" between the cluster of consonants. Their current experiments show that while at 8 months of age, this phenomenon does not yet occur in either group, by 14 months a clear difference emerges: Japanese infants, unlike French [infants](#), no longer perceive the distinction

between these utterances unless they are presented to them in isolation.

While supporting an alternative theory for language acquisition, this surprising finding, reported in the journal *Developmental Science*, offers an explanation for the difficulties adults face in perceiving foreign languages, providing valuable insights for language learners and instructors worldwide.

Provided by RIKEN

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