

# Primate calls, like human speech, can help infants form categories

September 2 2013

---



A male mongoose lemur (*Eulemur mongoz*) Credit: Wikipedia.

Human infants' responses to the vocalizations of non-human primates shed light on the developmental origin of a crucial link between human language and core cognitive capacities, a new study reports.

Previous studies have shown that even in infants too young to speak,

listening to human speech supports core [cognitive processes](#), including the formation of object categories.

Alissa Ferry, lead author and currently a postdoctoral fellow in the Language, Cognition and Development Lab at the Scuola Internazionale Superiore di Studi Avanzati in Trieste, Italy, together with Northwestern University colleagues, documented that this link is initially broad enough to include the vocalizations of non-human primates.

"We found that for 3- and 4-month-old infants, non-human primate vocalizations promoted object categorization, mirroring exactly the effects of human speech, but that by six months, non-human primate vocalizations no longer had this effect—the link to cognition had been tuned specifically to human language," Ferry said.

In humans, language is the primary conduit for conveying our thoughts. The new findings document that for young infants, listening to the vocalizations of humans and non-human primates supports the fundamental [cognitive](#) process of categorization. From this broad beginning, the infant mind identifies which signals are part of their language and begins to systematically link these signals to meaning.

Furthermore, the researchers found that infants' response to non-human primate vocalizations at three and four months was not just due to the sounds' acoustic complexity, as infants who heard backward [human speech](#) segments failed to form object categories at any age.

Susan Hespos, co-author and associate professor of psychology at Northwestern said, "For me, the most stunning aspect of these findings is that an unfamiliar sound like a [lemur](#) call confers precisely the same effect as human language for 3- and 4-month-old infants. More broadly, this finding implies that the origins of the link between language and categorization cannot be derived from learning alone."

"These results reveal that the link between language and object categories, evident as early as three months, derives from a broader template that initially encompasses vocalizations of human and non-human primates and is rapidly tuned specifically to human vocalizations," said Sandra Waxman, co-author and Louis W. Menk Professor of Psychology at Northwestern.

Waxman said these new results open the door to new research questions.

"Is this link sufficiently broad to include vocalizations beyond those of our closest genealogical cousins," asks Waxman, "or is it restricted to primates, whose vocalizations may be perceptually just close enough to our own to serve as early candidates for the platform on which [human language](#) is launched?"

"Non-human primate [vocalizations](#) support categorizations in very young human infants" published in the *Proceedings of the National Academy of Sciences* on September 3.

**More information:** [www.pnas.org/cgi/doi/10.1073/pnas.1221166110](http://www.pnas.org/cgi/doi/10.1073/pnas.1221166110)

Provided by Northwestern University

Citation: Primate calls, like human speech, can help infants form categories (2013, September 2) retrieved 15 August 2024 from <https://phys.org/news/2013-09-primate-human-speech-infants-categories.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.