How children categorize living things

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How would a child respond to this question? Would his or her list be full of relatives, animals from movies and books, or perhaps neighborhood pets? Would the poppies blooming on the front steps make the list or the oak tree towering over the backyard?

How might the animals children name compare to those named by children raised in a different cultural or language background or in a community that offers more direct contact with the natural world?

In a study conducted by Andrea Taverna of the Consejo Nacional de Investigaciones Científicas y Técnicas (Formosa, Argentina) in conjunction with Sandra Waxman and Douglas Medin in the psychology department in the Weinberg College of Arts and Sciences at Northwestern University, children were asked to name "everything you can think of that is alive."

The children were from three very different cultural and linguistic communities in Argentina: some were urban Spanish-speaking, others were rural Spanish-speaking, while others were Wichí-speaking children from the remote indigenous Amerindian Wichí community in the Chaco rainforest.

Wichí have more extensive direct contact with the natural world than either the rural or urban Spanish-speaking populations with whom they were compared.

The children's responses revealed clear convergences among these

distinct communities but also illuminated differences among them. They found that a general framework for organizing living things is in place for a child by age 5, and that this framework is enhanced during a child's development and with experience. They also discovered that children in each community named many animals but fewer plants.

In addition, children's responses also differed across the communities, offering a glimpse of how linguistic, cultural and experiential forces shape our understanding of the natural world.

"I believe these results may provide a foundation that permits teachers from these different contexts to identify their students' knowledge of the natural world and the different sources that may have shaped them," said Taverna, lead author of the study.

The names children offered reflected the source of their knowledge about the natural world. Urban Spanish-speaking children, who get much of their knowledge about the natural world from books, movies and TV, were most likely to name exotic animals—ones they had learned about in movies or books but had never seen.

Rural Spanish-speaking children, who have more direct contact with the natural world, also included many native animals in their lists. These results converge with results from English-speaking children in the United States. But among the Wichí, who have little contact with media and other cultures and extensive direct contact with the natural world, children overwhelmingly named native animals from the surrounding rainforest.

In addition, Wichí children used far more specific biological names for both plants and animals, an outcome that reflects the cultural importance attached to these entities.

"The results of the study demonstrate how language, experience and culture shape children's acquisition and organization of fundamental folkbiological concepts," said Waxman, Louis W. Menk Professor of Psychology and faculty fellow at the Institute for Policy Research at Northwestern. "This helps us to understand how best to teach young children from diverse communities about the natural world that surrounds them."

More information: "Naming the living things: Linguistic, experiential and cultural factors in Wichí and Spanish-speaking children" will appear in the *Journal of Cognition and Culture*, 14(3-4) later this year.

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