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Kids understand the relationship between humans and other animals

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Parents, educators and developmental psychologists have long been interested in how children understand the relationship between human and non-human animals. For decades, the consensus was that as children begin reasoning about the biological world, they adopt only one -- markedly "anthropocentric" -- vantage point, favoring humans over non-human animals when it comes to learning about properties of animals.

A new study from Northwestern University researchers challenges this long-held assumption. In two experiments, with the results to appear in the Proceedings of the National Academy of Sciences May 17, research by Patricia Herrmann, Sandra R. Waxman and Douglas L. Medin in the psychology department in the Weinberg College of Arts and Sciences examined the reasoning patterns of children as young as three years of age.

The results were striking: Although 5-year-olds adopted an anthropocentric perspective (replicating earlier studies), 3-year-olds showed no hint of anthropocentrism. This outcome, considered in conjunction with recent cross-cultural evidence including Native American children, suggests a new model of development: Human-centered reasoning is not an obligatory starting point for development, as researchers and educators had previously assumed.

Instead, it is an acquired perspective, one that emerges between three and five years of age in children raised in urban environments and one that likely reflects young children's keen sensitivity to the perspectives

that are presented to them, however informally, within their communities and in the media for young children (e.g., stories and films in which animals talk, sing and act like humans).

The researchers say that perhaps most importantly, this new evidence has strong and direct implications for early science education.

"If young children's fundamental perspectives on the biological world -- and the place of humans within it -- are sensitive to the experiences, beliefs and practices of their communities, then by the time they enter school, children from different backgrounds may harbor different perspectives," said Sandra Waxman, a co-author and professor of psychology. "If we are to design more effective science curricula, then it is incumbent upon us to understand the diverse perspectives that even the very youngest children bring with them as they enter their classrooms."

Provided by Northwestern University