

Infants absorb more than we might think

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Does a baby know that a dog can jump a fence while a school bus can't? Can a toddler grasp that a cat can avoid colliding with a wall, while a table being pushed into a wall can't?

A new study from Concordia shows that [infants](#) as young as 10-months old can tell the difference between the kinds of paths naturally taken by a walking animal, compared to a moving car or piece of furniture.

That's important information because the ability to categorize things as animate beings or inanimate objects is a fundamental cognitive ability that allows [toddlers](#) to better understand the world around them.

The study, published in *Infant Behavior & Development*, looked at about 350 [babies](#)—who participated at 10, 12, 16 and 20 months—to find out when children clue in to the fact that animals and objects follow

different motion paths.

Since the study subjects could not express much in words, the researchers used a technique called the "visual habituation paradigm," which measures how long one looks at a given object.

"You can understand something about what babies know based on how long they look at something," explains former doctoral student Rachel Baker, who collaborated on the study with fellow researcher Tamara Pettigrew and Diane Poulin-Dubois, a professor in Concordia's Department of Psychology and member of the Centre for Research in Human Development. "Babies will look at something new longer than they will look at something that is already familiar to them."

Since computer animations of a bus or a table jumping over a wall held the attention of infants for longer than a bus or table bumping into a wall, it indicated the former was newer to them than the latter. In contrast, infants' attention was held just as well by a cat jumping over a wall as by a cat rebounding after running into a wall, indicating that infants think that cats can both jump and rebound.

This matches real life, says Baker, who obtained her PhD from Concordia and is now a research and statistical officer at the Cape Breton District Health Authority.. "Animals do bump into objects—if I'm not paying attention to where I'm going, I've been known to bump into things. The bigger picture is that the motion of objects is more predictable than the motion of animals. This research shows that even 10-month-old babies have some understanding of this."

For the researchers, the study reveals that even the youngest among us absorb more details than some might think, through eyes that are usually open wider than adult ones.

"Babies are really quite smart," says Baker. "The secret to finding out what they know is to be creative and tap into behaviours they do naturally. By doing so, we've shown that babies understand something about [animals](#) and objects even though they can't yet put that knowledge into words."

Provided by Concordia University

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