

# Learning categorical information gives children a feeling of déjà vu

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Doctoral student Shelbie Sutherland and psychology professor Andrei Cimpian found that young children learn broad facts about the world so readily that they do not remember learning the information and have the illusion that they already knew it. Credit: L. Brian Stauffer

During development, children must learn both broad facts about the

world (that dogs have four legs, for example) and information that is more specific (that the family dog is scared of snow). While research in developmental psychology suggests that young children should have an easier time learning specific, concrete facts, a new study reveals that they learn general facts so effortlessly that they often can't tell that they learned anything new at all.

The study appears in the journal *Developmental Psychology*.

The researchers, University of Illinois psychology professor Andrei Cimpian and doctoral student Shelbie L. Sutherland, said this "knew-it-all-along" illusion suggests that [children](#)'s minds more readily absorb information about broad categories than about specifics.

Upon learning a previously unknown, categorical fact ("opossums make their homes in foliage," for example), the 4- to 7-year-old children in the study often felt that they already knew that fact. But when researchers gave them more specific information ("this opossum makes his home in foliage"), the children were better able to recognize that this was something they hadn't known before.

This difference between general, categorywide facts and specific facts was present even in the youngest children in the study, and its magnitude did not decrease with age. Overall, though, children's ability to realize when they learned something new improved with age.

"From a very early age, kids are capable of reasoning about the world in these broad terms," Cimpian said. "This fact - that children thought they knew the information about categories all along - provides an interesting window into how their cognitive systems are eager to absorb general facts."

Asking children if they previously knew the information was a means of

determining how they learn, Cimpian said.

"We asked them these questions because we think this is the way to catch the mind at work - by revealing this illusion," he said. "Kids assume it is such important, widely shared information that it feels to them like they've known it all along."

Based on the new findings, Cimpian and Sutherland speculated that kids might be less likely to revise information about broad categories. This could prove problematic in certain situations, such as when children are exposed to stereotypes about groups of people.

"If they don't recognize that they've learned something new, they won't be able to go back and revise information that they find out later is wrong," Sutherland said.

The researchers said much of the previous work in [developmental psychology](#) suggests that [young children](#) are better able to reason about concrete things in the moment. The new study shows that children also are capable of learning about broad, abstract ideas, and that learning at this level might in fact be more efficient for them.

"The fact that kids' minds are especially attuned to this information is important," Cimpian said. "If you learn about dogs as a category, then that information also applies to this dog and the dog you see tomorrow and the dog you'll see in a month. Broad facts about the world provide kids with general [information](#) that helps them navigate their world."

**More information:** "Children Show Heightened Knew-It-All-Along Errors When Learning New Facts About Kinds: Evidence for the Power of Kind Representations in Children's Thinking," [internal.psychology.illinois.e ... herlandCimpianDP.pdf](#)

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