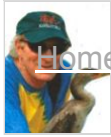


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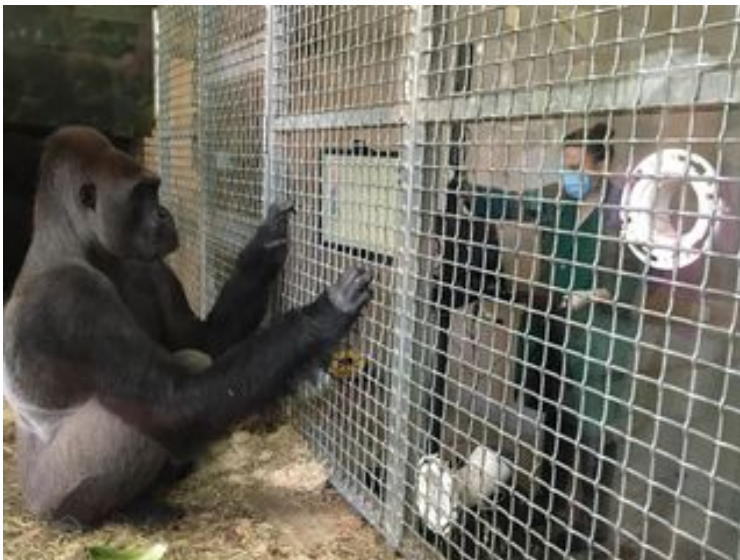
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Social Learning: Eyes Provide a Window Into Primate Minds

Captive gorillas and chimpanzees demonstrate social learning similar to humans.

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Posted Jan 25, 2017

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Source: Lincoln Park Zoo, used with permission

We are not alone in using social information to learn novel tasks

I'm always looking for novel results of clever experiments, and a recent study by Franklin & Marshall College's Dr. Lauren Howard and her colleagues titled "[Social Models Enhance Apes' Memory for Novel Events](#)

(<http://www.nature.com/articles/srep40926>)"

caught my eye. The abstract for this paper, available online, reads:

Nonhuman primates are more likely to learn from the actions of a social model than a non-social "ghost display", however the mechanism underlying this effect is still unknown. One possibility is that live models are more engaging, drawing increased attention to social stimuli. However, recent research with humans has suggested that live models fundamentally alter memory

developed a novel eye-tracking paradigm to disentangle the influences of social

attention and memory in apes. Tested in two conditions, zoo-housed apes (2

gorillas, 5 chimpanzees) were familiarized to videos of a human hand (social condition) and

mechanical (non-social condition) in constructing a three-block tower. The memory

test, subjects were familiarized to a novel block tower. In accordance with looking-time paradigms, increased looking time to the

novel block tower was used to measure event memory. Apes evidenced memory for the

event featuring a social model, though not for the non-social condition. This effect was not

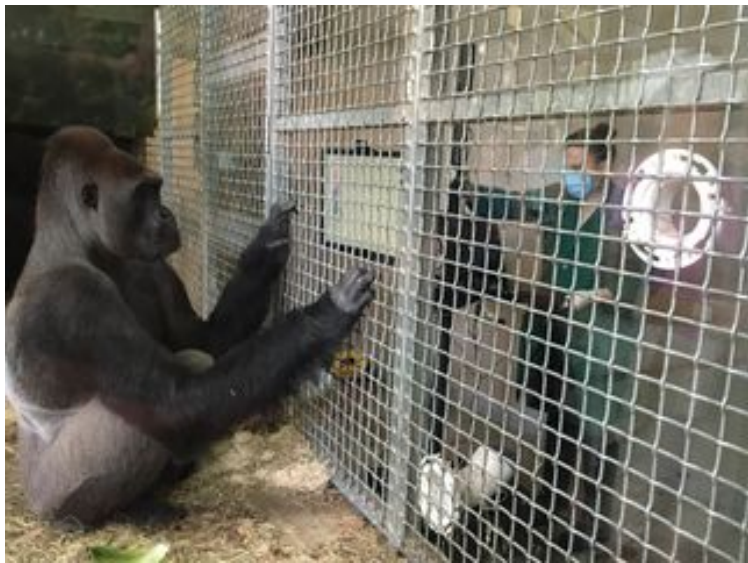
dependent on attention differences to the videos. These findings provide the first evidence

that, like humans, social stimuli increase nonhuman primates' event memory, which may aid

in information transmission via social learning

(<https://www.psychologytoday.com/basics/social-learning-theory>).

I found these results to be particularly interesting for a number of reasons, including that they show that humans are not exceptional in using social information to learn and remember a specific task, in this case constructing a three-block tower. I reached out to Dr. Howard with a few questions and she kindly responded as follows.



Source: Lincoln Park Zoo

Why did you do this study, in layperson's terms?

There is some evidence suggesting that humans are more likely to remember information they receive from another person. This could be why humans have such rich cultures and social networks—we are wired to easily pass social information from one individual to the next. The current study was particularly interested in finding out whether this memory effect was hallmark of humanity alone, or whether other social primates (who, some would argue, also have 'culture')

seem to preferentially remember social information as well.

What are your major findings?

We found that both chimpanzees and gorillas were more likely to remember information when they saw a social model acting (building a block tower) as opposed to an inanimate object completing the same

comparisons equally. Instead, their memory of the block tower was full if they saw a human completing the action.

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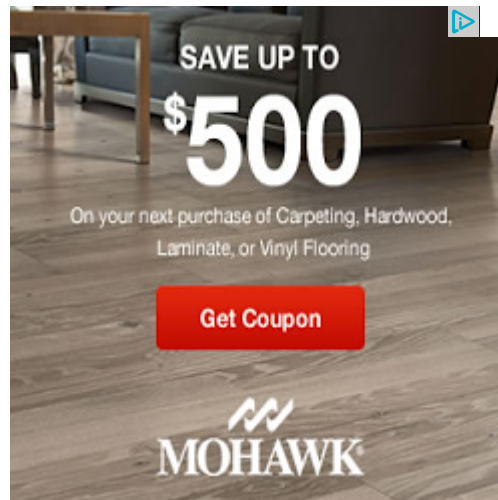
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This study not only provides information about the social abilities of nonhuman primates such as gorillas and chimpanzees, it also tells us something about our own humanity. It gives us a window into the basic cognitive (<https://www.psychologytoday.com/basics/cognition>) abilities necessary for creating our own complex social world.

What's next?

We are currently adapting these methods for use in both human infants and less socially adept primate species, populations which lack significant exposure to social interactions. These studies will help us explore the differences and similarities between our closest primate relatives and ourselves, while also examining the influence of experience on this social memory bias (<https://www.psychologytoday.com/basics/bias>).

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Furthermore, we are interested in examining just how potent social models are for subsequent memory—do they need to be acting on an object, or simply present in the scene? Does it matter if the social model is more or less similar to the learner? That they are acting intentionally? Answering these types of questions could be informative not just for scientists, but for parents (<https://www.psychologytoday.com/basics/parenting>), educators, and community members who are interested in exploring how to effectively increase learning outcomes.

They hope that the results of this very interesting study are used to counter arguments that humans are exceptional in using social models for transmitting information and that they also find a home in education at the level of war colleges as well.

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Award-winning scientist, [Donald Griffin \(https://www.google.com/#q=donald+griffin\)](https://www.google.com/#q=donald+griffin), often called "the father of [cognitive ethology \(https://www.google.com/#q=cognitive+ethology\)](https://www.google.com/#q=cognitive+ethology)" (the study of animal minds), repeatedly—[and with daunting prescience of things to come in the study of the cognitive, emotional, and moral lives of other animals \(https://www.psychologytoday.com/blog/animal-emotions\)](https://www.psychologytoday.com/blog/animal-emotions)—argued that when we watch nonhumans carefully, we can gain a window in what they think and feel "[just as human speech and nonverbal communication \(https://www.amazon.com/Animal-Minds-Beyond-Cognition-Consciousness/dp/0226308650\)](https://www.amazon.com/Animal-Minds-Beyond-Cognition-Consciousness/dp/0226308650)n tell us most of what we know about the thoughts and feelings of other people." I had many discussions with Dr. Griffin about his seminal work and forward-looking predictions, and I'm sure he would be very pleased with what we are learning about the minds of nonhuman animals.

Summing up the study under discussion here, as Dr. Howard puts it, "We all know that even tiny infants are hugely interested in the people around them, and a visit to your local zoo suggests the same for other primate species. However, the connection between social interest and social memory was previously unclear. Using this cutting-edge eye tracking technology, we can now use primate eyes to see into primate minds, demonstrating the particular role of social information on event memory."

Marc Bekoff's latest books are [Jasper's Story: Saving Moon Bears \(with Jill Robinson\), Ignoring Nature \(https://www.psychologytoday.com/basics/environment\)](https://www.psychologytoday.com/basics/environment) [No More: The Case for Compassionate Conservation, Why Dogs Hump and Bees Get Depressed: The Fascinating Science of Animal Intelligence \(https://www.psychologytoday.com/basics/intelligence\)](https://www.psychologytoday.com/basics/intelligence), [Emotions, Friendship \(https://www.psychologytoday.com/basics/friends\)](https://www.psychologytoday.com/basics/friends), and [Conservation, Rewilding Our Hearts: Building Pathways of Compassion and Coexistence](https://www.psychologytoday.com/basics/friends), and [The Jane Effect: Celebrating Jane Goodall \(edited with Dale Peterson\)](https://www.psychologytoday.com/basics/friends). [The Animals' Agenda: Freedom, Compassion, and Coexistence in the Human Age \(with Jessica Pierce\)](https://www.psychologytoday.com/basics/friends) will be published in April 2017 and [Canine Confidential: An Insider's Guide to the Best Lives For Dogs and Us](https://www.psychologytoday.com/basics/friends) will be published in early 2018.

The teaser image and the one above is of Kwan, a gorilla at Chicago's Lincoln Park Zoo, taken as he watched a video of the robotic claw performing the task.



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<http://www.psychologytoday.com/blog/animal-emotions/201701/social-learning-eyes-provide-window-primat-minds>

In Print: *Wild Justice: The Moral Lives of Animals*
 (<https://www.amazon.com/Wild-Justice-Moral-Lives-Animals/dp/0226041611%3FSubscriptionId%3DAKIAIRKJRZRZW3TANMSA%26tag%3Dpsychologytod-20%26linkCode%3Dxm2%26camp%3D2025%26creative%3D165953%26creativeASIN%3D0226041611>)

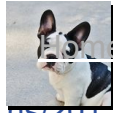
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