

Social animals have more social smarts

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In a series of stills taken from videotaped experiments, Duke undergraduates Joel Bray (left) and Aaron Sandel test a ringtailed lemur's (*Lemur catta*) willingness to take food from a watched or unwatched plate. Credit: Evan MacLean, Duke

Lemurs from species that hang out in big tribes are more likely to steal food behind your back instead of in front of your face.

This behavior suggests that primates who live in larger social groups tend to have more "social intelligence," a new study shows. The results appear June 27 in *PLOS ONE*.

A Duke University experiment tested whether living in larger social networks directly relates to higher social abilities in animals. Working with six different species of lemurs living at the Duke Lemur Center, a team of undergraduate researchers tested 60 individuals to see if they would be more likely to steal a piece of food if a human wasn't watching them.

In one test, a pair of human testers sat with two plates of food. One person faced the plate and the lemur entering the room, the other had his or her back turned. In a second, testers sat in profile, facing toward or away from the plate. In a third, they wore a black band either over their eyes or over their mouths and both faced the plates and lemurs.

As the lemurs jumped onto the table where the plates were and decided which bit of food to grab, the ones from large social groups, like the ringtailed lemur (*Lemur catta*), were evidently more sensitive to [social cues](#) that a person might be watching, said Evan MacLean, a research scientist in the Department Of Evolutionary Anthropology who led the research team. Lemurs from small-group species, like the mongoose lemur (*Eulemur mongoz*), were less sensitive to the humans' orientation.

Few of the lemurs apparently understood the significance of a blindfold.

The work is the first to test the relationship between group size and social intelligence across multiple species. The findings support the "[social intelligence](#) hypothesis," which suggests that living in large social networks drove the evolution of complex [social cognition](#) in primates, including humans, MacLean said.

Behavioral experiments are critical to test the idea because assumptions about intelligence based solely on brain size may not hold up, he said. Indeed, this study found that some [lemur](#) species had evolved more social smarts without increasing the size of their brains.

More information: "Group Size Predicts Social But Not Nonsocial Cognition in Lemurs," Evan MacLean, Aaron Sandel, Joel Bray, Ricki Oldenkamp, Rachna Reddy and Brian Hare. *PLOS ONE*, June 27, 2013. [dx.plos.org/10.1371/journal.pone.0066359](https://doi.org/10.1371/journal.pone.0066359)

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