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Chimpanzees Not as Selfish as We Thought

New research debunks a previous theory about how and why chimps share.

By Jennifer Viegas | Mon Aug 8, 2011 03:00 PM ET

Humans aren't the only altruistic primates. New research demonstrates chimpanzees also show unselfish concern for the welfare of others.

The study, published in the latest *Proceedings of the National Academy of Sciences,* negates prior findings that concluded chimpanzees are "indifferent to the welfare" of their fellow chimps.

Insects and many other creatures help each other out, but it's believed that primate altruism is empathy-based, with this trait being widespread among mammals.

"Since empathy is an old mammalian trait, there is no reason why the sort of altruism we describe should be unique for the primates," co-author Frans de Waal, director of the Living Links Center at the Yerkes Primate Center, told Discovery News.

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"I expect it will be found in dogs (and) rats," he added. "We, and others, found it previously in monkeys: capuchin monkeys, marmosets, tamarins."

For this latest study, de Waal and colleagues Victoria Horner, J. Devyn Carter and Malini Suchak presented 7 female chimps with a bucket containing 30 tokens. The scientists chose to look at all females to avoid potential sex-based conflicts.

For each experiment, the tokens came in two different colors. Choosing tokens of a certain color would result in a "selfish outcome," which was a food reward for just the participant. Choosing tokens of the other color resulted in food rewards for both the token selector and another nearby chimp in an adjacent compartment.

The food rewards consisted of banana slices wrapped in butcher paper that made a loud sound when unwrapped.

The chimp participants nearly always chose the tokens that would yield food rewards for both the selector and the nearby observing chimp. They would do this with or without solicitation from the chimp bystander, who could smell the bananas and hear the tantalizing paper unwrapping. At times the bystanders begged, whined and even spit water. Such behavior didn't help their cause much, contradicting prior suggestions that chimps only share when under social pressure.

The researchers believe earlier studies confused chimp participants, since the experiments involved rather complex apparatuses. These earlier studies, according to lead author Horner and her team, also promoted competition, caused the chimps to become preoccupied with visible reward options, and permitted little communication among the

chimps. In this study, “extensive communication” between the participants took place.

Christophe Boesch, director of the Department of Primatology at the Max Planck Institute for Evolutionary Anthropology, told Discovery News, "All studies with wild chimpanzees have amply documented that they share meat and other food abundantly, that they help one another in highly risky situations, like when facing predators or neighboring communities, and adopt needing orphans."

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Given this information, both he and de Waal expressed frustration over the earlier research that concluded chimpanzees were essentially selfish animals.

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Boesch said altruistic behavior happens in the wild in purely social situations and not through the detour of a complicated and very artificial apparatus.

"By increasing the social and ecological validity of their experiments, (Horner and her colleagues) have been able for the first time to duplicate what field researchers already knew was a natural ability of chimpanzees," Boesch said.

He concluded, "Such a confirmation is very timely and welcome, but the real question is why could previous experiments with so little ecological validity be published with such sweeping general claims?"

Scientists are also interested in identifying what makes humans unique from other primates and animals. Now altruism can be taken off the list, since it’s likely that all mammals, at least to some extent, can show empathy-based concern for others. Associated traits must have therefore emerged very early in mammalian evolution.