Humans like to work together in solving tasks, chimps don't

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Cooperation is child's play: children that are presented with a task that they can perform on their own or with a partner show a preference to cooperate. Credit: Image courtesy of the Max Planck Institute for Evolutionary Anthropology

Recent studies have shown that chimpanzees possess many of the cognitive prerequisites necessary for humanlike collaboration. Cognitive abilities, however, might not be all that differs between chimpanzees and humans when it comes to cooperation. Researchers from the MPI for Evolutionary Anthropology in Leipzig and the MPI for Psycholinguistics in Nijmegen have now discovered that when all else is equal, human children prefer to work together in solving a problem, rather than solve it on their own. Chimpanzees, on the other hand, show no such preference according to a study of 3-year-old German kindergarteners and semi-free ranging chimpanzees, in which the children and chimps could

choose between a collaborative and a non-collaboration problem-solving approach.

Human societies are built on collaboration. From a young age, children will recognize the need for help, actively recruit collaborators, make agreements on how to proceed, and recognize the roles of their peers to ensure success. Chimpanzees are cooperative too, working together in border patrols and group hunting, for instance. Still, humans might have greater motivation to cooperate than chimpanzees do." A preference for doing things together instead of alone differentiates humans from one of our closely related primate cousins," says Daniel Haun of the Max Planck Institute for Evolutionary Anthropology in Leipzig, Germany and the Max Planck Institute for Psycholinguistics in Nijmegen, The Netherlands. "We expected to find differences between human and chimpanzee cooperation, because humans cooperate in a larger variety of contexts and in more complex forms than chimpanzees."

The research team presented 3-year-old German children and chimpanzees living in a Congo Republic sanctuary with a task that they could perform on their own or with a partner. Specifically, they could either pull two ends of a rope themselves in order to get a food reward or they could pull one end while a companion pulled the other. The task was carefully controlled to ensure there were no obvious incentives for the children or chimpanzees to choose one strategy over the other. "In such a highly controlled situation, children showed a preference to cooperate; chimpanzees did not", Haun points out.

The children cooperated more than 78 percent of the time compared to about 58 percent for the chimpanzees. These statistics show that the children actively chose to work together, while chimps appeared to choose between their two options randomly. "Our findings suggest that behavioral differences between humans and other species might be rooted in apparently small motivational differences", says Haun.

Future work should compare cooperative motivation across primate species in an effort to reconstruct the evolutionary history of the trait, the researchers say. "Especially interesting would be other cooperative-breeding primates, or our other close relatives, the bonobos, who have both previously been argued to closely match some of the human pro-social motivations," says Yvonne Rekers of the Max Planck Institute for Evolutionary Anthropology and first author of the study.

More information: Yvonne Rekers, Daniel B.M. Haun and Michael Tomasello Children, but Not Chimpanzees, Prefer to Collaborate *Current Biology* (2011), doi:10.1016/j.cub.2011.08.066

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