

Fair Play in Chimpanzees

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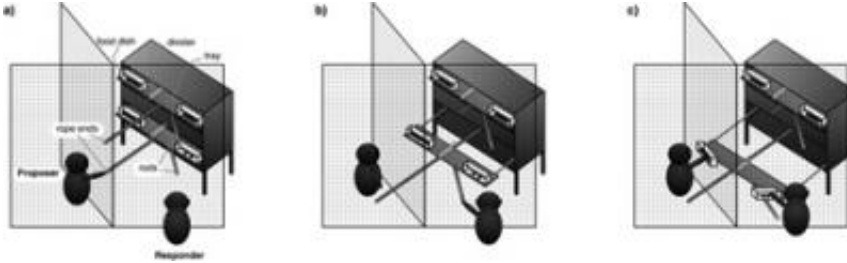


Illustration of the testing environment. The proposer, who makes the first choice, sits to the responder's left. The apparatus, which has two sliding trays connected by a single rope, is outside of the cages. (A) By first sliding a Plexiglas panel (not shown) to access one rope end and by then pulling it the proposer draws one of the baited trays halfway toward the two subjects. (B) The responder can then pull the attached rod, now within reach, to bring the proposed food tray to the cage mesh so that (C) both subjects can eat from their respective food dishes (clearly separated by a translucent divider). Credit: Jensen/Call/Tomasello

New research from the Max Planck Institute of Evolutionary Anthropology in Leipzig, Germany shows that unlike humans, chimpanzees conform to traditional economic models. The research, conducted by Keith Jensen, Josep Call and Michael Tomasello, used a modification of one of the most widely used and accepted economic tools, the ultimatum game.

In the ultimatum game - which was developed by another German, Werner Guth, now at the Max Planck Institute for Economics in Jena - one person, the proposer, is given money by an experimenter. That

proposer can then divide the "manna from heaven" with a second person, the responder.

The responder is not powerless - if he accepts the division, both people take home the offered amounts. But if he rejects it, both get nothing. The fear of having an unfair offer rejected causes the proposer to make a fair offer. People typically make offers of close to 50%. Anything less is likely to be rejected. Sensitivity to unfair offers and a willingness to pay a cost to punish someone contradicts economic models of pure self-interest, and they have been claimed to be unique to humans.

In a study reported in *Science* on October 5th, the researchers confronted our closest living relatives, chimpanzees, to a simplified version of the ultimatum game. The proposer would propose an offer of raisins to the responder by partially pulling out a tray of raisins as far as he could. If the responder accepted the division of raisins, he would pull the tray the rest of the way and the two would be able eat. However, if the responder did not like what he saw, he would not pull the tray and neither of them would get anything to eat.

In each version of this mini-ultimatum game, the proposer could pull one tray with 8 raisins for himself and 2 for the other (an unfair split that people routinely reject). However, the proposer would have a choice. In one game, he could choose between this unfair offer and a fair one (5 raisins each). In another, he could choose a hyper-fair option (2 for himself and 8 for the responder). In a third, he had no choice (the second tray also had 8 for himself and 2 for the other). In the fourth game, the proposer's other choice was hyper-unfair (10 for himself, 0 for the responder).

Unlike humans faced with these games, chimpanzee responders accepted any nonzero offer, whether it was unfair or not. The only offer that was reliably rejected was the 10/0 option (responder gets nothing). The

researchers conclude that chimpanzees do not show a willingness to make fair offers and reject unfair ones. In this way, they behave like selfish economists rather than as social reciprocators.

Citation: Keith Jensen, Josep Call, Michael Tomasello, Chimpanzees are rational, *Science*, October 5, 2007

Source: Max-Planck-Gesellschaft

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