The human race evolved to be fair for selfish reasons

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Be fair, lad. Warren Goldswain

"Make sure you play fairly," often say parents to their kids. In fact, children do not need encouragement to be fair, it is a unique feature of human social life, which emerges in childhood. When given the opportunity to share sweets equally, young children tend to behave

selfishly but, by about eight years of age, most prefer to distribute resources to avoid inequalities, at least among members of their own social group.

Biologists are surprised by this tendency to behave fairly. The theory of evolution by natural selection predicts that individuals should behave in ways to maximise their inclusive fitness. So behaviours are only selected, and hence evolve, if they ensure the survival and reproduction of the actor or kin who contain copies of the actor's genes. However, the behaviour displayed by children seems to be at a detriment to themselves, especially when those who benefit from their selfless behaviour are not the children's kin.

A child's sense of fairness, egalitarianism, or aversion to inequality can actually be hampered by instruction to "be fair" and rewarding of this behaviour. That is because what is the child's intrinsic motivation, becomes a need to follow externally imposed rules. And, as we all know, following rules we believe in is far easier than following rules that are imposed upon us, despite attendant punishments for not doing so.

Humans are pro-actively prosocial. We are often motivated to help others without those others signalling their need, such as begging, or displaying signs of need, such as crying.

As cultural practices are not responsible for children developing their initial pro-social tendencies, it is thought that a sense of fairness must have been under strong positive selection during human evolution.

In a new review published in the journal *Science*, Sarah Brosnan of Georgia State University and Frans de Waal of Emory University explore this topic by trying to explain how our response to fairness, and unfairness, evolved. Their review is based on a large number of studies with non-human animals regarding their responses to receiving more or

less (inequity), rather than the same (equity), reward as others for undertaking the same task.

Species of primates, dogs, birds and fish have been studied. The overall results indicate that responses to disadvantageous inequity, say, protesting when another receives more banana pieces than you for pulling the same rope, are strongest in species that co-operate with others outside of mating and kinship bonds. This includes capuchin monkeys, chimpanzees and the ancestors of dogs. In other words, animals, including humans, that cooperate with non-kin have evolved sensitivity to detrimental unfairness so that they can avoid being taken advantage of.

However, what is less common in the animal kingdom, is sensitivity to advantageous inequity, or protest when you receive more reward than another for the same task. Such inequity aversion, at a cost to oneself, has only been recorded in humans and chimpanzees.

Brosnan and de Waal propose that the motivation to seek equal rewards, despite disadvantaging oneself, is to prevent dissatisfaction of the co-operative partner and avoid any negative outcomes that may follow. The main negative outcomes are the likelihood of conflict and loss of future advantageous co-operation with the partner.

Also, one's reputation is tainted, reducing the chances of forming future beneficial partnerships. When we humans "play fair" we are doing so, according to Brosnan and de Waal, not due to a motivation for "equality for its own sake but for the sake of continued cooperation".

Humans have enlarged brains, which enhance our ability to understand the benefits of self-control in dividing resources. We also have language, which allows for enhanced reputation building. Because responsiveness to advantageous inequity is only seen in humans and chimpanzees,

Brosnan and de Waal hypothesise that its evolution, since the split from other primates, was the starting point for the eventual development of the advanced sense of fairness displayed by humans.

The many heroic and selfless actions of individual humans, for example rescuing strangers in mortal danger and money or blood donation, are inspiring and admirable. Yet, however distasteful to contemplate, it is likely that these individuals gain in terms of their reputation and future cooperation from others, known as indirect reciprocity. If extreme prosociality is a "costly signal" indicating ones worth to future mates, it makes sense that highly visible individuals, such as celebrities, may feel the most pressure to act charitably.

More information: phys.org/news/2014-09-human-fa … favor-long-term.html

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