

## ANIMAL BEHAVIOUR

## Chimpanzee choice and prosociality

Arising from: J. B. Silk *et al.* *Nature* 437, 1357–1359 (2005)

Silk *et al.* report that adult chimpanzees show no difference in their choices in a situation where one choice benefits a familiar conspecific and the other does not<sup>1</sup>. From this, they conclude that chimpanzees are indifferent to the welfare of unrelated group members. But without additional data confirming that chimpanzees do choose differently in circumstances in which a difference would be expected, the authors cannot conclude that there is no difference in their scenario. How chimpanzees react to the welfare of unrelated group members remains an open question.

Silk *et al.* evaluate choice behaviour in adult chimpanzees given two options: one in which the actor is provided with food (1/0 option) and another in which both the actor and an unrelated adult chimpanzee in an adjoining enclosure are provided with food (1/1 option). They found no significant differences between the options: actors chose the 1/1 option 56% of the time (in the Louisiana group) or 48% (in the Texas group) when there was no chim-

panzee in the adjoining enclosure and 58% (Louisiana) or 48% (Texas) of the time when there was another chimpanzee in the adjoining enclosure.

In a control experiment in which food was available for only one option, actors chose that option 92% of the time when they were alone and 94% of the time when another chimpanzee was in the adjoining room. This showed that actors were responding to the presence of food in the dish that became available to them.

However, we contest that the authors' conclusion that chimpanzees are indifferent to the welfare of unrelated group members is flawed, because it depends on the null hypothesis. A failure to observe different behaviours in the two different conditions does not prove that those two conditions will always yield the same result. More evidence is needed that chimpanzees choose to benefit a conspecific in conditions in which they would be expected to show such a preference. For example, would

chimpanzees choose the 1/1 option more frequently when a genetically related chimpanzee is in the adjoining chamber? Without supporting information of this type, the authors' premise — that, if chimpanzees are concerned for another's welfare, they should choose the 1/1 option more often when another chimpanzee is present than when they are alone — is unsubstantiated.

Silk *et al.* address a question with implications for the evolution of altruistic behaviour in humans and other primates. This makes it all the more important that their conclusions should be backed up by strong evidence.

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1. Silk, J. B. *et al.* *Nature* 437, 1357–1359 (2005).

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Silk *et al.* reply

Replying to: R. J. Beninger & V. L. Quinsey *Nature* 440, doi:10.1038/nature04758 (2006)

Beninger and Quinsey<sup>1</sup> argue that we provide no evidence that chimpanzees show other-regarding preferences in the two-option test situation under conditions in which they would be expected to show such a preference. This criticism is misdirected, because our aim was not to determine whether chimpanzees would demonstrate prosocial preference under any circumstances. Instead, it was to determine whether chimpanzees show prosocial preferences in situations similar to those in which these occur routinely in humans.

Our results<sup>2</sup>, which have been replicated in an independent study of a different group of chimpanzees<sup>3</sup>, show that they behave very differently from the way we would expect humans to behave. In a study very similar to ours, 3–5-year-old children were asked whether they would prefer to have one sticker for themselves and one sticker for a young

female experimenter, or just one sticker for themselves<sup>4</sup>. Most of the children chose the prosocial option, and some were even willing to give up stickers to the experimenter.

Moreover, we question Beninger and Quinsey's assumption that chimpanzees would behave differently towards kin and non-kin in our experimental protocol. Although female chimpanzees sometimes share plant foods with their infants<sup>5</sup>, analysis of these food transfers indicates that the infants take the initiative in these events, not the mothers. Mothers offer their infants only the unpalatable parts of their own food, and generally seem reluctant to pass them nutritious foods<sup>6</sup>. The role of kinship in cooperation among adults is also uncertain, as cooperation among males often involves reciprocal exchanges between unrelated partners<sup>7</sup>.  
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