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## The desire to share could be genetic

September 1, 2008 - 3:41PM

Humans are selfish in earliest childhood but by the age of seven or eight are keen to share, after a developmental change so sudden it can only be explained by genes, a new study has found.

Behavioural scientists and sociologists have quarrelled for decades as to whether generosity and selfishness are inherited or result from social conditioning.

But new experiments with 229 Swiss children between the ages of three and eight suggest that homo sapiens are probably somewhere in between: humans look out for number one, but also express, if not outright generosity, at least an aversion to inequality.

The study, published in the British journal *Nature*, could help explain how humans developed the ability to cooperate in large groups of individuals who are unrelated, the researchers say.

In the study the children were asked to take part in three different games. In each game, the child was confronted with two options as to how to distribute portions of jelly beans and other small sweets.

He or she was faced with another kid, shown only in a photo to avoid complications arising from face-to-face encounters.

One of the options was the same in all three games: divide the sweets equally.

In the first game, the child had the alternate option of keeping a single portion of sweets for himself and giving nothing for the other child.

In the second, more sweets were added, and the child had the option of giving the other child two portions and keeping one.

And in the third game, the child had the choice of taking two portions and leaving the other child empty-handed.

Lead researcher Ernst Fehr of the University of Zurich said the three- and four-year-olds were consistently motivated by self-interest, with almost no regard for the well-being of the other. The next age bracket was almost as selfish.

"But if we look at the seven-to-eight year olds, a different picture emerges," Fehr told *AFP*.

In the first game, nearly 80 per cent of the older kids made sure the other child got the same amount of sweets rather than none at all.

And in the last game, more than 40 per cent of them refused to let the other go away with nothing even when they had the opportunity of gaining a double portion by doing so.

By comparison, less than nine per cent of three- and four-year-olds were willing to do the same.

But generosity had its limits. In the second game, the older children were reluctant to let their counterpart have twice as many as themselves.

"If I can't have more," their actions seemed to say, "I don't see why he or she should."

Fehr said the results suggest that nature and nurture jointly shaped behavioural responses, although the study was not

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"I think that both genes and culture play a role," Fehr said. The results, he added, suggest that "social norms of equality can come into being even without extended forms of cultural transmission."

"Nobody would dispute that the sexual maturation of children is driven by biology and genes, so why should other phenotypes - like those associated with fairness behaviour - not also be driven by biology and genes?", he asked rhetorically.

At least one result was unexpected, he said.

"Children with no siblings were more, rather than less, generous."

**AFP**

*This story was found at: <http://www.smh.com.au/articles/2008/09/01/1220121115417.html>*