

Humans learned fairness at farmer's markets, study suggests

By John Bowman, [CBC News](#) Posted: Mar 19, 2010 5:18 PM ET Last Updated: Mar 19, 2010 5:45 PM ET

Humans have learned the rules of fair transactions with strangers in part by participating in food markets and world religion, a study suggests.

An international research team led by Joe Henrich at the University of British Columbia conducted a series of behavioural experiments involving economic games in 15 societies across the world.

They found that even sharing of money with a stranger in a psychological experiment was more common in societies where people got most of their food from markets, rather than growing it themselves, and in societies that embrace world religions.

In all there were 2,100 participants in the experiments, from communities ranging in size from 20 to 10,000 people, including hunter-gatherers, farmers and people who work for a wage.

"We tried to sample societies that had a large amount of variation in their degree of market integration," Henrick said.

In this case, "market integration" refers how much of a person's food is bought at food markets rather than grown, gathered or killed himself. Hunter-gatherers and subsistence farmers are at one end of the spectrum and wage earners who buy all their food at a store are at the other.

"That's the big intellectual question in the background: How do we get from the small-scale societies of 12,000 years ago and before to the complex, very large integrated societies that we have today," Henrick said.

Money-trading games

The participants took part in three money-trading games that economists use to test how people deal with anonymous interactions. These interactions are considered a model for the impersonal exchanges that people in modern societies make everyday.

The Dictator Game is the simplest one they used: Player A is given a sum of money (in all cases, the participants were given a day's wage) and is invited to share the money with an anonymous Player B.

In the Ultimatum Game, Player A is given a sum and makes an offer to share some of it with Player B. If Player B accepts the offer, they both keep the money. If Player B rejects the offer, neither player gets any money.

The Third-Party Punishment Game is like the Dictator Game, but a third player is involved. Player 3 is given half of the money Player 1 receives. If Player 3 doesn't like how Player 1 shared his money with Player 2, he can give a portion of his money to remove some of Player 1's earnings.

"Economists have studied these games and they point to the self-interested benchmarks," Henrick said.

These benchmarks describe how Player 1 can "win" the game if all he's interested in is the money. In the Dictator Game, Player 1 keeps all the money. In the Ultimatum Game, Player 1 shares the minimum amount of money allowed, assuming Player 2 will accept some money rather than none.

In the Third-Party Punishment Game, Player 1 keeps all the money assuming that Player 3 isn't willing to give up any of his money to punish him.

Hunter-gatherers less likely to share

In wage-earning societies, though, people don't behave in a strictly self-interested way, the researchers found.

"What you'll find when you do it with people in rural Missouri, for example, most people split the money, even in the Dictator Game," Henrick said. "When you go to places aren't dependent on these impersonal exchanges and engagement in the market, you get something quite different."

Study participants in small-scale societies, where they are more likely to hunt or gather more of their own food, were less likely to share with an anonymous stranger.

That isn't to say that they are greedy, but for them, there's simply no reason to share resources with someone they've never met before.

"People in these small-scale societies have lots of norms and they're really good at sharing food. What they don't have ... is a priority on impersonal interactions," Henrick said.

The researchers also found that sharing with anonymous participants in their experiments was also more common in societies that embrace world religions, which, like food markets, sometimes depend on interactions with strangers.

The study, which was 15 years in the making and published this week in *Science*, is meant to investigate how large, complex societies work and how they emerged from smaller groups.

"What we're really testing here are two different approaches to understanding the evolution of these large, complex societies," Henrick said.

"One approach suggests that we have all this evolved psychology for living in small-scale societies ... and that psychology readily extends to large-scale societies," he said.

Repeated interactions

That psychology includes interacting with one's relatives and having repeated interactions with people you know. In both of those cases, evolution can explain why people act fairly. Relatives share some of our genes, and gaining a reputation for being fair in interactions with non-relatives means they could reciprocate in the future.

The theory goes that this same psychology that evolved in small societies extends to large ones, even when the evolutionary advantage isn't there. In big cities, repeat interactions are less common, so there's less opportunity to gain a reputation.

"Natural selection would never favour it in these large contexts, but it might work anyway," Henrick said. "If that's true, then hunter-gatherers and people in the smaller-scale societies should behave like people in large-scale societies" in the anonymous interactions modeled in the economic games.

Their study showed the opposite, Henrick said.

"In our view, it's actually pretty tough to get people to co-operate in large-scale societies, and it took a lot of cultural evolution over millennia, probably, to get the right set of norms and institutions to internalize the notions of fairness and mutually beneficial exchange," Henrick said.

Both markets and world religions carry with them a set of norms for dealing with strangers. As well, religion can act as a sort of psychological punishment for dealing with people unfairly, the researchers found.