

## Humans are 'hard-wired' to do unto others: study

### Brain activity shows altruism is biological

**Mary Vallis**

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Psychiatrists have discovered a biological basis for altruistic behaviour that suggests we benefit from performing seemingly selfless acts.

Scientists have been struggling to understand why humans trust each other and co-operate more than virtually any other species. New research by a U.S. team shows altruistic acts activate specific areas of the brain linked to "reward processing." In other words, human brains are hard-wired to co-operate with others.

The finding provides insight into what makes us uniquely human.

"Our study shows, for the first time, that social co-operation is intrinsically rewarding to the human brain, even in the face of pressures to the contrary," said Dr. Gregory Berns, an associate professor of psychiatry at Emory University in Atlanta and co-author of the research.

"I can't say whether this is a result of something that's evolved or something that happens through experience, but the end result is that it's there biologically -- you can see clear evidence for it in the brain."

The researchers tracked the brain activity of 36 women playing the Prisoner's Dilemma, a two-person strategy game based on reciprocal altruism using a new technique called functional magnetic resonance imaging, or fMRI.

The researchers expected emotional regions of the subjects' brains to be stimulated when their playing partners betrayed them, but it was when the players co-operated that they observed a striking pattern of neural activity in specific parts of the brain used for reward processing, or pleasurable experiences.

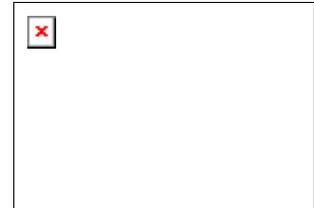
The same part of the brain is stimulated when a person eats a chocolate bar, for example.

The changes in the brain may help individuals ignore the temptation to selfishly accept the fruits of altruistic acts performed by others without reciprocating, Dr. Berns added.

The finding could explain why many people consistently hold elevator doors for others and give up their right of way at four-way stops. It could also fundamentally change people's understanding of human co-operation, Dr. Berns said.

"One argument for a long time has been that there really is no altruism; people only do things because in the past it helped their survival, or maybe they do it because it will help their offspring. That's a Darwinian explanation of altruism," he explained.

"But that doesn't really explain a lot of things that we do for people we're clearly not related to and will have no impact on our lives."



**The Edmonton Journal  
New study may explain  
why people do a lot of  
things for strangers  
who have no no impact  
on their lives.**

Understanding people's brain functions gives scientists a new tool for understanding how and why people interact in the ways they do. A relatively new technique for recording brain activity, functional magnetic resonance imaging has reinvigorated the study of human behaviour providing a window on a person's innermost thoughts.

Until recently, scientists were limited to observing people's interactions and interpreting comments about their thought processes, but fMRI allows researchers to get inside people's heads and observe parts of their brains they cannot consciously access, Dr. Berns said.

The machine tracks neural activity by monitoring blood flow in the brain. Neurons consume oxygen when they fire, so hemoglobin-rich blood flows to regions that are stimulated. The machine tracks the hemoglobin's movement and provides scientists with a peculiar map of brain activity.

The findings on altruism appear today in the journal Neuron.

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