Emotional part of brain can make bad money choices

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By Linda Carroll

NEW YORK (Reuters Health) - Using results from brain scans, researchers have found that people will act against their own financial self-interest if the emotional part of the brain overcomes the rational part.

Annoyed at unfair offers in a game called the "Ultimatum Game," people will forgo financial gain just to spite other players. And an emotion-linked part of the brain appears to be quite active when they make these bad money decisions, according to findings published Thursday in the journal Science.

The "Ultimatum Game" is played by two people, the study's lead author, Alan G. Sanfey of Princeton University in New Jersey, explained in an interview with Reuters Health.

"It's a surprisingly simple game," Sanfey said. "The people come in and are told that they will play one round with another person. So they get a one-shot interaction."

The goal of that interaction, is to divide up a sum of money -- in this case $10, Sanfey said. One player proposes how to divide the money up. The other has to make the decision to accept the offer or reject it.

"The quirk of the game is that it's never in your self-interest to reject an offer," Sanfey said. That's because nobody gets anything if the offer is rejected, he explained.

Still, other studies have shown that when the offer is not even -- or fair -- people will reject it and forgo the money altogether.

"About half the time they reject the offer. Whether it's wounded pride or the wish to punish the other player for trying to take advantage of the situation, we don't know," Sanfey said.

To discover how the brain was coming to the decision to reject, the researchers used MRI scans to see what parts of the brain players were using when making decisions.

All the players met each other at the beginning of the session and were told the rules.

The researchers tweaked the rules of the game somewhat, Sanfey said. Normally, the proposers get to decide for themselves how they want to split up the money. In this experiment, they were told by the researchers how much to offer.

Just as in other studies, a large percentage of people rejected "unfair" offers.

When the researchers looked at what areas of the brain were working hardest during these decisions, they found that a region called the anterior insula took over in cases where the offer was rejected, while a region called the dorsolateral prefrontal cortex was more active when such offers were accepted.

"The anterior insula has been associated with negative emotional feelings," Sanfey explained. "So it shows up for anger and disgust. The dorsolateral prefrontal cortex is part of the frontal lobes and is associated with cold, cognitive, rational thought."

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