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## Low levels of key brain chemical sparks anger

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By Michael Kahn

LONDON (Reuters) - Serotonin, the brain chemical linked to mood, plays a key role in regulating emotions such as aggression, British researchers said on Thursday.

Serotonin, the nerve-signaling chemical targeted by many antidepressants, appears to keep aggressive social responses in check, Molly Crockett, a psychologist at the University of Cambridge and colleagues reported in the journal *Science*.

The chemical's precise role in impulse control has been controversial but this study is one of the first to actually show a causal link, Crockett said.

"Because we directly manipulated serotonin levels and observed an effect on behavior we can say there is a causal link between serotonin and aggressive responses," Crockett said in a telephone interview.

Their research also helps explain why some people become combative or aggressive when hungry because the essential amino acid needed for the body to create serotonin is only obtained through diet.

The team used this knowledge to manipulate serotonin levels in 20 healthy volunteers who were then asked to play a situation game that tested their responses to fair and unfair offers of money.

People with lower serotonin levels were far more likely to deprive other players of money, even though they lost out as well, as a way to punish the person who made the offer, the researchers said.

"It is an anger-driven response," Crockett said.

This knowledge could help doctors treat people with depression and anxiety disorders by teaching them ways to regulate emotions during decision making, especially in social situations, she added.

(Reporting by Michael Kahn; Editing by Raissa Kasolowsky)

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