

Judging couples' chemistry influenced by serotonin

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(PhysOrg.com) -- The judgements we make about the intimacy of other couples' relationships are influenced by the brain chemical serotonin, an Oxford University study has found.

Healthy adult volunteers, whose levels of [serotonin](#) activity had been lowered, rated couples in photos as being less 'intimate' and less 'romantic' than those with normal serotonin activity.

The results raise the possibility that lower serotonin activity in people with depression and other psychiatric conditions could contribute to changes in the way they perceive personal relationships.

The Medical Research Council-funded study is published in the journal *Biological Psychiatry*.

"Serotonin is important in social behavior, and also plays a significant role in psychological disorders such as depression," explains Professor Robert Rogers of the Department of Psychiatry at Oxford University, who led the research. "We wanted to see whether serotonin activity influences the judgements we make about peoples' close personal relationships."

Problems with social relationships, and a feeling of social isolation, are a feature of depression in some people. It is possible that alterations in brain systems – such as serotonin – contribute to these difficulties by changing the way people think about relationships with partners.

Such understanding is important as supportive close relationships are known to protect against the development of mental illnesses and to promote recovery in those affected by psychiatric conditions. The opposite is also true: dysfunctional relationships can be triggers for those at risk of these conditions.

The team from Oxford University, along with colleagues from the University of Liverpool and King's College London, manipulated the serotonin activity in healthy adult volunteers, and then asked them to make judgements about sets of photographs of couples.

The approach involved giving amino acid drinks to two groups of volunteers. One group received drinks that contained tryptophan, the amino acid from which serotonin is made in the brain. The other group

received drinks that did not contain tryptophan. Differences in the [judgements](#) made by the two groups reflected changes in serotonin activity.

The 22 volunteers who received the drink without tryptophan consistently rated the [couples](#) in the photos as being less 'intimate' and 'romantic' than the 19 participants who received the control drink.

"Although this is only a small study, the same patterns may well extend to the way we perceive our own relationships," says Professor Rogers. "Serotonin activity may affect people's ability in depression to maintain positive or intimate personal relationships."

Provided by Oxford University

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