

Hormones converge for couples in love

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Men are from Mars and women from Venus - except when they are in love. During this intense period, men and women become more like each other than at any other time.

We already know that falling in love is a bit like going crazy. Donatella Marazziti of the University of Pisa in Italy showed in 1999 that levels of the neurotransmitter serotonin, which has a calming effect, dip below normal in those who say they are in love as well as in people with obsessive compulsive disorder. Both groups spend inordinate amounts of time obsessing about something or someone (*New Scientist* print edition, 31 July 1999).

Now Marazziti has looked at the hormonal changes that occur in people who are in love. Her team measured the blood levels of several key hormones in 12 men and 12 women who said they had fallen in love within the past six months. The researchers compared these hormone levels to those in 24 other volunteers who were either single or in stable long-term relationships.

The first finding was that both men and women in love have considerably higher levels of the stress hormone cortisol, indicating that courtship can be somewhat stressful. "But the most intriguing finding is related to testosterone," says Marazziti.

Split the difference

Men who were in love had lower levels of the male sex hormone testosterone - linked to aggression and sex drive - than the other men. Love-struck women, in contrast, had higher levels of testosterone than their counterparts, the team will report in *Psychoneuroendocrinology*.

"Men, in some way, had become more like women, and women had become like men," says Marazziti. "It's as if nature wants to eliminate what can be different in men and women, because it's more important to survive [and mate] at this stage."

But is falling in love really responsible for these changes? Andreas Bartels of University College London points out that the hormonal changes could just be a result of increased sexual activity. "There's a high degree of affection, but there's also, without any doubt, extremely high sexual activity," he says.

Marazziti thinks that this explanation is unlikely, however, because in her study those in the control group were having sex just as often as those in the "in love" group.

Love is blind

What is more, other studies suggest that testosterone levels in men rise as sexual activity increases (*New Scientist*, 27 November 1999). So if the hormonal changes were just the result of sex, testosterone levels would be expected to increase in men, rather than fall.

Converging levels of testosterone may not be the only thing that helps a man and woman overcome their differences. Other research has shown that falling in love really does make us blind to our partner's faults.

Bartels's team has found that when people look at their lovers, the neural circuits that are normally associated with critical social assessment of other people are suppressed (*Neuroimage*, vol 21, p 1155).

But the blissful state that is romantic love does not last. When Marazziti retested the same people one or two years later, when they said they were no longer madly in love, their hormone levels had returned to normal.