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## Oxytocin Keeps Flirting Folks at Arm's Length

11/19/12 (2012-11-19)

Source: **Universität Bonn**

**Flirting brings women and men closer. But the "social distance" ensures that they will keep a certain spatial distance from each other. Researchers under the leadership of the University of Bonn studied whether this distance can be diminished by the so-called love hormone, oxytocin. The exact opposite turned out to be true – men who were in a committed relationship even maintained a greater distance from an attractive woman when under the influence of oxytocin than their control group. The study has just been published in the renowned "Journal of Neuroscience."**

When people approach each other, unconscious rules are at work. They will walk towards each other and will then talk while remaining at a very distinct distance, called "social distance" by scholars. "When they are approached beyond a certain distance, participants in a conversation feel uncomfortable," said René Hurlemann, head of the research group that conducted the study at the Department of Psychiatry of the University of Bonn. A very sensitive case of social distance is the one between a woman and a man when flirting. "The magic of the initial encounter often decides what it will turn into," says Dr. Hurlemann.

**Major releases of oxytocin during sex and at childbirth** Together with colleagues from the Universities of Bochum and Chengdu, his team studied the effect oxytocin, a neuro-peptide, has on the social distance between women and men. "This neurotransmitter is often called the 'love hormone,'" reports Professor Wolfgang Maier, Director of the Department of Psychiatry of the University of Bonn, who also performs research for the German research center of neurodegenerative diseases (DZNE). It has long been known that the release of oxytocin in the brain is particularly strong during sex, or in parents, after the birth of their child. "This hormone contributes to strong social attachment," adds Prof. Maier.

**Researchers applied the hormone as a nasal spray** The researchers gave a total of 57 adult male subjects either oxytocin or a placebo in the form of a nasal spray. The experiment was conducted using an attractive female researcher as the experimenter. The subjects approached her and remained standing in front of her at a distance of about 60 centimeters. "We wanted to find out whether the social distance can be influenced by means of the hormone," report researchers Dirk Scheele and Dr. Nadine Striepens. They hypothesized that oxytocin would result in a diminished social distance in the subjects because this substance is reputed to promote social relationships. To their surprise, the exact opposite happened – the male test subjects who had received oxytocin as a nasal spray and were in a relationship with a woman kept a greater distance from the attractive female researcher than subjects who were single or came from the control group who did not receive the hormone.

**Oxytocin acts as a kind of "fidelity hormone"** "Here, oxytocin acted as a kind of 'fidelity hormone,'" Dr. Hurlemann sums up the results. Men with female partners increased the distance. Single men and control subjects who had not received oxytocin, however, were more exposed to the sexual attractiveness of the experimenter. An additional experiment yielded quite similar results. The researchers showed the subjects photos of attractive women. The test

subjects had an option to zoom in on the images – i.e., to approach them more closely. When administered oxytocin, men in a relationship did this more slowly than single men.

**The hormone increases the chances of survival** "This provided us with important insights into what makes men tick," Dr. Hurlmann sums it up. Oxytocin had a key role in Nature's mechanism for ensuring that both parents fully focus on their vulnerable offspring. "The fidelity hormone kept men from immediately turning to another woman, after impregnating the partner, which increased the chances of survival for human offspring in pre-civilization times."

**Publication:** Oxytocin Modulates Social Distance between Males and Females, The Journal of Neuroscience, DOI:10.1523/JNEUROSCI.2755-12.2012

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