

# Why dishing does you good: study

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(PhysOrg.com) -- Why does dishing with a girlfriend do wonders for a woman's mood?

A University of Michigan study has identified a likely reason: feeling emotionally close to a friend increases levels of the hormone [progesterone](#), helping to boost well-being and reduce anxiety and stress.

"This study establishes progesterone as a likely part of the neuroendocrine basis of social bonding in humans," said U-M researcher Stephanie Brown, lead author of an article reporting the study findings,

published in the current (June 2009) issue of the peer-reviewed journal *Hormones and Behavior*.

A sex hormone that fluctuates with the menstrual cycle, progesterone is also present in low levels in post-menopausal women and in men. Earlier research has shown that higher levels of progesterone increase the desire to bond with others, but the current study is the first to show that bonding with others increases levels of progesterone. The study also links these increases to a greater willingness to help other people, even at our own expense.

"It's important to find the links between biological mechanisms and human social behavior," said Brown, is a faculty associate at the U-M Institute for Social Research (ISR) and an assistant professor of internal medicine at the U-M Medical School. She is also affiliated with the Ann Arbor Veterans Affairs Hospital. "These links may help us understand why people in close relationships are happier, healthier, and live longer than those who are socially isolated."

Progesterone is much easier to measure than oxytocin, a hormone linked to trust, pair-bonding and maternal responsiveness in humans and other mammals. Oxytocin can only be measured through an invasive spinal tap or through expensive and complex brain imaging methods, such as positron emission tomography scans. Progesterone can be measured through simple saliva samples and may be related to [oxytocin](#).

In the current study, Brown and colleagues examined the link between interpersonal closeness and salivary progesterone in 160 female college students.

At the start of the study, the researchers measured the levels of progesterone and of the stress hormone cortisol in the women's saliva, and obtained information about their menstrual cycles and whether they

were using hormonal contraceptives or other hormonally active medications.

To control for daily variations in hormone levels, all the sessions were held between noon and 7 p.m.

The women were randomly assigned to partners and asked to perform either a task designed to elicit feelings of emotional closeness or a task that was emotionally neutral.

In the emotionally neutral task, the women proofread a botany manuscript together.

After completing the 20-minute tasks, the women played a computerized cooperative card game with their partners, and then had their progesterone and cortisol sampled again.

The progesterone levels of women who had engaged in the emotionally neutral tasks tended to decline, while the progesterone levels of women who engaged in the task designed to elicit closeness either remained the same or increased. The participants' cortisol levels did not change in a similar way.

Participants returned a week later, and played the computerized card game with their original partners again. Then researchers measured their progesterone and cortisol. Researchers also examined links between progesterone levels and how likely participants said they would be to risk their life for their partner.

"During the first phase of the study, we found no evidence of a [relationship](#) between progesterone and willingness to sacrifice," Brown said. "But a week later, increased progesterone predicted an increased willingness to say you would risk your life to help your partner."

According to Brown, the findings are consistent with a new evolutionary theory of altruism which argues that the hormonal basis of social bonds enables people to suppress self-interest when necessary in order to promote the well-being of another person, as when taking care of children or helping ailing family members or friends.

The results also help explain why social contact has well-documented health benefits—a relationship first identified nearly 20 years ago by U-M sociologist James House.

"Many of the hormones involved in bonding and helping behavior lead to reductions in stress and anxiety in both humans and other animals. Now we see that higher levels of progesterone may be part of the underlying physiological basis for these effects," Brown said.

Provided by University of Michigan ([news](#) : [web](#))

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