

Marriage and committed romance reduce stress-related hormone production

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Being married has often been associated with improving people's health, but a new study suggests that having that long-term bond also alters hormones in a way that reduces stress.

Unmarried people in a committed, [romantic relationship](#) show the same reduced responses to stress as do married people, said Dario Maestriperi, Professor in Comparative Human Development at the University of Chicago and lead author of the study, published in the current issue of the journal *Stress*.

"These results suggest that single and unpaired individuals are more responsive to psychological stress than married individuals, a finding consistent with a growing body of evidence showing that marriage and social support can buffer against stress," Maestriperi writes in the article, "Between- and Within-sex Variations in Hormonal Responses to Psychological Stress in a Large Sample of College Students."

The team of researchers from the University of Chicago and Northwestern University studied 500 masters' degree students at the University of Chicago Booth School of Business. About 40 percent of the men and 53 percent of the women were married or in relationships. The group included 348 men with a mean age of 29 and 153 women with a mean age of 27.

The students were asked to play a series of computer games that tested economic behaviors, and saliva samples were taken before and after to

measure hormone levels and changes.

Each student was told that the test was a course requirement, and it would impact their future career placement. That made the test a potentially stressful experience that could affect levels of cortisol, known as the stress hormone.

The researchers found cortisol concentrations increased in all participants, but that females experienced a higher average increase than males. The exercise also decreased testosterone in male subjects, but not in females, a stress effect previously observed in humans and animals.

But a piece of personal information collected before the test provided another interesting difference within the subjects. "We found that unpaired individuals of both sexes had higher cortisol levels than married individuals," Maestriperi said.

"Although marriage can be pretty stressful, it should make it easier for people to handle other stressors in their lives," Maestriperi said. "What we found is that [marriage](#) has a dampening effect on cortisol responses to psychological [stress](#), and that is very new."

The study also found that single business school students also displayed higher baseline testosterone levels than their married or committed colleagues, a finding that mirrors previous human research as well as animal observations.

Maestriperi, who conducts the majority of his research on monkeys in Puerto Rico, said that in species of primates and birds where males assist females with rearing offspring show similar changes. In species that show monogamous pairing and shared rearing of offspring, testosterone levels in males drop as they engage in more fatherly behavior.

Provided by University of Chicago

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