

Women less trusting when taking testosterone

May 25 2010, by Lin Edwards

(PhysOrg.com) -- New research suggests women become less trusting, less open, more vigilant, and more skeptical and cynical if they are given the male hormone testosterone. This may reflect the survival value for women of being sociable and co-operative, whereas males have historically needed to fight competitors for resources if they were to survive.

The hormone [testosterone](#) makes men stronger, larger, and more aggressive, and the new research suggests it also makes them less open and more distrustful, “watching their backs” for dangers. While testosterone is often called the male sex hormone, it is also present in women, but in smaller amounts.

Psychologist Dr Jack van Honk gave either a [placebo](#) or the [hormone testosterone](#) to a group of 24 women with an average age of 20, and then switched pills, so all the women were given both the testosterone and the placebo. The women were asked to rate 150 photographs of strangers’ faces for [trustworthiness](#), using a scale of +100 (most trustworthy) to -100 (least trustworthy) when they were taking the placebo, and when they were given the hormone.

The research found that women who were most trusting on the placebo rated faces as around 5 percent less trustworthy while taking the hormone pills. Women who were least trusting on the placebo did not appear to be affected, and van Honk speculated this might be because in less trusting individuals the hormone could make them paranoid and

socially disabled.

The results also showed the natural level of testosterone in the women had no effect, and their mood also had no effect. The researchers said there was no evidence the [women](#) knew when they were taking testosterone.

The authors of the paper, published in the journal [Proceedings of the National Academy of Sciences](#), say the research shows how testosterone regulates human sociability because it “down-regulates interpersonal trust in an adaptive manner.”

Dr van Honk said you have to be “socially sharp” to be successful in competition, and it is not socially sharp to trust people you do not know. He also said testosterone may increase the production of the hormone vasopressin, which has been shown to increase territorial behavior and aggression in animals, although he said social dominance in humans is not about aggression. It could also oppose the hormone oxytocin, which has been implicated in trust and social bonding.

Dr van Honk said being wary of strangers or competitors is an important part of “rising through the ranks” in humans, and being less trusting could also give economic benefits. He said he could also see applications of testosterone in treating psychiatric disorders such as social anxiety disorder.

More information: Testosterone decreases trust in socially naïve humans, PNAS, Published online before print May 24, 2010, [doi: 10.1073/pnas.0911700107](https://doi.org/10.1073/pnas.0911700107)

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