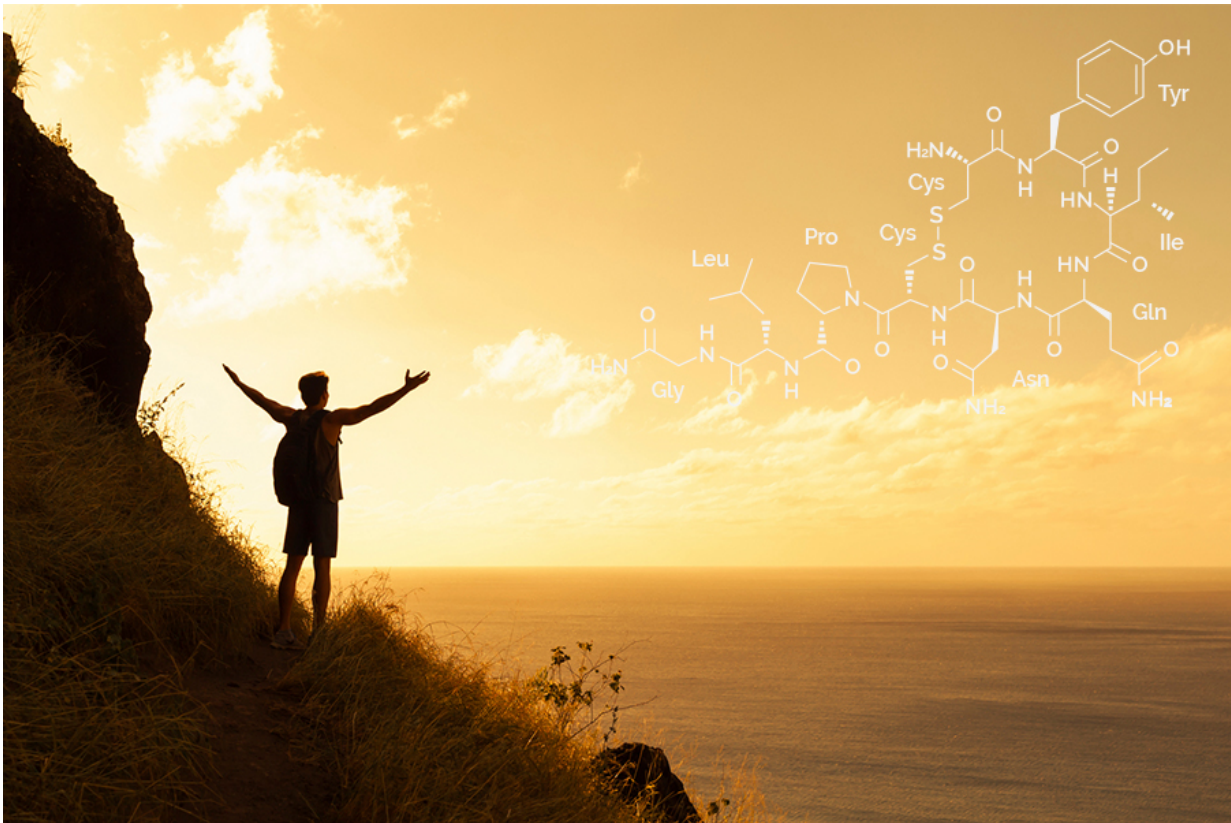


Oxytocin enhances spirituality, new study says

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Oxytocin supports spirituality. Credit: Duke University

Oxytocin has been dubbed the "love hormone" for its role promoting social bonding, altruism and more. Now new research from Duke University suggests the hormone may also support spirituality.

In the study, men reported a greater sense of [spirituality](#) shortly after taking oxytocin and a week later. Participants who took oxytocin also experienced more [positive emotions](#) during meditation, said lead author Patty Van Cappellen, a [social psychologist](#) at Duke.

"Spirituality and meditation have each been linked to health and well-being in previous research," Van Cappellen said. "We were interested in understanding biological factors that may enhance those spiritual experiences.

"Oxytocin appears to be part of the way our bodies support spiritual beliefs."

Study participants were all male, and the findings apply only to men, said Van Cappellen, associate director of the Interdisciplinary and Behavioral Research Center at Duke's Social Science Research Institute. In general, oxytocin operates somewhat differently in men and women, Van Cappellen added. Oxytocin's effects on women's spirituality still needs to be investigated.

The results appears online in the journal *Social Cognitive and Affective Neuroscience*.

Oxytocin occurs naturally in the body. Produced by the hypothalamus, it acts as a hormone and as a neurotransmitter, affecting many regions of the brain. It is stimulated during sex, childbirth and breastfeeding. Recent research has highlighted oxytocin's possible role in promoting empathy, trust, [social bonding](#) and altruism.

To test how oxytocin might influence spirituality, researchers administered the hormone to one group and a placebo to another. Those who received oxytocin were more likely to say afterwards that spirituality was important in their lives and that life has meaning and

purpose. This was true after taking into account whether the participant reported belonging to an organized religion or not.

Participants who received oxytocin were also more inclined to view themselves as interconnected with other people and living things, giving higher ratings to statements such as "All life is interconnected" and "There is a higher plane of consciousness or spirituality that binds all people."

Study subjects also participated in a guided meditation. Those who received oxytocin reported experiencing more positive emotions during meditation, including awe, gratitude, hope, inspiration, interest, love and serenity.

Oxytocin did not affect all participants equally, though. Its effect on spirituality was stronger among people with a particular variant of the CD38 gene, a gene that regulates the release of oxytocin from hypothalamic neurons in the brain.

Van Cappellen cautioned that the findings should not be over-generalized. First of all, there are many definitions of spirituality, she noted.

"Spirituality is complex and affected by many factors," Van Cappellen said. "However, [oxytocin](#) does seem to affect how we perceive the world and what we believe."

More information: Patty Van Cappellen et al. Effects of oxytocin administration on spirituality and emotional responses to meditation, *Social Cognitive and Affective Neuroscience* (2016). [DOI: 10.1093/scan/nsw078](#)

Provided by Duke University

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