

Researchers study the neurochemistry of social perception

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Credit: Center for Brain Health

Cues signaling trust and dominance are crucial for social life. Recent research from Dr. Dan Krawczyk's lab at the Center for BrainHealth explored whether administering two chemically similar hormones known to affect social cognition—oxytocin and vasopressin—would influence the perception of trustworthiness and/or social dominance. This research extended previous studies on the effects of oxytocin, which had inconsistent findings and only explored its influence on perceptions of trustworthiness.

In the study, a group of 20 men observed images of human faces with neutral expressions and rated the levels of trustworthiness and social dominance perceived. They repeated this exercise under three conditions: with oxytocin, with vasopressin and with a saline placebo. The results are published in *Psychoneuroendocrinology* (April 2019).

Functional Magnetic Resonance Imaging (fMRI) scans demonstrated that both hormones affected [brain activity](#) across both trustworthiness and dominance, indicating that the hormones have the potential to affect the brain even when the changes do not reach a threshold of observable behavior. Moreover, oxytocin consistently led a perception of greater dominance. This novel finding was also

reflected in changes in regions of the brain related to social perception as observed in the fMRI scans.

"This research is important because it grows our understanding of the way people take in social information or social cues," said lead author Dr. Adam Teed, whose 2015 Linda and Joel Robuck Distinguished New Scientist Friends of BrainHealth Award partially funded this research.

More information: Adam R. Teed et al, The influence of oxytocin and vasopressin on men's judgments of social dominance and trustworthiness: An fMRI study of neutral faces, *Psychoneuroendocrinology* (2019). [DOI: 10.1016/j.psyneuen.2019.04.014](https://doi.org/10.1016/j.psyneuen.2019.04.014)

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