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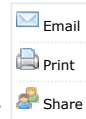
[Home](#) > [Sci/Tech](#) > [Report](#)

Empathy is in our genes

ANI

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Washington: Being empathetic is all in the genes, say researchers who have found a genetic variation linked to a person's ability to infer the mental state of others.



The researchers from Oregon State University and University of California, Berkeley have found a variation in the hormone/neurotransmitter oxytocin's receptor that might explain how empathetic a human is, and how that person reacts to stress.

Sarina Rodrigues, an assistant professor of psychology at Oregon State University, revealed that oxytocin has already been significantly linked with social affiliation and reduction in stress.

It is a peptide secreted by the pituitary gland and regulated by the hypothalamus of the brain and is best known for its role in female reproduction (it is important for labour and breastfeeding, for instance).

It is also associated with social recognition, pair bonding, dampening negative emotional responses, trust, and love.

She added individuals can have one of three combinations of this particular naturally occurring genetic variation of the oxytocin receptor. All humans get one copy of this gene from each parent, thus the three possible combinations, labeled in the paper as AA, AG or GG allele.

For the study, Rodrigues and Laura Saslow, a graduate student at the University of California, Berkeley recruited 200 college students and took a standard stress reactivity test involving white noise blasts directed in headphones after countdowns presented on the screen.

Heart rate was monitored through sensors throughout the laboratory session. In general, they found that women were overall more sensitive to the stress tests, but that both men and women in the GG allele group displayed a lower increase heart rate during this task, as compared to baseline heart rate measured at the beginning of the laboratory session.

One of the tests used to measure empathy included the "Reading the Mind in Eyes" test, created by Simon Baron-Cohen (cousin of actor/comedian Sacha Baron Cohen).

Rodrigues said that this test is commonly used to discern how individuals can put themselves into the mind of another person, which overlaps with empathy, because it tests how well the participant can infer someone's emotional state by their eyes.

"In general, women do better on this test than men," Rodrigues said. "But we found a stark difference in both sexes based on the genetic variation."

Those with the GG genetic variation were 22.7 percent less likely to make a mistake on the "Reading the Mind in the Eyes" test than the other individuals.

The study appears in the *Proceedings of the National Academy of Sciences (PNAS)*.

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