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[Genetic variation seems to be linked with empathy and stress levels of people](#)



Did you know that there appears to be a genetic link to empathy and also the stress experienced by an individual? Well, **study experts claim to have found a genetic variation that may add to how empathetic a human is, and how that person responds to stress.**

In the first study of its kind, a disparity in the hormone oxytocin's receptor was apparently connected to a person's capability to deduce the mental condition of others. Interestingly, this same genetic variation supposedly was also linked to stress reactivity. These results could have a considerable effect in contributing to the body of knowledge about the significance of oxytocin, and its connection to conditions like autism and injurious levels of stress.

Sarina Rodrigues, an assistant professor of psychology at Oregon State University, mentioned that oxytocin is said to be drastically associated with social relationship and drop in stress. Apparently it is a peptide secreted by the pituitary gland and controlled by the hypothalamus of the brain. It is best known for its function in female reproduction. Oxytocin apparently is also linked to social recognition, pair bonding, dampening negative emotional responses, trust, and love.

Rodrigues, who studies stress in humans examined about 200 college students, of varied ethnicities and balanced gender. The students completed self-reported questionnaires and took part in laboratory-based sessions.

People can have one of the three amalgamations of this specific naturally happening genetic variation of the oxytocin receptor. Apparently all humans acquire one copy of this gene from every parent, consequently the three likely combinations i.e. AA, AG or GG allele. The AA and AG gene group were supposedly not statistically dissimilar, so they were apparently grouped together and matched against each other in all exams with the GG group.

Rodrigues mentioned that the tests comprised of a standard stress reactivity test concerning white noise blasts directed in headphones following countdowns presented on the screen. Heart rate was apparently observed through sensors during the laboratory session. In general, they discovered that women were by and large more sensitive to the stress tests, but both men and women in the GG allele group supposedly exhibited a lower increase heart rate during this task, as opposed to baseline heart rate gauged at the commencement of the laboratory session.

One of the exams used to gauge empathy integrated the 'Reading the Mind in Eyes' test. Rodrigues mentioned that this test

is believed to be generally utilized to distinguish how people can place themselves into the mind of another person, which goes beyond empathy, since it examines how well the applicant can deduce someone's emotional condition by their eyes.

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

Those with the GG genetic variation apparently had 22.7 percent less chances to make a mistake on the 'Reading the Mind in the Eyes test as compared to other people. Rodrigues mentioned that preceding study had illustrated that people with autism apparently exhibit lesser scores on behavioral and dispositional empathy measures, and that a nasal spray with oxytocin supposedly augments the scores in these regions.

Rodrigues remarked, "Our data lends credence to the claim that this genetic variation of oxytocin influences emotional processing and other-oriented behavior."

Rodrigues added, "I tested myself and while I am not in the GG group, I'd like to think that I am a very caring person with empathy for others. These findings can help us understand that some of us are born with a tendency to be more empathic and stress reactive than others, and that we should reach out to those who may be naturally closed-off from people because social connectivity and belongingness benefits everyone."

Rodrigues warned against forming several conclusions just yet from the outcome of the study. She is of the opinion that population trends must not be interpreted to people, implying that there seem to be several people in the AA or AG gene collection who are believed to be empathetic, caring individuals.

The study was published in the Proceedings of the National Academy of Sciences (PNAS).

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