

German researchers find an 'altruism gene'

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Do you like to do good things for other people? If so, your genes might be responsible for this. At least, the results of a study conducted by researchers of the University of Bonn suggest this. According to the study, a minute change in a particular gene is associated with a significantly higher willingness to donate. People with this change gave twice as much money on average to a charitable cause as did other study subjects. The results have now been published in the journal *Social Cognitive & Affective Neuroscience*.

The researchers working with the psychologist Professor Dr. Martin Reuter invited their students to take a "retention test": The roughly 100 participants were to memorize series of numbers and then repeat them as correctly as possible. They received the sum of five Euros for doing this. Afterwards, they could either take their hard-earned money home or donate any portion of it to a charitable cause. This decision was made freely and in apparent anonymity. "However, we always knew how much money was in the cash box beforehand and could therefore calculate the amount donated", explains Reuter.

The scientists had asked their study subjects to undergo a cheek swab beforehand. They were able to extract DNA for genetic analyses from the cells thus sampled. In these analyses, they focused on one gene, the so-called COMT gene. It contains the building instructions for an enzyme which inactivates certain messengers in the brain. The most well-known of these messengers is dopamine.

It has been known for nearly 15 years that there are two different

variants of the COMT gene: COMT-Val and COMT-Met. Both versions, which occur in the population with approximately equal frequency, differ in only a single building block. In the case of people with the COMT-Val variant, the associated enzyme works up to four times more effectively. Thus considerably more dopamine is inactivated in the brain of a person with this variant.

Mini-Mutation Affects Behavior

This mini-mutation also has effects on behavior: "Students with the COMT-Val gene donated twice as much money on average as did fellow students with the COMT-Met variant", explains Reuter. This is the first time that researchers have been able to establish a connection between a particular gene and altruistic deeds. However, it was already known from studies on twins that altruistic behavior is also partly influenced by our [genes](#).

There is a good reason why the Bonn scientists focused their analysis on the COMT gene: For several years, it has been known that dopamine is involved in controlling social behavior in animals and humans. Thus the messenger, together with substances such as the neuropeptide vasopressin, influences sexuality and bonding. In addition, dopamine is linked with positive emotionality. Even the characteristic of being motivated by stimuli is controlled by this important neurotransmitter.

More information: [doi: 10.1093/scan/nsq083](https://doi.org/10.1093/scan/nsq083)

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