Unraveling the genetic and environmental influences on trust

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Trust, a cornerstone of human interaction, has a significant genetic component, with around 33% of the variation between individuals attributed to our genes, according to new Australian research using data

from twins and a meta-analysis of previous studies on the heritability of trust.

Successful relationships, economic transactions and social cohesion are all a matter of trust. Without trust, businesses collapse, political parties fail, and conflicts erupt, whether on a personal or international scale, resulting in broken hearts and lives lost.

"Higher levels of trust are associated with a range of social and economic benefits, so understanding the factors that influence our tendency to trust others could be used to improve community well-being," said lead author Dr. Nathan Kettlewell.

Dr. Kettlewell, from the University of Technology Sydney, and Professor Agnieszka Tymula, from the University of Sydney, work at the crossroads of economics, psychology and neuroscience to investigate how heritable behavioral traits such as trust influence life outcomes.

Their study, "Heritability across different domains of trust," was published in the *Journal of Economic Behavior and Organization*. It shows that trust is a complex trait that can be measured in a range of ways, including using twin studies.

"Twin studies are a powerful tool for disentangling genetic and environmental influences on complex traits, as they allow us to compare similarities in trust levels between identical twins, who share 100% of their genes, and fraternal twins, who share on average 50% of their genes," said Dr. Kettlewell.

"Our findings suggest that while genetic factors contribute around 33% to the variation in levels of trust observed among individuals, life circumstances such as being older, in better health and married or in a de facto relationship also increase trust," he said.

The Australian component of the study enlisted 1,120 twins and examined levels of trust using survey data to assess general trust and trust in politicians. Behavioral aspects of trust were measured using a trust game where participants are required to share money with another person.

"Trust is a trait that is difficult to define and measure, and it can also change across different domains. For example, someone might show high levels of trust in social relationships but low levels of trust in politics," said Professor Tymula.

"Our results don't imply that people with certain genes are doomed to be high or low in trust. However, when we reflect on our own behavior, and that of people we know, it's important to recognize that heritability is a component.

"This can affect how we see ourselves, and how we treat others. For example, recognizing a person's distrust in politicians is partly due to the lottery of genes, we might come to appreciate why someone who grows up in similar circumstances can have such different beliefs."

While the findings highlight the significant role of genetics in trust, it's crucial to recognize that environmental factors such as upbringing, cultural norms, and life experiences all interact with genetic predispositions to influence an individual's trust.

Understanding the foundations of trust opens up avenues for further research in fields such as economics, psychology, and sociology as well as practical applications aimed at fostering trust, cooperation, and social well-being across diverse contexts.

More information: Nathan Kettlewell et al, Heritability across different domains of trust, *Journal of Economic Behavior & Organization*

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