

Political participation is partially rooted in genetic inheritance

July 1 2008

The decision to vote is partly genetic, according to a new study published in the *American Political Science Review*. The research, by James H. Fowler and Christopher T. Dawes, of the University of California, San Diego and Laura A. Baker, of the University of Southern California, is the first to show that genes influence participation in elections and in a wide range of political activities.

Fowler and Dawes have followed this work with research just published in the July issue of the *Journal of Politics* in which they identify a link between two specific genes and political participation. They show that individuals with a variant of the MAOA gene are significantly more likely to have voted in the 2000 presidential election. Their research also demonstrates a connection between a variant of the 5HTT gene and voter turnout, which is moderated by religious attendance. These are the first results ever to link specific genes to political behavior.

The initial research is based on voter turnout records in Los Angeles matched to a registry of identical and non-identical twins. These comparisons show clearly that identical twins, who share 100 per cent of their genes, are significantly more similar in their voting behavior than fraternal twins who share only 50 per cent of their genes on average. The results indicate that 53 per cent of the variation in voter turnout is due to differences in genes. The results also suggest that, contrary to decades of conventional wisdom, family upbringing may have little effect on children's future participatory behavior.

To replicate these findings the researchers went beyond the California voter data to examine patterns nationwide using the National Longitudinal Study of Adolescent Health conducted from 1994 to 2002. This data has been utilized in a wide variety of genetic studies, but this is the first time the data has been used to show that participatory political behavior is heritable. For example, among identical twins, the researchers conclude that 72 per cent of the variance in voter turnout can be attributed to genes.

Moreover, genetic-based differences extend to a broad class of acts of political participation, including donating to a campaign, contacting a government official, running for office, and attending a political rally. According to Fowler, "we expected to find that genes played some role in political behavior, but we were quite surprised by the size of the effect and how widely it applies to many kinds of participation."

To pinpoint the specific genes implicated, the authors first looked at those genes that have previously been shown to account for variation in social behavior. Among those, MAOA and 5HTT are known to exert a strong influence on the serotonin system regulating fear, trust, and social interaction. Hypothesizing that persons with more efficient versions of these genes would be more likely to vote, the researchers turned again to the National Longitudinal Study of Adolescent Health to conduct tests on the relationship between turnout and MAOA and 5HTT. The results show that both genes are significantly associated with the decision to vote. Those who have the more efficient genes are about 10 per cent more likely to go to the polls.

"These findings are extremely important for how we think about political behavior," said Fowler. For example, it is widely known that parents and children exhibit similar voting behavior, but this has always been interpreted as learned behavior rather than inherited behavior. It is also well-known that these particular genes influence social behavior, but

it has not been widely appreciated that social behavior plays an important role in voting and other forms of political behavior. In particular, the 5HTT gene appears to play an important role in the well-known association between voting and going to church, suggesting that it is the combination of social activity and genes that helps to shape political behavior.

According to Fowler, "We are not robots – the genes just seem to make it more likely that some of us will respond to our social lives by getting involved in politics." Fowler also cautioned that there is no such thing as a 'voter gene': "That idea is just silly. Complex social behaviors are the result of hundreds of genes interacting with hundreds of social factors – these results are really just the tip of the iceberg."

The authors point out that while political scientists have typically not focused on the role of genetic and biological factors in political behavior, the present work points to a significant role for genes and, therefore, a next step in research is to determine why genes matter so much. They conclude, "These studies provide the first step needed to excite the imaginations of a discipline not used to thinking about the role of biology in human behavior."

See the full study at:

http://www.apsanet.org/imgtest/APSRMay08Fowler_etal.pdf

Source: University of California - San Diego

Citation: Political participation is partially rooted in genetic inheritance (2008, July 1) retrieved 19 April 2024 from

<https://phys.org/news/2008-07-political-partially-rooted-genetic-inheritance.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.