

Can genes make us liberal or conservative?

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A depiction of the double helical structure of DNA. Its four coding units (A, T, C, G) are color-coded in pink, orange, purple and yellow. Credit: NHGRI

Aristotle may have been more on the money than he realised in saying man is a political animal, according to research published Wednesday

linking genes with liberal or conservative leanings.

Or, to be precise, a specific variant of one gene that would seem to exert greater sway over women than men.

Working with 1771 [university students](#) of Han Chinese origin in Singapore, researchers compared answers to surveys—including one tailored to hot-button issues in the city-state—with the presence of a permutation of the DRD4 gene.

DRD4 is one of several [genes](#) that determines the way dopamine—a crucial neurotransmitter, or chemical messenger—is released in the brain.

What they found was a robust link between the presence (or not) of the variant and a split between liberals inclined to decry inequality, on the one hand, and die-hard conservative wary of change, on the other.

"The association between political attitude and DRD4 was highly significant for females," and less so for men, said the study, led by Richard Ebstein of the National University of Singapore.

Women, it was also shown, tended to be more conservative in general.

The results are bolstered by earlier research based on people of European descent that found similar patterns around the same gene, according to the study.

In the long-standing "Nature vs. Nurture" debate, it was long assumed that social values—and especially political ones—were rooted in family upbringing, education and class.

But a growing body of evidence suggests, in the words of the

researchers, that "biology can't be ignored."

A landmark study published in 1999, for example, of twins separated at or near birth showed a marked strain of heritability for 'conservatism'.

The brain is wired with several distinct dopamine pathways, including one related to the risk-taking—arguably a parallel to the liberal-conservative dichotomy.

From an evolutionary standpoint, risk-taking is a complicated business: in some situations, it may enhance one's chances of success or survival, and in others it may spell doom.

In the study, the researchers used standard questionnaires to rate conservative or liberal tendencies, making it easier to compare with earlier efforts to uncover links between genes and attitudes.

At the same time, to adjust for cultural variations from one country to another, they also devised a survey based on local issues known to divide opinion in Singapore along political lines.

One set of questions, for example, asked the students—half men, half women with a mean age of 21—to take positions on sensitive environmental and animal rights issues.

The correlation with the genetic variations was especially strong on these points.

"Our results provide evidence," Ebstein and colleagues conclude, "for a role of the DRD4 gene variants in contributing to individual differences in political attitude, particularly in females."

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