

SINGAPOREAN CHINESE WOMEN WITH SPECIFIC VARIANT OF GENE MORE LIKELY TO BE RISK AVERSIVE: STUDY

‘Adventure’ gene found to have links to political attitudes

SINGAPORE – Adding to the debate of nature versus nurture, new research conducted here has linked a specific gene to political attitudes.

Researchers at the National University of Singapore (NUS) surveyed 1,771 Singaporean Chinese undergraduates at the institution — 888 of whom were female — and found that Singaporean Chinese women with a specific variant of one gene are generally more politically conservative.

The gene under study was the Dopamine D4 receptor gene, also known as the “adventure” gene. It helps regulate how dopamine, the brain chemical associated with feelings of pleasure and reward, is released in the brain.

For the study, undergraduates rated themselves on their political attitudes, from very conservative to very

liberal. Blood samples and DNA were extracted from them and the gene variants in these students were then studied. Findings were validated with a more detailed political-attitudes questionnaire adapted for Singapore’s political climate.

“The results revealed that the Dopamine D4 receptor gene better predicts political inclinations of females than males, in a Singaporean Chinese population,” said NUS in a media release on Wednesday. “In particular, Singaporean Chinese women who possess the 4R/4R variant of the Dopamine D4 receptor gene are more likely to demonstrate risk aversion and are more politically conservative. This correlation is stronger in females, compared with males who possess the same gene variant.”

● The researchers proposed a neurochemical model linking low dopamine activity to risk proneness; and high dopamine activity to risk aversion. Hence, high levels of dopamine activity in women with the **4R/4R variant of the Dopamine D4 receptor gene** could perhaps predispose them to low risk attitudes and political conservativeness.

Professor Richard Ebstein from the Department of Psychology and Professor Chew Soo Hong from the Department of Economics at NUS led the study. The researchers proposed a neurochemical model linking low dopamine activity to risk proneness; and high dopamine activity to risk aversion. Hence, high levels of dopamine activity in women with the 4R/4R variant of the “adventure” gene could perhaps predispose them to low risk attitudes and political conservativeness, the researchers said.

The study also found that fewer than half of the participants had the variants associated with risk attitude and risky behaviour.

Unlike an earlier American study on a Caucasian population, which found that the correlation between the

Dopamine D4 receptor gene and political attitudes was dependent on the number of friends one has, the NUS study found no proof for friendship in the gene’s role in contributing to political attitudes. The researchers said this might be due to cultural distinctions between both countries. “Gene effects on behaviour are sometimes contingent on culture,” they noted.

Prof Chew said: “Our findings have shown that despite a country’s political system or culture, political ideology is in part hard-wired by our genes. The results of our Singapore study also suggest that attempts to change ideology may be difficult since some of our beliefs are in built and hence less sensitive to peer pressure and propaganda.”

The researchers intend to find out if other genes may also contribute towards the shaping of political beliefs. Still, “genetic effects explain only some of the differences between subjects’ ideology and we are also interested in how the environment, in partnership with genes, shapes how we think about ideological issues”, said Prof Ebstein.

The findings are published in the online edition of the Proceedings of the Royal Society Section B.