Source: *The Straits Times,* pB4
Date: 22 August 2017

Socially inept or awkward? Blame it on your genes

NUS study finds certain genes could hold key to better social skills, with male participants more affected

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Husbands, what do you say when your wives ask you that question: Do I look fat?

Your answer might reveal more than you think.

Those who end up sleeping on the couch (for saying "yes") might share some similarities on the cellular level, in two genes to be exact.

Called CD38 and CD157, they regulate a specific hormone that could play a role in social competence. Researchers from the National University of Singapore (NUS) who studied some 1,300 Chinese adults here found that those who expressed less of the gene CD38 found it difficult to read between the lines, making them easy prey to the wife's tricky question.

They also had fewer close friends and were less prone to social chit-chat.

This association was more stark in male participants, said Dr Anne Chong from NUS' department of psychology, who co-led the study.

"(In contrast) male participants with higher gene expressions (of CD38) displayed greater sociality, such as preferring activities involving other people over being alone, and better communication and empathy-related skills, compared with the other participants," she said.

The findings were published in the scientific journal Psychoneuroendocrinology earlier this year.

The study, conducted over three years, also found that variations in the CD157 gene sequence correlated with how interested and appreciative the participants were of supportive, caring and empathic friendships, Dr Chong said.

One of the variants, more common in participants who scored lower in this measure, was also often found to be more common in people with autism in an earlier Japanese study.

CD38 and CD157 regulate the release of oxytocin, the paramount social hormone that influences social behaviours such as child-rearing, empathy and trust.

Dr Anne Chong and Professor Richard Ebstein from NUS are co-leaders of a study, involving some 1,300 Chinese adults in Singapore, which found that genes CD38 and CD157 could play a role in social competence. PHOTO: NUS

Professor Richard Ebstein, also from the NUS department of psychology, the other co-leader of the study, said knowing the important role oxytocin plays in such behaviours prompted the team to study the oxytocin network in relation to the social skills that are important in forming friendships.

"We measured the level of the hormone in blood, and we found that some of the structural changes in CD157 were related to plasma oxytocin levels," he said.

"We can now say the gene product increases social skills, and probably because it is increasing the level of oxytocin."

Altogether, the higher expression of the CD38 gene and differences in the CD157 gene sequence explained 14 per cent of the differences in social skills among the participants.

This is high – typically less than 2 per cent of findings in behavioural genetic association studies rely on genetic variations alone, the researchers said.

Prof Ebstein added that the findings could aid the development of future intervention therapies, or targeted treatments to help individuals with special needs in terms of their relationships with others. These include drugs that mimic or enhance the functions of CD38 and CD157.

Dr Ruth Feldman of the Baruch Ivcher School of Psychology in Israel, who was not part of the research, said the study is important as it links, for the first time, multiple components of the overarching oxytocin system that underpins sociality in mammals.

"The study will enhance our understanding of the neurochemical basis of human social relationships that may assist in specifying targeted interventions," she said.

For now, there is still hope for the genetically challenged who might otherwise often find themselves on the couch.

The silver lining, Dr Chong pointed out, is that while expressed genes can influence behaviours, one's own experiences can, in turn, influence the expression of genes.

"For most people, being in healthy social environments, such as having loving and supportive families, friends and colleagues, would most likely lessen the effects from disadvantageous genes," she said.

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