The neurogenics of niceness: Study finds peoples' relative niceness may reside in their genes

April 10 2012

(Medical Xpress) -- It turns out that the milk of human kindness is evoked by something besides mom's good example.

Research by psychologists at the University at Buffalo and the University of California, Irvine, has found that at least part of the reason some people are kind and generous is because their genes nudge them toward it.

Michel Poulin, PhD, assistant professor of psychology at UB, is the principal author of the study "The Neurogenics of Niceness," published in this month in *Psychological Science*, a journal of the Association for Psychological Science.

The study, co-authored by Anneke Buffone of UB and E. Alison Holman of the University of California, Irvine, looked at the behavior of study subjects who have versions of receptor genes for two hormones that, in laboratory and close relationship research, are associated with niceness. Previous laboratory studies have linked the hormones oxytocin and vasopressin to the way we treat one another, Poulin says.

In fact, they are known to make us nicer people, at least in close relationships. Oxytocin promotes maternal behavior, for example, and in the lab, subjects exposed to the hormone demonstrate greater sociability. An article in the usually staid Science magazine even used the terms

"love drug" and "cuddle chemical" to describe oxytocin, Poulin points out.

Poulin says this study was an attempt to apply previous findings to social behaviors on a larger scale; to learn if these chemicals provoke in us other forms of pro-social behavior: urge to give to charity, for instance, or to more readily participate in such civic endeavors as paying taxes, reporting crime, giving blood or sitting on juries.

He explains that hormones work by binding to our cells through receptors that come in different forms. There are several genes that control the function of oxytocin and vasopressin receptors.

Subjects were surveyed as to their attitudes toward civic duty, other people and the world in general, and about their charitable activities. Study subjects took part in an Internet survey with questions about civic duty, such as whether people have a duty to report a crime or pay taxes; how they feel about the world, such as whether people are basically good or whether the world is more good than bad; and about their own charitable activities, like giving blood, working for charity or going to PTA meetings.

Of those surveyed, 711 subjects provided a sample of saliva for DNA analysis, which showed what form they had of the oxytocin and vasopressin receptors.

"The study found that these genes combined with people's perceptions of the world as a more or less threatening place to predict generosity," Poulin says.

"Specifically, study participants who found the world threatening were less likely to help others -- unless they had versions of the receptor genes that are generally associated with niceness," he says.

These "nicer" versions of the genes, says Poulin, "allow you to overcome feelings of the world being threatening and help other people in spite of those fears.

"The fact that the genes predicted behavior only in combination with people's experiences and feelings about the world isn't surprising," Poulin says, "because most connections between DNA and social behavior are complex.

"So if one of your neighbors seems really generous, caring, civic-minded kind of person, while another seems more selfish, tight-fisted and not as interested in pitching in, their DNA may help explain why one of them is nicer than the other," he says.

"We aren't saying we've found the niceness gene," he adds. "But we have found a gene that makes a contribution. What I find so interesting is the fact that it only makes a contribution in the presence of certain feelings people have about the world around them."

Provided by University at Buffalo