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Study: Genetic risk for substance use can be neutralized by good parenting

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A genetic risk factor that increases the likelihood that youth will engage in substance use can be neutralized by high levels of involved and supportive parenting, according to a new University of Georgia study.

The study, published in the February issue of the *Journal of Consulting and Clinical Psychology*, is the first to examine a group of youth over time to see how a genetic risk factor interacts with a child's environment to influence behavior.

"We found that involved and supportive parenting can completely override the effects of a genetic risk for substance abuse," says study co-author Gene Brody, Regents Professor in the UGA College of Family and Consumer Sciences. "It's a very encouraging finding that shows the power of parenting."

Brody and his colleagues, who include UGA Institute for Behavioral Research director Steven Beach and University of Iowa Associate Professor of Psychiatry Robert Philibert, focused their attention on a gene known as 5HTT that's involved in the transport of the brain chemical serotonin. Most people carry two copies of the long version of the gene, but those with one or two copies of the short version have been shown in several studies to have a greater likelihood of consuming alcohol and other substances and to have higher levels of impulsivity and risk taking.

The researchers interviewed 253 African-American families in rural

Georgia over a four-year period. After obtaining informed consent from the parents and youth, they collected saliva samples for genetic testing.

The researchers found that nearly 60 percent of the youth had two copies of the long gene, while the remainder had one or two copies of the short gene that confers risk. As expected, the use of substances was low among 11 year-olds and increased as the youth aged. By age 14, 21 percent of the youth had smoked cigarettes, 42 percent had used alcohol, five percent had drank heavily and five percent had used marijuana.

Among youth with the genetic risk factor, those who received low levels of involved and supportive parenting increased their substance use at rate three times higher than youth with high levels of parental support. Among youth with high levels of involved and supportive parenting, the difference in substance abuse was negligible - regardless of genetic risk.

"In families that were characterized by strong relationships between children and their parents, the effect of the genetic risk was essentially zero," said Beach, who is also a Distinguished Research Professor in the psychology department of the UGA Franklin College of Arts and Sciences. "With this study and previous studies looking at environmental risk factors such as poverty, we're finding that in many cases the best way to help children is to help families become more resilient."

Involved and supportive parenting is a very powerful tool, and Brody said it's relatively simple to implement. Some examples include parents regularly spending time with children, communicating with them to gauge how they're doing, providing emotional support and helping them with their material and day-to-day needs such as homework.

"We all carry around genetic risks," said Brody, who also directs the UGA Center for Family Research, a unit of the IBR, "but fortunately very few people are impacted by those risks because their environment

protects them."

Source: University of Georgia