

Witnessing drug use can spur immediate antisocial behavior by teens

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Antisocial behaviors such as stealing and hitting are more likely after teens witness drug or alcohol use. Credit: copyright monkeybusinessimages

Seeing others drink alcohol or use drugs makes it more likely that teenagers will engage in antisocial behavior on the same day, according to new findings from Duke University.

The risk is significantly greater for [young adolescents](#) who have a 'risk-taking' gene associated with sensitivity to substance use exposure.

"Past research has shown that children who grow up in families, schools

and neighborhoods where alcohol and drugs are frequently used are at risk for behavioral problems later in life, but our findings demonstrate that these effects are immediate," said Candice Odgers, associate professor in Duke's Sanford School of Public Policy and associate director of the Duke Center for Child and Family Policy.

The findings appear online today in the journal *Development and Psychopathology*.

Distinctive features of the study were its use of cell phones and its focus on teens growing up in high-risk neighborhoods. Teens used their phones to respond to survey questions three times a day for 30 days, allowing real-time reports of what was going on in their lives. Researchers followed 151 [adolescents](#), 11 to 15 years old. The teens completed more than 90 percent of the surveys.

Most prior studies have relied on daily pen and paper diaries or asked teens to recall activities that had taken place over the previous six to 12 months, said lead author Michael Russell, a research associate at the Penn State Methodology Center. Russell conducted the research in collaboration with Odgers when he was a research associate at the Duke Center for Child and Family Policy.

"We tried to use tools from adolescents' worlds to capture their experiences, emotions and behavior in real time," Russell said.

"Connecting with kids via their devices provided a unique view into their daily lives and, we hope, more valid data as we were capturing events, experiences and behaviors as they happened."

The authors compared a teen's behavior on days when he or she was around people using substances to the same teen's behavior on days when he or she was not. This approach allowed the researchers to test whether witnessing substance use triggers [antisocial behaviors](#) including stealing,

damaging property or hitting or hurting someone.

They found that witnessing substance abuse triggers misbehavior for both males and females, and especially for the 30 percent in their study group who carry the DRD4-7R genotype.

On days adolescents were exposed to others using alcohol or drugs, youth without the DRD4-7R variant were twice as likely to engage in antisocial behavior, Russell said. Adolescents with the DRD4-7R variant, however, were six times as likely.

"Our findings support the idea that situations where others are using alcohol or drugs may serve as 'triggering contexts' for adolescents' problem behavior," Russell said, "and that some youth, by virtue of their genetics, appear more sensitive to these environmental risks than others."

The DRD4-7R variant is associated with attention-deficit/hyperactivity disorder (ADHD), a disorder characterized by novelty-seeking behavior and impulsivity. Recent studies have shown that DRD4-7R carriers may also be more reactive to conditions in their surrounding environments, a phenomenon known as "differential susceptibility."

The combination of increased impulsivity and heightened reactivity to environments may explain why adolescents with the DRD4-7R variant were at greater risk for same-day antisocial behavior, Russell said. More research is needed to know for sure, he added.

"These findings provide another piece of evidence supporting the need to protect young adolescents from exposure to substances," Odgers said.

"A series of studies has shown that consuming alcohol before age 15 predicts a wide range of later problems including substance dependency, involvement in criminal behavior and health problems. Our findings

suggest that we may also need to prevent exposure to others using substances during this period," she said.

More information: "Adolescents with the DRD4-7R Allele are More Reactive to Substance Exposure: Evidence for a Gene-Environment Interaction in Daily Life," Russell, M.R., Wang, L. & Odgers, C.L. (2015). *Development and Psychopathology*. [DOI: 10.1017/S0954579415001182](https://doi.org/10.1017/S0954579415001182)

Provided by Duke University

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