

Frequent soft drink consumption may make adolescents more aggressive

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A study from the University of Alabama at Birmingham has shown that frequent soft drink consumption by adolescents may contribute to aggressive behavior over time.

Previous studies have shown associations between soft drink consumption and mental health problems in adolescents. The UAB study, led by Sylvie Mrug, Ph.D., professor and chair of the College of Arts and Sciences' Department of Psychology, identified soft drink consumption as a likely predictor of [aggressive behavior](#). It was published in the *Journal of Adolescent Health*.

"Despite public health policies designed to reduce children's consumption of sugar-sweetened beverages, such as soda taxes and school soda bans, the consumption of sugar-sweetened beverages by youth in the United States remains a significant public health problem," Mrug said.

Reciprocal relationships were analyzed showing soft drink consumption predicted an increase in aggressive behavior over time.

Soft drink consumption at ages 11 and 13 predicted more aggressive behavior at the next time point, the study showed. Aggressive behavior at age 13 also predicted more soft drink consumption at age 16. Soft drink consumption at age 13 predicted fewer depressive symptoms, but depressive symptoms did not predict soft drink consumption. Findings from this study suggest that reducing adolescents' intake of soft drinks may reduce aggressive behavior, but not depressive symptoms.

Interviews with 5,147 children and their caregivers were conducted from three sites, at child ages 11, 13 and 16. At each time, the children reported on their frequency of consuming soft drinks, aggressive behavior and depressive symptoms.

Soft drinks comprise more than 10 percent of adolescents' total caloric intake and are consumed daily by more than 20 percent of [high school students](#), according to [recent reports](#). High rates of soda consumption among U.S. youth have led to concerns about its impact on pediatric obesity and related health conditions. Besides obesity, concerns have been raised about the potential impact of soft drink consumption on pediatric mental health, particularly for adolescents who consume more soft drinks and experience more emotional and behavioral problems than younger children.

"Paralleling the historical trends of increasing soft drink consumption, [emotional problems](#) in adolescents have risen between 1980s and early 2000s," Mrug said. "For example, several studies reported 70 percent to 350 percent increases in emotional problems among adolescent boys and girls in developed countries during this time period."

A number of studies have linked the consumption of soft drinks to adolescents' mental health problems. Specifically, more frequent consumption of soft drinks has been associated with more

aggression, other behavior problems such as hyperactivity and oppositional behavior, and depression and suicidal [behavior](#) in adolescents from the United States, Norway, Slovakia, Iran and China. Another recent cross-national study found a consistent association between adolescents' high sugar consumption (from soft drinks and sweets) and fighting, bullying and substance use in 24 of the studied 26 countries.

All of these studies have included statistical adjustments for a variety of potential confounders such as child age, gender, BMI, [physical activity](#), diet, substance use and family factors; but the key limitation remains the cross-sectional design.

Although the results are typically interpreted in terms of soft drinks' contributing to emotional and behavioral problems, it is equally likely that [mental health problems](#) may be driving the [consumption](#) of sugar-sweetened soft drinks, Mrug says. Experimental studies show that some individuals consume more sugary foods in response to stress and negative emotions.

More information: Sylvie Mrug et al. Soft Drink Consumption and Mental Health in Adolescents: A Longitudinal Examination, *Journal of Adolescent Health* (2020). [DOI: 10.1016/j.jadohealth.2020.05.034](#)

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