Early puberty linked to higher substance use throughout adolescence

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(Medical Xpress)—A new University of Texas at Austin study reveals that teens for whom puberty begins early and who have rapid pubertal development are at greater risk for experimenting with cigarettes, alcohol and marijuana.

The study, "Perceived Pubertal Timing and Recent Substance Use Among Adolescents: A Longitudinal Perspective," was conducted by public health researcher Jessica Duncan Cance and colleagues from the University of North Carolina at Chapel Hill. It was published in the October issue of the journal *Addiction*.

"My research focuses on how substance use looks in adolescent and young adult populations and, most important, how we can prevent or reduce use," said Cance, an assistant professor in the College of Education's Department of Kinesiology and Health Education.

Cance examined how an adolescent's perceived physical pubertal development (early, on-time or late compared with peers of the same age) is associated with the use of cigarettes, alcohol or marijuana. She surveyed 11- to 17-year-olds about their substance use during the prior three months.

The study included almost 6,500 male and female adolescents of varying racial and ethnic backgrounds. Participants' perceived pubertal timing was measured with the Pubertal Development Scale (PDS) as part of a larger school-based survey. The PDS contains five questions each for

male and female adolescents concerning body hair growth, skin changes, height, voice and facial hair growth for boys, and breast development and menstruation for girls.

Although puberty typically begins between the ages of nine and 10, there is wide variation in the onset of puberty as well as how long it takes adolescents to complete puberty. Results from this sample corroborate national estimates of pubertal timing; for example, girls report developing earlier than boys and non-white adolescents report developing earlier than white adolescents.

The research was inspired by a gap in the current understanding of the cultural context of puberty. "While puberty is often thought of as a solely biological process, our research has shown that pubertal development is a combination of biological, psychological and social processes that all likely interact to influence risk-taking behavior like substance use," said Cance.

Decades of research have been devoted to the psychological and social factors that make adolescents more prone to substance use, but relatively little is known about how the perception of pubertal timing could play a role, said Cance.

"We all go through puberty," she said. "We remember it being either an easy transition or a very difficult one. Our study suggests that being the first girl in the class to need a bra, for example, prompts or exacerbates existing psychological and social aspects that can, in turn, lead to substance use and other risky behaviors early in life."

Provided by University of Texas at Austin