

Large-scale study of disordered eating in children explores role of weight, sex and puberty

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Eating disorders, which affect more than 28 million people nationwide, exact a high toll. In addition to the individual suffering they cause, eating

disorders cost the U.S. [nearly \\$65 billion](#) each year.

Early intervention is essential for minimizing harm, but researchers know very little about how disordered eating begins and evolves prior to adolescence. A new study of nearly 12,000 9- and 10-year-olds, published this week in *JAMA Pediatrics*, provides key insights that help fill that gap. Researchers examined how age, sex, [weight](#) and puberty stage were related to behaviors such as binge eating and vomiting to control weight.

"The first major takeaway is that these behaviors are more common than we've seen before, with a prevalence of up to 5% in some cases," said the study's lead author, Stuart Murray, DClInPsych, Ph.D., Della Martin associate professor of psychiatry and the [behavioral sciences](#) and director of the Eating Disorders Program in the Department of Psychiatry and the Behavioral Sciences at the Keck School of Medicine of USC.

Contrary to cultural assumptions, the researchers found that boys and girls were equally likely to engage in disordered eating. The analysis also revealed that [children](#) with higher body mass indexes (BMIs), as well as those further along in puberty, faced an elevated risk.

The findings help outline the scope of the problem in this age group and point to biological risk factors that may ultimately lead to more targeted solutions, Murray said.

"The earlier we can detect these behaviors, the more likely we are to be able to treat them," he said. "These findings open a door for the development of timelier and more precise prevention efforts."

Quantifying the risk

The researchers used data from 11,878 children, ages 9 to 10, collected between 2016 and 2018 through the NIH-funded [Adolescent Brain Cognitive Development study](#), the largest long-term study of brain development and children's health in the United States. Rather than studying fully fledged eating disorders—which are both rare and difficult to detect in children—Murray and his colleagues analyzed disordered eating behaviors, which can provide clues about who is at risk for more [severe symptoms](#) down the line.

The team studied binge eating, vomiting to control weight and other behaviors (such as exercising or restricting calories) intended to prevent weight gain. Five percent of children in the study had engaged in binge eating, while 2.5% had taken measures to avoid gaining weight.

In addition to measuring the overall prevalence of disordered eating, the researchers looked for associations between those behaviors and sex, BMI and puberty stage. They found no sex differences, indicating that boys face the same risks that girls do.

"We tend to think that eating [disorders](#) predominantly afflict girls, but there's more and more data showing that boys struggle just as much," Murray said. "This is a call to arms to make sure we're taking those cases seriously."

Children further along in puberty faced elevated odds of taking measures to prevent [weight gain](#). The researchers also found that children with higher BMIs were more likely than lower-BMI children to engage in all disordered eating behaviors studied—binge eating, vomiting and taking other actions to avoiding gaining weight.

Improved screening and prevention

The study's results can improve eating disorder prevention by

highlighting who is most at risk, Murray said. For example, pediatricians and [middle schools](#) may choose to increase monitoring and screening of children with high BMIs and children who begin puberty before their peers. Education efforts for both physicians and parents should also emphasize that boys face similar risks to girls.

Murray and his team are also studying the neurobiology that underlies disordered eating behaviors, including through a recent study that revealed [differences in brain structure](#) between children with and without [binge eating](#) disorder.

In addition to Murray, the study's other authors are Aaron J. Blashill from the Department of Psychology, San Diego State University and Jerel P. Calzo from the Division of Health Promotion and Behavioral Science, School of Public Health, San Diego State University.

More information: Prevalence of disordered eating and associations with sex, pubertal maturation, and weight in children in the US, *JAMA Pediatrics* (2022). [DOI: 10.1001/jamapediatrics.2022.2490](https://doi.org/10.1001/jamapediatrics.2022.2490) , [jamanetwork.com/journals/jamap ... pediatrics.2022.2490](https://jamanetwork.com/journals/jamap...pediatrics.2022.2490)

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