

The Centers for Disease Control and Prevention (CDC) reports that adolescents with obesity are at a higher risk for a variety of medical, social, and psychological problems. Obese adolescents are likely to remain obese as adults and to experience chronic health problems such as type 2 diabetes, high blood pressure, and heart disease. In 2017, the CDC reported that nationally 14.8% of high school students were obese, while 15.6% were overweight. Obesity varied by gender with male adolescents more likely than females to be obese. Nearly one in every three Cuyahoga County middle and high school students was overweight or obese when surveyed in 2016-2017.

This data brief describes data provided in 2016 and 2017 from the Cuyahoga County Youth Risk Behavior Survey (YRBS). In the survey, county students were asked for their height, weight, and age. Body mass index (BMI) is calculated using these values and adjusted for age and gender. BMI is categorized as underweight (< 5th percentile), normal weight (≥ 5th percentile and < 85th percentile), overweight (≥ 85th percentile and < 95th percentile), and obese (≥ 95th percentile). The graphs and narrative identify those students most at risk for obesity and being overweight. Relationships with perceptions of weight, trying to lose weight, and hunger are also examined.

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Cuyahoga County high school students were overweight or obese in 2017



The highest rates for BMI consistent with obesity were reported for high school students in both East and West Regions of Cleveland and the Inner Ring West. Students from the county's Inner Ring East reported the next highest obesity rates, which were significantly lower than Cleveland East and West, but not significantly lower than Inner Ring West. Inner Ring West and Outer Ring East reported significantly higher obesity rates than in 2013. Regional differences in obesity appear to be dissipating, but rates have remained stagnant for the past four years despite various programmatic interventions.

Figure 1. Prevalence (%) of Obesity among High School Students

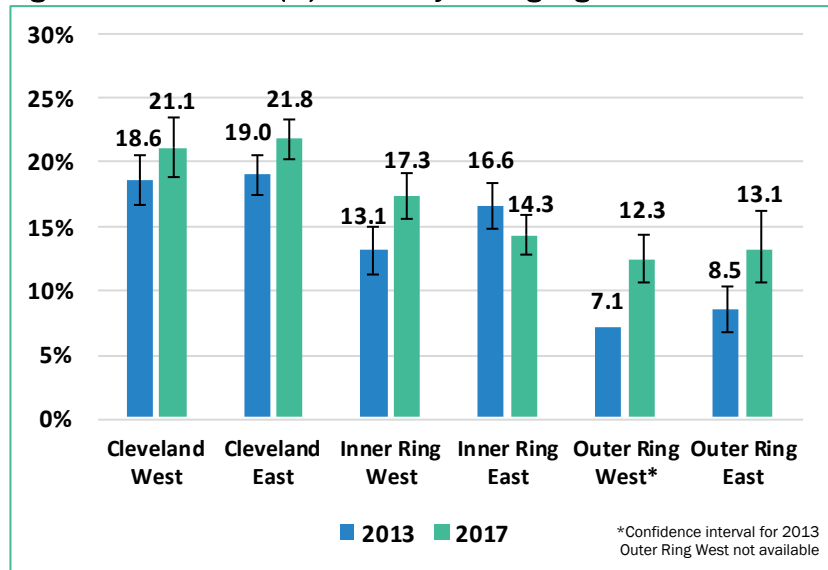
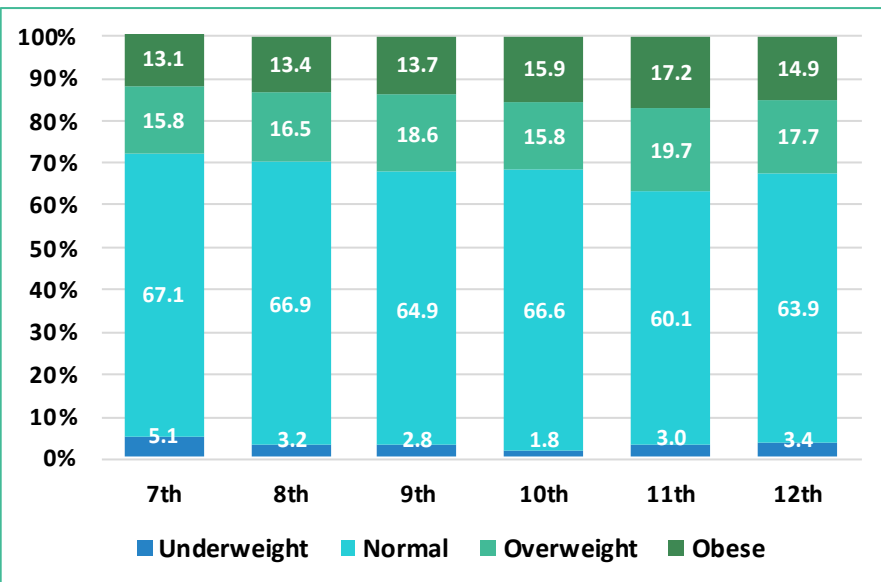


Figure 2. Prevalence (%) of BMI categories by Grade Level



In Cuyahoga County, similar prevalence was reported for BMI categories of normal weight, overweight, and obese at every grade level. The prevalence of underweight was highest among 7th graders. Nearly two-thirds of students in each grade (7th-12th) reported heights and weights consistent with normal weight, with the exception of 11th grade (60.1%). Overall, 15.9% of middle and 17.8% of high school students reported BMIs consistent with being overweight. The prevalence of obesity was significantly higher in high school than in middle school (HS 15.5%, MS 13.2%). Reported obesity rates have increased among 11th and 12th graders since 2013 (2013 11th-12.5%, 12th-11.6%). In addition, minority students were more likely to be obese than white-identifying students in middle and high school (minority > 18% MS, > 19% HS, white students 9.5% MS, 12.4% HS) (not depicted).



Both overweight and obese middle and high school students in Cuyahoga County reported experiencing hunger (sometimes, most of the time, or always) more frequently than normal weight students (See Fig. 3). Students were asked how often they went hungry in the past 30 days because there was not enough food in the home. Fig. 3 highlights the obesity-hunger paradox wherein obesity and hunger coexist counterintuitively. Obese middle school students reported significantly greater rates of experiencing hunger than underweight, normal and overweight middle school students. Students were also asked about the frequency of fast food consumption in the week prior to the survey. Those students who reported experiencing hunger were more likely to eat fast food 3 or more times per week than those who rarely or never experienced hunger (41% vs. 26%) (not depicted).

Figure 3. Prevalence (%) of Hunger in Past 30 Days by BMI

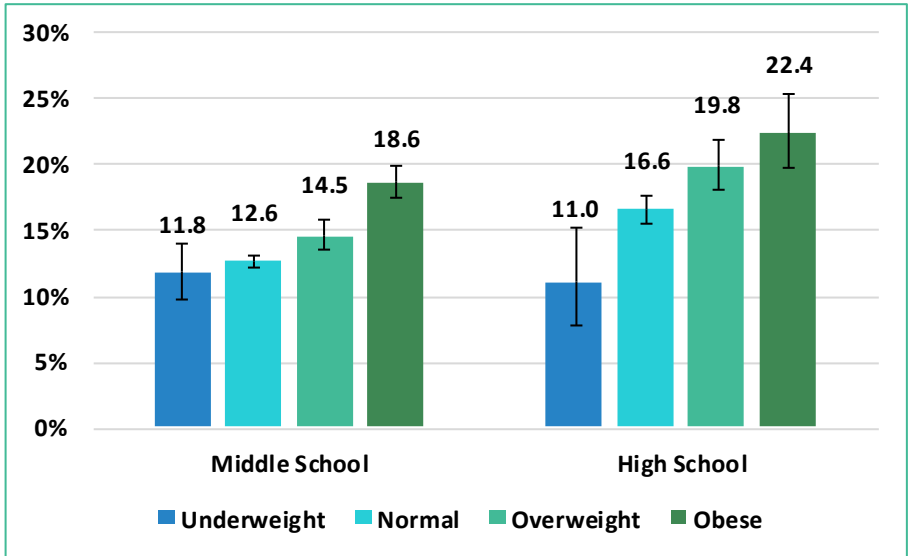
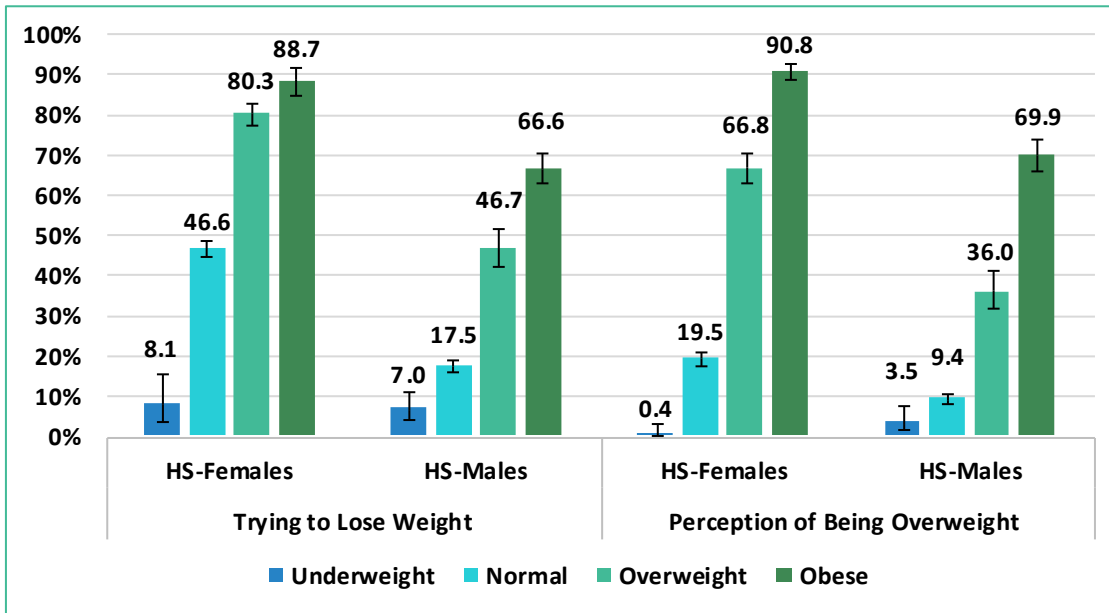


Figure 4. Perception of Weight According to BMI Category for High School Students



Inconsistencies between BMI category, perception of weight, and weight management were noted among Cuyahoga County middle and high school students. Female high school students were more likely than male high school students to be trying to lose weight and to consider themselves overweight, regardless of their weight status (See Fig. 4). Similar patterns were present among middle school females and males, although at lower rates (not depicted). These trends have remained consistent since 2013.

Methods: The Prevention Research Center for Healthy Neighborhoods (PRCHN) regularly uses a two-stage cluster sample design that mimics the sampling method of the Centers for Disease Control and Prevention (CDC) and its national Youth Risk Behavior Survey (YRBS). In 2017, 45 of 58 high schools (77.6%) and 13,907 of 18,098 students (76.8%) participated in the survey. An overall response rate of 60% (77.6 x 76.8) allowed the data to be weighted to the entire population of 9th-12th grade students in Cuyahoga County. In 2016, 95 of 104 schools that enrolled 7th and/or 8th grade students (91.3%), and 13,261 of 14,809 eligible students participated in the survey. An overall response rate of 82% (91.3 x 89.6) allowed the data to be weighted to the entire population of 7th-8th grade students in Cuyahoga County. Analyses were conducted using SPSS statistical software survey procedures to account for the sampling design. Unless otherwise noted, all differences in behavior are significant at the $p < .05$ level.

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* This brief is an update of a previous 2015 brief and shows data from the most recent YRBS administration.

References:

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Full data modules from the YRBS are available online at: <http://www.prchn.org/YRBSresults.aspx>