



Prevention Research Center for Healthy Neighborhoods  
at Case Western Reserve University

# 2016 Cuyahoga County Youth Risk Behavior Survey: Obesity and Weight Control

## Introduction

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The Prevention Research Center for Healthy Neighborhoods (PRCHN) at Case Western Reserve University has administered the Youth Risk Behavior Survey (YRBS) in school districts throughout Cuyahoga County since 2000. The YRBS is a cross-sectional tool developed by the Centers for Disease Control and Prevention (CDC) to track adolescent risk behavior over time. In spring of 2016, the PRCHN conducted the YRBS among 7<sup>th</sup> and 8<sup>th</sup> grade students in Cuyahoga County middle schools. A more detailed description of the methodology is available at our website, <http://prchn.org/yrbs.apxs>.

This brief report presents results from the 2016 Cuyahoga County Middle School Youth Risk Behavior Survey, with a particular focus on Obesity & Weight Control. In this brief report, we present:

- [Overall Prevalence](#)
- [Regional Prevalence](#)
- [Demographic Prevalence](#)
- [Trend Report](#)

Data for similar behaviors can be found at our website, <http://prchn.org/yrbs.aspx>

## Obesity and Weight Control

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Obesity has reached epidemic proportions. In the past 20 years, the prevalence of obesity has increased by more than 60% among adults and tripled in children and adolescents.<sup>i</sup> Overweight adolescents often become overweight adults with an increased risk for a wide variety of poor health outcomes including diabetes, stroke, heart disease, arthritis and certain cancers.<sup>ii, iii</sup> Obesity during adolescence is associated with negative psychological and social consequences and health problems such as type 2 diabetes, obstructive sleep apnea, hypertension, dyslipidemia, and metabolic syndrome.<sup>iv</sup>

Obese was defined as a BMI of  $\geq 95^{\text{th}}$  percentile for age and sex. Overweight was defined as a BMI of  $\geq 85^{\text{th}}$  percentile and  $< 95^{\text{th}}$  percentile for age and sex. Normal weight was defined as a BMI of  $\geq 5^{\text{th}}$  percentile and  $< 85^{\text{th}}$  percentile for age and sex. Underweight was defined as a BMI of  $< 5^{\text{th}}$  percentile for age and sex. It is important to note that BMI is calculated using self-reported height and weight and, therefore, may underestimate the actual prevalence of overweight and obese.

## Overall Prevalence

The following table summarizes obesity and weight control among the 13,261 middle school students who completed the 2016 Cuyahoga County YRBS. Prevalence estimates and 95% confidence intervals were computed for all variables.

Risk Behavior	% (95% Confidence Interval)
<b>Obese</b> (Having a BMI of >95 <sup>th</sup> percentile for age and sex. Calculated from self-reported height and weight, adjusted for sex and age.)	13.2 (12.7-13.6)
<b>Overweight</b> (Having a BMI >85 <sup>th</sup> percentile and <95 <sup>th</sup> percentile for age and sex. Calculated from self-reported height and weight, adjusted for sex and age.)	15.9 (15.4-16.3)
<b>Describes self as slightly or very overweight</b>	24.9 (24.5-25.3)
<b>Trying to lose weight</b>	40.4 (40.0-40.9)

## Regional Prevalence

The table below represents obesity and weight control by the six regions of Cuyahoga County. This division was conducted to provide a geographic representation of the prevalence of different risk behaviors in Cuyahoga County. In 2016, we were able to weight to 5 of 6 regions in Cuyahoga County. The column under Outer Ring-West does not include data because school participation within this region was insufficient to permit weighting.

Risk Behavior	CMSD East % (95% CI)	CMSD West % (95% CI)	Inner Ring East % (95% CI)	Inner Ring West % (95% CI)	Outer Ring East % (95% CI)	Outer Ring West % (95% CI)
<b>Obese</b> (Having a BMI of >95 <sup>th</sup> percentile for age and sex. Calculated from self-reported height and weight, adjusted for sex and age.)	21.0% (18.6-23.7)	18.9% (16.7-21.5)	16.0% (15.3-16.7)	15.1% (14.4-15.8)	7.7% (6.6-8.8)	N/A
<b>Overweight</b> (Having a BMI >85 <sup>th</sup> percentile and <95 <sup>th</sup> percentile for age and sex. Calculated from self-reported height and weight, adjusted for sex and age.)	21.5% (19.2-24.1)	18.7% (16.3-21.5)	19.1% (18.4-19.8)	16.2% (15.2-17.2)	12.6% (11.8-13.3)	N/A
<b>Describes self as slightly or very overweight</b>	21.6% (19.7-23.7)	24.8% (22.5-27.3)	23.9% (23.2-24.6)	31.3% (30.7-32.0)	23.8% (22.7-24.9)	N/A
<b>Trying to lose weight</b>	42.2% (39.9-44.5)	44.9% (42.5-47.3)	41.2% (40.5-41.9)	45.4% (44.9-46.0)	36.3% (35.0-37.6)	N/A

## Demographic Prevalence

The tables below allow for further comparisons of obesity and weight control between demographic groups. Data are presented by gender, race/ethnicity, and grade level. A statistically significant difference exists between groups if the 95% confidence intervals do not overlap.

Obese			
Category	%	CI	
<b>Gender</b>			
Female	12.1	11.4	12.8
Male	14.2	13.6	14.8
<b>Race/Ethnicity</b>			
White	9.5	9.2	9.8
Black	18.4	17.3	19.5
Hispanic	19.4	16.5	22.6
Other/Multiple	14.5	13.4	15.6
<b>Grade</b>			
7th	12.8	12.1	13.5
8th	13.4	12.7	14.2
<b>Total</b>	<b>13.1</b>	<b>12.7</b>	<b>13.6</b>

Overweight			
Category	%	CI	
<b>Gender</b>			
Female	16.1	15.5	16.8
Male	15.6	15.0	16.2
<b>Race/Ethnicity</b>			
White	13.3	13.0	13.7
Black	19.6	18.6	20.6
Hispanic	19.5	16.6	22.7
Other/Multiple	14.4	13.3	15.5
<b>Grade</b>			
7th	15.0	14.2	15.8
8th	16.5	16.0	17.1
<b>Total</b>	<b>15.8</b>	<b>15.4</b>	<b>16.3</b>

Describes self as slightly or very overweight			
Category	%	CI	
<b>Gender</b>			
Female	28.1	27.5	28.7
Male	21.9	21.3	22.4
<b>Race/Ethnicity</b>			
White	25.3	25.0	25.7
Black	23.3	22.5	24.2
Hispanic	28.7	26.0	31.5
Other/Multiple	28.3	27.1	29.7
<b>Grade</b>			
7th	23.7	23.0	24.3
8th	25.9	25.3	26.6
<b>Total</b>	<b>24.8</b>	<b>24.4</b>	<b>25.2</b>

Trying to lose weight			
Category	%	CI	
<b>Gender</b>			
Female	49.3	48.6	50.0
Male	32.1	31.4	32.7
<b>Race/Ethnicity</b>			
White	38.3	38.0	38.7
Black	42.5	41.5	43.5
Hispanic	47.8	44.1	51.5
Other/Multiple	40.1	38.0	42.3
<b>Grade</b>			
7th	40.3	39.6	41.1
8th	40.7	40.1	41.4
<b>Total</b>	<b>40.5</b>	<b>40.1</b>	<b>41.0</b>

## Cuyahoga County Trend Data

The following table presents the prevalence of obesity and weight control among Cuyahoga County middle school students in 2008, 2010, 2012, 2014 and 2016. The prevalence for each year is given (when available), with 95% confidence intervals below.<sup>1</sup>

Cuyahoga County, 2008	Cuyahoga County, 2010	Cuyahoga County, 2012	Cuyahoga County, 2014	Cuyahoga County, 2016
<b>Obese</b> (BMI of >95 <sup>th</sup> percentile for age and sex. Based on self-reported height and weight, adjusted for sex and age.)				
13.7% (12.7-14.6)	12.0% (11.0-13.1)	12.6% (11.4-13.7)	11.8% (11.2-12.5)	13.2% (12.7-13.6)
<b>Overweight</b> (BMI >85 <sup>th</sup> percentile and <95 <sup>th</sup> percentile for age and sex. Based on self-reported height and weight, adjusted for sex and age.)				
19.9% (18.8-20.9)	17.9% (16.6-19.1)	16.4% (15.4-17.4)	17.3% (16.6-18.1)	15.9% (15.4-16.3)
<b>Describes self as slightly or very overweight</b>				
24.9% (23.6-26.3)	24.6% (23.5-25.7)	23.9% (22.8-25.0)	26.2% (25.4-27.0)	24.9% (24.5-25.3)
<b>Trying to lose weight</b>				
39.2% (38.0-40.4)	39.9% (38.6-41.3)	38.6% (37.4-39.9)	40.7% (39.8-41.6)	40.4% (40.0-40.9)

<sup>1</sup> The YRBS questions with two or more data points over 2008-2016 are included. The new 2016 questions are not included for the purpose of demonstrating trends. For those questions not asked in 2016, refer to the PRCHN archives at [www.prchn.org/aspx](http://www.prchn.org/aspx) for more detailed information.

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- <sup>i</sup> National Center for Health Statistics. Prevalence of Overweight among Children and Adolescents: United States, 1999-2002. National Center for Health Statistics Web site. Available at <http://www.cdc.gov/nchs/products/pubs/pubd/hestats/overwght99.htm>. Accessed July 24, 2008.
- <sup>ii</sup> Ferraro, K., Thorpe, R., Wilkinson, J. 2003. The life course of severe obesity: Does childhood overweight matter? *Journal of Gerontology*. 58B(2):S110-S119.
- <sup>iii</sup> Mokdad, A., Ford, E., Bowman, B., et al. 2003. Prevalence of obesity, diabetes, and obesity-related health risk factors, 2001. *Journal of the American Medical Association*. 289(1):76-79.
- <sup>iv</sup> Freedman, D., Khan, L., Serdula, M., Dietz, W., Srinivasan, S., Berenson, G. 2005. The relation of childhood BMI to adult adiposity: The Bogalusa Heart Study. *Pediatrics*. 115(1):22-27.