



Prevention Research Center for Healthy Neighborhoods
at Case Western Reserve University

2018 Cuyahoga County Youth Risk Behavior Survey: Obesity and Weight Control

Introduction

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 Fall of 2018, the PRCHN conducted the YRBS among 7th and 8th grade students in Cuyahoga County middle schools. A more detailed description of the methodology is available at our website, http://prchn.org/yrbs_home.aspx.

This brief report presents results from the 2018 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_home.aspx.

Obesity and Weight Control

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.ⁱ 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.^{ii, iii} 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.^{iv}

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 12,936 middle school students who completed the 2018 Cuyahoga County YRBS. Prevalence estimates and 95% confidence intervals were computed for all variables.

Risk Behavior	% (95% Confidence Interval)
Obese (Having a BMI of >95 th percentile for age and sex. Calculated from self-reported height and weight, adjusted for sex and age.)	13.5 (12.6 - 14.3)
Overweight (Having a BMI >85 th percentile and <95 th percentile for age and sex. Calculated from self-reported height and weight, adjusted for sex and age.)	16.1 (15.0 - 17.3)
Describes self as slightly or very overweight	26.1 (25.0 - 27.2)
Trying to lose weight	40.7 (39.3 - 42.0)

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 2018, we were able to weight to 4 of 6 regions in Cuyahoga County. The columns under Outer Ring-West and Outer Ring-East do not include data because school participation within these regions 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)
Obese (Having a BMI of >95 th percentile for age and sex. Calculated from self-reported height and weight, adjusted for sex and age.)	21.9 (19.6 - 24.3)	18.3 (16.3 - 20.4)	17.7 (15.9 - 19.5)	13.5 (11.8 - 15.4)	N/A	N/A
Overweight (Having a BMI >85 th percentile and <95 th percentile for age and sex. Calculated from self-reported height and weight, adjusted for sex and age.)	20.8 (18.6 - 23.2)	19.3 (16.8 - 22.1)	16.4 (14.7 - 18.3)	17.5 (15.6 - 19.7)	N/A	N/A
Describes self as slightly or very overweight	21.7 (19.4 - 24.1)	26.1 (23.5 - 28.8)	23.4 (21.5 - 25.4)	32.3 (30.1 - 34.6)	N/A	N/A
Trying to lose weight	41.4 (38.9 - 44.0)	44.1 (41.3 - 47.0)	41.2 (39.2 - 43.4)	47.4 (45.0 - 49.8)	N/A	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
Gender		
Female	12.0	10.9 - 13.1
Male	14.7	13.5 - 16.0
Race/Ethnicity		
White	10.0	9.0 - 11.2
Black	19.2	17.7 - 20.7
Hispanic	16.9	14.5 - 19.6
Other/Multiple	12.6	10.3 - 15.3
Grade		
7th	13.1	11.8 - 14.6
8th	13.8	12.6 - 15.1
Total	13.5	12.6 - 14.3

Overweight		
Category	%	CI
Gender		
Female	15.6	14.1 - 17.3
Male	16.6	15.2 - 18.0
Race/Ethnicity		
White	13.7	12.2 - 15.3
Black	20.0	18.4 - 21.6
Hispanic	19.1	16.5 - 21.9
Other/Multiple	15.6	13.4 - 18.1
Grade		
7th	15.8	14.3 - 17.5
8th	16.4	14.8 - 18.0
Total	16.1	13.4 - 17.3

Describes self as slightly or very overweight			
Category	%	CI	
Gender			
Female	28.7	27.2	30.4
Male	23.7	22.2	25.3
Race/Ethnicity			
White	27.6	25.9	29.4
Black	22.6	21.1	24.2
Hispanic	28.9	25.7	32.3
Other/Multiple	27.3	24.6	30.2
Grade			
7th	24.2	22.8	25.6
8th	27.8	26.1	29.4
Total	26.1	25.0	27.2

Trying to lose weight			
Category	%	CI	
Gender			
Female	48.4	46.7	50.2
Male	33.7	32.0	35.4
Race/Ethnicity			
White	39.9	37.9	42.0
Black	41.1	39.4	42.7
Hispanic	43.5	40.4	46.7
Other/Multiple	42.5	39.1	46.0
Grade			
7th	39.3	37.5	41.1
8th	42.2	40.4	44.1
Total	40.7	39.3	42.0

Cuyahoga County Trend Data

The following table presents the prevalence of obesity and weight control among Cuyahoga County middle school students in 2010, 2012, 2014, 2016, and 2018. The prevalence for each year is given (when available), with 95% confidence intervals below.¹

Cuyahoga County, 2010	Cuyahoga County, 2012	Cuyahoga County, 2014	Cuyahoga County, 2016	Cuyahoga County, 2018
Obese (Having a BMI of >95 th percentile for age and sex. Calculated from self-reported height and weight, adjusted for sex and age.)				
12.0% (11.0 - 13.1)	12.6% (11.4 - 13.7)	11.8% (11.2 - 12.5)	13.2% (12.7 - 13.6)	13.5% (12.6 - 14.3)
Overweight (Having a BMI >85 th percentile and <95 th percentile for age and sex. Calculated from self-reported height and weight, adjusted for sex and age.)				
17.9% (16.6 - 19.1)	16.4% (15.4 - 17.4)	17.3% (16.6 - 18.1)	15.9% (15.4 - 16.3)	16.1% (15.0 - 17.3)
Describes self as slightly or very overweight				
24.6% (23.5 - 25.7)	23.9% (22.8 - 25.0)	26.2% (25.4 - 27.0)	24.9% (24.5 - 25.3)	26.1% (25.0 - 27.2)
Trying to lose weight				
39.9% (38.6 - 41.3)	38.6% (37.4 - 39.9)	40.7% (39.8 - 41.6)	40.4% (40.0 - 40.9)	40.7% (39.3 - 42.0)

¹ The YRBS questions with two or more data points over 2010-2018 are included. The new 2018 questions are not included for the purpose of demonstrating trends. For those questions not asked in 2018, refer to the PRCHN archives at www.prchn.org/aspx for more detailed information.

Contact Information

Prepared by:

Prevention Research Center for Healthy Neighborhoods
Case Western Reserve University
10900 Euclid Avenue
Cleveland, Ohio 44106-7069
www.prchn.org

For more information, please contact:

Erika S. Trapl, PhD
Associate Professor, Department of Population & Quantitative Health Sciences
Associate Director, Prevention Research Center for Healthy Neighborhoods
Case Western Reserve University
Erika.trapl@case.edu
216-368-0098

Jean L. Frank, MPH
Director of Adolescent Surveillance and Evaluation
Prevention Research Center for Healthy Neighborhoods
Case Western Reserve University
Jean.frank@case.edu
216-368-5913

Audrey E. Kinsella, MPH
Community and Evaluation Project Coordinator
Prevention Research Center for Healthy Neighborhoods
Case Western Reserve University
Audrey.kinsella@case.edu
216-368-5746

Catherine C. Osborn, MA
School-based Surveillance & Evaluation Coordinator
Prevention Research Center for Healthy Neighborhoods
Case Western Reserve University
Catherine.osborn@case.edu

Jude Fahoum, BA
School-based Surveillance and Evaluation Specialist
Prevention Research Center for Health Neighborhoods
Case Western Reserve University
Jude.fahoum@case.edu

Marisa Hollinshead, BS
Graduate Assistant
Prevention Research Center for Healthy Neighborhoods
Case Western Reserve University
Marisa.hollinshead@case.edu

Funding

This work is a product of a Health Promotion and Disease Prevention Research Center supported by Cooperative Agreement Number 1U48DP005030 and by Cooperative Agreement Number: NU87PS2018-004348 from the Centers for Disease Control and Prevention, and by TP1AH000093-01-00 from The Office of Adolescent Health. This work is also supported by the Cleveland Foundation, the Educational Service Center of NE Ohio, the George Gund Foundation, and the Sisters of Charity Foundation of Cleveland. The findings and conclusions in this report are those of the author(s) and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

CWRU IRB Protocol #2012-274.

-
- ⁱ 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.
- ⁱⁱ Ferraro, K., Thorpe, R., Wilkinson, J. 2003. The life course of severe obesity: Does childhood overweight matter? *Journal of Gerontology*. 58B(2):S110-S119.
- ⁱⁱⁱ 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.
- ^{iv} 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.