

Prevalence of Overweight, Obesity, and Severe Obesity Among Children and Adolescents Aged 2–19 Years: United States, 1963–1965 Through 2017–2018

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Body mass index (BMI), expressed as weight in kilograms divided by height in meters squared (kg/m^2), is used commonly to classify obesity among adults, and also is recommended for use with children and adolescents. Cutoff criteria are based on the sex-specific BMI-for-age 2000 CDC Growth Charts for the United States (available from: https://www.cdc.gov/growthcharts/cdc_charts.htm). Based on recommendations from expert committees, children and adolescents with BMI values at or above the 95th percentile of the growth charts are categorized as having obesity. Severe obesity is BMI at or above 120% of the 95th percentile.

Results from the 2017–2018 National Health and Nutrition Examination Survey (NHANES), using measured heights and weights, indicate that an estimated 19.3% of U.S. children and adolescents aged 2–19 years have obesity, including 6.1% with severe obesity, and another 16.1% are overweight.

Table 1 shows the prevalence of overweight, obesity, and severe obesity among children and adolescents aged 2–19 years from 1971–1974 through 2017–2018.

Estimates of the prevalence of childhood obesity during the 1960s are available for certain age groups. **Table 2** shows the prevalence of obesity among children and adolescents aged 2–5, 6–11, and 12–19 years since 1963–1965, by sex and age. The **Figure** shows trends in obesity by age.

Table 3 shows the prevalence of obesity by race and Hispanic origin among children and adolescents aged 2–19 years since 1988–1994.

Although BMI is widely used as a measure of body fat, at a given BMI level, body fat may vary by sex, age, and race and Hispanic origin. In particular, research suggests that health risks may begin at a lower BMI among Asian persons compared with others (1,2).

NHANES, conducted by the National Center for Health Statistics, is a stratified, multistage probability sample of the civilian noninstitutionalized population of the United States. A household interview and a physical examination are conducted for each survey participant. During the physical examination, conducted in a mobile examination center, height and weight are measured as part of a more comprehensive set of body measurements. These measurements are taken by trained health technicians, using standardized measuring procedures and equipment.

Observations for persons missing a valid height or weight measurement and for pregnant females are not included in the data analysis.

For additional information on NHANES methods, visit: <https://wwwn.cdc.gov/nchs/nhanes/analyticguidelines.aspx>.

For more detailed estimates, see:

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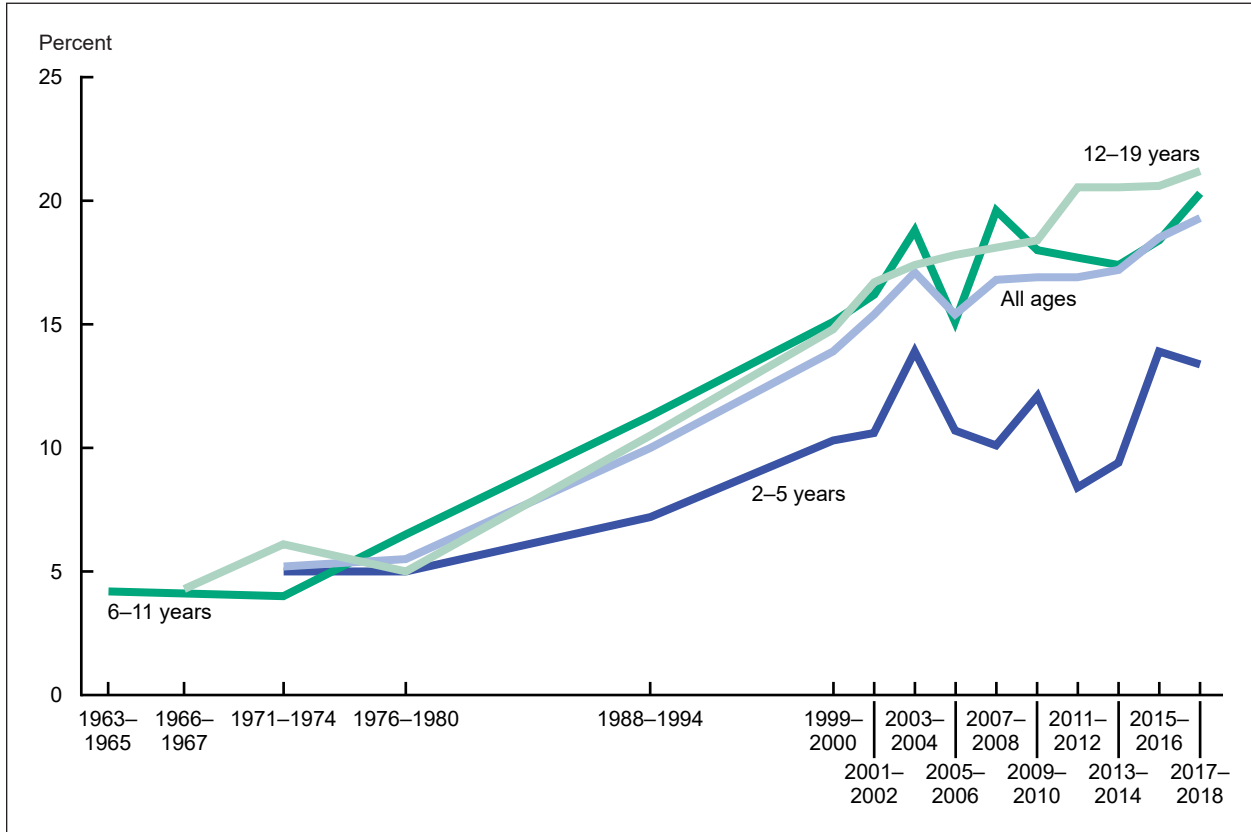
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Figure. Trends in obesity among children and adolescents aged 2–19 years, by age: United States, 1963–1965 through 2017–2018



NOTE: Obesity is body mass index (BMI) at or above the 95th percentile from the sex-specific BMI-for-age 2000 CDC Growth Charts.
 SOURCES: National Center for Health Statistics, National Health Examination Surveys II (ages 6–11), III (ages 12–17); and National Health and Nutrition Examination Surveys (NHANES) I–III, and NHANES 1999–2000, 2001–2002, 2003–2004, 2005–2006, 2007–2008, 2009–2010, 2011–2012, 2013–2014, 2015–2016, and 2017–2018.

Table 1. Prevalence of overweight, obesity, and severe obesity among children and adolescents aged 2–19 years, by sex: United States, 1971–1974 through 2017–2018

Survey period	Sample (n)	All ¹			Boys			Girls ¹		
		Overweight	Obesity	Severe obesity	Overweight	Obesity	Severe obesity	Overweight	Obesity	Severe obesity
Percent (standard error)										
1971–1974	7,041	10.2 (0.6)	5.2 (0.3)	1.0 (0.1)	10.3 (0.8)	5.3 (0.5)	1.0 (0.2)	10.1 (0.8)	5.1 (0.4)	1.0 (0.2)
1976–1980	7,351	9.2 (0.4)	5.5 (0.4)	1.3 (0.2)	9.4 (0.6)	5.4 (0.4)	1.2 (0.3)	9.0 (0.5)	5.6 (0.6)	1.3 (0.3)
1988–1994	10,777	13.0 (0.7)	10.0 (0.5)	2.6 (0.4)	12.6 (0.9)	10.2 (0.7)	2.7 (0.5)	13.4 (0.9)	9.8 (0.8)	2.6 (0.4)
1999–2000	4,039	14.2 (0.9)	13.9 (0.9)	3.6 (0.5)	15.0 (1.9)	14.0 (1.2)	3.7 (0.7)	13.4 (0.8)	13.8 (1.1)	3.6 (0.6)
2001–2002	4,261	14.6 (0.6)	15.4 (0.9)	5.2 (0.5)	14.2 (0.7)	16.4 (1.0)	6.1 (0.8)	15.0 (0.9)	14.3 (1.3)	4.2 (0.6)
2003–2004	3,961	16.5 (0.8)	17.1 (1.3)	5.1 (0.6)	16.6 (1.0)	18.2 (1.5)	5.4 (0.8)	16.3 (0.9)	16.0 (1.4)	4.7 (0.7)
2005–2006	4,207	14.6 (0.9)	15.4 (1.4)	4.7 (0.6)	14.7 (1.2)	15.9 (1.5)	4.9 (0.8)	14.6 (1.0)	14.9 (1.6)	4.5 (0.7)
2007–2008	3,249	14.8 (0.7)	16.8 (1.3)	4.9 (0.6)	14.3 (0.7)	17.7 (1.4)	5.5 (0.8)	15.4 (1.5)	15.9 (1.5)	4.3 (0.8)
2009–2010	3,408	14.9 (0.8)	16.9 (0.7)	5.6 (0.6)	14.4 (1.0)	18.6 (1.1)	6.4 (1.0)	15.4 (0.9)	15.0 (0.8)	4.7 (0.6)
2011–2012	3,355	14.9 (0.9)	16.9 (1.0)	5.6 (0.7)	15.4 (1.3)	16.7 (1.4)	5.7 (0.9)	14.5 (1.4)	17.2 (1.2)	5.5 (0.8)
2013–2014	3,523	16.2 (0.6)	17.2 (1.1)	6.0 (0.6)	16.4 (0.8)	17.2 (1.3)	5.6 (0.6)	16.0 (1.0)	17.1 (1.6)	6.3 (0.9)
2015–2016	3,340	16.6 (0.8)	18.5 (1.3)	5.6 (0.8)	15.7 (1.0)	19.1 (1.7)	6.3 (1.0)	17.6 (1.2)	17.8 (1.2)	4.9 (0.9)
2017–2018	2,824	16.1 (0.8)	19.3 (1.0)	6.1 (0.7)	14.7 (1.2)	20.5 (1.1)	6.9 (0.9)	17.6 (1.1)	18.0 (1.4)	5.2 (0.7)

¹Excludes pregnant females.

NOTES: Overweight is body mass index (BMI) at or above the 85th percentile and below the 95th percentile from the sex-specific BMI-for-age 2000 CDC Growth Charts. Obesity is BMI at or above the 95th percentile. Severe obesity is BMI at or above 120% of the 95th percentile.

SOURCE: National Center for Health Statistics, National Health and Nutrition Examination Surveys, 1971–1974, 1976–1980, 1988–1994, and 1999–2018.

Table 2. Prevalence of obesity among children and adolescents aged 2–19 years, by sex and age: United States, 1963–1965 through 2017–2018

Survey period	All ¹			Boys			Girls ¹		
	2–5 years	6–11 years	12–19 years	2–5 years	6–11 years	12–19 years	2–5 years	6–11 years	12–19 years
	Percent (standard error)								
1963–1965	---	4.2 (0.4)	---	---	4.0 (0.4)	---	---	4.5 (0.6)	---
1966–1970 ²	---	---	4.6 (0.3)	---	---	4.5 (0.4)	---	---	4.7 (0.3)
1971–1974	5.0 (0.6)	4.0 (0.5)	6.1 (0.6)	5.0 (0.8)	4.3 (0.8)	6.1 (0.8)	4.9 (0.8)	3.6 (0.6)	6.2 (0.8)
1976–1980	5.0 (0.6)	6.5 (0.6)	5.0 (0.5)	4.7 (0.6)	6.6 (0.8)	4.8 (0.5)	5.3 (1.0)	6.4 (1.0)	5.3 (0.8)
1988–1994	7.2 (0.7)	11.3 (1.0)	10.5 (0.9)	6.2 (0.8)	11.6 (1.3)	11.3 (1.3)	8.2 (1.0)	11.0 (1.4)	9.7 (1.1)
1999–2000	10.3 (1.7)	15.1 (1.4)	14.8 (0.9)	9.5 (2.3)	15.8 (1.8)	14.8 (1.3)	11.2 (2.5)	14.3 (2.1)	14.8 (1.0)
2001–2002	10.6 (1.8)	16.2 (1.6)	16.7 (1.1)	10.7 (2.4)	17.5 (1.9)	17.6 (1.3)	10.5 (1.8)	14.8 (2.3)	15.7 (1.9)
2003–2004	13.9 (1.6)	18.8 (1.3)	17.4 (1.7)	15.1 (1.7)	19.9 (2.0)	18.2 (1.9)	12.7 (2.5)	17.6 (1.3)	16.4 (2.3)
2005–2006	10.7 (1.1)	15.1 (2.1)	17.8 (1.8)	10.4 (1.7)	16.2 (2.5)	18.2 (2.4)	11.0 (1.2)	14.1 (2.4)	17.3 (2.1)
2007–2008	10.1 (1.2)	19.6 (1.2)	18.1 (1.7)	9.3 (1.5)	21.2 (1.6)	19.3 (2.2)	10.9 (2.1)	18.0 (2.1)	16.8 (2.0)
2009–2010	12.1 (1.2)	18.0 (0.8)	18.4 (1.3)	14.4 (1.8)	20.1 (1.0)	19.6 (2.3)	9.6 (1.7)	15.7 (1.0)	17.1 (1.3)
2011–2012	8.4 (1.3)	17.7 (1.6)	20.5 (1.7)	9.5 (1.9)	16.4 (1.8)	20.3 (2.4)	*7.2 (2.1)	19.1 (1.7)	20.7 (2.0)
2013–2014	9.4 (1.3)	17.4 (1.7)	20.6 (2.1)	8.8 (2.0)	18.8 (2.4)	19.8 (2.2)	10.0 (1.3)	15.9 (1.9)	21.4 (3.2)
2015–2016	13.9 (1.1)	18.4 (1.7)	20.6 (2.0)	14.3 (1.2)	20.4 (2.1)	20.2 (2.6)	13.5 (1.7)	16.3 (1.8)	20.9 (2.0)
2017–2018	13.4 (1.3)	20.3 (1.8)	21.2 (1.3)	14.7 (1.8)	21.3 (2.3)	22.5 (1.3)	12.2 (1.4)	19.2 (2.1)	19.9 (2.2)

--- Data not available. National Health Examination Surveys (NHES) 1963–1965 did not include children aged 2–5 and 12–19. NHES 1966–1970 did not include children aged 2–5 and 6–11.

* Estimate has a confidence interval width between 5 and 30 and a relative confidence interval width greater than 130%, and does not meet National Center for Health Statistics standards of reliability; see Series Report 2, Number 175 (https://www.cdc.gov/nchs/data/series/sr_02/sr02_175.pdf).

¹Excludes pregnant females starting with 1971–1974. Pregnancy status not available for 1963–1965 and 1966–1970.

²Data are for adolescents aged 12–17, not 12–19.

NOTE: Obesity is body mass index (BMI) at or above the 95th percentile from the sex-specific BMI-for-age 2000 CDC Growth Charts.

SOURCES: National Center for Health Statistics, National Health Examination Surveys, 1963–1965 and 1966–1970; and National Health and Nutrition Examination Surveys, 1971–1974, 1976–1980, 1988–1994, and 1999–2018.

Table 3. Prevalence of obesity among children and adolescents aged 2–19 years, by sex and race and Hispanic origin: United States, 1988–1994 through 2017–2018

Survey period	Non-Hispanic white	Non-Hispanic black	Non-Hispanic Asian	Hispanic	Mexican American
All ¹	Percent (standard error)				
1988–1994	9.1 (0.7)	12.5 (0.7)	---	---	14.3 (1.4)
1999–2000	11.0 (1.3)	18.8 (1.0)	---	---	20.2 (1.4)
2001–2002	13.8 (1.5)	17.4 (1.0)	---	---	19.5 (1.3)
2003–2004	16.4 (1.8)	20.0 (1.1)	---	---	19.2 (1.8)
2005–2006	12.8 (1.8)	21.3 (1.5)	---	---	22.5 (1.8)
2007–2008	15.3 (2.0)	20.0 (1.3)	---	21.0 (1.4)	20.8 (2.2)
2009–2010	14.0 (1.2)	24.3 (1.9)	---	21.2 (0.8)	21.2 (1.2)
2011–2012	14.1 (1.7)	20.2 (1.8)	8.6 (1.6)	22.4 (1.0)	22.7 (1.0)
2013–2014	15.3 (1.7)	18.8 (1.6)	8.6 (1.6)	21.3 (1.6)	21.8 (2.0)
2015–2016	14.1 (1.1)	22.0 (2.7)	11.0 (1.8)	25.8 (1.5)	26.8 (1.4)
2017–2018	16.1 (1.5)	24.2 (2.0)	8.7 (1.1)	25.6 (1.9)	26.9 (2.5)
Boys					
1988–1994	9.7 (1.1)	10.6 (0.8)	---	---	14.8 (1.4)
1999–2000	10.9 (1.5)	16.4 (1.2)	---	---	23.5 (1.5)
2001–2002	15.0 (1.5)	15.5 (1.3)	---	---	22.0 (1.3)
2003–2004	17.8 (2.2)	16.4 (1.5)	---	---	22.0 (1.6)
2005–2006	13.4 (1.9)	18.3 (1.3)	---	---	24.3 (2.7)
2007–2008	15.6 (1.9)	17.3 (2.2)	---	24.5 (1.7)	24.9 (2.3)
2009–2010	16.1 (1.8)	24.3 (2.8)	---	23.4 (1.4)	24.0 (1.7)
2011–2012	12.6 (2.4)	19.9 (1.1)	11.5 (2.1)	24.1 (1.4)	24.2 (1.5)
2013–2014	15.9 (2.0)	16.8 (1.9)	12.1 (3.0)	20.6 (2.0)	19.5 (2.1)
2015–2016	14.6 (1.6)	19.0 (2.7)	11.7 (2.2)	28.0 (2.8)	29.2 (2.1)
2017–2018	17.4 (1.5)	19.4 (2.0)	12.4 (2.4)	28.1 (3.3)	29.2 (3.1)
Girls ¹					
1988–1994	8.6 (1.1)	14.5 (1.1)	---	---	13.8 (1.9)
1999–2000	11.1 (1.8)	21.4 (1.4)	---	---	16.8 (1.9)
2001–2002	12.7 (1.9)	19.5 (1.3)	---	---	17.0 (1.9)
2003–2004	14.9 (1.9)	23.8 (1.4)	---	---	16.1 (2.3)
2005–2006	12.2 (2.2)	24.4 (2.2)	---	---	20.6 (1.6)
2007–2008	14.9 (2.5)	22.8 (2.4)	---	17.3 (1.7)	16.6 (2.5)
2009–2010	11.7 (1.1)	24.3 (2.6)	---	18.9 (1.8)	18.2 (2.5)
2011–2012	15.6 (2.1)	20.5 (3.1)	*5.6 (2.4)	20.6 (1.5)	21.1 (1.7)
2013–2014	14.6 (2.8)	20.9 (1.6)	*5.0 (1.0)	22.1 (2.1)	24.2 (2.8)
2015–2016	13.5 (1.4)	25.1 (4.2)	10.1 (2.2)	23.6 (1.8)	24.3 (2.3)
2017–2018	14.8 (2.4)	29.1 (2.9)	*5.1 (1.5)	23.0 (2.6)	24.9 (3.0)

--- Data not available.

* Estimate has a confidence interval width between 5 and 30 and a relative confidence interval width greater than 130%, and does not meet National Center for Health Statistics standards of reliability; see Series Report 2, Number 175 (https://www.cdc.gov/nchs/data/series/sr_02/sr02_175.pdf).

¹Excludes pregnant females.

NOTE: Obesity is body mass index (BMI) at or above the 95th percentile from the sex-specific BMI-for-age 2000 CDC Growth Charts.

SOURCE: National Center for Health Statistics, National Health and Nutrition Examination Surveys, 1988–1994 and 1999–2018.