

## Health E-Stat 112: Prevalence of Overweight, Obesity, and Severe Obesity Among Children and Adolescents Ages 2–19 Years: United States, 1963–1965 Through August 2021–August 2023

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Body mass index (BMI), expressed as weight in kilograms divided by height in meters squared ( $\text{kg}/\text{m}^2$ ), is commonly used to classify obesity among adults and is also 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 (<https://www.cdc.gov/growthcharts/cdc-growth-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. This report presents historical trends in overweight, obesity, and severe obesity over time by age, sex, and race and ethnicity among children and adolescents using measured heights and weights from the National Health and Nutrition Examination Survey (NHANES).

In August 2021–August 2023, an estimated 21.1% of U.S. children and adolescents ages 2–19 years had obesity, including 7.0% with severe obesity and another 15.1% who were overweight.

**Table 1** shows the prevalence of overweight, obesity, and severe obesity among children and adolescents ages 2–19 years from 1971–1974 through August 2021–August 2023. **Table 2** shows the prevalence of obesity among children and adolescents ages 2–5, 6–11, and 12–19 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 and sex among children and adolescents ages 2–19 since 1988–1994.

### Data source and methods

NHANES, conducted by the National Center for Health Statistics, is a stratified, multistage probability sample of the U.S. civilian noninstitutionalized population. NHANES included oversampling of total Hispanic people starting in 2007–2008 and of Asian non-Hispanic people starting in 2011–2012. Data collection was interrupted due to the COVID-19 pandemic



in March 2020 and resumed in August 2021 with a new sample design that included no oversampling by race and Hispanic origin.

A household interview and a health examination are conducted for each survey participant. During the health 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. Data for people missing a valid height or weight measurement and for pregnant females are not included in the data analysis. 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. Research suggests that health risks may begin at a lower BMI among Asian people compared with others (1,2). Additionally, research suggests that BMI overestimates adiposity (body fat) among Black non-Hispanic children and adolescents at a given BMI compared with others (3).

Examination sample weights and design variables were used to account for the complex sample design. Analyses were conducted using SAS version 9.4 (SAS Institute, Cary, NC) and SAS-callable SUDAAN version 11.0 (RTI International, Research Triangle Park, NC).

Visit the NHANES website for additional information on methods (<https://www.cdc.gov/nchs/nhanes/analyticguidelines.aspx>).

For more detailed estimates, see:

- Ogden CL, Flegal KM, Carroll MD, Johnson CL. Prevalence and trends in overweight among US children and adolescents, 1999–2000. *JAMA*. 2002 Oct;288(14):1728–32.
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- Ogden CL, Fryar CD, Martin CB, Freedman DS, Carroll MD, Gu Q, Hales CM. Trends in obesity prevalence by race and Hispanic origin—1999–2000 to 2017–2018. *JAMA*. 2020 Sep;324(12):1208–10. DOI: <https://dx.doi.org/10.1001/jama.2020.14590>.

- Emmerich SD, Fryar CD, Stierman B, Gu Q, Afful J, Ogden CL. Trends in obesity-related measures among US children, adolescents, and adults. *JAMA*. 2025 Mar;333(12):1082–4. PMID: 39946125; PMCID: PMC11826431. DOI: <https://dx.doi.org/10.1001/jama.2024.27676>.

This *Health E-Stat* supersedes the earlier version, Prevalence of Overweight, Obesity, and Severe Obesity Among Children and Adolescents Aged 2–19 Years: United States, 1963–1965 Through 2017–2018 (<https://www.cdc.gov/nchs/data/hestat/obesity-child-17-18/obesity-child.htm>).

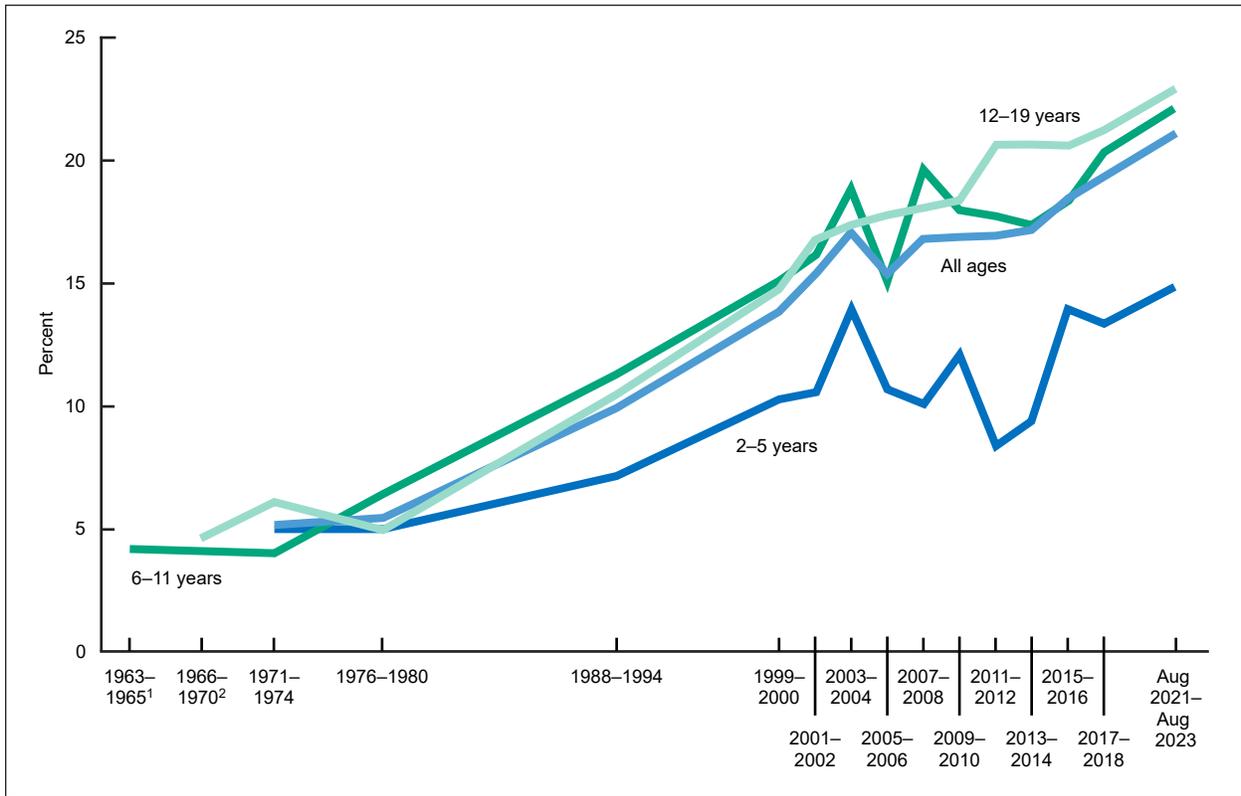
## References

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3. Flegal KM, Ogden CL, Yanovski JA, Freedman DS, Shepherd JA, Graubard BI, et al. High adiposity and high body mass index-for-age in US children and adolescents overall and by race-ethnic group. *Am J Clin Nutr*. 2010 Apr;91(4):1020–6.

## Suggested citation

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**Figure. Trends in obesity among children and adolescents ages 2–19 years, by age group: United States, 1963–1965 through August 2021–August 2023**



<sup>1</sup>Survey did not include ages 2–5 or 12–19.

<sup>2</sup>Survey did not include ages 2–5 or 6–11; data for adolescents is ages 12–17, not 12–19.

NOTES: Obesity is defined as 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 Examination Surveys, 1963–1965 and 1966–1970; and National Health and Nutrition Examination Surveys, 1971–1974, 1976–1980, 1988–1994, 1999–2018, and August 2021–August 2023.

**Table 1. Prevalence of overweight, obesity, and severe obesity in children and adolescents ages 2–19 years, by sex: United States, 1971–1974 through August 2021–August 2023**

Survey period	Sample (n)	All <sup>1</sup>			Boys			Girls <sup>1</sup>		
		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)
August 2021–August 2023.....	2,492	15.1 (1.0)	21.1 (1.1)	7.0 (0.6)	13.0 (0.9)	23.0 (1.4)	7.8 (1.2)	17.5 (1.5)	19.1 (1.5)	6.3 (0.8)

<sup>1</sup>Excludes pregnant females.

NOTE: 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, and 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, 1999–2018, and August 2021–August 2023.

**Table 2. Prevalence of obesity among children and adolescents ages 2–19 years, by sex and age group: United States, 1963–1965 through August 2021–August 2023**

Survey period	All <sup>1</sup>			Boys			Girls <sup>1</sup>		
	2–5	6–11	12–19	2–5	6–11	12–19	2–5	6–11	12–19
	Percent (standard error)								
1963–1965.....	---	4.2 (0.4)	---	---	4.0 (0.4)	---	---	4.5 (0.6)	---
1966–1970 <sup>2</sup> .....	---	---	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)
August 2021–August 2023.....	14.9 (1.3)	22.1 (2.0)	22.9 (1.7)	14.6 (2.2)	23.7 (3.5)	26.0 (1.8)	15.2 (1.9)	20.4 (2.1)	19.6 (2.2)

--- Data not available because National Health and Nutrition Examination Survey period 1963–1965 did not include ages 2–5 or 12–19 and 1966–1970 did not include ages 2–5 or 6–11.  
 \* Estimate has a confidence interval width between 5 and 30 and a relative confidence interval width of greater than 130% and does not meet National Center for Health Statistics standards of reliability or precision; see Series 2, Number 175 ([https://www.cdc.gov/nchs/data/series/sr\\_02/sr02\\_175.pdf](https://www.cdc.gov/nchs/data/series/sr_02/sr02_175.pdf)).  
<sup>1</sup>Excludes pregnant females starting with 1971–1974. Pregnancy status is not available for survey periods 1963–1965 and 1966–1970.  
<sup>2</sup>Data are for adolescents ages 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, 1999–2018, and August 2021–August 2023.

**Table 3. Prevalence of obesity among children and adolescents ages 2–19 years, by sex and race and ethnicity: United States, 1988–1994 through August 2021–August 2023**

Survey period	Boys					Girls <sup>1</sup>				
	Asian, non-Hispanic	Black, non-Hispanic	Hispanic	Mexican American	White, non-Hispanic	Asian, non-Hispanic	Black, non-Hispanic	Hispanic	Mexican American	White, non-Hispanic
	Percent (standard error)									
1988–1994.....	---	10.6 (0.8)	---	14.8 (1.4)	9.7 (1.1)	---	14.5 (1.1)	---	13.8 (1.9)	8.6 (1.1)
1999–2000.....	---	16.4 (1.2)	---	23.5 (1.5)	10.9 (1.5)	---	21.4 (1.4)	---	16.8 (1.9)	11.1 (1.8)
2001–2002.....	---	15.5 (1.3)	---	22.0 (1.3)	15.0 (1.5)	---	19.5 (1.3)	---	17.0 (1.9)	12.7 (1.9)
2003–2004.....	---	16.4 (1.5)	---	22.0 (1.6)	17.8 (2.2)	---	23.8 (1.4)	---	16.1 (2.3)	14.9 (1.9)
2005–2006.....	---	18.3 (1.3)	---	24.3 (2.7)	13.4 (1.9)	---	24.4 (2.2)	---	20.6 (1.6)	12.2 (2.2)
2007–2008.....	---	17.3 (2.2)	24.5 (1.7)	24.9 (2.3)	15.6 (1.9)	---	22.8 (2.4)	17.3 (1.7)	16.6 (2.5)	14.9 (2.5)
2009–2010.....	---	24.3 (2.8)	23.4 (1.4)	24.0 (1.7)	16.1 (1.8)	---	24.3 (2.6)	18.9 (1.8)	18.2 (2.5)	11.7 (1.1)
2011–2012.....	11.5 (2.1)	19.9 (1.1)	24.1 (1.4)	24.2 (1.5)	12.6 (2.4)	*5.6 (2.4)	20.5 (3.1)	20.6 (1.5)	21.1 (1.7)	15.6 (2.1)
2013–2014.....	12.1 (3.0)	16.8 (1.9)	20.6 (2.0)	19.5 (2.1)	15.9 (2.0)	*5.0 (1.0)	20.9 (1.6)	22.1 (2.1)	24.2 (2.8)	14.6 (2.8)
2015–2016.....	11.7 (2.2)	19.0 (2.7)	28.0 (2.8)	29.2 (2.1)	14.6 (1.6)	10.1 (2.2)	25.1 (4.2)	23.6 (1.8)	24.3 (2.3)	13.5 (1.4)
2017–2018.....	12.4 (2.4)	19.4 (2.0)	28.1 (3.3)	29.2 (3.1)	17.4 (1.5)	5.1 (1.5)	29.1 (2.9)	23.0 (2.6)	24.9 (3.0)	14.8 (2.4)
August 2021–August 2023.....	*14.2 (4.1)	†38.1 (5.7)	29.8 (3.9)	*31.4 (6.9)	18.7 (1.6)	*7.4 (2.2)	29.9 (5.6)	23.1 (2.5)	23.1 (2.8)	15.7 (1.6)

--- 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 NCHS standards of reliability or precision; see Series 2, Number 175 ([https://www.cdc.gov/nchs/data/series/sr\\_02/sr02\\_175.pdf](https://www.cdc.gov/nchs/data/series/sr_02/sr02_175.pdf)).

† See Ogden et al. for more discussion about estimates by race and ethnicity using August 2021–August 2023 NHANES data: Ogden CL, Emmerich SD, Stierman B, Chen T-C, Simon AE, Freedman DS, et al. Obesity among children and adolescents in NHANES August 2021–August 2023: An examination of race/Hispanic origin subgroup estimates. *Pediatr Obes.* 2025 Oct;20(10):e70041. DOI: <https://doi.org/10.1111/ijpo.70041>.

<sup>1</sup>Excludes 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 Survey, 1988–1994, 1999–2018, and August 2021–August 2023.