

Fast Food Intake Among Children and Adolescents in the United States, 2015–2018

Cheryl D. Fryar, M.S.P.H, Margaret D. Carroll, M.S.P.H, Namanjeet Ahluwalia, Ph.D., and Cynthia L. Ogden, Ph.D.

Key findings

Data from the National Health and Nutrition Examination Survey

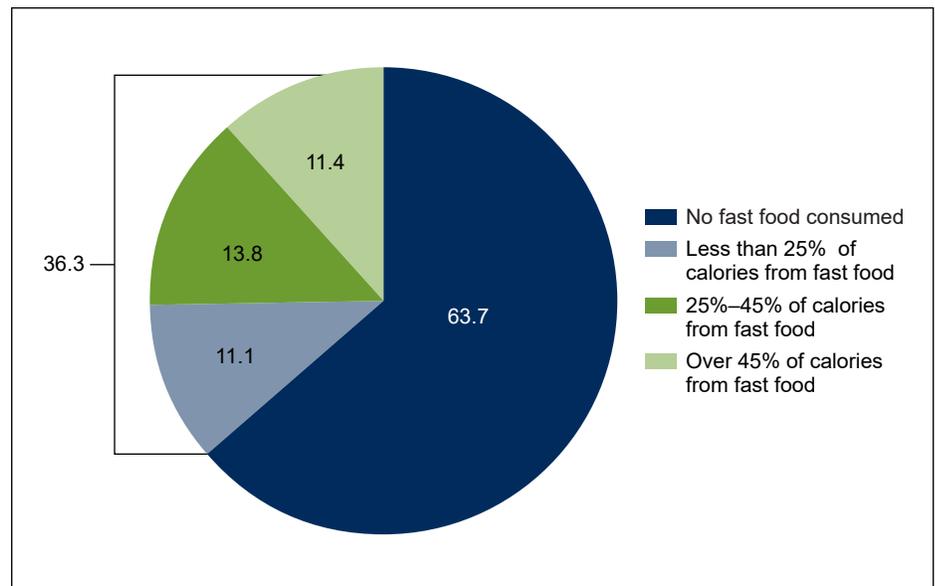
- During 2015–2018, over one-third (36.3%) of children and adolescents consumed fast food on a given day.
- During 2015–2018, children and adolescents consumed on average 13.8% of their daily calories from fast food on a given day. Adolescents aged 12–19 consumed a higher percentage of calories from fast food than children aged 2–11 years.
- Non-Hispanic white adolescents aged 12–19 consumed a lower percentage of calories from fast food on a given day than both non-Hispanic black and Hispanic adolescents.
- The percentage of calories from fast food in children and adolescents decreased from 14.1% in 2003–2004 to 10.6% in 2009–2010, and then increased to 14.4% in 2017–2018.

Fast food has been associated with higher caloric intake and poorer diet quality in children and adolescents (1). In 2011–2012, children and adolescents aged 2–19 years consumed on average 12.4% of their daily calories from fast food on a given day (2). This report presents 2015–2018 estimates of the percentage of calories consumed from fast food on a given day among U.S. children and adolescents by demographic characteristics and trends since 2003.

What percentage of children and adolescents consumed fast food on a given day?

During 2015–2018, 36.3% of children and adolescents aged 2–19 years consumed fast food on a given day (Figure 1). Among children and adolescents, 11.1% obtained less than 25% of their daily calories from fast food, 13.8% obtained 25%–45% of their daily calories from fast food, and 11.4% obtained more than 45% of their daily calories from fast food.

Figure 1. Percentage of children and adolescents aged 2–19 years who consumed fast food on a given day, by percentage of daily calories consumed: United States, 2015–2018



NOTE: Access data table for Figure 1 at: <https://www.cdc.gov/nchs/data/databriefs/db375-tables-508.pdf#1>.
SOURCE: National Center for Health Statistics, National Health and Nutrition Examination Survey, 2015–2018.



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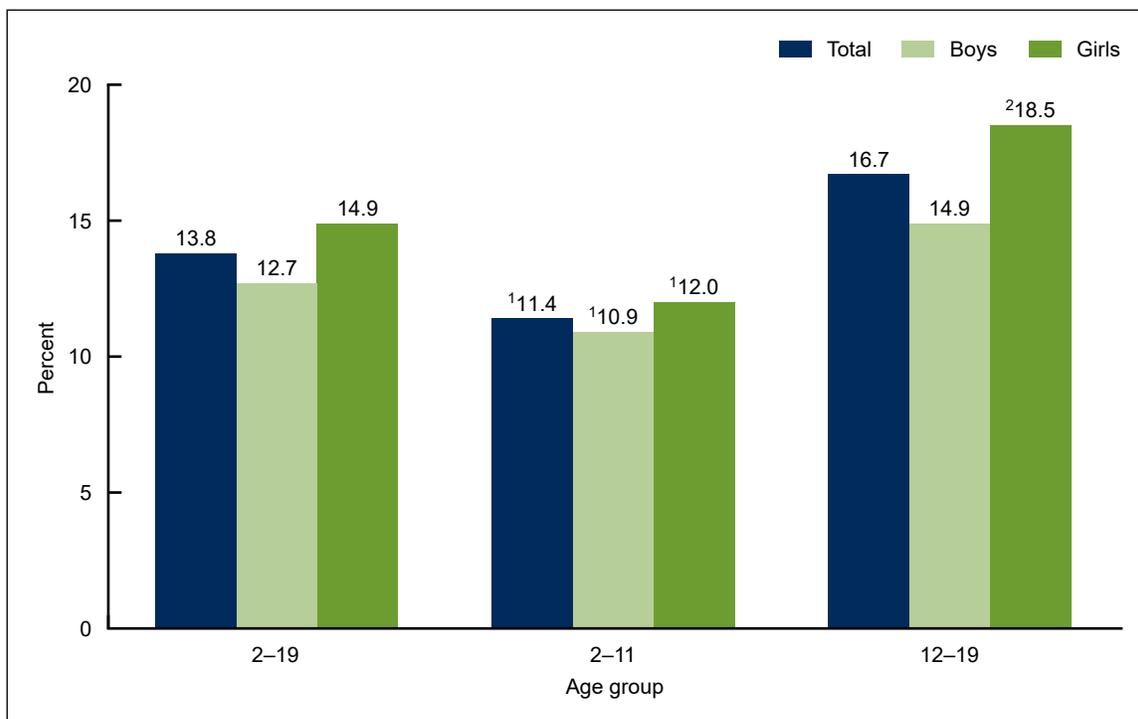


Did the percentage of calories consumed from fast food on a given day differ by sex or age?

During 2015–2018, children and adolescents aged 2–19 years consumed on average 13.8% of their daily calories from fast food (Figure 2). For boys and girls overall, the observed difference in the percentage of calories from fast food was not significant. There was no difference by sex for children aged 2–11 years but in adolescents aged 12–19, girls (18.5%) had a higher average daily intake than boys (14.9%).

The percentage of calories consumed from fast food increased with age. In children aged 2–11 years, the average percentage of calories consumed from fast food was 11.4%, while in adolescents aged 12–19, the average percentage of calories consumed was 16.7%. This difference by age was seen among both boys and girls.

Figure 2. Mean percentage of calories from fast food on a given day among children and adolescents aged 2–19 years, by sex and age: United States, 2015–2018



¹Significantly different from those aged 12–19 years.

²Significantly different from boys of the same age group.

NOTE: Access data table for Figure 2 at: <https://www.cdc.gov/nchs/data/databriefs/db375-tables-508.pdf#2>.

SOURCE: National Center for Health Statistics, National Health and Nutrition Examination Survey, 2015–2018.

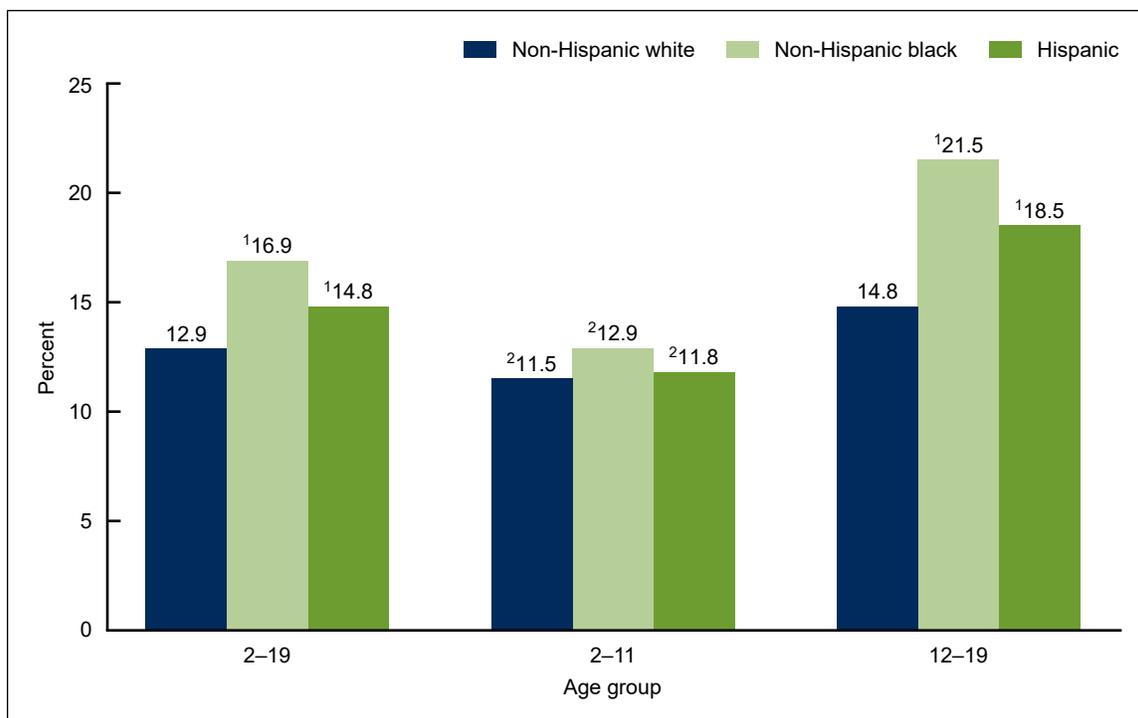
Did the percentage of calories consumed from fast food on a given day differ by race and Hispanic origin?

Non-Hispanic white children and adolescents aged 2–19 years consumed a significantly lower percentage of daily calories from fast food (12.9%) compared with non-Hispanic black (16.9%) and Hispanic (14.8%) children and adolescents (Figure 3). No significant difference was seen between Hispanic and non-Hispanic black children and adolescents.

There was no significant difference by race and Hispanic origin for children aged 2–11 years. However, among adolescents aged 12–19, non-Hispanic white adolescents consumed a significantly lower percentage of daily calories (14.8%) from fast food, compared with non-Hispanic black (21.5%) and Hispanic (18.5%) adolescents. The observed difference between non-Hispanic black and Hispanic adolescents was not significant.

Adolescents aged 12–19 consumed a higher percentage of calories from fast food than did children aged 2–11 years for all race and Hispanic origin-groups.

Figure 3. Mean percentage of calories from fast food on a given day among children and adolescents aged 2–19 years, by race and Hispanic origin and age: United States, 2015–2018



¹Significantly different from non-Hispanic white children and adolescents of the same age group.

²Significantly different from those aged 12–19 years.

NOTE: Access data table for Figure 3 at: <https://www.cdc.gov/nchs/data/databriefs/db375-tables-508.pdf#3>.

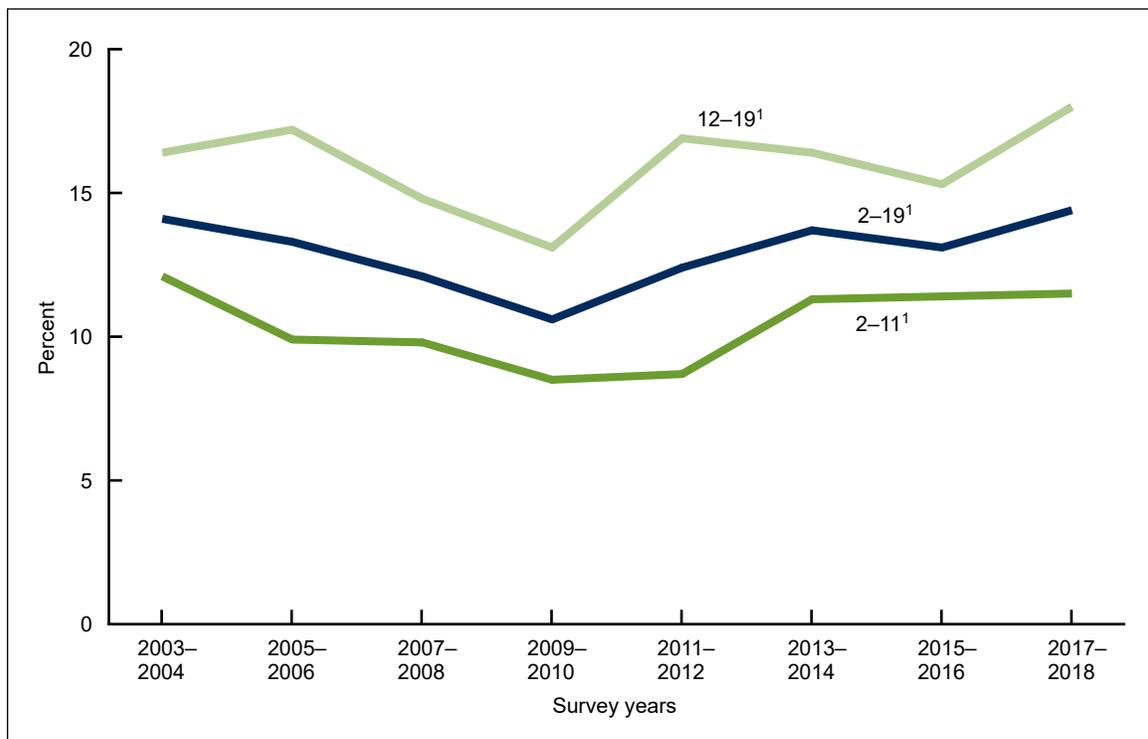
SOURCE: National Center for Health Statistics, National Health and Nutrition Examination Survey, 2015–2018.

Has the percentage of calories consumed from fast food on a given day among children and adolescents changed between 2003 and 2018?

Overall, the average percentage of calories consumed from fast food among children and adolescents decreased from 14.1% in 2003–2004 to 10.6% in 2009–2010, and then increased to 14.4% in 2017–2018 (Figure 4).

A similar pattern was observed by age group. In children aged 2–11 years, the average percentage of calories consumed from fast food decreased from 12.1% in 2003–2004 to 8.5% in 2009–2010, and then increased to 11.5% in 2017–2018. For adolescents aged 12–19, the average percentage of calories consumed from fast food decreased from 16.4% in 2003–2004 to 13.1% in 2009–2010, and then increased to 18.0% in 2017–2018.

Figure 4. Trends in mean percentage of calories from fast food on a given day among children and adolescents aged 2–19 years: United States, 2003–2004 through 2017–2018



¹Significant quadratic trend from 2003–2004 through 2017–2018.

NOTE: Access data table for Figure 4 at: <https://www.cdc.gov/nchs/data/databriefs/db375-tables-508.pdf#4>.

SOURCE: National Center for Health Statistics, National Health and Nutrition Examination Survey, 2003–2018.

Summary

Fast food has been associated with increased intake of calories, fat, and sodium (3). During 2015–2018, over one-third of U.S. children and adolescents aged 2–19 years consumed fast food. Children and adolescents consumed an average 13.8% of their calories from fast food on any given day. Adolescents aged 12–19 consumed a higher average percentage of daily calories from fast food than did younger children, overall and across all demographics. The average percentage of calories from fast food was higher among non-Hispanic black and Hispanic adolescents than non-Hispanic white adolescents. The average percentage of calories consumed from fast food among children and adolescents decreased from 2003–2004 to 2009–2010, and then increased after 2009–2010.

Definitions

Fast-food: For each food and beverage item that respondents reported consuming during their 24-hour dietary recall, the participant is also asked about the source where they obtained those items. Food reported as “restaurant fast food/pizza” was considered fast food for these analyses.

Calories, kilocalories: A calorie is a measure of the energy produced as foods or beverages are burned for energy in the body. The term calorie is usually used when discussing energy from foods and diets, but the calorie being referred to is actually a kilocalorie (4). In this report, the term calorie refers to kilocalorie.

Percentage of daily calories from fast food: Computed as the calories from foods reported as fast foods divided by total calories reported for an individual on a given day multiplied by 100.

Data source and methods

Data from the National Health and Nutrition Examination Survey (NHANES) 2003–2018 were used for these analyses (5). Data from 2015–2018 were used to test differences between subgroups. Eight, 2-year cycles were used in testing trends over time in mean percentage of calories from fast food.

NHANES is a cross-sectional survey conducted by the National Center for Health Statistics (NCHS) designed to monitor the health and nutritional status of the civilian noninstitutionalized U.S. population. It consists of home interviews followed by standardized physical examinations in mobile examination centers (MEC). The NHANES sample is selected through a complex, multistage probability design (6).

Dietary information was obtained via an in-person, 24-hour (midnight to midnight) dietary recall interview with trained interviewers in the MEC (7). Dietary interviews for participants less than six years of age were conducted with a proxy. Interviews of children aged 6 to 8 years were conducted with a proxy, and the child was present to assist in reporting intake information. Interviews of children aged 9–11 years were conducted with the child and the assistance of a proxy familiar with the child's intake. Participants aged 12 years or older answered for themselves. Limitations, such as underreporting, are associated with 24-hour recalls and have been well characterized (7,8). However, despite these limitations, dietary data still have utility in assessing population outcomes (9). Fast food consumption, expressed as a percentage of total energy intake, partially adjusts for misreporting (8).

Day 1 dietary sample weights, which accounted for the differential probabilities of selection, nonresponse, and noncoverage, as well as day of the week of dietary recall and nonresponse to the dietary interview, were incorporated into the estimation process. Taylor series linearization was used to compute variance estimates. Differences between subgroups, as well as linear trends, were evaluated using orthogonal contrasts to calculate a Student's *t* statistic. If a quadratic trend was found, Joinpoint software and piecewise regression were used to determine if changes in trend occurred over time (10). Differences were considered significant at $p < 0.05$. Statistical analyses were conducted using SAS-callable SUDAAN version 11.0 (RTI International, Research Triangle Park, N.C.).

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