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Nutrition and Health Characteristics of Low-Income Populations

Volume III, School-Age Children

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Abstract

Data from the Third National Health and Nutrition Examination Survey (NHANES-III), conducted in 1988-94, were used to compare the nutrition and health characteristics of the Nation's school-age children—boys and girls ages 5-18. Three groups of children were compared based on household income: income at or below 130 percent of poverty (lowest income), income between 131 and 185 percent of poverty (low income), and income above 185 percent of poverty (higher income). This research was designed to establish a baseline from which to monitor the nutrition and health characteristics of school-age children over time, particularly those in low- and lowest income groups.

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Executive Summary

This report describes the nutrition and health characteristics of the Nation's school-age children—boys and girls 5 to 18 years of age—using data from the Third National Health and Nutrition Examination Survey (NHANES-III).[1] The NHANES survey is the primary source of information used in monitoring the Nation's nutrition and health status. NHANES-III was completed between 1988 and 1994 and provides data for a large nationally representative sample of individuals.[2]

This research was designed to establish a baseline from which to monitor the nutrition and health characteristics of school-age children over time, particularly those in the lowest- and low-income groups, and to generate questions and hypotheses for future research. The report compares and contrasts school-age children in three different income groups: income at or below 130 percent of poverty (lowest income), income between 131 and 185 percent of poverty (low income), and income greater than 185 percent of poverty (higher income). The criterion used to define the lowest-income group corresponds to the criterion used to define income eligibility for the Food Stamp Program and free meal benefits in the National School Lunch Program and School Breakfast Program. The criterion used to define the low-income group corresponds to income eligibility for reduced-price meals.

A broad array of measures is used to describe the nutrition and health characteristics of school-age children. These measures include dietary intake, body weight, nutritional biochemistries, health-related behaviors, measures of health status, and access to health care services. Because of variations in NHANES-III data collection protocols, some measures were not available for all school-age children. The following summary highlights major findings for each group of measures. For the most part, highlighted findings refer to differences between income groups observed for the entire population. The full report provides details about the extent to which findings varied by gender and/or age. All reported population estimates have been age-adjusted (based on year 2000 Census data) to eliminate differences between income groups that are due solely to differences in the age distributions of the groups.

Dietary Intake

Dietary intakes of school-age children were assessed using data from a single 24-hour recall. In addition to energy intake, the analysis examined intakes of nine key nutrients and dietary components: vitamin C, iron, zinc, calcium, total fat, saturated fat, cholesterol, sodium, and fiber. Estimates of usual intake were generated using the personal computer version of the Software for Intake Distribution Estimation (Iowa State University, 1996).[3] Healthy Eating Index (HEI) scores (Kennedy et al., 1995) were also examined.

- **Meal consumption.** More than a third (36%) of school-age children consumed fewer than three meals in the preceding 24 hours and fewer than half (46%) of all school-age children reportedly ate breakfast every day. School-age children in the lowest-income group were more likely than

[1] Similar reports have been prepared for participants and nonparticipants in the Food Stamp Program (Fox and Cole, 2004), participants and nonparticipants in the WIC Program (Cole and Fox, 2004a), and older adults (Cole and Fox, 2004b).

[2] Beginning in 1999, NHANES became a continuing survey. Data for the first two continuous years of the ongoing NHANES (1999-2000) have been released since the time the tabulations presented in this report were prepared. Data for subsequent years are expected in mid-2005.

[3] Because NHANES-III included a very small sample of second dietary recalls, which are needed to estimate intraindividual variation in intake, variance components were derived from the Continuing Survey of Food Intake of Individuals (CSFII), 1994-96 (see appendix C).

school-age children in the higher-income group to have consumed fewer three meals in the preceding 24 hours (39% vs. 34%) and were less likely to eat breakfast every day (44% vs. 48%).

- **Energy.** On average, the usual energy intake of school-age children approached 100 percent of the 1989 Recommended Energy Allowance (REA) (97%). Overall, there were no differences between income groups in mean usual energy intake as a percent of the 1989 REA. Significant differences were observed, however, in gender-specific analyses. Among male school-age children, the lowest-income group consumed significantly less energy than either the low-income or higher-income groups (100% of the 1989 REA vs. 108% and 105%). Among females, the trend was reversed. Female school-age children in the lowest-income group consumed significantly less energy then their counterparts in the low-income and higher-income groups (93% of the 1989 REA vs. 87% for each of the other groups).

- **Vitamin C.** Overall, 92 percent of school-age children had usual intakes of vitamin C that met Estimated Average Requirements (EARs). Although differences between groups were small, school-age children in the lowest-income group were significantly more likely than school-age children in the higher-income group to have adequate usual intakes of vitamin C (93% vs. 91%).

- **Iron.** Close to 100 percent (97%) of all school-age children had adequate usual intakes of iron. The group most likely to have inadequate intake of iron was 14-18-year-old females. In this subgroup, the lowest-income group was more likely than the higher-income group to have adequate usual intakes of iron (92% vs. 80%).

- **Zinc.** Roughly 9 out of 10 school-age children had adequate usual intakes of zinc. School-age children in the lowest-income group were *less* likely than those in the low-income group and *more* likely than those in the higher-income group to have adequate usual zinc intakes (91% vs. 98% and 89%). However, this pattern varied substantially by gender and age.

- **Calcium.** It was not possible to assess the prevalence of adequate calcium intakes among school-age children because the required dietary standard—the EAR—has not been established for calcium. Mean usual calcium intakes were compared to established Adequate Intake (AI) levels. On average, the usual diets consumed by school-age children provided 83 percent of the AI. Mean usual calcium intakes of school-age children in the lowest-income group were significantly lower, as a percent of the AI, than mean usual calcium intakes of school-age children in the higher-income group (81% vs. 85%). However, there was substantial variation in this finding by gender and age.

- **Percent of Energy from Fat.** On average, school-age children obtained 33.6 percent of their food energy from fat. This level of fat intake exceeded the *Dietary Guidelines for Americans* recommendation of no more than 30 percent of total energy (U.S. Departments of Agriculture and Health (USDA) and Human Services (DHHS), 2000) but fell within the more recently defined Acceptable Macronutrient Distribution Range (AMDR) for fat intake (25-35% of total energy) (Institute of Medicine (IOM), 2002b). In comparison with the higher-income group, school-age children in the lowest-income group obtained a significantly greater percentage of energy from fat (34.0% vs. 33.0%). Moreover, school-age children in the lowest-income group were *more* likely than children in the low-income group and *less* likely than children in the higher-income group to satisfy the *Dietary Guidelines* recommendation for fat intake (14% vs. 10% and 22%).

Detailed distributions of usual fat intake indicate that somewhere between 25 and 50 percent of all school-age children had usual fat intakes that exceeded the AMDR.

- **Percent of Energy from Saturated Fat.** On average, school-age children obtained 12.1 percent of their usual energy intake from saturated fat. This exceeded the *Dietary Guidelines* recommendation that saturated fat provide less than 10 percent of total energy (USDA and U.S. DHHS, 2000). School-age children in the lowest-income group obtained a significantly greater proportion of their energy from saturated fat than school-age children in the higher-income group (12.3% vs. 11.9%) and were less likely to satisfy the *Dietary Guidelines* recommendation for saturated fat (7% vs. 15%).

- **Cholesterol.** The mean usual cholesterol intake of school-age children (245 mg.) was consistent with the *Dietary Guidelines* recommended maximum of 300 mg. (USDA and U.S. DHHS, 2000). Although intakes of both groups were consisted with the *Dietary Guidelines* recommendation, school-age children in the lowest-income group consumed significantly more cholesterol than school-age children in the higher-income group (254 mg. vs. 236 mg.). Overall, there were no significant differences between income groups in the percentage of school-age children whose usual intakes met the *Dietary Guidelines* standard. However, when the data were examined separately by gender, both males and females in the lowest-income group were significantly less likely than their higher-income counterparts to satisfy the recommendation for cholesterol intake.

- **Sodium.** The mean usual sodium intake of school-age children (3,456 mg.) exceeded the *Dietary Guidelines* recommended maximum of 2,400 mg. (USDA and U.S. DHHS, 2000). Mean usual intakes also exceeded the more recently defined Tolerable Upper Intake Levels (UL) (1,900 mg. for 4-8-year-olds, 2,200 mg. for 9-13-year-olds, and 2,300 mg. for 14-18-year-olds) (IOM, 2004). Overall, there were no significant differences between income groups in mean usual sodium intake. Among males, however, the mean usual sodium intake of the lowest-income group was significantly *lower* than the mean usual intake of the low-income group (3,761 mg. vs. 4,286 mg.). Among females, the between-group difference ran in the opposite direction. Females in the lowest-income group consumed significantly *more* sodium, on average, than females in the higher-income group (3,195 mg. vs. 2,898 mg.).

  School-age children in the lowest-income group were significantly less likely than school-age children in the higher-income group to satisfy the *Dietary Guidelines* recommendation for sodium (11% vs. 18%). Detailed distributions of usual sodium intake indicate that less than 5 percent of 5-8-year-olds and less than 10 percent of 9-13-year-olds and 14-18-year-olds had usual sodium intakes that did not exceed defined ULs.

Healthy Eating Index Scores

- On average, school-age children scored 62.8, out of a possible 100, on the HEI. Overall, there were no significant differences between income groups on mean HEI scores. The HEI is a composite score constructed from 10 individual scores: five food-based scores that assess intake of grains, vegetables, fruits, dairy, and meat, four nutrient-based scores, and a variety score.[4]

[4] The nutrient-based components compare intakes of total fat, saturated fat, cholesterol, and sodium to recommended maximums.

- The diets of 78 percent of school-age children showed a need for improvement. Only 6 percent of all school-age children had "good" diets and 16 percent had "poor" diets. Overall, there were no significant differences between income groups on these measures. Among males, however, the lowest-income group was more likely than the higher-income group to have a "poor" diet (18% vs. 12%).

- There were relatively few differences between income groups in mean scores for the six food-based HEI components or in the percentage of children meeting the HEI standards. Among males, the lowest-income group had a significantly lower mean score than the higher-income group for the dairy component (7.4, out of a perfect score of 10, vs. 7.8) and a significantly greater mean score than the low-income group for the meat component (6.9 vs. 6.1). In comparison with the low-income group, school-age males in the lowest-income group were less likely to consume the recommended number of grain servings (31% vs. 39%) and were more likely to consume the recommended number of meat servings (33% vs. 26%). Males in the lowest-income group were also less likely than their counterparts in the higher-income group to consume the recommended number of servings from the fruit group (14% vs. 19%) and the dairy group (45% vs. 53%).

- Among school-age females, the lowest-income group had a significantly greater mean score for the grain component than the higher-income group (6.8 vs. 6.4) and a significantly greater mean score for the meat component than either of the other income groups (6.3 vs. 5.5 for both of the other groups). In addition, school-age females in the lowest-income group were more likely than school-age females in the higher-income group to consume the recommended number of servings of grains (23% vs. 16%) and meat (27% vs. 20%).

Body Weight

Body weight was assessed on the basis of body mass index (BMI), a measure of the relationship between height and weight that is the commonly accepted index for classifying adiposity (or fatness) in adults (CDC, 2003).[5] BMIs were compared to a BMI-for-age growth chart developed by the CDC (Kuczmarski et al., 2002). In assessing children's weight status, use of the word "obesity" is avoided because of potential negative connotations (CDC, 2003). Instead, assessment of weight status focuses on the prevalence of overweight (defined as BMI-for-age at or above the 95th percentile), the prevalence of being at risk of overweight (defined as BMI-for-age between the 85th and 95th percentiles), and the prevalence of underweight (defined as BMI-for-age below the 5th percentile). The prevalence of retarded linear growth (height-for-age below the 5th percentile) was also assessed.

- Overall, 11 percent of school-age children were overweight and 14 percent were at risk of becoming overweight. School-age children in the lowest-income group were significantly more likely to be overweight than school-age children in either of the other income groups (14% vs. 10% and 9%). There were no statistically significant differences between income groups in the percentage of children at risk of overweight (16% vs. 14% and 13%).

[5] BMI is equal to [weight in kilograms] ÷ [height in meters]^2.

- There was no statistically significant difference between income groups in the percentage of school-age children who were underweight.

- School-age children in the lowest-income group were significantly more likely than school-age children in the higher-income group to have short stature or retarded linear growth (5% vs. 3%).

Nutritional Biochemistries

- **Iron Deficiency.** The overall prevalence of iron deficiency among school-age children was about 5 percent. School-age children in the lowest-income group were more likely to be iron deficient than school-age children in the higher-income group (6% vs. 4%). This difference was attributable to a difference among females (10% vs. 5%).

- **Iron-deficiency Anemia.** Iron-deficiency anemia was observed in less than 1 percent of school-age children, overall. There were no significant differences between income groups on this measure.

- **Anemia.** The prevalence of anemia, defined on the basis of low hemoglobin, was 6 percent. Overall, there were no statistically significant differences between income groups on this measure.

- **Low Red Blood Cell (RBC) Folate.** Overall, 6 percent of school-age children had low levels of RBC folate. School-age children in the lowest-income group were more likely than children in either the low-income or higher-income groups to have low levels of RBC folate (9% vs. 4% and 6%). The prevalence of this problem was greatest among 14-18-year-olds, especially females.

- **Low Serum Vitamin B_{12}.** Overall, only 1 percent of school-age children had low levels of serum vitamin B_{12}. (This condition is much more common among older adults).

- **High and Borderline-high Total Cholesterol.** Ten percent of school-age children had high levels of total cholesterol and 28 percent had cholesterol levels that were borderline-high. There were few significant differences between income groups on these measures or on related measures of LDL ("bad") cholesterol, HDL ("good") cholesterol, and triglycerides.

Health-related Behaviors

Physical Activity

- Data on reported physical activity were available for 8-16-year-old children. In this age group, children in the lowest-income group reported engaging in vigorous physical activity less often than children in the higher-income group (4.5 times per week vs. 4.9). This difference was concentrated among females (4.0 times per week vs. 4.4 times).

- Eighty percent of 8-16-year-olds reported engaging in vigorous physical activity 3 times per week or more. Overall, there were no significant differences between income groups in this regard. However, among females, the lowest-income group was significantly less likely than the higher-income group to report this level of physical activity (69% vs. 79%).

- Eight-to-16-year-old children in the lowest-income group were less likely than their counterparts in either of the other income groups to be involved in team sports or other organized physical activities (50% vs. 62% and 70%).

Television Viewing

- Data on television viewing were available for 5-16-year-olds. In this age group, children in the lowest-income group watched significantly more television per day than children in either of the other income groups (2.3 hours vs. 2.0 hours for each of the other groups). Moreover, children in the lowest-income group were less likely than children in either of the other income groups to meet the *Healthy People 2010* goal of limiting television viewing to no more than 2 hours per day (58% vs. 68% for each of the other groups).

Alcohol Consumption

- Children 12 and older were asked about alcohol consumption during their lifetime and over the past year. Overall, 28 percent of children in this age range reported consuming at least 12 alcoholic beverages in their lifetime. Alcohol consumption was low among 12- and 13-year-olds—only 9 percent of children in this age group reported that they had consumed at least twelve alcoholic beverages in their lifetime. In contrast, roughly 4 out of 10 14-18-year-olds reported this level of alcohol consumption. There were no significant differences between income groups in reported lifetime alcohol consumption.

- Fourteen percent of all 12-18-yearolds reported consuming 12 or more alcoholic beverages during the past year. The only significant between-group difference in recent alcohol consumption was observed among 14-18-year-old females. In this age group, females in the lowest-income group were less likely than females in the higher-income group to have consumed 12 or more alcoholic beverages during the past year (14% vs. 23%).

Tobacco Consumption

- Children over the age of 8 were asked about tobacco use. Tobacco use was very low among children under the age of 14. No children between the ages of 8 and 10 and only 1.4 percent of 11-13-year-olds reported having used tobacco.

- Overall, 13 percent of 14-18-year-olds reported smoking 100 or more cigarettes (equivalent to 5 or more packs) in their lifetime and 16 percent reported smoking cigarettes during the past 5 days. Males in the lowest-income group were significantly more likely than those in the low-income group to have smoked cigarettes during the preceding five days. Smokers in the lowest-income group started smoking at a significantly younger age, on average, than those in the low-income group.

Exposure to Second-Hand Smoke

- Nonsmoking school-age children (5 to 18 years) in the lowest-income group were more likely than nonsmoking school-age children in the higher-income group to be exposed to second-hand smoke produced by other household members (50% vs. 32%). In addition, based on the number of cigarettes smoked by household smokers, nonsmoking school-age children in the lowest-

income group who resided in smoking households had a greater degree of exposure to second-hand smoke than their counterparts in the higher-income group. On average, smokers in the lowest-income households smoked 19 cigarettes per day, compared with 15 cigarettes per day for smokers in the higher-income households.

- Differences in exposure to second-hand smoke between nonsmoking school-age children in the lowest- and higher-income groups were borne out in high serum cotinine levels. Cotinine, a breakdown product of nicotine, is used as a biological marker for tobacco use and exposure to environmental tobacco smoke. Nonsmoking school-age children in the lowest-income group were significantly more likely to have high serum cotinine levels than nonsmoking children in the higher-income group (78% vs. 59%). The difference was most substantial for 5-10-year-olds, where there was a 24-percentage-point difference between the lowest-income group and the higher-income group (81% vs. 56%).

Health Status

General Health Status

- Based on caregiver reports (5-16-year-olds) and self-reports (17- and 18-year-olds), children in the lowest-income group were *less* likely than those in either of the other income groups to be in excellent or very good health (57% vs. 71% and 84%) and *more* likely to be in fair or poor health (10% vs. 5% and 2%).

- Physician assessments of general health status were consistently more positive than caregiver and self-assessments. Overall, physicians found 87 percent of school-age children to be in very good or excellent health and only 1 percent to be in fair or poor health. Physician-assessed health status did not differ significantly along income lines.

Birth Characteristics

- Among 5-10-year-olds, children in the lowest-income group were born to younger mothers, on average, than children in the higher-income group and were more likely to be have been born to an adolescent mother (23% vs. 6%). In addition, mothers of 28 percent of children in the lowest-income group smoked during the pregnancy, compared with 21 percent of children in the higher-income group.

- Based on caregiver reports, children in the lowest-income group had a lower mean birthweight than children in either of the other income groups, as well as a greater prevalence of low birthweight (11% vs. 7% and 4%). A similar pattern was noted for the lowest-income and higher-income groups in the prevalence of very-low birthweight (less than 1,500 gm .or 3.3 pounds).

- Fifteen percent of 5-10-year-olds in the lowest-income group were reportedly hospitalized in neonatal intensive care units (NICUs) at the time of their birth, compared with 10 percent of 5-10-year-olds in the higher-income group.

Measures of Childhood Health

- Thirty-one percent of 5-16-year-old children had been hospitalized at least once since birth. Overall, there were no significant differences between income groups on this measure.

- Fifteen percent of all 5-16-year-olds experienced an accident, injury, or poisoning during the preceding 12 months that was serious enough to require medical attention. Children in the lowest-income group were significantly less likely than children in the higher-income group to have experienced such a medical emergency (10% vs. 18%).

- There were no significant differences between income groups in the prevalence of asthma or chronic bronchitis. However, 5-16-year-old children in the lowest-income group were less likely than their counterparts in the higher-income group to suffer from hay fever (6% vs. 11%).

Lead Poisoning

- Based on caregiver reports, school-age children in the lowest-income group were more likely than school-age children in the low-income and higher-income groups to have been screened for lead poisoning (14% vs. 9% and 5%).

- Based on NHANES-III laboratory tests, the overall prevalence of high blood lead levels among school-age children was low (2%). Among children under the age of 14, the prevalence of high levels of blood lead was significantly greater for the lowest-income group than for either of the other income groups.

Dental Health

- On average, school-age children in the lowest-income group had more missing, decayed, and filled teeth than school-age children in the higher-income group (2.9 vs. 2.3). This difference was concentrated among 5-10-year-olds (2.7 vs. 1.6).

- Overall, 92 percent of school-age children reportedly visited a dental health professional at least once in their lifetime. Children in the lowest-income group were less likely than children in the other two income groups to have had a dental visit (85% vs. 90% and 96%). The same pattern was noted for dental visits within the past year (61% vs. 70% and 88%).

Access to Health Care

Health Insurance Coverage

- Overall, 88 percent of all school-age children had some form of health insurance. School-age children in the lowest-income group were less likely than school-age children in either of the other income groups to have health insurance (77% vs. 87% and 96%).

- School-age children in the lowest-income group were *less* likely than school-age children in the other two income groups to be covered by private health insurance (38% vs. 80% and 93%) and *more* likely to be covered by Medicaid (48% vs. 6% and 1%).

Regular Source of Health Care

- Overall, about 9 out of 10 school-age children reportedly had a regular source of health care—that is, a clinic, health center, or doctor's office that was usually used for health care needs or to obtain health-related advice and information. School-age children in the lowest-income group, however, were significantly less likely than those in the higher-income group to have a regular source of care (83% vs. 93%).

- More than 7 out of 10 (73%) school-age children had a regular physician or other health care provider. In comparison with higher-income children, children in the lowest-income group were significantly less likely to have a regular provider (64% vs. 80%).

Chapter One
Introduction

This report describes the nutrition and health characteristics of the Nation's school-age children—boys and girls 5 to 18 years of age—using data from the Third National Health and Nutrition Examination Survey (NHANES-III). The NHANES survey is the primary source of information used in monitoring the Nation's nutrition and health status. NHANES-III was completed between 1988 and 1994 and provides data for a large nationally representative sample of individuals.[1]

The report compares and contrasts children in three different income groups: income at or below 130 percent of poverty (lowest income), income between 131 and 185 percent of poverty (low income), and income greater than 185 percent of poverty (higher income). The lowest-income group corresponds to the income-eligibility criterion used to define eligibility for free meals in the National School Lunch Program (NSLP) and the School Breakfast Program (SBP). The low-income group corresponds to eligibility for reduced-price meals in these programs.

Two previous volumes in this series compare participants and nonparticipants in major Federal food and nutrition assistance programs (volume I: the Food Stamp Program (Fox and Cole, 2004) and volume II: the WIC Program (Cole and Fox, 2004a)).[2] It was not possible to effectively compare participants and nonparticipants in the NSLP and SBP because NHANES-III data are not detailed enough to identify children who actually consumed NSLP/SBP meals on the day dietary intake data were collected. This limitation makes it impossible to make valid comparisons between NSLP/SBP participants and nonparticipants for any of the dietary intake variables examined in this report. This includes all of the data reported in Chapter Three and most of the data reported in Chapter Two.

This research was designed to establish a baseline from which to monitor the nutrition and health characteristics of school-age children over time, particularly those in the lowest- and low-income groups, and to generate questions and hypotheses for future research. The data presented in this report provide useful background information for researchers interested in studying the nutrition and health characteristics of school-age children and/or the impact of participation in food and nutrition assistance programs, or other variables, on nutrition and health characteristics. The data also provide important insights for individuals who plan and implement nutrition or health programs for school-age children.

A broad array of measures is used to describe the nutrition and health characteristics of school-age children. Nutritional status is examined through measures of dietary intake, body weight, and selected nutritional biochemistries. Important health-related behaviors are also examined, including physical activity, television viewing, and alcohol and tobacco use. General health status is assessed on the basis of both caregiver and physician assessments. In addition, dental health and other measures of child health are examined. Finally, data on health insurance coverage

[1]Beginning in 1999, NHANES became a continuing survey, without breaks between data collection cycles. Similar sampling and data collection procedures are used, although at least two years of data are necessary to have adequate sample sizes for subgroup analyses (Flegal et al., 2002). Data for the first two continuous years of the ongoing NHANES (1999-2000) have been released since the time the tabulations presented in this report were prepared. Data for subsequent years are expected in mid-2005.

[2]The series also includes a fourth volume, which focuses on older adults (Cole and Fox, 2004b).

and use of regular health care providers are used to assess access to health care services.

This introductory chapter provides a brief description of the NHANES-III data and the general analytic approach. The six chapters that follow present data on the nutrition and health characteristics mentioned above. Details on data and methodology may be found in appendices referenced throughout the report.

The Third National Health and Nutrition Examination Survey

NHANES-III was conducted by the National Center for Health Statistics (NCHS), Centers for Disease Control and Prevention (CDC) between 1988 and 1994. The survey included interviews and physical examinations, and was designed to provide national estimates of the health and nutrition status of the civilian, noninstitutionalized population in the 50 United States.

NHANES-III was based on a complex multi-stage probability sample design (NCHS, 1994). Persons were selected on the basis of sex, age, and race or ethnicity. Children under 6 years of age, adults over 60 years of age, and black and Mexican American persons were oversampled. NHANES-III collected data from 33,994 persons 2 months of age and older. Response rates were 85.6 percent for the household interviews and 78.8 percent for the physical examinations (NCHS, 1996). The total sample of school-age children is 6,824.

Interviews were conducted in respondents' homes and physical examinations and measurements were completed in a Mobile Exam Center (MEC). Interview procedures varied for children of different ages. For children under the age of 17, the Household Youth Interview was administered to a parent or other primary caregiver. The MEC-Youth Interview, which included questions about tobacco, alcohol, drugs, reproductive health, physical activity, and selected questions about diet, was completed by children 8 years and older, when they visited the MEC. Children generally completed the MEC-Youth Interview on their own—that is, without a parent or other caregiver present. Children 17 years and older were considered adults and completed the Adult Household Interview and MEC-Adult Interview. These interviews included many, but not all, of the questions covered in the two youth interviews. All school-age children completed the MEC examination, which included a physical exam, dietary interview, health interview, blood tests, body measurements, and a dental exam.

The dietary interview included a single 24-hour dietary recall.[3] The recall collected quantitative data on foods and beverages consumed during the preceding 24 hours. Primary caregivers provided data for children less than 6 years of age. Children 6 to 11 years of age were interviewed with their caregiver. Children 12 and older were interviewed alone. NCHS staff calculated 24-hour nutrient intakes, using food composition data from the Survey Nutrient Database maintained by the U.S. Department of Agriculture's (USDA) Agricultural Research Service (ARS).

Analytic Approach

School-age children in the NHANES-III sample were divided into three groups on the basis of household income: income at or below 130 percent of poverty (lowest income), income between 131 and 185 percent of poverty (low income), and income greater than 185 percent of poverty (higher income). As noted previously, these criterion incorporate the cutoffs used to define income eligibility for free (lowest-income

[3]For respondents 17 years and older, NHANES-III also included a food frequency questionnaire, which was administered as part of the household interview. The food frequency had a 1-month reference period and was designed to collect qualitative information about dietary patterns. Data from the food frequency were not analyzed for this series of reports.

Table 1—Number of NHANES-III respondents: School-age children

	All children		Lowest income: ≤ 130% poverty		Low-income: 131-185% poverty		Higher-income: > 185% poverty	
	Household Interview	MEC Examined	Household Interview	MEC Examined	Household Interview	MEC Examined	Household Interview	MEC Examined
Both sexes								
5-10 years	3,671	3,476	1,817	1,763	436	418	1,194	1,103
11-13 years	1,503	1,423	724	699	172	165	510	473
14-18 years	1,650	1,553	750	729	198	191	579	526
Total	6,824	6,452	3,291	3,191	806	774	2,283	2,102
Male								
5-10 years	1,868	1,753	896	868	213	203	637	581
11-13 years	718	681	344	334	89	84	241	227
14-18 years	784	741	356	346	94	91	265	242
Total	3,370	3,175	1,596	1,548	396	378	1,143	1,050
Female								
5-10 years	1,803	1,723	921	895	223	215	557	522
11-13 years	785	742	380	365	83	81	269	246
14-18 years	866	812	394	383	104	100	314	284
Total	3,454	3,277	1,695	1,643	410	396	1,140	1,052

Source: NHANES-III, 1988-94.

group) and reduced-price (low-income group) meals in the school meal programs. Children who resided in households participating in the Food Stamp Program (FSP) were considered members of the lowest-income group (income at or below 130 percent of poverty), regardless of reported income. This approach is consistent with the classification scheme used in the companion reports in this series (Fox and Cole, 2004, Cole and Fox, 2004a, and Cole and Fox, 2004b), and gives precedence to reported program participation.[4]

The three income strata were further divided on the basis of gender and age into 18 subgroups. The age groups used (5-10 years, 11-13 years, and 14-18 years) approximate the ages of children attending elementary, middle, and high schools. For analyses involving dietary outcomes (Chapters Two and Three), a slightly different set of age groups (5-8-years, 9-13 years, and 14-18 years) was used. The reason for this variation is discussed in Chapter Two.

For each variable examined, detailed tables were produced showing estimates for each of the 18 subgroups. Separate estimates were also produced for the total population, for each age group (both genders combined), and for each gender (all ages combined). Readers interested in comparing data for school-age children to the population as a whole or to other subgroups of the population are referred to volume I in this series (Fox and Cole, 2004). The detailed tables that accompany that volume include data for the entire population as well as for 72 gender-and-age-specific subgroups.

Table 1 illustrates the format used in the detailed tabulations. Columns show data for all children as well as for children in each of the three income groups. Rows show data for the age-specific subgroups, overall and by gender. Table 1 also shows the maximum sample size for each table cell. The two columns included under each of the income groups (Household Interview and MEC Examined) show cell sizes for the two NHANES-III samples used in this report. The Household Interview sample contains all respondents and the MEC Examined sample contains the subsample of all respondents who completed physical examinations in the MEC.[5]

Tables include footnotes that clearly identify data source(s). Brief descriptions of the various NHANES-III data files used in the analysis are provided in appendix A. Tables also include footnotes, as appropriate, that identify reference standards used in interpreting NHANES-III data. Reference standards are described in appendix B. To the extent possible, standards are based on those used in the *Healthy People 2010* objectives (U.S. Department of Health and Human Services (U.S. DHHS), 2000a).

Age Adjustment

Data shown in the "total" rows of all detailed tables are age-adjusted, or standardized according to the age distribution of the U.S. population in the year 2000. Age-adjustment is important for comparisons between subgroups and for trend analyses between NHANES surveys. When comparing subgroups such as school-age children in the lowest-income and low-income groups at a point in time, age-adjustment elimi-

[4]NHANES-III data include individuals who reported participation in the FSP and reported household incomes above the 130 percent of poverty cutoff used to define income eligibility for the FSP. This was true for 12.6 percent of those reporting FSP participation. Several factors may contribute to conflicting data on income and program participation. For example, NHANES-III measures income as a range rather than as an exact value and uses the midpoint of the range to compare household income to the poverty line; FSP eligibility is based on contemporaneous measures of household income, while NHANES-III measured income retrospectively (over the past 12 months); and NHANES-III interviewers and FSP eligibility workers may have used different probes or techniques to ascertain household income.

[5] A third NHANES-III sample (the MEC+Home-examined sample) is included in other volumes in this series. This sample contains some infants, elderly, and wheelchair-bound individuals, but does not include any school-age children.

Table 2—Age distribution of school-age children in NHANES-III sample frame and year 2000 population

	Year 2000 population distribution		NHANES-III sample frame							
	Total children		Total children[1]		Lowest income: ≤ 130% poverty		Low-income: 131-185% poverty		Higher-income: > 185% poverty	
	Population (thousands)	Percent	Population (thousands)	Percent	Population (thousands)	Percent	Population (thousands)	Percent	Population (thousands)	Percent
Both sexes										
5-10 years	23,984	43.3	20,298	46.8	6,958	49.5	2,569	46.8	10,772	45.2
11-13 years	11,728	21.2	10,352	23.9	3,220	22.9	1,217	22.2	5,915	24.8
14-18 years	19,633	35.5	12,713	29.3	3,867	27.5	1,698	31.0	7,147	30.0
Total	55,345	100.0	43,363	100.0	14,046	100.0	5,483	100.0	23,834	100.0
Male										
5-10 years	–	43.3	10,615	48.1	3,358	49.9	1,215	44.4	6,043	47.9
11-13 years	–	21.2	5,267	23.8	1,560	23.2	666	24.3	3,041	24.1
14-18 years	–	35.5	6,205	28.1	1,811	26.9	857	31.3	3,537	28.0
Total	–	100.0	22,087	100.0	6,729	100.0	2,737	100.0	12,621	100.0
Female										
5-10 years	–	43.3	9,683	45.5	3,600	49.2	1,354	49.3	4,728	42.2
11-13 years	–	21.2	5,085	23.9	1,660	22.7	550	20.0	2,874	25.6
14-18 years	–	35.5	6,508	30.6	2,056	28.1	842	30.7	3,611	32.2
Total	–	100.0	21,276	100.0	7,317	100.0	2,746	100.0	11,213	100.0

[1] Total includes children with missing income.
– Population by gender not available. Overall age distribution was used to adjust both male and female totals.
Source: NHANES-III, 1988-94. Year 2000 population from U.S. Census Bureau, *Monthly Estimates of the United States Population*, April 2000.

nates between-group differences that are due solely to differences in the age distributions of the groups (U.S. DHHS, 2000b).

It is important to understand that age-adjusted estimates do not represent the *true* or raw estimates for a given population or subgroup. Rather, the age-adjusted estimates should be viewed as constructs or indices that provide information on the relative comparability of two or more populations (in this case, school-age children in different income groups) on a particular measure (U.S. DHHS, 2000b).[6]

The choice of a standard population for age-adjusted estimates is somewhat arbitrary. For this report, adjustments are based on year 2000 Census estimates. Use of year 2000 population estimates facilitates comparison of NHANES-III estimates with estimates from NHANES 1999-2000. Population estimates are shown in table 2. The year 2000 age distribution shown in column 1 of table 2 was applied to each group of school-age children.

Statistical Tests

The statistical significance of differences between the lowest-income group and the two other income groups was tested using t-tests. When multiple outcome categories were examined simultaneously, the Bonferroni adjustment was used to adjust for multiplicity (Lohr, 1999). Nonetheless, because of the large number of t-tests conducted, caution must be exercised in interpreting results. In general, findings discussed in the text are limited to those with strong statistical significance (1 percent level or better) or those that are part of an obvious trend or pattern in the data.

Text discussions generally focus on differences between the lowest-income group and one or both of the other income groups. Reference may be made to other between-group differences—most often males vs. females—when the differences are noteworthy. The statistical significance of these secondary comparisons has not been tested, however, and this fact is noted in the text. Statistical tests were not performed on these second-level differences because of the expansive number of statistical tests performed in the main analysis and because these comparisons are not the focus of the report.

Additional information about the analytic approach, including use of NHANES-III sampling weights, calculation of standard errors, age standardization, and guidelines used to flag point estimates deemed to be statistically unreliable, is provided in appendix C. Individual point estimates may be deemed statistically unreliable because of small sample size or a large coefficient of variation. In keeping with NHANES-III reporting guidelines, such estimates are reported in detailed tables and are clearly flagged.

The chapters that follow summarize key findings. Graphics are used to illustrate observed differences between school-age children in different income groups. Differences that are statistically significant at the 5 percent level or better are highlighted. Detailed tables provided in appendix D differentiate three levels of statistical significance ($p < .001$, .01, and .05). It is important to note that differences between income groups may be statistically significant even if point estimates are unreliable. When this occurs, the text describes the existence and direction of the significant difference and identifies the group(s) for which point estimates are unreliable.

[6]Estimates for gender-and-age-specific subgroups are not adjusted and do represent *true* or raw estimates for the specific subgroup.

Chapter Two

Usual Intake of Food Energy and Nutrients

This chapter describes usual intakes of food energy and key nutrients and, to the extent possible, the prevalence of adequate usual intakes among school-age children in three different income strata. Nutrients included in the analysis are vitamin C, iron, zinc, and calcium. Usual intakes of fat, saturated fat, cholesterol, sodium, and fiber were also examined. These data are presented in Chapter Three.

As noted in Chapter One, the age groups used in the analysis of dietary intake data differ from those used in the remainder of the report. The alternative age groups correspond to those used in the Dietary Reference Intakes (DRIs), the standards used to assess diets consumed by individuals and populations. The DRI age groups (5-8 years, 9-13 years, and 14-18 years) approximate the school-level age groups used in the remainder of the report.[1] To maintain consistency across all the dietary intake analyses presented in this report, the DRI age groups were also used in analyzing Healthy Eating Index (HEI) scores and related variables (Chapter Three).

To provide some context for the discussion, the chapter begins with information on several factors that may influence children's usual dietary intakes. These include participation in food and nutrition assistance programs, household food sufficiency status, and meal and snacking patterns.

[1]It was necessary to use the DRI age groups in assessing the adequacy of usual nutrient intakes. The decision to estimate usual intakes was made after most of the tabulations included in this report had already been completed using the other age groups.

Participation in Food and Nutrition Assistance Programs

NHANES-III provides information on participation in three food and nutrition assistance programs that serve school-age children: the FSP and the two leading school-based programs, the NSLP and the SBP. In reviewing these data, it is important to bear three facts in mind. First, survey data tend to yield lower estimates of program participation than estimates derived from program administrative data. For example, data from the Survey of Income and Program Participation (SIPP), which is generally recognized as the optimal source of survey data on program participation, underestimates participation in most programs by 10 to 15 percentage points (Trippe, 2000). Second, data reflect participation rates at the time the NHANES-III data were collected (1988-94) and therefore are not expected to be representative of *current* program participation. Finally, questions related to the NSLP and SBP were included in the Household Youth Interview, which was administered to primary caregivers of children less than 17 years of age. Youth who were 17 and 18 years old completed the Household Adult Interview, which did not include NSLP/SBP questions. Consequently, information on participation in the school meal programs is not available for this oldest cohort of school-age children.

The Food Stamp Program

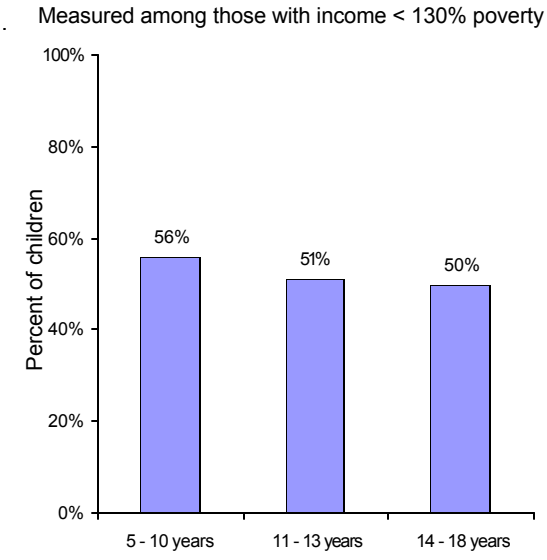
The survey question used to identify FSP participants asked about current participation: "(Are you/Is your family) receiving food stamps at the present time?" Although all children residing in households with incomes at or below 130

percent of poverty were eligible to participate in the FSP, only 53 percent of the school-age children in this income group (the lowest-income group) participated in the program at the time of the interview (table D-1). The rate of FSP participation was somewhat higher for 5-10-year-olds (56%) than for the two older groups of children (50-51%) (figure 1) (statistical significance of age-based differences not tested). Given the expected underreporting in survey data, these estimates are consistent with historical data on child participation in the FSP during the relevant time period (1988-94) (Cody and Trippe, 1997).

The School Meal Programs

The survey items used to identify participation in the school meal programs asked whether the school the child attended "serve[d] school lunch (or breakfast)," and defined school lunches (or breakfasts) as "complete [meals] costing the same fixed price every day." In cases where children attended schools where such meals were offered, caregivers were asked to report the number of days per week the child usually ate the "complete [meal]."

Figure 1—Percent of income-eligible school-age children participating in the Food Stamp Program



Source: NHANES-III, 1988-94.

Studies of school meal programs have shown that children who are eligible for free and reduced-price meals tend to participate more often than children who are not eligible and that, among older children, males tend to participate more often than females. Both of these patterns were reflected in the NHANES-III data.

The National School Lunch Program

The vast majority of all children attended schools in which the NSLP was offered (table D-2). Children in the lowest-income group were just as likely as children in the low-income group to attend a school that offered the NSLP. However, children in the lowest-income group were significantly more likely than children in the higher-income group to attend a school that offered the NSLP (96% vs. 91%). This difference was largely attributable to a difference among 5-10-year-olds (95% vs. 88%).

Differences in the availability of the NSLP were more pronounced among females than males (statistical significance of gender-based differences not tested). None of the between-group differences were statistically significant for males. In contrast, among females, significant differences were noted between the lowest-income group and the higher-income group for all age groups combined, as well as for 5-10-year-olds and 11-13-year-olds. In addition, the difference between the lowest-income group and the low-income group was statistically significant for 5-10-year-old females.

More than half (54%) of all children reported that they usually ate a school lunch 5 days per week (table D-3). The percentage of males who consumed school lunches 5 days per week was greater than the percentage of females. This was particularly true for the two oldest age groups. Among 14-16-year-olds, 62 percent of males usually consumed a school lunch 5 days per week, compared with 43 percent of females

(statistical significance of gender-based difference not tested).

The percentage of children who usually consumed a school lunch 5 days per week varied significantly by income. Roughly three-quarters of children in the lowest-income group (children who were eligible for free NSLP meals) usually ate a school lunch 5 days per week, compared with 64 percent of children in the low-income group (eligible for reduced-price NSLP meals) and 41 percent in the higher-income group (not eligible for NSLP meal benefits) (figure 2). This pattern is generally consistent with patterns of participation reported in the most recent national studies of the NSLP (Burghardt and Devaney, 1993 and Fox et al., 2001).

Differences between income groups varied substantially by gender. Among males, there was no difference between the lowest-income group and the low-income group in the percentage of children who usually ate a school lunch 5 days per week (74% vs. 71%). However, males in the lowest-income group were significantly more likely than males in the higher-income group to usually eat the school lunch 5 days per week (74% vs. 48%). Among females, the lowest-income group was significantly more likely than either the low-income group or the higher-income group to usually eat the school lunch 5 days per week (74% vs. 57% and 34%).

Figure 2—Percent of school-age children eating school lunch 5 days per week

*Statistically significant difference from lowest-income group at the .05 level or better.
Source: NHANES-III, 1988-94.

The School Breakfast Program

At the time the NHANES-III data were collected, about half of all school-age children attended schools that offered the SBP (table D-4). This estimate is consistent with historical data on SBP availability, but substantially underrepresents current program availability. In the 1992-93 school year, about two-thirds of the way through the NHANES-III data collection, approximately half of the Nation's schools offered the SBP (Burghardt and Devaney, 1993). Institutional participation in the SBP has increased substantially since that time. In the 1998-99 school year, when the most recent nationally representative study of the school meal programs was completed, more than three-quarters of all public schools that offered the NSLP also offered the SBP (Fox et al., 2001).[2]

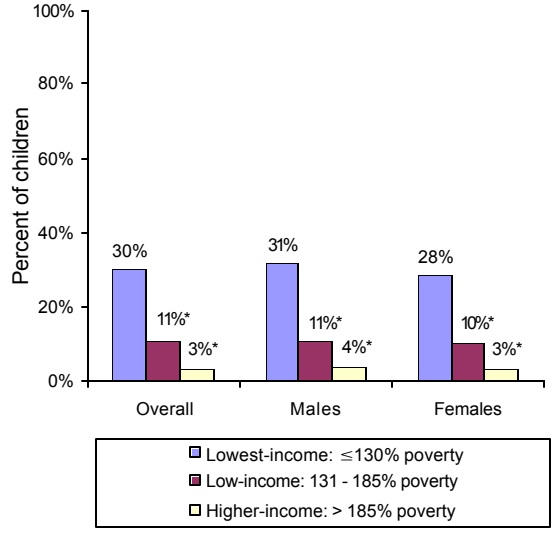
Children in the lowest-income group were just as likely as children in the low-income group to attend a school that offered the SBP, but were significantly more likely to attend an SBP school than children in the higher-income group (66% vs. 59% and 40%) (table D-4). Although recent initiatives have focused on increasing the availability of the SBP for all children, historically, the program has been most commonly offered in low-income areas.

[2] The 1992-93 and 1998-99 estimates are not directly comparable. The former is based on all schools, including private schools, while the latter is based on public schools that offered the NSLP. Given that private schools make up a small percentage of all schools nationwide and that the vast majority of all schools offer the NSLP, the difference between the two estimates is a reasonable proxy for the growth of the SBP over time.

About 13 percent of all children reported usually consuming a school breakfast 5 days per week (table D-5). Regular consumption of school breakfasts decreased as age increased. Sixteen percent of 5-10-year-olds usually ate a school breakfast 5 days per week, compared with 8 percent of 14-18-year-olds (statistical significance of age-based differences not tested). These patterns were observed for both males and females.

Children in the lowest-income group were significantly more likely to eat a school breakfast 5 days per week than children in either of the other income groups. Overall, 30 percent of children in the lowest-income group usually ate a school breakfast 5 days per week, compared with 11 percent of children in the low-income group and 3 percent of children in the higher-income group (figure 3). This pattern was observed for both males and females and is consistent with patterns of participation observed in the most recent national studies of the SBP (Burghardt and Devaney, 1993 and Fox et al., 2001).

Figure 3—Percent of school-age children eating school breakfast 5 days per week



*Statistically significant difference from lowest-income group at the .05 level or better.
Source: NHANES-III, 1988-94.

Household Food Sufficiency

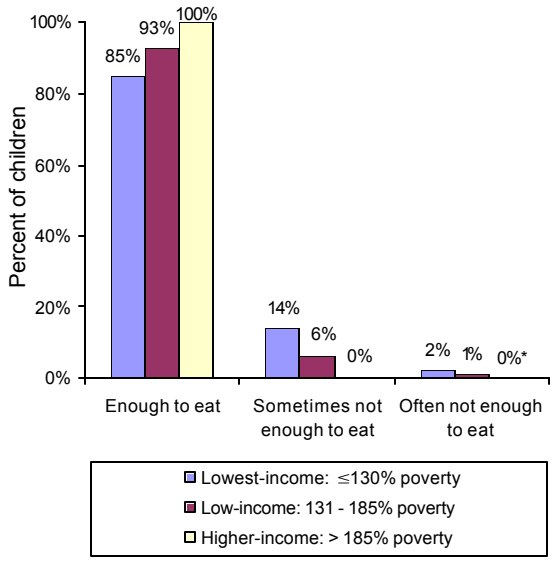
NHANES-III data were collected before dissemination of the 18-item Federal food security module, the currently accepted standard for measuring household and individual food security (Price et al., 1997 and Bickel et al., 2000). NHANES-III included a question that asked whether the household had enough to eat, sometimes did not have enough to eat, or often did not have enough to eat. Respondents who indicated that their household sometimes or often did not have enough to eat were asked how many days this occurred during the past month and why it occurred.[3] This measure has been used in NHANES-III as well as in other studies to identify households with food insufficiency (defined as households that report that there is "sometimes" or "often" not enough food to eat) (Alaimo, et al., 1998).

The majority of school-age children in all three income groups lived in households that always had enough to eat (figure 4 and table D-6). However, approximately 14 percent of school-age children in the lowest-income group resided in households that sometimes did not have enough to eat. The same was true for only six percent of school-age children in the low-income group and virtually none (0.2%) of the school-age children in the higher-income group.

More severe problems with food sufficiency (often not having enough to eat) were relatively rare. About two percent of school-age children in the lowest-income group, one percent of school-age children in the low-income group, and none of the school-age children in the higher-income group lived in households that

[3]Versions of the questionnaires used in the last two rounds of data collection included additional followup questions about whether children or adults in the household had decreased the size of their meals because there was not enough food. This latter group of questions was not tabulated for this report because of the restricted nature of the sample.

Figure 4—Distribution of school-age children by household food sufficiency status



*Statistically significant difference from lowest-income group at the .05 level or better.
Source: NHANES-III, 1988-94.

experienced this problem. The difference between the lowest-income group and the higher-income group (2% vs. 0%) was statistically significant.

Because so few school-age children resided in households that sometimes or often did not have enough to eat, the followup questions on how often and why households experienced these problems were not analyzed. Sample sizes for some subgroups were too small to produce reliable estimates.

Meals and Snacks Consumed

This analysis examined the number of meals and snacks consumed by school-age children in the preceding 24 hours. Data from the 24-hour dietary recall were used to compute, for each child, the total number of meals and snacks consumed. (As dietary intakes were reported, respondents were asked to identify eating occasions as meals (breakfast, brunch, lunch, or dinner/supper) or snacks.) Responses to a separate survey question about daily breakfast consumption were also tabulated.

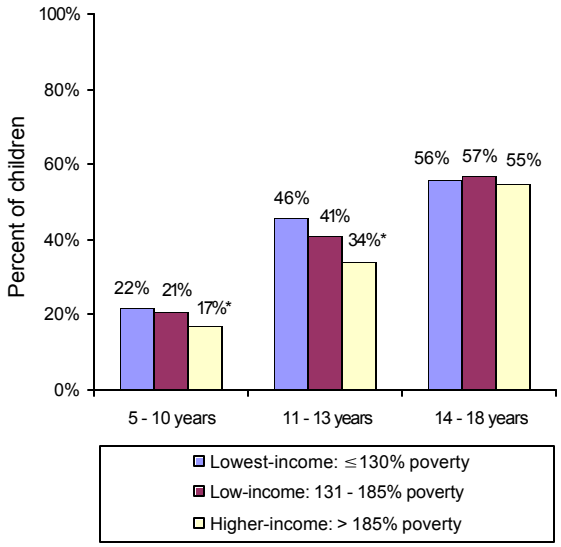
Number of Meals Consumed

Overall, 36 percent of school-age children consumed fewer than three meals in the preceding 24 hours (table D-7).[4] The percentage of children who ate fewer than three meals per day increased with age, from a low of 20 percent for 5-10-year-olds to a high of 55 percent for 14-18-year-olds (statistical significance of age-based differences not tested).

There were no significant differences, overall, between the lowest-income group and the low-income group in the percentage of children who consumed fewer than three meals in the preceding 24 hours. In comparison with the higher-income group, however, children in the lowest-income group were significantly more likely to have consumed fewer than three meals (39% vs. 34%). This difference was concentrated among 5-10-year-olds (22% vs. 17%) and 11-13-year-olds (46% vs. 34%) (figure 5).

[4]Data on the mean number of meals consumed is presented in table D-8.

Figure 5—Percent of school-age children consuming fewer than three meals per day



*Statistically significant difference from lowest-income group at the .05 level or better.
Source: NHANES-III, 1988-94.

Differences between income groups were strongest for 11-13-year-old females. In this age group, females in the lowest-income group were significantly more likely than females in either of the other income groups to have consumed fewer than three meals (47% vs. 29% and 34%) (table D-7).

Consumption of Breakfast

NHANES-III included a separate question about usual breakfast consumption habits: "How often [does CHILD/do you] eat breakfast?" Response options were: every day, on some days, rarely, never, and on weekends only. This question is not directly comparable to the question about consumption of school breakfasts. The two questions have a different frame of reference (SBP breakfasts on school days vs. any type of breakfast on all days of the week) and were answered by different respondents. The question about consumption of school breakfasts was answered by caregivers of all children between 5 and 16; 17- and 18-year-olds were not asked this question. The question about usual breakfast consumption habits was answered by caregivers of children 5-11 years. Children 12-18-years answered the question themselves.

The data indicate that fewer than half (46%) of all school-age children consumed breakfast every day (table D-9). Reported breakfast consumption habits differed markedly by age. Eighty-seven percent of 5-10-year-olds ate breakfast every day, compared with 27 percent of 11-13-year-olds and 8 percent of 14-18-year-olds (statistical significance of age-based differences not tested). This general pattern was observed for both males and females and for all three income groups.

There was no significant difference in reported breakfast consumption habits of school-age children in the lowest-income and low-income groups. In comparison with the higher-income group, however, school-age children in the lowest-income group were significantly less likely to consume breakfast every day (44% vs. 48%). This difference was concentrated among 11-13-year-olds, females in particular, and among males. Among 11-13-year-olds, 21 percent of the lowest-income group reportedly ate breakfast every day, compared with 31 percent of the higher-income group. Among school-age males, 45 percent of the lowest-income group ate breakfast every day, compared with 50 percent of the higher-income group.

Number of Snacks Consumed

Eighty-nine percent of all school-age children consumed at least one snack in the preceding 24 hours (table D-10). On average, school-age children consumed two snacks in the preceding 24 hours (table D-11). There were virtually no significant differences between income groups in snacking behaviors and little noteworthy variation by gender or age.

Usual Intake of Food Energy and Key Nutrients

This section describes usual intakes of food energy, vitamin C, iron, zinc, and calcium among school-age children. Tabulations are based on the single 24-hour recall collected in NHANES-III. The data have been adjusted, however, to account for within-person variation using variance estimates from the Continuing Survey of Food Intakes by Individuals (CSFII). (The procedures used in making these adjustments are described in appendix C.) As such, the data presented are indicative of children's *usual* dietary intakes, exclusive of vitamin and mineral supplements, and can be used to assess the prevalence of adequate intakes.[5]

[5]Data on usual dietary intake do not include contributions from vitamin and mineral supplements. At the time this report was prepared, other investigators were working on methods for incorporating supplement data into estimates of usual nutrient intake. In NHANES-III, however, there is a lack of congruence in recall period—24 hour recall for foods vs. the preceding month for supplements.

Standards Used to Assess Usual Intakes

The usual nutrient intakes of school-age children were assessed relative to Estimated Average Requirements (EARs) and Adequate Intakes (AIs). EARs and AIs are part of a newly established set of dietary standards—the Dietary Reference Intakes (DRIs) (Institute of Medicine (IOM), 1999, 2000a, 2000b, 2002a, 2002b, 2004). The DRIs replace the *Recommended Dietary Allowances* (RDAs) used in most previous research (National Research Council (NRC), 1989a).[6] When adequate scientific evidence is available, an EAR is established. The EAR is the level of intake that is estimated to meet the requirements of half of the healthy individuals in a particular life stage and gender group. When the available data are insufficient to estimate requirements, an AI is established rather than an EAR. The AI is the level of intake that is assumed to be adequate, based on observed or experimentally determined estimates of intake.

EARs have been defined for three of the four nutrients examined in this chapter (vitamin C, iron, and zinc). For the fourth nutrient (calcium), AIs have been defined. For nutrients that have EARs and a symmetrical requirement distribution, the IOM recommends that usual nutrient intakes be assessed using the "EAR-cutpoint method" (IOM, 2001).[7] This approach compares the distribution of usual intakes in a population with a population-specific EAR. The proportion of the population with usual intakes below the EAR is an estimate of the proportion of the population with inadequate intakes—intakes that do not meet nutrient requirements.

For nutrients with AIs, methods for assessing usual intakes are more limited. AIs cannot be used to determine the proportion of a population with inadequate intakes. Instead, assessment focuses on comparison of mean usual intakes to the AI. Populations with a mean usual intake equivalent to or greater than the population-specific AI can be assumed to have adequate intakes.

At the time the analyses presented in this report were completed, DRIs had not been established for food energy.[8] Therefore, assessment of usual energy intakes also focuses on comparison of mean intakes, expressed as a percentage of the 1989 Recommended Energy Allowance (REA) (NRC, 1989a).

Because the EARs and the calcium AI are relatively new reference standards, appendix B includes a table that shows the 1989 RDAs for vitamin C, iron, zinc, and calcium—the reference standards used in most previous research. The interested reader can compare data on mean usual intakes with the most appropriate RDA to obtain a reasonable approximation of how these data compare with previously published data. In addition, appendix D includes tables that show means and the full distribution of usual intakes (the 5th, 10th, 15th, 25th, 50th, 75th, 85th, 90th, and 95th percentiles) for food energy and each of the four nutrients.

Food Energy

On average, children's usual intake of food energy approached 100 percent of the 1989 REA (table D-13).[9] Usual energy intake varied

[6]In addition to EARs and AIs, the DRIs define two other reference standards: Recommended Dietary Allowances (RDAs) and Tolerable Upper Intake Levels (ULs) (see appendix B).

[7]The EAR-cutpoint method could not be used to assess the prevalence of adequate iron intakes among menstruating females because iron requirements for this population are not symmetrical. An alternative method, known as the probability approach (IOM, 2001), was used to assess the prevalence of adequate iron intakes in this subgroup of school-age children (9-13-year-old and 14-18-year-old females).

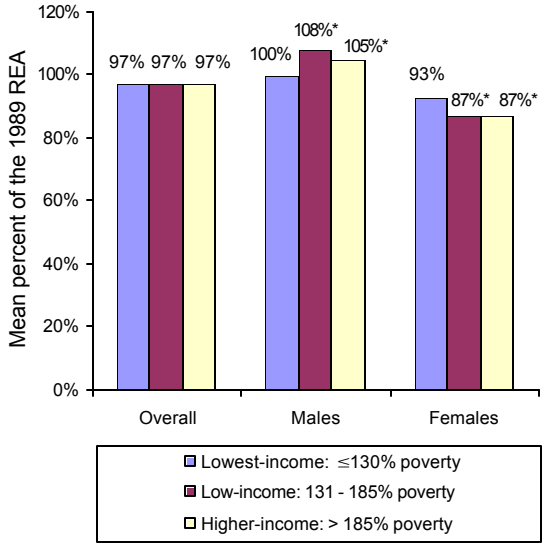
[8]DRIs for food energy have subsequently been released (IOM, 2002b).

[9]Data on mean intakes in kilocalories are presented in table D-12 and the full distribution of intakes is presented in table D-14.

substantially by gender. Even among the youngest age groups, males consumed more energy than females, relative to the 1989 REA. Male school-age children consumed 104 percent of the 1989 REA, on average, while females consumed 89 percent (statistical significance of gender-based differences not tested).

There were no significant differences between income groups, overall, in mean energy intake as a percent of the 1989 REA (figure 6). Significant differences were observed, however, in gender-specific analyses. Among males, school-age children in the lowest-income group had significantly *lower* mean energy intakes than school-age children in the low-income and higher-income groups (100% of the 1989 REA vs. 108% and 105%). Among females, the difference between income groups went in the opposite direction. That is, among females, the lowest-income group consumed significantly *more* food energy, on average, than either of the other income groups (93% of the 1989 REA vs. 87% for both of the other groups).

Figure 6—Mean usual intake of food energy as a percent of the 1989 Recommended Energy Allowance: School-age children



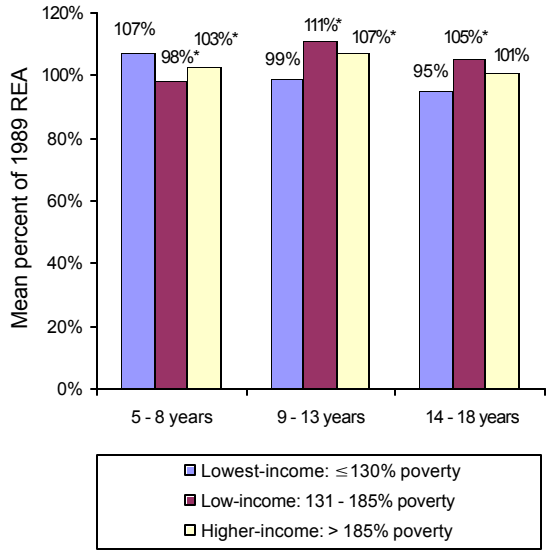
*Statistically significant difference from lowest-income group at the .05 level or better.
Source: NHANES-III, 1988-94.

For both males and females, the pattern of differences between income groups varied by age. Among males, 5-8-year-olds in the lowest-income group consumed significantly *more* energy than their counterparts in either of the other income groups (107% vs. 98% and 103%) (figure 7). For the two older groups of males, the pattern was reversed. Among 9-13-year-olds and 14-18-year-olds, males in the lowest-income group consumed *less* energy, on average, than males in either the low-income or higher-income groups. For 9-13-year-old males, both of the between-group differences were statistically significant (99% vs. 111% and 107%). For 14-18-year-old males, only the difference between the lowest-income group and the low-income group was significant (95% vs. 105%).

Among females, the direction of the difference between income groups was consistent for all age groups, but the statistical significance of the differences varied (figure 8). There were no significant between-group differences for 9-13-year-old females. Among 5-8-year-old females, the usual energy intake of the lowest-income group was comparable to the usual intake of the low-income group, but was significantly greater than the usual intake of the higher-income group (92% vs. 91% and 84%). Among 14-18-year-old females, the lowest-income group consumed significantly more food energy than either the low-income or higher-income groups (97% vs. 81% and 84%).

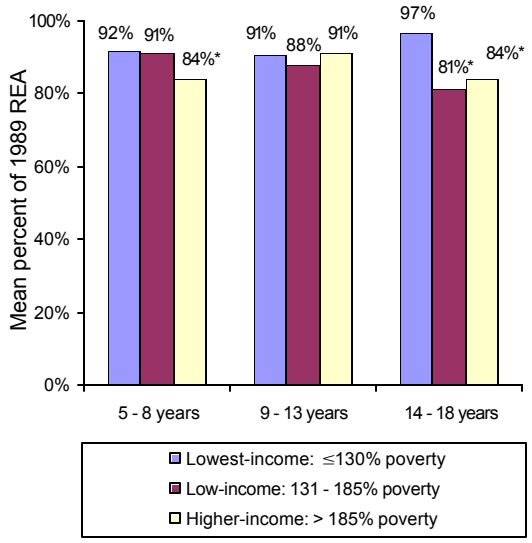
Finally, it is interesting to note that the magnitude of the disparity between energy intakes of males and females, mentioned at the beginning of this section, was substantially smaller in the lowest-income group than in the two other income groups. In the lowest-income group, males consumed an average of 100 percent of the 1989 REA and females consumed an average of 93 percent—a difference of 7 percentage points (table D-13). Comparable differences for males and females in the low-income and higher-

Figure 7—Mean usual intake of food energy as a percent of the 1989 Recommended Energy Allowance: School-age males



*Statistically significant difference from lowest-income group at the .05 level or better.
Source: NHANES-III, 1988-94.

Figure 8—Mean usual intake of food energy as a percent of the 1989 Recommended Energy Allowance: School-age females



*Statistically significant difference from lowest-income group at the .05 level or better.
Source: NHANES-III, 1988-94.

income groups were 21 percentage points and 18 percentage points, respectively (statistical significance of gender-based differences not tested).

Vitamin C

More than 90 percent of all school-age children had adequate usual intakes of vitamin C (table D-16).[10] The prevalence of adequate usual intakes decreased with age from 100 percent for 5-8-year-olds to 97 percent for 9-13-year-olds and 80 percent for 14-18-year-olds (statistical significance of age-based differences not tested). This trend was observed for both males and females.

Overall, there was no significant difference between the lowest-income group and the low-income group in the percentage of school-age children with adequate usual intakes of vitamin C (93% vs. 92%). The difference between the lowest-income group and the higher-income group was statistically significant, but the magnitude of the difference was small (93% vs. 91%).

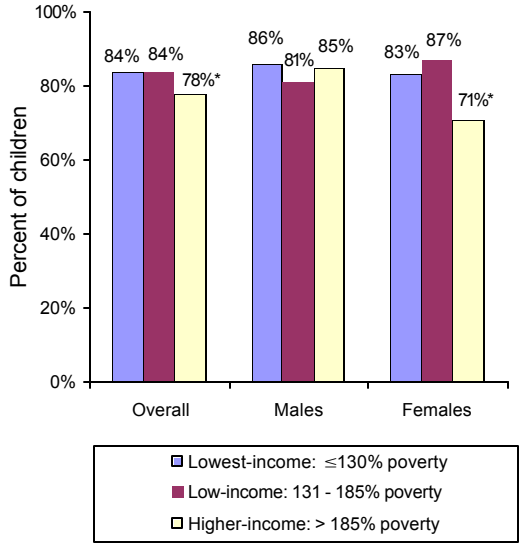
Several significant differences were noted between income groups for specific age and gender-and-age subgroups (table D-16). The most noteworthy difference was observed for 14-18-year-olds. For this age group, children in the lowest-income group were significantly more likely to have adequate usual intakes of vitamin C than children in the higher-income group (84% vs. 78%) (figure 9). This difference was due to a difference among females. Among 14-18-year-old females, 83 percent of the lowest-income group had adequate usual intakes of vitamin C, compared with 71 percent of the higher-income group.

Iron

With the exception of 14-18-year-old females, virtually all school-age children had adequate usual intakes of iron (table D-19).[11] Among 14-18-year-old females, the prevalence of adequate usual iron intakes was substantially lower, at 86 percent. In this subgroup, the lowest-income

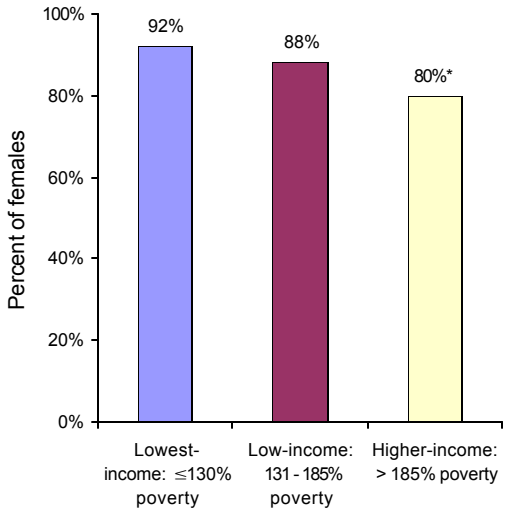
[10]Data on mean intakes of vitamin C (in mg.) are presented in table D-15 and the full distribution of intakes is presented in table D-17.

Figure 9—Percent of 14-18-year-olds with adequate usual intake of vitamin C



*Statistically significant difference from lowest-income group at the .05 level or better.
Source: NHANES-III, 1988-94.

Figure 10—Percent of 14-18-year-old females with adequate usual intake of iron



*Statistically significant difference from lowest-income group at the .05 level or better.
Source: NHANES-III, 1988-94.

group was significantly more likely than the higher-income group to have an adequate usual iron intake, and the magnitude of the difference between groups was sizeable. Ninety-two percent of 14-18-year-old females in the lowest-income group had adequate usual iron intakes, compared with 80 percent of comparably aged females in the higher-income group (figure 10). The difference between the lowest-income group and the low-income group (92% vs. 88%) was not statistically significant.

Zinc

Roughly nine out of ten school-age children had adequate usual intakes of zinc (table D-22).[12] The prevalence of adequate intakes decreased with age, from 100 percent for 5-8-year-olds to 83 percent for 14-18-year-olds. Moreover, for the two older age groups of school-age children, the prevalence of adequate usual zinc intakes was notably higher for males than for females (99% and 97% vs. 84% and 70%) (statistical significance of age- and gender-based differences not tested).

Overall, school-age children in the lowest-income group were *less* likely than those in the low-income group and *more* likely than those in the higher-income group to have adequate usual intakes of zinc (91% vs. 98% and 89%). However, the pattern of between-group differences varied by gender and age.

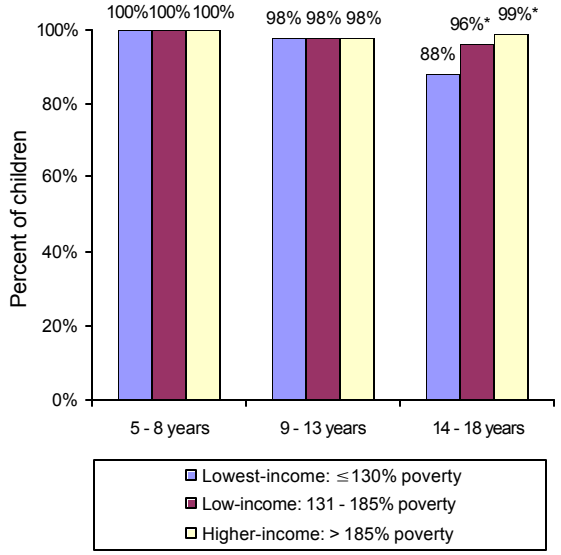
Among males, significant differences between income groups were observed only for 14-18-year-olds (figure 11). Among males in this age cohort, the lowest-income group was less likely than either of the other income groups to have an adequate usual intake of zinc (88% vs. 96% and 99%).

Among females overall, the lowest-income group was *less* likely than the low-income group and *more* likely than the higher-income group to have an adequate usual intake of zinc (88% vs. 98% and 79%) (table D-22). This pattern was

[11]Data on mean intakes of iron (in mg.) are presented in table D-18 and the full distribution of intakes is presented in table D-20.

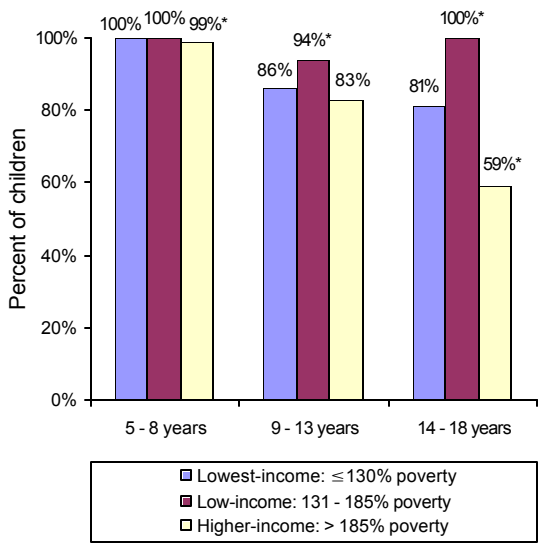
[12]Data on mean intakes of zinc (in mg.) are presented in table D-21 and the full distribution of intakes is presented in table D-23.

Figure 11—Percent of school-age children with adequate usual intake of zinc: Males



*Statistically significant difference from lowest-income group at the .05 level or better.
Source: NHANES-III, 1988-94.

Figure 12—Percent of school-age children with adequate usual intake of zinc: Females



*Statistically significant difference from lowest-income group at the .05 level or better.
Source: NHANES-III, 1988-94.

observed for both 9-13-year-old females and 14-18-year-old females (figure 12). However, among 9-13-year-old females, the difference between the lowest-income and higher-income groups was not statistically significant.

Calcium

As noted in the introduction to this section, it is not possible to determine the percentage of school-age children with adequate intakes of calcium because EARs for calcium have not been established. Therefore, in comparing calcium intakes of children in different income groups, the analysis examined mean usual intakes, expressed as a percentage of the AI. In reviewing these data, readers should note that the AI is expected to exceed the actual needs of essentially all healthy individuals. Thus, mean intakes below the AI cannot be interpreted as indicative of inadequate intakes. On the other hand, populations with mean intakes that meet or exceed the population-specific AI can be assumed to have adequate intakes.

On average, the usual diets consumed by school-age children provided 83 percent of the AI defined for their gender-and-age group (table D-25).[13] The data indicate that 5-8-year-olds had adequate usual calcium intakes (120% of the AI), while mean intakes of older children fell short of the AI (74-75%). In the two older age groups, mean usual intakes were notably higher for males (83% and 88% of the AI) than for females (67% and 60%) (statistical significance of gender-based differences not tested).

Overall, the mean usual calcium intake of the lowest-income group, as a percent of the AI, was comparable to the mean usual intake of the low-income group but was significantly lower the mean usual intake of the higher-income group (81% vs. 83% and 85%). There was substantial variation in this pattern of between-group differences by gender and age.

As a group, males in the lowest-income group consumed significantly *less* calcium than males

[13]Data on mean intakes of calcium (in mg.) are presented in table D-24; the distribution of intakes is shown in table D-26.

in either of the other income groups (88% of the AI vs. 96% and 97%). This pattern was noted for 9-13- and 14-18-year-old males but not for 5-8-year-old males (figure 13).

Among females, the pattern of between-group differences was reversed. That is, females in the lowest-income group consumed significantly *more* calcium, on average, than females in the other two income groups (75% of the AI vs. 70% for each of the other groups) (table D-25). This pattern was observed for 5-8-year-old females and 14-18-year-old females, and three of the four between-group differences were statistically significant (figure 14).

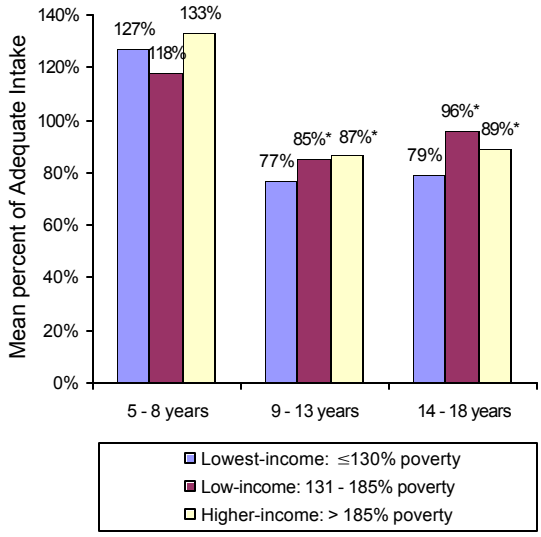
Consumption of Milk and Soft Drinks

Data on trends in the national food supply indicate that Americans are consuming substantially less milk and substantially more soft drinks than they were 25 years ago (Putnam and Gerrior, 1999). On average, Americans consume more soft drinks per day than milk. Concerns have been raised about the potential impact of this trend on calcium intake, particularly among children (Yen and Lin, 2002).

To determine whether the relative consumption of soft drinks and milk differed for school-age children in the three income strata, 24-hour recall data were used to compute the total grams of fluid milk consumed and the total grams of soft drinks consumed in the preceding 24-hour period. Both carbonated and noncarbonated soft drinks were included in the tabulations. Coffee and tea were not included. For ease in interpretation, gram weights were translated into 8-ounce equivalent servings.

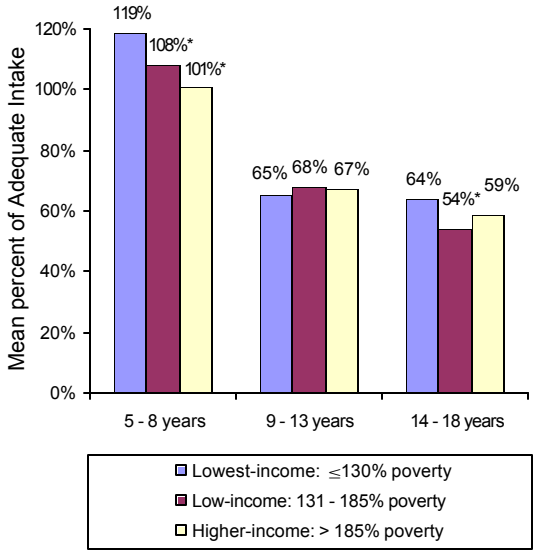
The data, presented in tables D-27 to D-30, verify that soft drink consumption outstripped consumption of fluid milk in all gender and age subgroups examined in this analysis. Moreover, the data revealed no significant differences between income groups in these behaviors, overall, indicating that these consumption patterns crossed income lines (figure 15).

Figure 13—Mean usual intake of calcium as a percent of Adequate Intake: School-age males



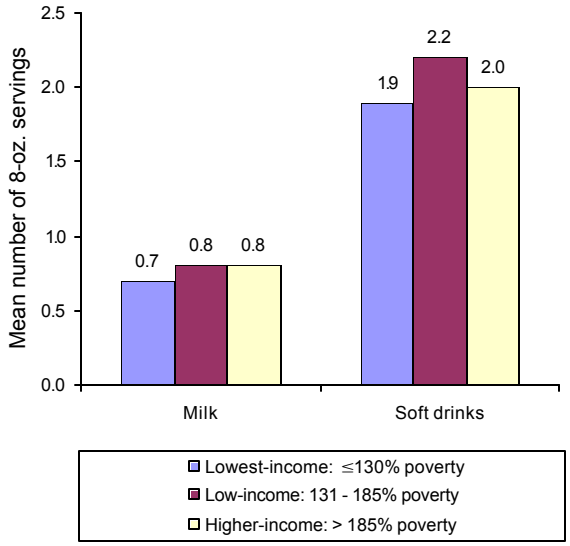
*Statistically significant difference from lowest-income group at the .05 level or better.
Source: NHANES-III, 1988-94.

Figure 14—Mean usual intake of calcium as a percent of Adequate Intake: School-age females



*Statistically significant difference from lowest-income group at the .05 level or better.
Source: NHANES-III, 1988-94.

Figure 15—Mean daily servings of milk and soft drinks: School-age children



No statistically signifiant differences between income groups.
Source: NHANES-III, 1988-94.

On average, school-age children consumed less than one full (8-ounce) serving of fluid milk per day (table D-28). In contrast, school-age children consumed an average of 2 (8-ounce) servings of soft drinks per day (Most soft drinks purchased in individual containers include more than 8 ounces). Males consumed more milk and more soft drinks per day than females (0.9 and 2.3 servings, respectively, for males vs. 0.7 and 1.7 servings for females) (statistical significance of gender-based differences not tested). Males between 14 and 18 years consumed the most soft drinks, averaging 3.3 servings (or 26.4 ounces) per day.

Use of Dietary Supplements

As noted earlier in this chapter, NHANES-III dietary intake data do not include nutrients provided by dietary supplements. To provide some insight into the potential contribution of dietary supplements, data on reported supplement use were analyzed. The available data do not permit a detailed analysis of this issue by specific nutrient, but provide some information on the prevalence of supplement use among school-age children and general information about the number and types of supplements taken.

NHANES-III respondents were asked whether they used vitamin or mineral supplements during the preceding month. If supplements were used, respondents were asked to show the actual bottles or jars to interviewers so the type of supplement and associated dosage information could be recorded. Respondents were not asked specifically about use of other types of dietary supplements, such as herbs, botanicals, and fish oils; however, many respondents volunteered information about these types of supplements (CDC, 2001).

Overall, less than a third (30%) of school-age children used some type of dietary supplement in the month preceding the NHANES-III interview (table D-31). Supplement use generally declined as age increased. For the population as a whole, 40 percent of 5-8-year-olds took some type of dietary supplement during the preceding month, compared with 29 percent of 9-13-year-olds and 24 percent of 14-18-year-olds (table D-31) (statistical significance of age-based differences not tested).

There was no significant difference between the lowest-income group and the low-income group in reported use of dietary supplements. In comparison with the higher-income group, however, school-age children in the lowest-income group were significantly less likely to have used dietary supplements (20% vs. 37%). This pattern was observed for all three age cohorts, overall as well as by gender.

Among children who used dietary supplements in the preceding month, the majority (84%) used one supplement (table D-32). There were no significant differences between income groups in the number of supplements used by children who used supplements. The types of supplements

used most often were multivitamins (48%) and multivitamin-with-mineral combinations (35%) (table D-33). The latter supplements are likely to include vitamin C, iron, and zinc, three of the four minerals examined in the preceding section. Calcium is likely to be included as well, but generally at levels well below other minerals, relative to recommended intakes. There were isolated differences between income groups on the types of supplements taken, but there was no consistent pattern. These data should be interpreted with some caution given the relatively low prevalence of supplement use and the resulting small samples for the multiple gender-and-age subgroups examined in this report.

Chapter Three

Healthy Eating Index Scores and Usual Intake of Dietary Fiber

This chapter describes the nutritional quality of diets consumed by the Nation's school-age children. The analysis focuses on the Healthy Eating Index (HEI), a summary measure of overall nutritional quality developed by USDA's Center for Nutrition Policy and Promotion (CNPP) (Kennedy et al., 1995). Usual intake of dietary fiber is also examined.

To maintain consistency across all analyses of diet-related measures, the age groups used in this chapter are the same as those used in the preceding chapter and differ slightly from those used elsewhere in the report. Specifically, the age groups used are those used in the DRIs, the most current nutrition standards (5-8 years, 9-13 years, and 14-18 years).

Healthy Eating Index Scores

The HEI provides an overall picture of the types and quantities of food individuals consume and their compliance with recommended dietary practices (Basiotis et al., 2002). The index includes an overall score as well as 10 component scores, all of which are weighted equally in the overall score. The 10 component scores measure different aspects of a healthy diet relative to current public health recommendations. The HEI scores used in this analysis were computed by NCHS staff, following USDA guidelines, and were included in a public-release data file (NCHS, 2000).

Six of the component scores are food-based and evaluate food consumption in comparison with USDA Food Guide Pyramid recommendations for intake of grains, vegetables, fruits, dairy, and meat, as well as the level of variety in the diet (USDA, CNPP, 1996). Four component scores are nutrient-based and assess compliance with *Dietary Guidelines for Americans* recommendations for daily intake of fat, saturated fat, cholesterol, and sodium (USDA and U.S. DHHS, 2000).[1] The specific reference standards used for each HEI component are described in the following discussions and are listed in appendix B. The appendix also provides technical details about how food consumption data needed to estimate HEI scores were derived from the NHANES-III 24-hour recall data.

The HEI data are based on the single 24-hour recall collected in NHANES-III. It was not possible to develop HEI scores that reflect usual intakes, as was done for the nutrients assessed in the preceding chapter. There were two major impediments to such an analysis. First, the HEI scoring algorithm is applied at the *individual* level but the adjustment technique used to generate estimates of usual nutrient intakes adjusts *distributions* rather than individual observations (see appendix C). Second, the HEI includes six food-based components and it is not possible to generate estimates of usual food intake (as opposed to usual nutrient intake) because distributions of daily food intake tend to be highly skewed and to include a large proportion of zeros (Dodd, 2001).

[1]When the HEI was first developed, the standards for cholesterol and sodium were based on recommendations made in the NRC's *Diet and Health* report (NRC, 1989b) because the version of the *Dietary Guidelines* in effect at the time did not include quantitative standards for these nutrients (USDA and U.S. DHHS, 1995). Since that time, the NRC standards for sodium and cholesterol have been incorporated into both the Nutrition Facts section of food labels and the most recent version of the *Dietary Guidelines* (USDA and U.S. DHHS, 2000).

Although it was not possible to incorporate information on usual nutrient intakes into HEI scores, usual intake distributions were estimated for the nutrients considered in the HEI. These include the percentage of food energy (calories) from fat and saturated fat as well as total intakes of cholesterol and sodium. In addition, a separate analysis was conducted to compare HEI data and usual intake data on estimates of the percentage of school-age children who consumed diets consistent with the various reference standards.

Because of the large number of variables examined and the additional comparisons (HEI estimates vs. usual intake estimates) presented in this chapter, the text discussion is generally limited to significant findings for the aggregate analysis (all school-age children) and the gender-specific analyses. Information about significant between-group differences that may have been observed only for specific gender- and/or age-groups may be found in the detailed appendix tables referenced throughout the text.

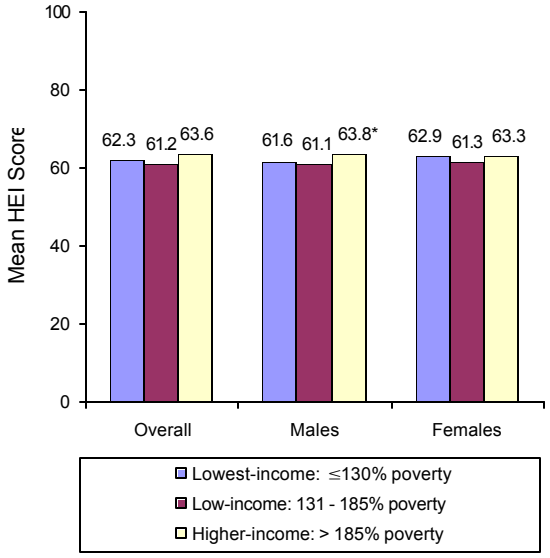
Total HEI Scores

On average, school-age children scored 62.8, out of a possible 100, on the HEI (table D-34). There were no significant differences in overall mean HEI scores of the three income groups (62.3 vs. 61.2 and 63.6) (figure 16).

Among males, the mean HEI score for the lowest-income group was significantly lower than the mean HEI score for the higher-income group (61.6 vs. 63.8). There were no significant between-group differences for females.

Researchers at CNPP have defined cutoffs that can be used to interpret what HEI scores say about overall diet quality (Basiotis et al., 2002). Total HEI scores over 80 imply a "good" diet. Scores between 51 and 80 indicate a "need for improvement." And scores below 51 are indicative of a "poor" diet. Using these criteria, a

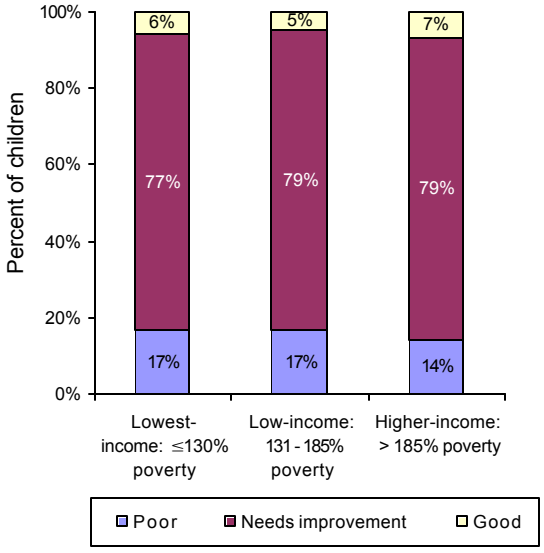
Figure 16—Mean Healthy Eating Index (HEI) scores: School-age children



*Statistically significant difference from lowest-income group at the .05 level or better.
Source: NHANES-III, 1988-94.

majority of school-age children needed to make improvements in their diets. Overall, 78 percent of school-age children showed a need for improvement (table D-35). Only 6 percent of all school-age children had "good" diets and 16 percent had "poor" diets. This pattern was observed for all three income groups (figure 17).

Figure 17—Distribution of total HEI scores: School-age children



No statistically significant differences between income groups.
Source: NHANES-III, 1988-94.

This general pattern was also observed for both males and females. However, among males, the lowest-income group was more likely than the higher-income group to have a "poor" diet (18% vs. 12%) (table D-35). In the lowest-income group, more males had poor diets than females (18% vs. 16%). In the other two income groups, the trend was reversed, with a greater percentage of females than males having "poor" diets (18% vs. 16% for the low-income group and 16% vs. 12% for the higher-income group) (statistical significance of gender-based differences not tested).

Food-based Component Scores

Standards for the food-based HEI component scores reflect daily goals for consumption of foods from each of the five food groups specified in the Food Guide Pyramid (USDA, CNPP, 1996). Serving guidelines are associated with recommended energy intake and vary by age and gender. For school-age children, the recommended numbers of daily servings range as follows:

- Grains: 7-11 servings
- Vegetables: 3.3-5 servings
- Fruits: 2.3-4 servings
- Milk: 2-3 servings
- Meat: 2.1-2.8 servings[2]

Specific recommendations for each age-and-gender group are shown in appendix B.

The HEI also includes a food-based score for dietary variety. Although the need for variety in the diet is a theme in all major public health nutrition guidelines, there are no specific quantitative recommendations. For purposes of the HEI, dietary variety is assessed by totaling the number of different types of food a person consumes in a day. Similar foods are grouped together and tabulations consider only food components that contribute at least one-half serving toward any food group. Fats, sweets, seasonings, and similar foods are not included (NCHS, 2000). A perfect score of 10 is assigned when a person consumes at least one-half serving of eight different foods.

Males

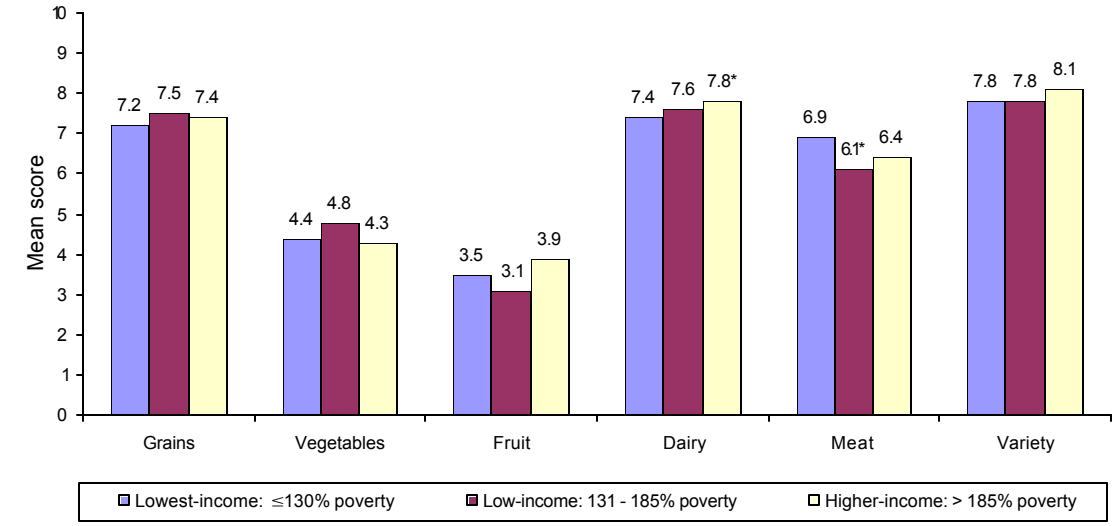
Data on food-based HEI component scores (tables D-36 to D-41) indicate that the food consumption goals that presented the most difficulty for school-age males were the goals for fruit and vegetables. Mean scores for the fruit component ranged from 3.5 to 3.9, compared with a perfect score of 10 (figure 18), and less than 20 percent of school-age males in each income group met the HEI standard for fruit (consumed the recommended number of servings) (figure 19). Mean scores for the vegetable component were somewhat higher (4.3 to 4.8); however, the percentage of school-age males who consumed the recommended number of vegetable servings was less than 15 percent for each of the three income groups (figures 18 and 19).

The food consumption goals that were the least problematic for school-age males, although there was still room for improvement, were the goals for dairy foods and dietary variety. Mean scores for these components ranged from 7.4 to 8.1 (figure 18). In addition, in all three income groups, the percentage of school-age males who met the HEI standard was notably higher for these components than for the four other food-based HEI components (figure 19). Forty-five percent or more of school-age males in each income group met the HEI standards for dairy foods and dietary variety.

There were relatively few statistically significant differences between income groups in mean

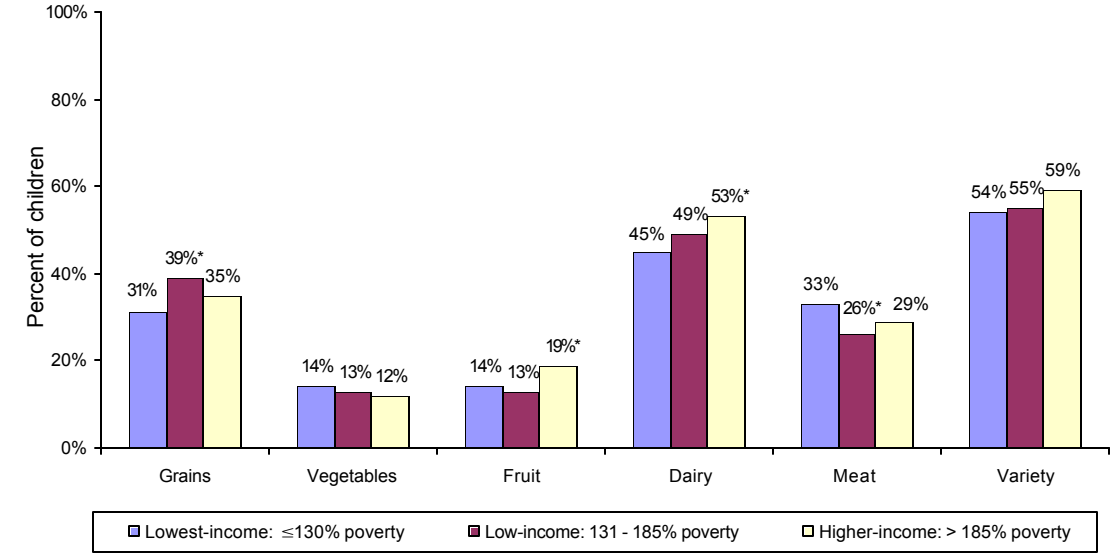
[2] One serving of meat is equivalent to 2.5 ounces of lean meat.

Figure 18—Mean scores for HEI food-based components: School-age males



*Statistically significant difference from lowest-income group at the .05 level or better.
Source: NHANES-III, 1988-94.

Figure 19—Percent of school-age children meeting HEI standards for food-based components: Males



*Statistically significant difference from lowest-income group at the .05 level or better.
Source: NHANES-III, 1988-94.

scores for food-based HEI components or in the percentage of school-age males who met the various HEI standards (figures 18 and 19). School-age males in the lowest-income group had a significantly lower mean score for the dairy component than school-age males in the higher-income group (7.4 vs. 7.8) and were significantly less likely to consume the recommended number of dairy servings (45% vs. 53%). Males in the lowest-income group also had a significantly *higher* mean score for the meat component than males in the low-income group (6.9 vs. 6.1) and were significantly *more* likely to consume the recommended number of meat servings (33% vs. 26%). In addition, males in the lowest-income group were less likely than males in the low-income group to consume the recommended number of grain servings (31% vs. 39%) and were less likely than males in the higher-income group to consume the recommended number of fruit servings (14% vs. 19%).

Data on the mean number of servings consumed from each food group (tables D-36 to D-40) reveal that, among school-age males, there were no significant differences between the lowest-income group and the low-income group in the mean number of servings consumed from the five major Food Pyramid food groups. In comparison with the higher-income group, however, males in the lowest-income group consumed almost three quarters of a serving (0.7 serving) less grains per day and about a third of a serving less fruit.

Females

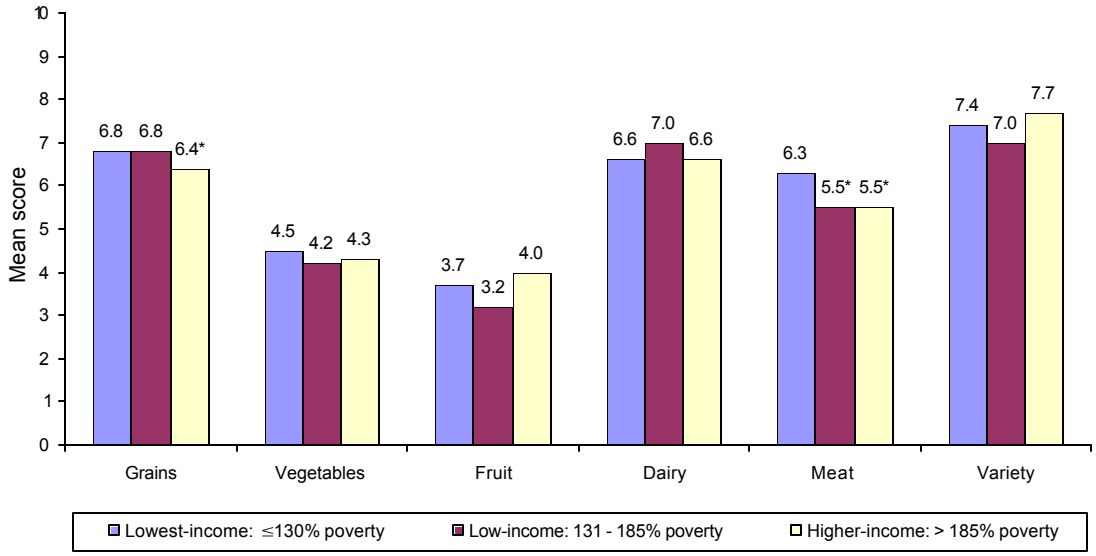
Goals for fruit and vegetable consumption also proved to be the most challenging goals for school-age females (tables D-36 to D-41). Mean scores for the fruit component ranged from 3.2 to 4.0 (figure 20), and less than 20 percent of school-age females in each income group consumed the recommended number of fruit servings (figure 21). Similar to the pattern observed for males, mean scores for the vegetable component were somewhat higher (4.2 to 4.5), but less than 15 percent of the school-age females in each income group consumed the recommended number of vegetable servings (figures 20 and 21).

Although there was still room for improvement, the food consumption goal that was the least problematic for school-age females was the goal for dietary variety. Mean scores for this components ranged from 7.4 to 7.7 (figure 20). In addition, in all three income groups, the percentage of school-age females who met the HEI standard for dietary variety was higher than for any of the five other food-based components, approximating or exceeding 45 percent (figure 21).

Among school-age females, there were relatively few statistically significant differences between income groups in either mean food-based component scores or in the percentage of individuals meeting the various food-based HEI standards (figures 20 and 21). Females in the lowest-income group had significantly higher mean scores than females in the higher-income group for the grain component (6.8 vs. 6.4) and the meat component (6.3 vs. 5.5). For the meat component, the difference in mean scores of the lowest-income and low-income groups was also statistically significant (6.3 vs. 5.5). In addition, school-age females in the lowest-income group were more likely than their counterparts in the higher-income group to consume the recommended number of servings of both grains (23% vs. 16%) and meat (27% vs. 20%).

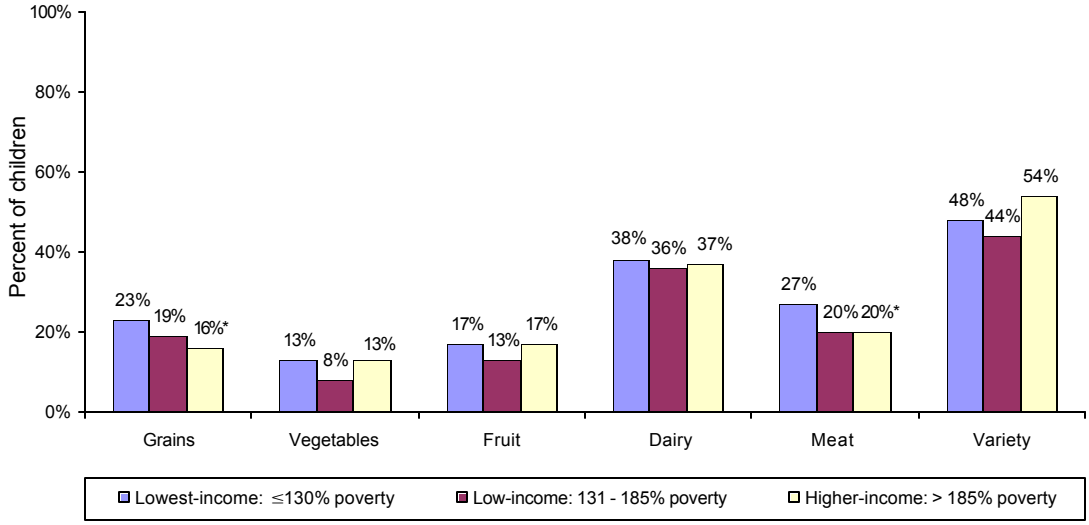
Data on the mean number of servings consumed from each food group (tables D-36 to D-40) reveal that, among school-age females, the lowest-income group consumed about a half of a serving more grains than the higher-income

Figure 20—Mean scores for HEI food-based components: School-age females



*Statistically significant difference from lowest-income group at the .05 level or better.
Source: NHANES-III, 1988-94.

Figure 21—Percent of school-age children meeting HEI standards for food-based components: Females



*Statistically significant difference from lowest-income group at the .05 level or better.
Source: NHANES-III, 1988-94.

group and about a third of a serving more fruit than the low-income group.

Nutrient-based Component Scores

The four nutrient-based HEI component scores assess nutritional quality on the basis of how well individuals' diets conform to recommendations for intake of total fat, saturated fat, cholesterol, and sodium. The standards used in making these assessments are based on recommendations included in the *Dietary Guidelines for Americans* (USDA and U.S. DHHS, 2000).[3] The standards for total fat, saturated fat, and sodium are also included in the *Healthy People 2010* objectives (U.S. DHHS, 2000a). Standards for total fat and saturated fat are no more than 30 percent of total energy and less than 10 percent of total energy, respectively. The standard for cholesterol is a maximum of 300 mg. and the standard for sodium is a maximum of 2,400 mg.

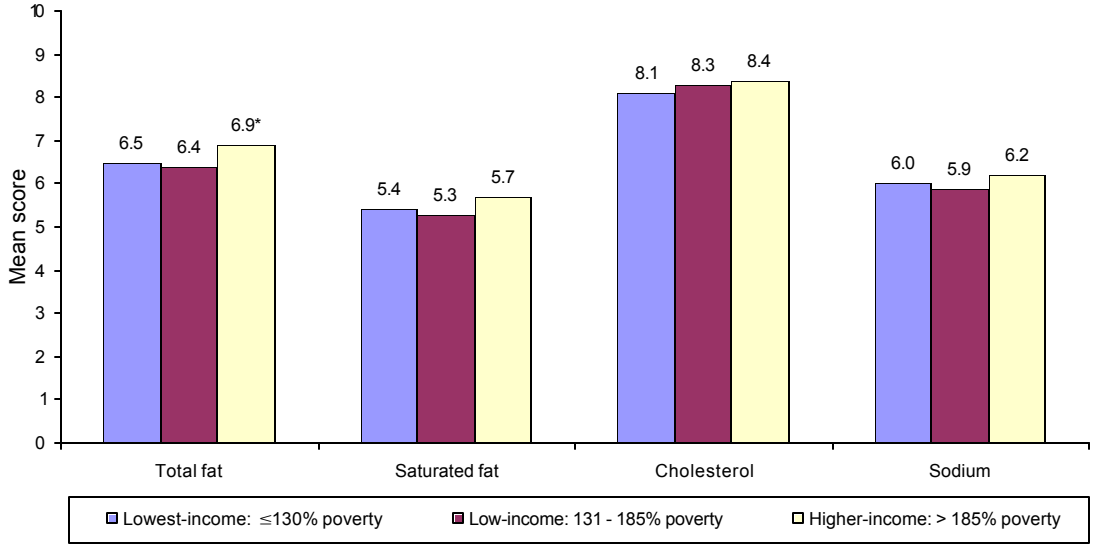
[3]As noted previously, HEI standards for cholesterol and sodium were initially based on recommendations made in the NRC's *Diet and Health* report (NRC, 1989b). These recommendations have subsequently been incorporated into the Nutrition Facts section on food labels and the most recent version of the *Dietary Guidelines* (USDA and U.S. DHHS, 2000).

Since the time HEI scores were computed by NCHS staff and the tabulations presented in this report were prepared, new reference standards have been established for fat (IOM, 2002b) and sodium (IOM, 2004) intake. These new standards are discussed in the text that follows. The IOM report in which the new standard for fat intake is defined also discusses intake of saturated fat and cholesterol, but does not define specific standards for intake of these dietary components.

Among school age children overall, there were few significant differences between the three income groups on mean scores for the nutrient-based components of the HEI (figure 22 and tables D-42-45). The only difference that was statistically significant, overall, was a difference in the mean score for the total fat component. School-age children in the lowest-income group had a significantly lower mean score for this component than school-age children in the higher-income group (6.5 vs. 6.9).

In the gender-specific analyses, this difference was observed for males (6.4 vs. 7.1), but not for females (6.7 vs. 6.8) (table D-42). Among

Figure 22—Mean scores for HEI nutrient-based components: School-age children



*Statistically significant difference from lowest-income group at the .05 level or better.
Source: NHANES-III, 1988-94.

school-age males, a significant difference between the lowest-income and higher-income groups was also observed for the mean HEI score for saturated fat (5.2 vs. 5.7) (table D-43). Among school-age females, significant differences were observed between the lowest-income and low-income groups for the cholesterol score (8.5 vs. 9.1) and between the lowest-income and higher-income groups for the sodium score (6.7 vs. 7.3).

Percentage of School-Age Children Meeting Standards for HEI Nutrients: Usual Intakes vs. 24-hour Intakes

As noted in the introduction to this chapter, usual intakes of fat, saturated fat, cholesterol, and sodium were estimated, as described in Chapter Two and appendix C, even though these data could not be incorporated into HEI scores. The following sections describe findings from the usual intake analyses, particularly with respect to estimates of the percentages of school-age children who satisfied the *Dietary Guidelines* recommendations considered in the HEI. These findings are contrasted with those from the HEI analysis. Estimates based on the usual intake analyses are more reliable than those available from the HEI because the former have been adjusted to remove within-person variation (see appendix C).

Percent of Energy from Total Fat

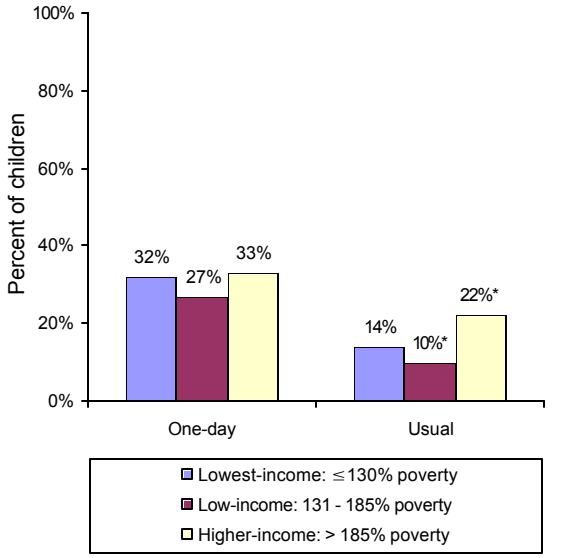
The diets usually consumed by school-age children were high in fat, compared with the *Dietary Guidelines* recommendation that fat provide no more than 30 percent of total food energy (calories). On average, fat contributed 33.6 percent of the energy consumed by school-age children (table D-46).

Overall, there was no difference between the lowest-income group and the low-income group in the mean percentage of energy provided by fat. However, in comparison with the higher-income group, school-age children in the lowest-income group obtained a significantly greater percentage of energy from fat (34.0% vs. 33.0%).

This pattern was observed for males, but not for females. Among school-age females, the lowest-income group obtained a significantly *smaller* percentage of energy from fat than females in the low-income group (33.6% vs. 34.7%) and the difference between the lowest-income and higher-income groups was not statistically significant.

According to the HEI data, which are based on a single 24-hour recall, between 27 and 33 percent of school-age children in each of the three income groups consumed diets that were consistent with the *Dietary Guidelines* recommendation for fat intake (figure 23 and table D-42). The more reliable estimates of usual fat intakes indicate that the percentage of children who met the *Dietary Guidelines* recommenda-

Figure 23—Percent of school-age children meeting *Dietary Guidelines* recommendation for total fat: One-day (HEI) estimates vs. usual intake estimates



*Statistically significant difference from lowest-income group at the .05 level or better.
Note: *Dietary Guidelines* recommendation has been replaced by AMDR (see text and appendix B).
Source: NHANES-III, 1988-94.

tion for fat was actually much lower, ranging from 10 to 22 percent (figure 23 and table D-47).

According to the HEI data, there were no significant differences between the lowest-income group and either of the other income groups in the percentage of school-age children who satisfied the *Dietary Guidelines* recommendation for fat (figure 23 and table D-42). In contrast, the more reliable estimates of usual intakes indicate that school-age children in the lowest-income group were *more* likely than children in the low-income group and *less* likely than children in the higher-income group to satisfy the *Dietary Guidelines* recommendation for fat intake (figure 23 and table D-47). Overall, 14 percent of school-age children in the lowest-income group had usual intakes that were consistent with the *Dietary Guidelines* recommendation for fat, compared with 10 percent of school-age children in the low-income group and 22 percent of school-age children in the higher-income group. The difference between the lowest-income group and the low-income group was primarily attributable to a difference among females, and the difference between the lowest-income group and the higher-income group was primarily attributable to a difference among males (table D-47).

As mentioned in the introduction to this section, a new reference standard has been established for fat intake since the time HEI scores were computed by NCHS staff and the tabulations presented in this report were prepared. This standard, referred to as an Acceptable Macronutrient Distribution Range (AMDR), defines a range of acceptable intakes for different life-stage groups. For children 4-18 years, the AMDR for fat is 25-35 percent of total energy (IOM, 2002b). By comparison, the *Dietary Guidelines* recommendation (no more than 30% of energy from fat) defines a more stringent upper bound for fat intake and does not define a lower bound.

Mean usual fat intakes of all three income groups fell within the AMDR (table D-46). This was true for both males and females. Distributions of usual fat intake provide some information about the percentage of school-age children whose usual fat intakes were consistent with the AMDR. The data suggest that usual intakes that fell outside the AMDR tended to be higher than the recommended range rather than lower. For all school-age children, the 5th percentile of the distribution of usual fat intake was 27.2 percent of total energy, compared with the AMDR lower bound of 25 percent, while the 50th and 75th percentiles were 33.6 percent and 36.2 percent, respectively, compared with the AMDR upper bound of 35 percent (table D-48). This indicates that, overall, somewhere between 25 and 50 percent of school-age children had usual fat intakes that exceeded the AMDR. This general pattern was observed for both males and females.

There were relatively few statistically significant differences between income groups in the distribution of usual fat intakes. The distributions suggest, however, that school-age males in the lowest-income group may be less likely to satisfy the AMDR for total fat than school-age males in the higher-income group. At the 75th percentile, usual fat intakes of the two groups were 36.9 percent of total energy and 34.9 percent, respectively.

Percent of Energy from Saturated Fat

On average, the usual diets consumed by school-age children provided 12.1 percent of food energy from saturated fat (table D-49).[4] This exceeds the *Dietary Guidelines* recommenda-

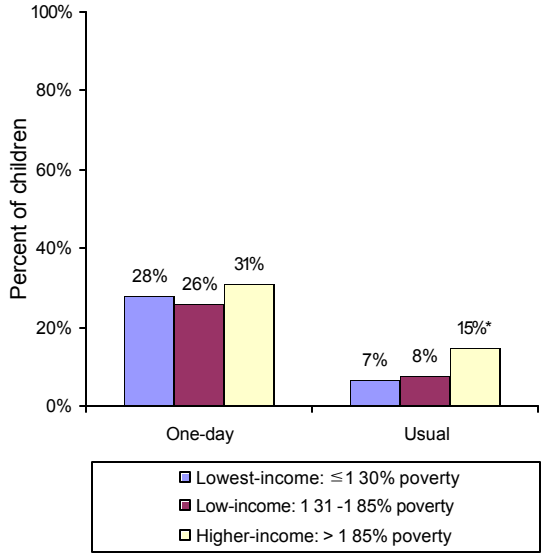
[4]The full distribution of usual saturated fat intakes (as a percent of usual energy intake) is presented in table D-51.

tion of less than 10 percent. Means were comparable for males and females.

Mean usual saturated fat intakes of school-age children in all three income groups exceeded the *Dietary Guidelines* recommendation. There was no significant difference between the lowest-income group and the low-income group in usual saturated fat intake. In comparison with the higher-income group, however, school-age children in the lowest-income group consumed significantly more energy from saturated fat (12.3% vs. 11.9%). These patterns were observed for both males and females.

According to the single-day recall used to compute HEI scores, the percentage of school-age children who satisfied the *Dietary Guidelines* recommendation for saturated fat intake ranged from a high of 31 percent for the higher-income group to a low of 26 percent for the low-income group, and neither of the tested between-group differences was statistically significant (figure 24 and table D-43). The more reliable estimates of usual dietary intake indicate that the percentage of children who satisfied the recommendation for saturated fat intake was actually substantially lower, ranging from 7 to 15 percent (figure 24 and table D-50).

Figure 24—Percent of school-age children meeting *Dietary Guidelines* recommendation for saturated fat: One-day (HEI) estimates vs. usual intake estimates



*Statistically significant difference from lowest-income group at the .05 level or better.
Source: NHANES-III, 1988-94.

There was no significant difference between the lowest-income group and the low-income group in the percentage of children whose usual intakes satisfied the *Dietary Guidelines* recommendation for saturated fat. In comparison with the higher-income group, however, school-age children in the lowest-income group were significantly less likely to satisfy the *Dietary* Guidelines recommendation. In fact, the percentage of higher-income children who satisfied the recommendation for saturated fat intake was more than double the percentage of lowest-income children (15% vs. 7%). These patterns were observed for both males and females (table D-50).

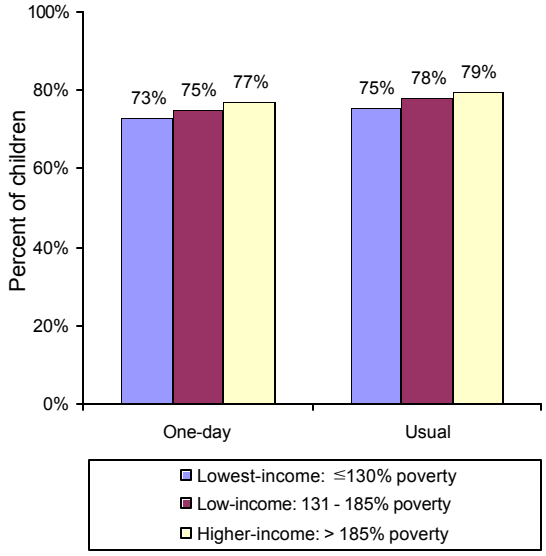
Cholesterol

The *Dietary Guidelines* recommend a maximum of 300 mg. of cholesterol per day. On average, the diets usually consumed by school-age children were consistent with this recommendation, providing 245 mg. of cholesterol per day (table D-52).[5] School-age children in the lowest-income group consumed significantly more cholesterol, on average, than children in the higher-income group (254 mg. per day vs. 236 mg.). This pattern was noted for both males and females.

The HEI data and the usual intake data lead to comparable conclusions about the percentage of school-age children who satisfied the *Dietary Guidelines* recommendation for cholesterol. Both data sets showed that more than 70 percent of children in each of the three income groups met the recommendation (figure 25 and

[5]The full distribution of usual cholesterol intakes is presented in table D-54.

Figure 25—Percent of school-age children meeting *Dietary Guidelines* recommendation for cholesterol: One-day (HEI) estimates vs. usual intake estimates



No statistically significant differences between income groups.
Source: NHANES-III, 1988-94.

tables D-44 and D-53). Both data sets also showed that, overall, there were no significant between-group differences in the percentage of school-age children who satisfied the recommendation for cholesterol.

When the data were examined separately by gender, the HEI data indicated that females in the lowest-income group were significantly less likely than females in the low-income group to satisfy the recommendation for cholesterol intake (78% vs. 87%) (table D-44). The more reliable estimates of usual intake showed that there were no significant differences between the lowest-income and low-income groups on this measure (for males or for females) (table D-53). However, the usual intake estimates showed that both males and females in the lowest-income group were significantly less likely than their higher-income counterparts to satisfy the recommendation for cholesterol intake (table D-53).

Sodium

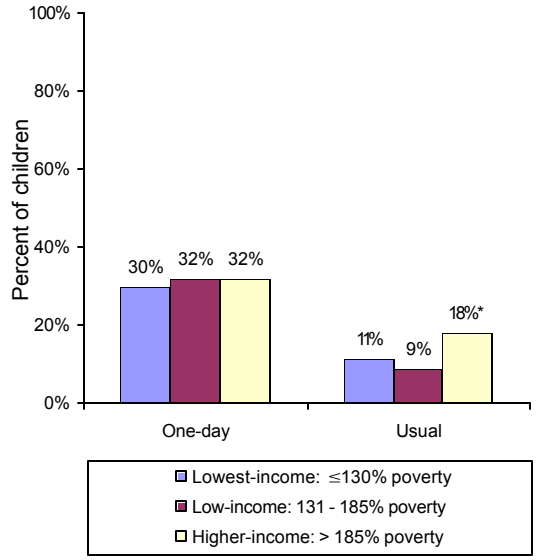
The *Dietary Guidelines* recommend that daily intake of sodium not exceed 2,400 mg. On average, the usual diets of school-age children exceeded this goal. The mean usual intake of sodium among school-age children was 3,456 mg. (table D-55). Usual intakes were greater for males than for females; however, mean intakes of both genders exceeded the standard (statistical significance of gender-based difference not tested).

Overall, there were no significant between-group differences in mean usual sodium intake. Some significant between-group differences were detected in the gender-specific analyses; however, means for all subgroups of school-age children exceeded the 2,400 mg. maximum. Among males, the mean usual sodium intake of the lowest-income group was significantly *lower* than the mean usual intake of the low-income group (3,761 mg. vs. 4,286 mg.). Among females, the difference observed between income groups ran in the opposite direction. Females in the lowest-income group consumed significantly *more* sodium, on average, than females in the higher-income group (3,195 mg. vs. 2,898 mg.).

According to the single-day HEI data, between 30 and 32 percent of school-age children in the three income groups satisfied the *Dietary Guidelines* recommendation for sodium intake, and there were no significant between-group differences (figure 26 and table D-45). Estimates of usual sodium intake indicate that the percentage of school-age children who satisfied the recommendation for sodium was substantially lower, ranging from 9 percent to 18 percent (figure 26 and table D-56).

Moreover, the data on usual intakes indicate that school-age children in the lowest-income group were significantly less likely than school-age

Figure 26—Percent of school-age children meeting *Dietary Guidelines* recommendation for sodium: One-day (HEI) estimates vs. usual intake estimates



*Statistically significant difference from lowest-income group at the .05 level or better.
Note: *Dietary Guidelines* recommendation has been replaced by UL (see text and appendix B).
Source: NHANES-III, 1988-94.

children in the higher-income group to consume the recommended amount of sodium (11% vs. 18%). This pattern was observed for both males and females. Among school-age females, the lowest-income group was *more* likely than the low-income group to satisfy the standard for sodium (14% vs. 5%).

As noted previously, new reference standards have been established for sodium intake since the time HEI scores were computed by NCHS staff and the tabulations presented in this report were prepared. Standards have been defined for both Adequate Intake (AI) and the Tolerable Upper Intake Level (UL) (IOM, 2004). Given that the major concern about sodium is the potential for excess consumption, the standard of greatest interest for this analysis is the UL.[6]

[1]The AI for sodium is 1,200 mg. (1.2 gm.) for children 4-8 years and 1,500 mg. (1.5 gm.) for children 9-18 years. Given the mean usual intakes of sodium described in the text and shown in table D-55, sodium intakes of all three groups of school-age children can be assumed to be "adequate."

The UL is the highest intake likely to pose no adverse health effects; chronic consumption above the UL may increase risk of adverse effects. In the case of sodium, the primary potential adverse effect is the development of high blood pressure (IOM, 2004). For school-age children, ULs for sodium are 1,900 mg (1.9 gm.) for 4-8-year-olds, 2,200 mg. (2.2 gm.) for 9-13-year-olds, and 2,300 mg. (2.3 gm.) for 14-18-year-olds. So, sodium ULs for school-age children are roughly 4 to 21 percent lower than the *Dietary Guidelines* recommendation.

Detailed distributions of usual sodium intake indicate that less than 5 percent of 5-8-year-olds had sodium intakes that did not exceed the UL (usual sodium intake at the 5th percentile was 1,940 mg. compared with a UL of 1,900 mg.) (table D-57). Fewer than 10 percent of 9-13-year-olds and 14-18-year-olds had usual sodium intakes that satisfied their ULs (intakes at the 10th percentile were 2,381 mg. and 2,330 mg., respectively, compared with ULs of 2,200 mg. and 2,300 mg.).

The data suggest that, among 9-13-year-olds, the lowest-income group may be less likely than the higher-income group to meet the UL for sodium (intakes at the 5th percentile were 2,227 mg. and 2,042 mg., compared with a UL of 2,200 mg., and the difference was statistically significant). The same is true for 14-18-year-olds (intakes at the 10th percentile, which were significantly different, were 2,639 mg. and 2,155 mg. compared with a UL of 2,300 mg.).

It is important to note that NHANES-III estimates of sodium intake include only sodium found in foods and beverages reported by respondents. Sodium from table salt is not included in nutrient tabulations because its use can not be measured (estimated) reliably. To get some insight into additional sources of sodium, the NHANES-III dietary intake interview included a question about use of table salt.

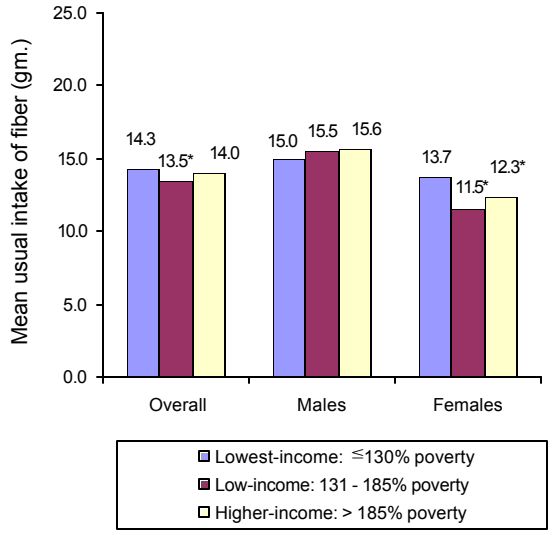
These data indicate that about half of all school-age children used salt (table D-58), and that there were no statistically significant differences between income groups in this behavior.

Usual Intake of Dietary Fiber

On average, the usual diets of school-age children provided approximately 14.1 gm. of dietary fiber (table D-59). Mean intakes were greater for males than for females and, for both genders, increased with age (statistical significance of gender- and age-based differences not tested).

The usual diets of school-age children in the lowest-income group provided significantly more dietary fiber than the usual diets of school-age children in the low-income group (14.3 gm. per day vs. 13.5 gm.) (figure 27). This difference was attributable to a difference among females (13.7 gm. vs. 11.5 gm.). Indeed, among females, the usual fiber intake of the lowest-income group was also significantly greater than the usual intake of the higher-income group (13.7 gm. vs. 12.3 gm.).

Figure 27—Mean usual intake of dietary fiber: School-age children



*Statistically significant difference from lowest-income group at the .05 level or better.
Source: NHANES-III, 1988-94.

At the time the analyses presented in this report were completed, there was no established standard for intake of dietary fiber. To assess the adequacy of fiber intakes, the analysis used a standard referred to as the "age-plus-five rule." This standard, originally developed by Williams et al. (1995), was adapted by the American Heart Association (AHA) (Van Horn, 1997) and has been used in previous research (Gleason and Suitor, 2001). Recommended intake of dietary fiber (in gm.) is equivalent to age in years plus five, up to a maximum of 25 gm.

Less than half (46%) of all school-age children had usual intakes of dietary fiber that were consistent with this standard (table D-60). The difference between males and females on this measure was striking. Fifty-six percent of school-age males had usual intakes of dietary fiber that were consistent with the standard, compared with 36 percent of school-age females (statistical significance of gender-based difference not tested).

Overall, school-age children in the lowest-income group were significantly more likely to meet the "age-plus-five" standard for dietary fiber than school-age children in the low-income group (48% vs. 40%). There was no difference between the lowest-income group and the higher-income group in the aggregate analysis. In the gender-specific analyses, however, significant differences were detected for both income-group comparisons. Among males, school-age children in the lowest-income group were *less* likely than school-age children in either the low-income or the higher-income groups to meet the "age-plus-five" standard for dietary fiber (34% vs. 54% and 58%). Among females, the opposite was true. School-age females in the lowest-income group were *more* likely than school-age females in either of the other income groups to meet the "age-plus-five" standard (43% vs. 25% and 34%).

Since this analysis was completed, AIs have been defined for fiber (IOM, 2002b). The AIs have been defined for *total* fiber, which includes dietary fiber as well fructo-oligosaccharides, compounds which are destroyed in the current analytic methods used to quantitate fiber in foods (IOM, 2002b). Although fructo-oligosaccharides are assumed to make up a relatively small percentage of total fiber, it is estimated that, on average, American adults consumed approximately 5.1 gm. more fiber per day than estimated in the most recent Continuing Survey of Food Intakes by Individuals (CSFII) because CSFII data, like the data used in this analysis, include only dietary fiber (IOM, 2002b).

Fiber AIs are shown in Appendix B. In comparison with the "age-plus-five" rule, AIs for school-age children are substantially higher. For example, for 5-8-year-olds, the AI for dietary fiber is 25 gm., compared with "age-plus-five" standards of 10 to 13 mg.

As noted in Chapter Two, AIs cannot be used to assess the prevalence of adequate intakes, so assessment of usual intakes must focus on comparison of mean intakes to gender-and-age appropriate AIs. Mean usual intakes of all gender-and-age-specific subgroups fall short of the new AIs (table D-59). Some of this disparity is due to the difference in fiber data (dietary fiber vs. total fiber). However, even if one were to assume that mean usual intakes of dietary fiber were actually 5 gm. higher (the average increment estimated for American adults, overall, to account for fructo-oligosaccharides, as described above; a generous assumption for these age groups), mean usual intakes of all gender-and-age-specific subgroups would still fall short of the AI.

The differences observed between income groups in mean usual intakes of dietary fiber are real, regardless of which reference standard is used. However, the advent of the AIs for fiber means that results of the analysis that compared usual intakes of dietary fiber to the "age-plus-five" reference standard must be interpreted with caution. These estimates cannot be interpreted as valid estimates of the percentage of school-age children consuming adequate amounts of dietary fiber.

Chapter Four

Other Measures of Nutritional Status

This chapter focuses on non-dietary measures of nutritional status. Information is provided on the percentage of school-age children who were overweight or at risk of becoming overweight, based on body mass index. Information is also presented on the percentage of school-age children who were underweight and the percentage who had growth retardation or stunted linear growth.

Laboratory data are used to assess the prevalence of abnormal nutritional biochemistries, including iron deficiency, iron-deficiency anemia, anemia, low red blood cell folate, low serum vitamin B_{12}, and elevated lipids (cholesterol and related compounds).

Prevalence of Overweight

The prevalence of overweight among children has more than doubled since the first Health Examination Survey (a precursor to the present NHANES survey) was conducted in 1963-65 (Troiano and Flegal, 1998). Being overweight or obese significantly increases the chances of developing many diseases, including type 2 diabetes, high blood pressure, coronary heart disease, stroke, gallbladder disease, respiratory problems, osteoarthritis, sleep apnea, and some types of cancer (U.S. DHHS, 2000a).

Healthy People 2010 includes goals to decrease the proportion of children (as well as adults) who are overweight. Classifying children as overweight is fundamentally different from classifying adults as overweight (Cole, 2001). Adults have traditionally been classified as overweight on the basis of life insurance mortality data and data relating weight status to morbidity and mortality (Troiano and Flegal, 1998). Such criteria cannot be used to define overweight in childhood because childhood mortality is not associated with weight and weight-related morbidity in childhood is too low to define meaningful cutoffs (Barlow and Dietz, 1998). Therefore, the approach used to classify children as overweight relies on comparing children's weights and heights to appropriate reference populations.

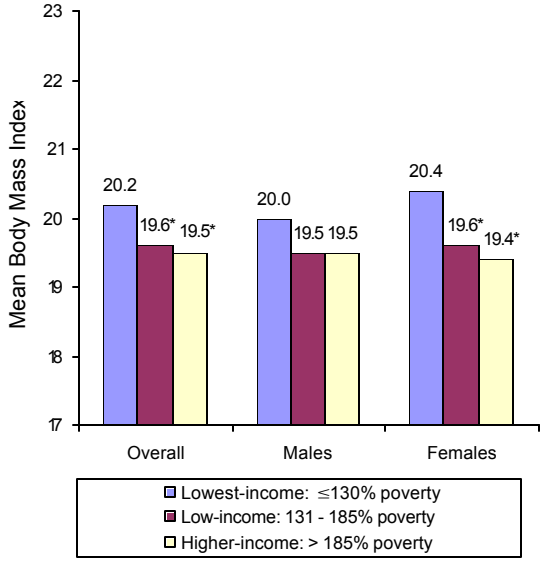
Overweight is defined on the basis of body mass index (BMI). BMI is the index that is commonly accepted for classifying adiposity (or fatness) in adults and is now recommended for use as a screening tool for children over the age of 2 (Barlow and Dietz, 1998 and CDC, 2003).[1] For children, overweight is defined as a BMI above the 95th percentile on CDC growth charts, which define BMI percentile distributions by age and gender (see appendix B).

On average, children in the lowest-income group had a greater BMI than children in either of the other income groups (20.2 vs. 19.6 and 19.5) (figure 28). The difference was concentrated among females. Females in the lowest-income group had a mean BMI of 20.4, compared with means of 19.6 and 19.4 for females in the low- and higher-income groups. The difference between females in the lowest-income group and the higher-income group was attributable to differences among 11-13-year-olds (21.4 vs.19.8) and 14-18-year-olds (23.8 vs. 21.7) (table D-62).

Overall, 11 percent of school-age children were overweight (table D-63). Prevalence was similar for males and females (11% and 10%). School-

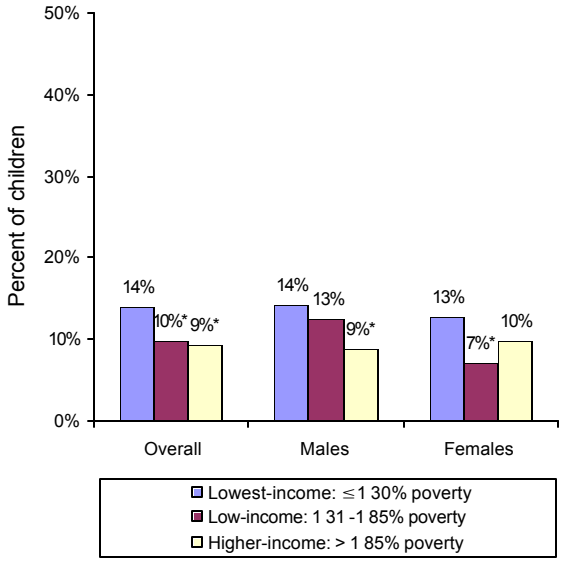
[1]BMI is equal to [weight in kilograms] / [height in meters]^2.

Figure 28—Mean Body Mass Index: School-age children



*Statistically significant difference from lowest-income group at the .05 level or better.
Source: NHANES-III, 1988-94.

Figure 29—Percent of school-age children who were overweight



*Statistically significant difference from lowest-income group at the .05 level or better.
Source: NHANES-III, 1988-94.

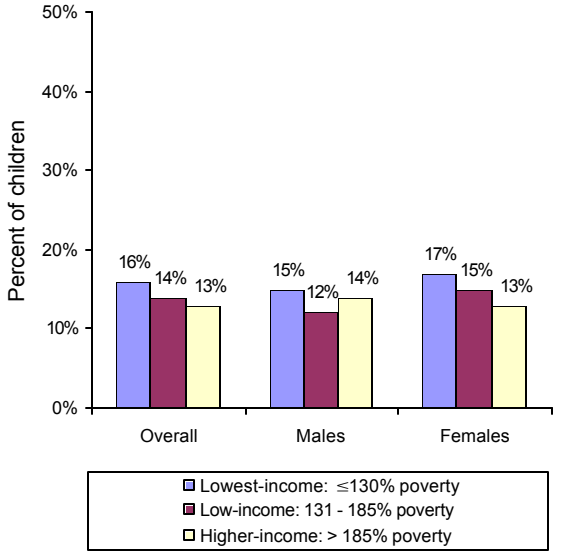
age children in the lowest-income group were significantly more likely than children in either of the other income groups to be overweight. Fourteen percent of children in the lowest-income group were overweight, compared with 9-10 percent of children in the low-income and higher-income groups (figure 29).

Differences between income groups varied by gender. Among school-age males, only the difference between the lowest-income group and the higher-income group was statistically significant (14% vs. 9%). Among females, only the difference between the lowest-income and low-income groups was statistically significant. Females in the lowest-income group were almost twice as likely as females in the low-income group to be overweight (13% vs. 7%).

Risk of Overweight

Overall, 14 percent of school-age children were at risk of becoming overweight (defined as a BMI between the 85th and 95th percentile) (table D-63). Prevalence was comparable for males and females (figure 30). There were no significant differences between income groups, overall or by gender, in the prevalence of this problem. There was some variation by age. Among the youngest cohort of school-age children (5-10-year-olds), children in the lowest-income group were more likely than children in the low-income group to be at risk of overweight (13% vs. 8%)

Figure 30—Percent of school-age children who were at risk of overweight



No statistically significant differences between income groups.
Source: NHANES-III, 1988-94.

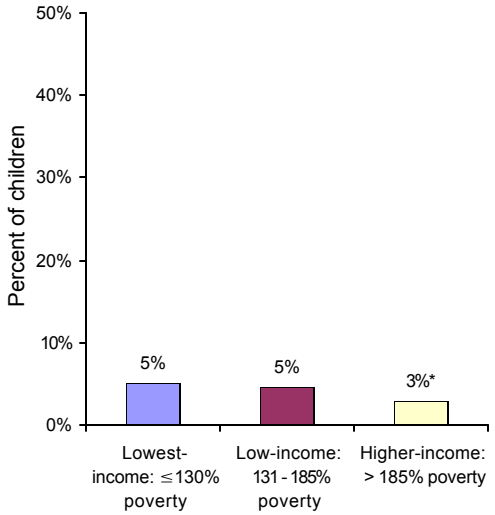
(table D-63). In addition, among 11-13-year-olds, children in the lowest-income group were more likely than children in the higher-income group to be at risk of overweight (22% vs.13%). This difference was concentrated among females (22% vs. 12%).

Prevalence of Underweight and Growth Retardation

Among school-age children, the prevalence of underweight, defined as BMI-for-age below the 5th percentile, was relatively rare. Overall, only 4 percent of school-age children were underweight (table D-64). This percentage is within normal expectations, given that, by definition, 5 percent of healthy children would be expected to fall below the 5th percentile due to normal biological variation (U.S. DHHS, 2000a). There were no significant differences in the prevalence of underweight along gender, age, or income lines.

Growth retardation, defined as height-for-age below the 5th percentile was also rare among school-age children, occurring with roughly the same frequency as underweight (table D-64). This overall prevalence is within the realm of normal variation, as discussed above. Moreover, the problem of retarded linear growth is most significant among children under the age of 5 (U.S. DHHS, 2000a). Nonetheless, it is interesting to note that children in the lowest-income group were significantly more likely than children in the higher-income group to have retarded growth (5% vs. 3%) (figure 31). This difference was concentrated among males.

Figure 31—Percent of school-age children with growth retardation



*Statistically significant difference from lowest-income group at the .05 level or better.
Source: NHANES-III, 1988-94.

Nutritional Biochemistries

Iron Deficiency and Iron Deficiency Anemia

Iron deficiency is the most common known form of nutritional deficiency (CDC, 1998). Iron deficiency can lead to developmental delays, behavioral problems, and decreases in verbal learning and memory. It can also affect immune function, energy metabolism, and work performance (U.S. DHHS, 2000a, CDC, 1998, and Looker et al., 1997).

The terms anemia, iron deficiency, and iron-deficiency anemia are often used interchangeably, however, they are not equivalent (U.S. DHHS, 2000a). Although iron deficiency can contribute to anemia, anemia can also be caused by other factors, including other nutrient deficiencies, infection, inflammation, and hereditary anemias. When the prevalence of iron deficiency is high, anemia is a good predictor of iron deficiency. However, when the prevalence of iron deficiency is low, the majority of anemia is due to other causes (U.S. DHHS, 2000a).

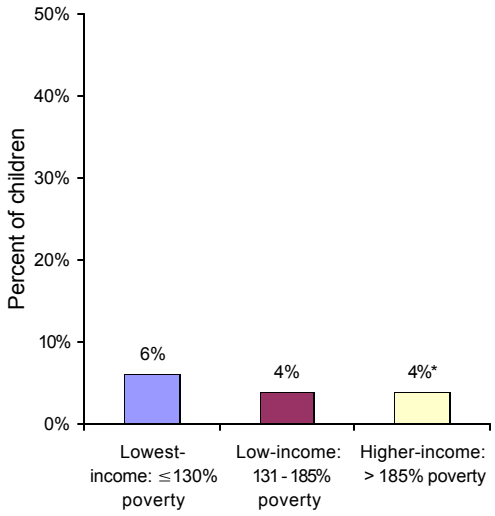
This analysis assessed the prevalence of iron deficiency using the criterion defined in *Healthy People 2010* (U.S. DHHS, 2000a). This criterion defines iron deficiency as abnormal results on two or more of the following measures of iron status: serum transferrin saturation, erythrocyte protoporphorin, and serum ferritin. Iron-deficiency anemia was defined as documented iron deficiency (as defined above) plus an abnormally

low hemoglobin (Looker et al., 1997). Cutoff values used in the analysis are shown in appendix B. The analysis sample was limited to sample members with data for all relevant variables.

Overall, the prevalence of iron deficiency among school-age children was about 5 percent (table D-65). The prevalence among males was notably lower than the prevalence among females (3% vs. 7%) (statistical significance of gender-based difference not tested).

School-age children in the lowest-income group were significantly more likely than those in the higher-income group to be iron deficient (6% vs. 4%) (figure 32). This difference was attributable to a difference among females. Among school-age females, the prevalence of iron deficiency in the lowest-income group was twice that of the higher-income group (10% vs. 5%) (table D-65). Moreover, differences between the two groups of females were concentrated among 11-13-year-olds and 14-18-year-olds. Among 14-18-year-old females, the prevalence of iron deficiency in the lowest-income group was significantly greater than the prevalence in either the low-income or higher-income groups (the point estimate for the lowest-income group is statistically unreliable).

Figure 32—Percent of school-age children with iron deficiency



*Statistically significant difference from lowest-income group at the .05 level or better.
Source: NHANES-III, 1988-94.

Iron-deficiency anemia was observed in less than 1 percent of school-age children overall (table D-69). Because of low prevalence, the point estimates for most subgroups are unreliable. Nonetheless, the data indicate clearly that the prevalence of iron-deficiency was greatest among 14-18-year-old females. Overall, about 3 percent of females in this age group had iron-deficiency anemia. There were no significant differences between income groups on this measure.

The prevalence of low levels of hemoglobin and hematocrit, commonly used to identify anemia in clinical settings, was substantially greater than the prevalence of iron-deficiency anemia as assessed in this analysis. Six percent of all school-age children had low levels of hemoglobin or hematocrit (tables D-70 and D-71). The prevalence of abnormal levels was slightly greater for females than males (7% vs. 5%) (statistical significance of gender-based difference not tested). There were scattered differences between income groups on these measures.

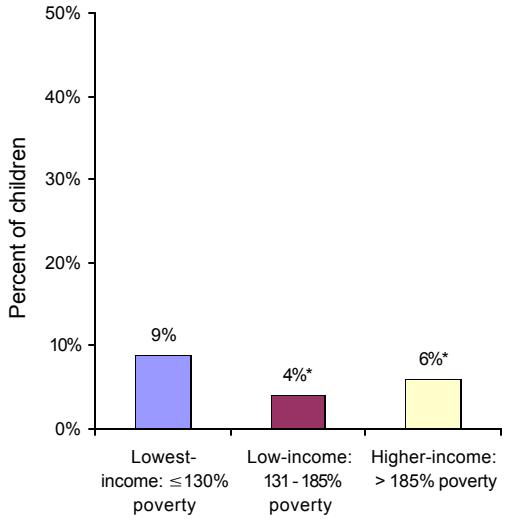
Red Blood Cell (RBC) Folate

Overall, 6 percent of school-age children had low levels of red blood cell (RBC) folate, an indicator of long-term folate status (Wright et al., 1998) (table D-72). The prevalence of low levels of RBC folate was notably greater among females than males (5% vs. 8%). Moreover, the prevalence of inadequate folate status increased markedly with age (significance of gender- and age-based differences not tested). This pattern was observed for both males and females.

School-age children in the lowest-income group were significantly more likely than school-age children in either the low-income or higher-income groups to have low levels of RBC folate (figure 33). Nine percent of children in the lowest-income group had inadequate folate status, compared with 4 percent of children in the low-income group and 6 percent of children in the higher-income group. This pattern was observed for both males and females (table D-72).

As noted previously, the prevalence of inadequate folate status increased markedly with age. Consequently, prevalence of this problem was greatest among 14-18-year-olds, especially females (table D-72). This is of special interest because females in this age group are entering their childbearing years and inadequate folate has been associated with neural tube defects in newborns (CDC, 1992). Overall, 14 percent of 14-18-year-old females had inadequate levels of RBC folate. The prevalence of this problem was significantly greater among 14-18-year-old females in the lowest-income group than among their counterparts in the low-income group. Prevalence for the lowest-income group was 20 percent; the point estimate for the low-income group is statistically unreliable. The difference between the lowest-income and higher-income groups in the prevalence of low RBC folate, though substantial (20% vs. 12%), was not statistically significant.

Figure 33—Percent of school-age children with low levels of RBC folate



*Statistically significant difference from lowest-income group at the .05 level or better.
Source: NHANES-III, 1988-94.

Serum Vitamin B12

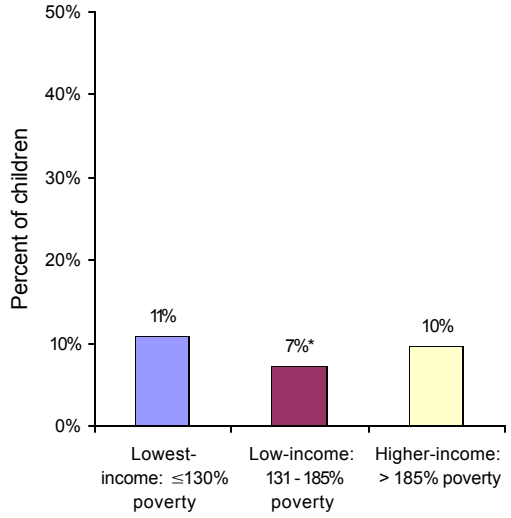
The prevalence of low serum levels of vitamin B_{12} was rare among school-age children (this condition is much more common in older adults). Overall, only 1 percent of school-age children exhibited this problem (table D-73). There were no significant between-group differences on this measure.

Serum Cholesterol and Related Measures

Elevated serum cholesterol levels have been associated with an increased risk of coronary heart disease in adults. Further, there is evidence that the process of atherosclerosis, or the build-up of fatty deposits in the arteries, begins early in childhood. For children up to the age of 19, the National Cholesterol Education Campaign (NCEP) considers a serum cholesterol of 200 mg. or more to be high and levels between 170 and 199 mg. to be borderline high (National Institutes of Health (NIH), 1991).

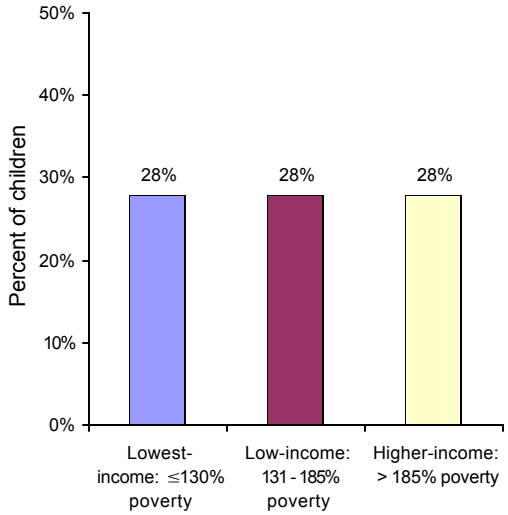
Overall, 10 percent of school-age children had a high cholesterol level (table D-74). The prevalence of high cholesterol levels were roughly equivalent for males and females. School-age children in the lowest-income group were significantly more likely than those in the low-income group to have high serum cholesterol (11% vs. 7%) (figure 34). However, this finding was significant at the 5 percent level and was not repeated in the gender- or age-specific analyses or in any of the gender-and-age-specific subgroup analyses.

Figure 34—Percent of school-age children with high levels of total cholesterol



*Statistically significant difference from lowest-income group at the .05 level or better.
Source: NHANES-III, 1988-94.

Figure 35—Percent of school-age children with borderline high levels of total cholesterol



No statistically significant differences between income groups.
Source: NHANES-III, 1988-94.

Twenty-eight percent of all school-age children had cholesterol levels that were borderline-high (figure 35 and table D-75). There were no significant between-group differences in the prevalence of borderline-high cholesterol levels. Nor were there any significant between-group differences, overall, in the prevalence of high or borderline-high LDL ("bad") cholesterol levels, low HDL ("good") cholesterol levels, or high triglyceride levels (tables D-76–D-79).[2]

Chapter Five

Health-Related Behaviors

This chapter presents information on health-related behaviors of school-age children. Topics covered include physical activity, television viewing, and consumption of alcohol and tobacco. In addition, data are presented on the extent to which other household members exposed school-age children to second-hand smoke as a result of cigarette smoking.

Data on physical activity were collected only from children 8 to 16 years old. Data were provided by the children themselves, rather than by parents/caregivers, in a private interview that was completed as part of their visit to the MEC (MEC-Youth Interview). Children who were 17 and 18 completed the Household Adult Interview which included an entirely different set of physical activity questions; these data were not tabulated for this report. Information on television viewing was collected only for children 5 to16 years of age. These data were provided by parents and caregivers, as part of the Household Youth Interview. The Household Adult Interview, completed by 17- and 18-year-olds, did not include questions about television viewing. Collection of data on alcohol and tobacco consumption varied by age (12 and older for alcohol and 8 and older for tobacco). Finally, data on second-hand smoke exposure were collected for all school-age children (5-18 years).

Physical Activity

The *Healthy People 2010* goals for physical activity among children and adolescents call for moderate physical activity 5 days per week, for at least 30 minutes each time, and vigorous physical activity that enhances cardiovascular health 3 days per week, for at least 20 minutes each time (U.S. DHHS, 2000a). NHANES-III data on physical activity are not detailed enough to assess compliance with these goals because the data do not include information on the amount of time spent being active.[1] Nonetheless, the available data provide useful insights about physical activity patterns of school-age children.

Children 8 to 16 years were asked to report the number of times per week they "play[ed] or exercise[d] enough to make [them] sweat and breathe hard." Responses to this question can be viewed as reasonably indicative of the frequency of vigorous physical activity.

Overall, 8-16-year-olds reported engaging in vigorous physical activity an average of 4.7 times per week (table D-80). Children in the lowest-income group engaged in vigorous physical activity less often than children in the higher-income group (4.5 times per week vs. 4.9). This difference was concentrated among females (4.0 times per week vs. 4.4 times). This pattern was observed for 11-13-year-old and 14-16-year-old females, but not for 8-10-year-old females. Among 14-16-year-old females, the frequency of vigorous physical activity in the lowest-income group was also significantly lower than the low-income group (3.3 times per week vs. 4.2 times).

Reported levels of physical activity were examined separately for children who were at a healthy weight and those who were overweight (BMI-for-age at or above the 95th percentile; see Chapter Four) or at risk of becoming overweight (BMI-for-age between the 85th and 95th percentiles). Among healthy weight children,

[1] *Healthy People 2010* used data from the Youth Risk Behavior Surveillance System (YRBSS), rather than NHANES-III, to establish baselines for goals related to physical activity among youth, and will use YRBSS data to monitor trends in this area over time (U.S. DHHS, 2000a).

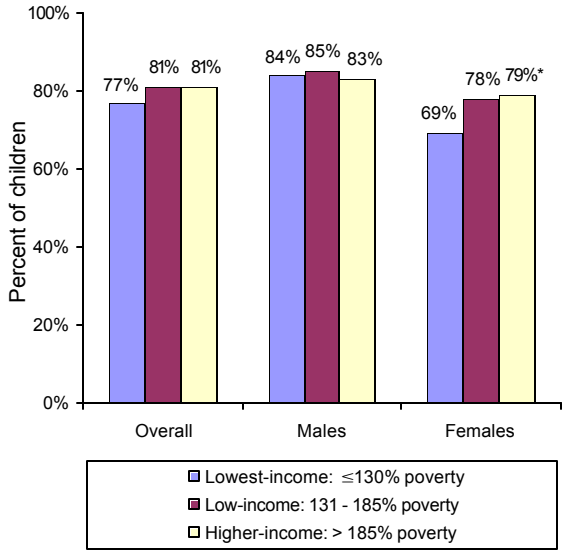
there were few statistically significant differences, on average, between children in the lowest-income group and those in the two other income groups in the reported frequency of vigorous physical activity (table D-81).

In addition, no significant between-group differences were observed, overall, among children who were overweight or at risk of becoming overweight. However, significant between-group differences were observed for overweight/at-risk females 8 to 13 years of age. Among 8-10-year-old females who were overweight/at-risk, those in the lowest-income group reported *greater* frequency of vigorous physical activity, on average, than those in the low-income group (table D-81). Among 11-13-year-old females who were overweight/at-risk, the trend was reversed. In this cohort, the reported frequency of vigorous physical activity for the lowest-income group was significantly *lower* than the reported frequency for either of the other two income groups. Individual point estimates for most of the subgroups are unreliable, but the differences between income groups are statistically significant.

Percent of Children Engaging in Vigorous Physical Activity at Least Three Times per Week

Eighty percent of all children reported that they engaged in vigorous physical activity at least 3 times per week (table D-82). Overall, there were no significant differences between income groups on this measure (figure 36). As noted in preceding discussion, however, there were significant between-group differences in vigorous physical activity among females. In comparison with the higher-income group, a significantly smaller percentage of females in the lowest-income group reported vigorous physical activity 3 or more times per week (69% vs. 79%). This difference was concentrated among 11-13-year-olds and, in this age cohort, the difference between the lowest-income and low-income groups was also statistically significant (table D-82).

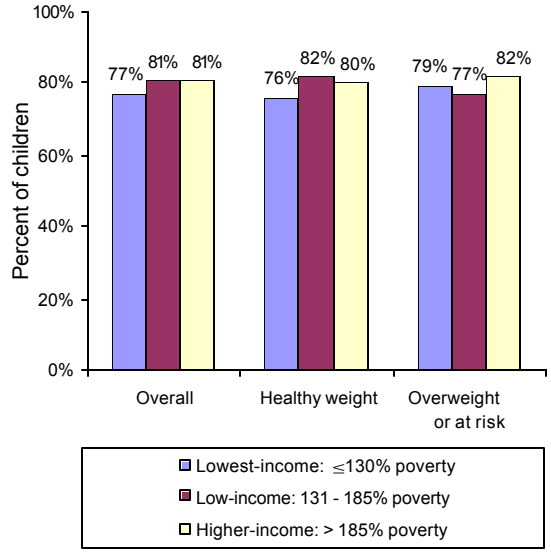
Figure 36—Percent of 8-16-year-olds with vigorous physical activity at least three times per week by gender



*Statistically significant difference from lowest-income group at the .05 level or better.
Source: NHANES-III, 1988-94.

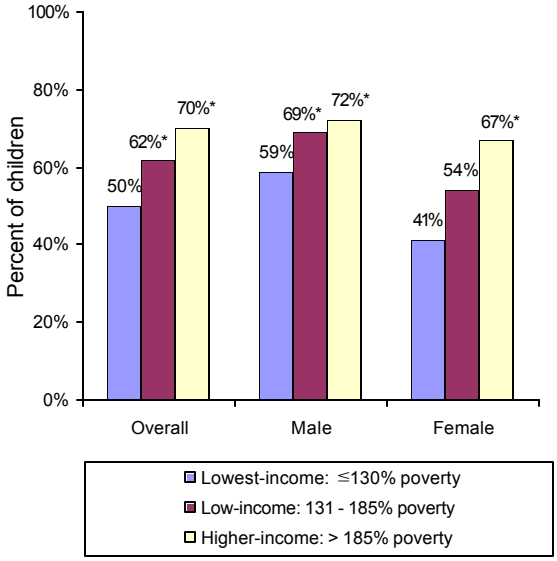
Overall, there were no significant differences between income groups in the percentage of healthy weight and overweight/at-risk school-age children who engaged in vigorous physical activity 3 or more times per week (figure 37). Significant between-group differences were observed among females, however (table D-83). Among healthy weight females, the lowest-income group was significantly less likely than the higher-income group to engage in vigorous physical activity 3 or more times per week (69% vs. 79%). In addition, among 11-13-year-old females who were overweight or at-risk of overweight, the lowest-income group was significantly less likely than either the low-income or higher-income groups to engage in vigorous physical activity 3 or more times per week.

Figure 37—Percent of 8-16-year-olds with vigorous physical activity at least three times per week by weight status



No statistically significant differences between income groups.
Source: NHANES-III, 1988-94.

Figure 38—Percent of 8-16-year-olds participating in organized exercise programs or sports teams by gender



*Statistically significant difference from lowest-income group at the .05 level or better.
Source: NHANES-III, 1988-94.

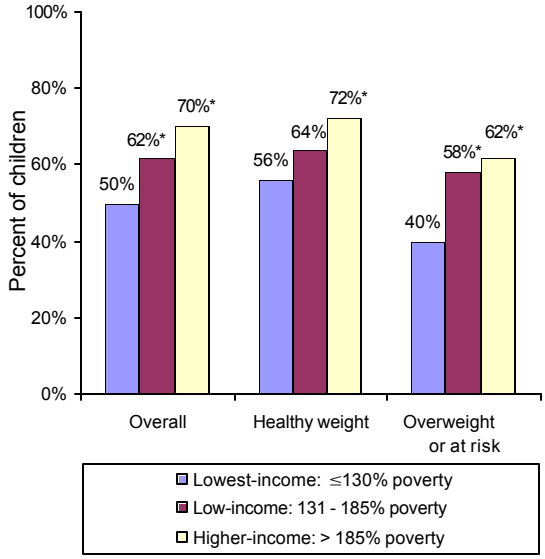
Participation in Organized Exercise Programs or Sports Teams

Organized exercise programs and sports teams are one mechanism for increasing children's physical activity. NHANES-III data reveal that school-age children in the lowest-income group were less likely than those in either of the other income groups to be involved in team sports or other organized physical activities (figure 38 and table D-84). Overall, 50 percent of children in the lowest-income group were involved in such activities, compared with 62 percent of children in the low-income group and 70 percent of children in the higher-income group. This pattern was observed for both males and females; however, the difference between the lowest-income group and the low-income group was statistically significant only for males. In age-group-specific analyses, significant differences were observed between the lowest-income group and the higher-income group for all three age groups, overall and for females (table D-84). For males, between-group differences were significant only in the aggregate analysis.

Among 8-16-year-old children who were at a healthy weight there was no difference between the lowest-income group and the low-income group in the percentage of children who participated in organized exercise programs or sports teams (figure 39 and table D-85). In comparison with the higher-income group, however, healthy weight school-age children in the lowest-income group were significantly less likely to participate in organized physical activities (56% vs. 72%). This pattern was observed for females, but not for males (table D-85).

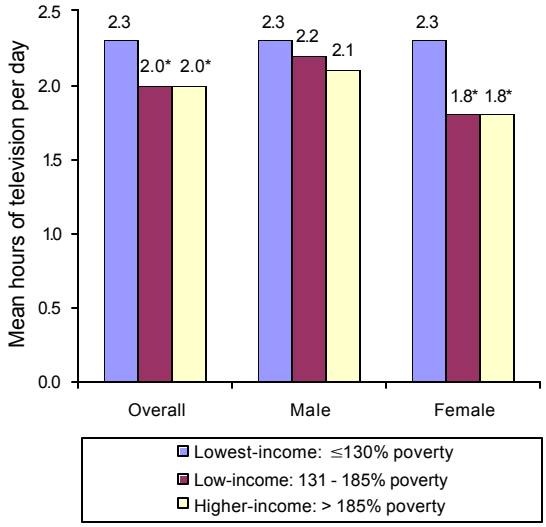
Among school-age children who were overweight or at risk of overweight, children in the lowest-income group were significantly less likely to participate in organized physical activities than children in either the low-income or higher-income groups (40% vs. 58% and 62%) (figure 39). This pattern was observed for both males and females. However, in both of the gender-specific analyses, only the difference between the lowest-income and higher-income groups was statistically significant (table D-85).

Figure 39—Percent of 8-16-year-olds participating in organized exercise programs or sports teams by weight status



*Statistically significant difference from lowest-income group at the .05 level or better.
Source: NHANES-III, 1988-94.

Figure 40—Mean hours of television watched per day by 5-16-year-olds



*Statistically significant difference from lowest-income group at the .05 level or better.
Source: NHANES-III, 1988-94.

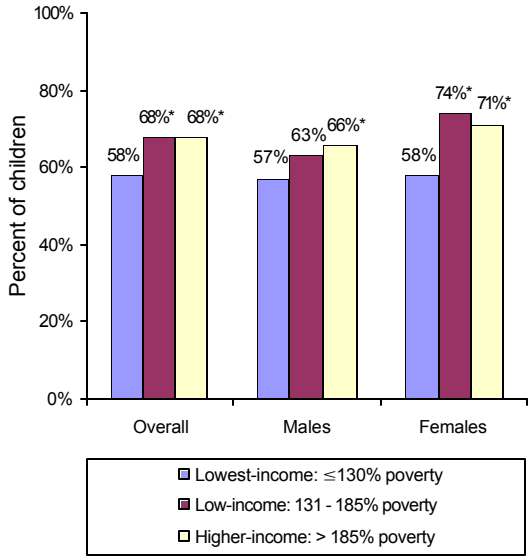
Television Viewing

On average, 5-16-year-olds in the lowest-income group spent significantly more time watching television than comparably aged children in either of the other income groups. Children in the lowest-income group watched an average of 2.3 hours of television per day, compared with 2.0 hours for children in the other two income groups (figure 40 and table D-86). As shown in figure 40, this difference was concentrated among females.

The age-specific analyses indicate that the difference for females were concentrated among females under the age of 14. Among 5-10-year-old females, the lowest-income group watched an average of 2.3 hours of television per day, compared with 1.8 hours and 1.6 hours for the low- and higher-income groups, respectively (table D-86). Among 11-13-year-old females, the lowest-income group watched 2.6 hours of television per day, compared with 2.0 hours for the other two income groups. In essence, television-viewing habits of the younger females in the lowest-income group mirror those of their male counterparts, while younger females in the other income groups watch less television than their male counterparts.

Healthy People 2010 objectives for children and adolescents call for limiting television viewing to no more than 2 hours per day (U.S. DHHS, 2000a). Overall, children in the lowest-income group were less likely than children in either of the other income groups to meet this goal. Fifty-eight percent of children in the lowest-income group watched no more than 2 hours of television per day, compared with 68 percent of children in the other two income groups (figure 41 and table D-87). This general pattern was observed for both males and females; however, among males, the difference between the lowest-income group and the low-income group was not statistically significant. For both males and females, significant between-group differences were concentrated among 5-10-year-olds.

Figure 41—Percent of 5-16-year-olds watching no more than 2 hours of television per day



*Statistically significant difference from lowest-income group at the .05 level or better.
Source: NHANES-III, 1988-94.

Findings observed for the total population of 5-16-year-old children were generally true for healthy weight children examined separately (tables D-88 and D-89). In contrast, among children who were overweight or at risk of becoming overweight, there were no significant between-group differences in the mean number of hours of television watched per day or in the percentage of children who watched no more than 2 hours of television per day. In all three income groups, the percentage of overweight and at-risk children whose television viewing habits were consistent with the *Healthy People 2010* 2-hour maximum was notably lower than the percentage of healthy weight children (statistical significance of weight-based differences not tested). Overall, 68 percent of healthy weight children watched no more than 2 hours of television per day, compared with 55 percent of children who were overweight or at risk of becoming overweight (table D-89).

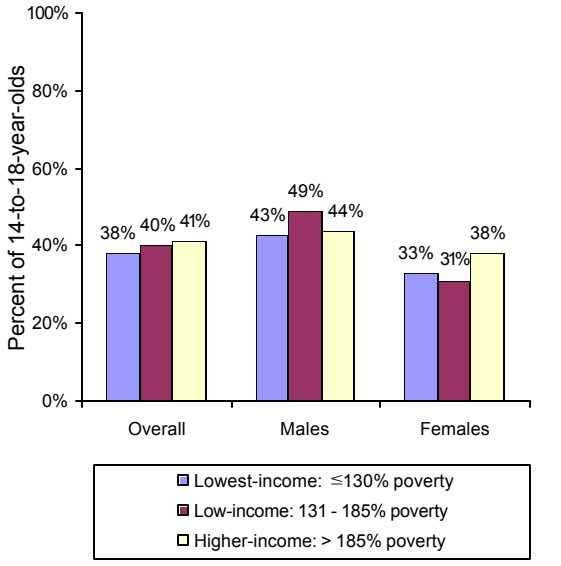
Alcohol Consumption

Children 12 and older were asked about alcohol consumption as part of the private MEC-Youth interview. Children between the ages of 17 and 18 provided this information as part of the Household Adult Interview. All respondents were asked whether they had consumed a total of 12 alcoholic beverages in their lifetime and over the past year.

Overall, 28 percent of children in this age range reported consuming at least 12 alcoholic beverages in their lifetime (table D-90). Alcohol consumption was low among 12- and 13-year-olds—only 9 percent of children in this age group reported that they had consumed at least twelve alcoholic beverages in their lifetime. In contrast, roughly 4 out of 10 14-18-year-olds reported this level of alcohol consumption (statistical significance of age-based differences not tested). There were no significant differences between income groups in reported lifetime alcohol consumption, as illustrated for 14-18-year-olds in figure 42.

Fourteen percent of all 12-18-yearolds reported consuming 12 or more alcoholic beverages during the past year (table D-91). Again, the

Figure 42—Percent of 14-18-year-olds who have consumed at least 12 alcoholic beverages in their lifetime



No statistically significant differences between income groups.
Source: NHANES-III, 1988-94.

percentage reporting this level of alcohol consumption was lower for 12- and 13-year-olds than for 14-18-year-olds. The only significant between-group difference in recent alcohol consumption was observed among 14-18-year-old females. In this age group, females in the lowest-income group were less likely than females in the higher-income group to have consumed 12 or more alcoholic drinks during the past year (14% vs. 23%).

Tobacco Use

Children over the age of 8 were asked about tobacco use as part of the private MEC-Youth interview. Seventeen- and 18-year-olds answered questions about tobacco use as part of the Household Adult Interview. The prevalence of tobacco use was very low among children under the age of 14. No children between the ages of 8 and 10 reported having used tobacco and only 1.4 percent of 11-13-year-olds reported tobacco use (data not shown). Consequently, the tabulations prepared for this report were limited to 14-18-year-olds.

Overall, 13 percent of 14-18-year-olds reported smoking 100 or more cigarettes (equivalent to 5 or more packs) in their lifetime and 16 percent reported smoking cigarettes during the past 5 days (table D-92). Only one significant between-group difference was detected for these measures. Males in the lowest-income group were significantly more likely than those in the low-income group to have smoked cigarettes during the preceding five days (table D-92; point estimate for the low-income group is statistically unreliable).

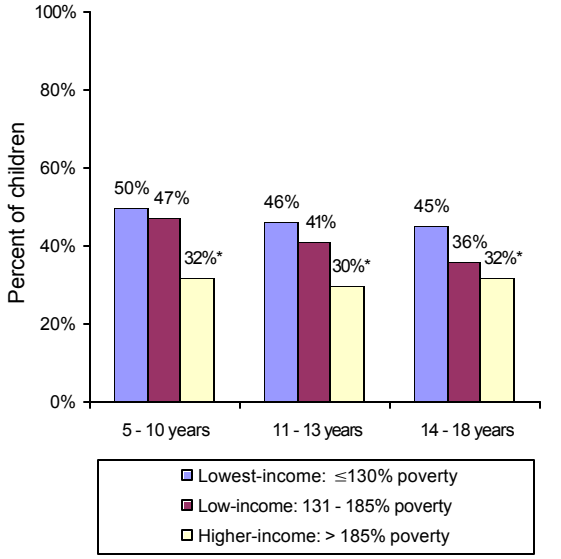
Among 14-18-year-olds who reported smoking during the past 5 days, the mean number of cigarettes smoked, in total, was about 33, or slightly more than a third of a pack (or 6.6 cigarettes) per day. The mean age at which smoking began was 13.3 years. Smokers in the lowest-income group started smoking at a significantly younger age, on average, than those in the low-income group. This pattern was noted for both males and females (table D-92; point estimates for all subgroups are statistically unreliable).

Exposure to Second-Hand Smoke

For all sample members, NHANES-III collected data on the number of smokers living in the household and the number of cigarettes smoked by those individuals. These data indicate that nonsmoking school-age children (5 to 18 years) in the lowest-income group were more likely than nonsmoking school-age children in the higher-income group to be exposed to second-hand smoke produced by other household members (table D-93). This was true for males and for females, and for all three age groups (figure 43). There was some variation among gender-and-age-specific subgroups (table D-93).

In addition, based on the number of cigarettes smoked by household smokers, nonsmoking

Figure 43—Percent of nonsmoking school-age children exposed to cigarette smoke at home



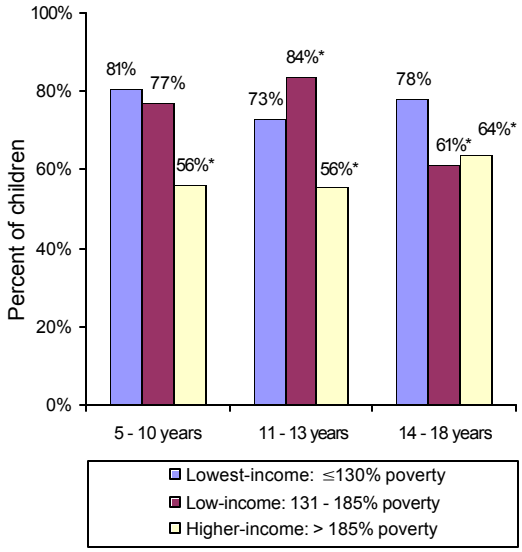
*Statistically significant difference from lowest-income group at the .05 level or better.
Source: NHANES-III, 1988-94.

school-age children in the lowest-income group who resided in smoking households had a greater degree of exposure to second-hand smoke than their counterparts in the higher-income group. On average, smokers in the lowest-income households smoked 19 cigarettes per day, compared with 15 cigarettes per day for smokers in the higher-income households (table D-94). This pattern was noted for both males and females, although the difference was not statistically significant among females. The between-group difference was also noted for virtually all gender-and-age-specific subgroups and most of the differences were statistically significant.

Differences in exposure to second-hand smoke between nonsmoking school-age children in the lowest- and higher-income groups were borne out in high serum cotinine levels. Cotinine, a breakdown product of nicotine, is used as a biological marker for tobacco use and exposure to environmental tobacco smoke. NHANES-III measured serum cotinine in all respondents 4 years and older.

Nonsmoking school-age children in the lowest-income group were significantly more likely to have high serum cotinine levels than nonsmoking children in the higher-income group. This difference was noted for all three age groups (figure 44) and for most gender-and-age-specific subgroups (table D-95). The difference was most substantial for 5-10-year-olds, where there was a 24-percentage-point difference between the lowest-income group and the higher-income group (81% vs. 56%). Among 14-18-year-olds, children in the lowest-income group were also more likely than children in the low-income group to have high levels of serum cotinine (78% vs. 61%). Among 11-13-year-olds, however, the relationship between these two income groups was reversed. In this subgroup, children in the lowest-income group were *less* likely than

Figure 44—Percent of nonsmoking school-age children with high serum cotinine levels



*Statistically significant difference from lowest-income group at the .05 level or better.
Source: NHANES-III, 1988-94.

Chapter Six

Health Status, Conditions, and Risks

This chapter describes the health status of the Nation's school-age children. The discussion is divided into four main topic areas: general health status, birth characteristics, measures of childhood health, and dental health. Data on birth characteristics were collected only for children under the age of 12. The data presented here are limited to 5-10-year-olds because of the age groups used in the analysis (5-10 years, 11-13-years, and 14-18 years).[1] Most measures of childhood health were available only for children 16 and under because the relevant survey questions were asked in the Household Youth Interview, which was completed by primary caregivers of children up to age 16. Data on blood lead levels are an exception; this measure was available for children up to 18 years.

General Health Status

Information on general health status was measured by caregiver and self-report as well as by physician assessment. Caregivers rated the health status of children under the age of 17; children 17 and 18 years of age rated their health status independently; and physicians rated the health status of all respondents who completed physical examinations. In all cases, response options were: excellent, very good, good, fair, and poor.

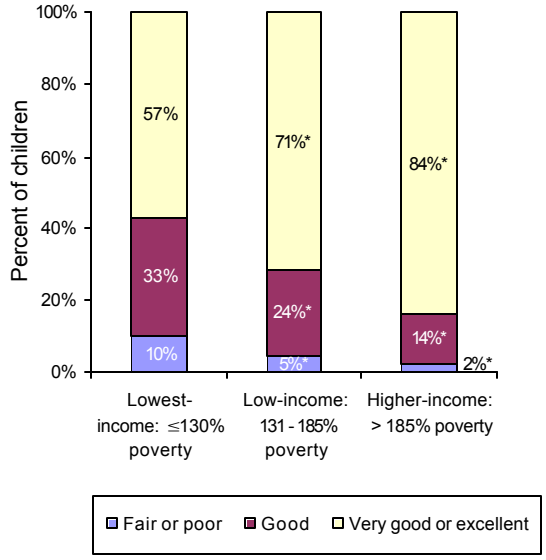
According to caregiver and self-reports, 73 percent of all school-age children were in very good or excellent health and 5 percent were in fair or poor health (tables D-96 and D-97). Findings were comparable for males and females. The percentage of school-age children said to be in very good or excellent health decreased as children aged and the percentage said to be in fair or poor health increased. Overall, 76 percent of 5-10-year-olds were rated as being in very good or excellent health and 4 percent were rated as being in fair or poor health. Among 14-18-year-olds, the percentage of children in very good or excellent health decreased to 68 percent, while the percentage in fair or poor health increased to 7 percent (statistical significance of age-based differences not tested). The use of self-reported rather than caregiver-reported data for 17- and 18-year-olds may have contributed to this pattern.

Based on caregiver and self-reports, school-age children in the lowest-income group were *less* likely than school-age children in either of the other income groups to be in very good or excellent health and *more* likely to be in fair or poor health (figure 45). Only 57 percent of school-age children in the lowest-income group were considered to be in very good or excellent health, compared with 71 percent of children in the low-income group and 84 percent of children in the higher-income group. Moreover, 10 percent of children in the lowest-income group were considered to have fair or poor health, compared with 5 percent of children in the low-income group and 2 percent of children in the higher-income group.

Differences between the lowest-income group and the higher-income group in the percentage of children considered to be in excellent/very good health and fair/poor health were noted for all gender-and-age-specific subgroups. Differences between the lowest-income group and the low-income group varied by gender and age.

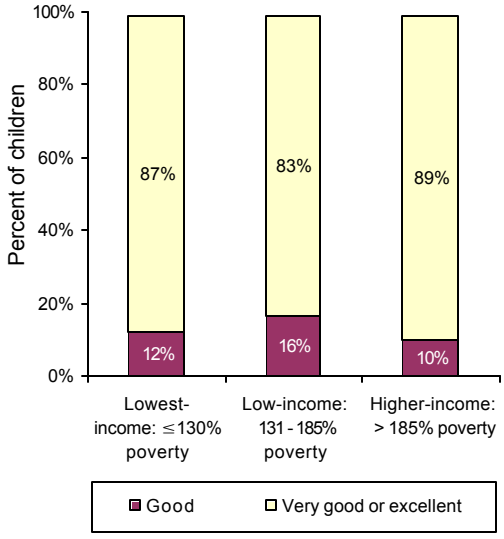
[1]The sample of 11-year-olds was too small to use as a separate age group.

Figure 45—Caregiver- or self-reported general health status: School-age children



*Statistically significant difference from lowest-income group at the .05 level or better.
Source: NHANES-III, 1988-94.

Figure 46—Physician-assessed general health status: School-age children



No statistically significant differences between income groups. Percent with "fair or poor" health is not shown because point estimate is statistically unreliable for the low-income group.
Source: NHANES-III, 1988-94.

Physician assessments of general health status were consistently more positive than caregiver and self-assessments. Overall, physicians found 87 percent of school-age children to be in very good or excellent health and only 1 percent to be in fair or poor health (tables D-98 and D-99). Physician-assessed health status did not decrease as children aged, and physician assessments revealed no significant differences in general health status along income lines (figure 46).

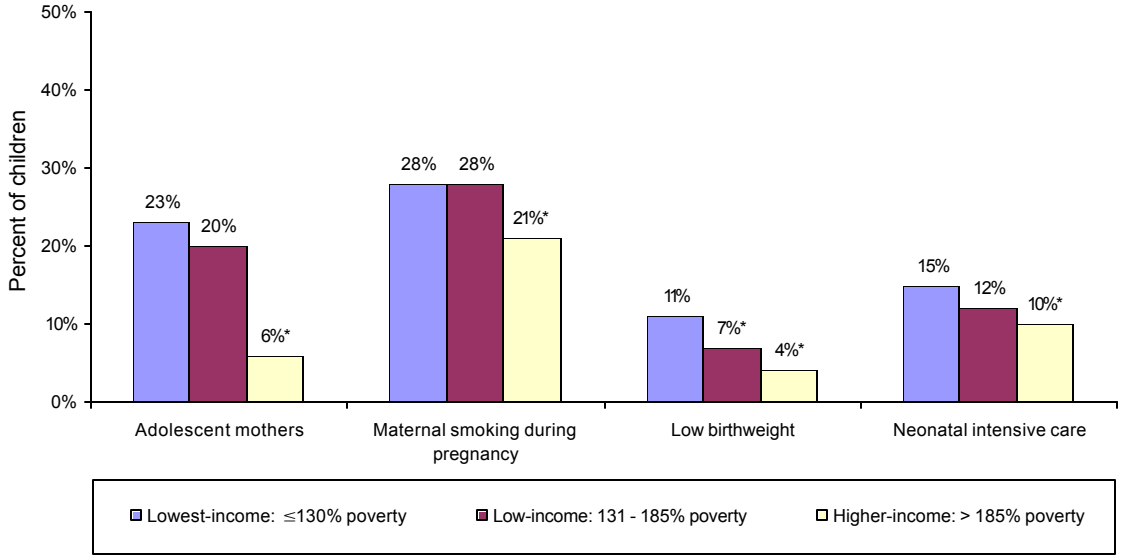
Birth Characteristics

For children under the age of 12, NHANES-III collected data on a number of characteristics of both the mother and child at the time of birth. As noted previously, these data were tabulated for 5-10-year-olds. Characteristics considered include maternal age, maternal smoking status during pregnancy, birthweight (as reported by parent or caregiver), and receipt of neonatal intensive care services.

In general, birth characteristics of 5-10-year-old children in the lowest-income group were comparable to those of children in the low-income group (figure 47 and table D-100). The only significant difference observed between these two groups was a difference in reported birthweight. According to caregiver reports, children in the lowest-income group had a lower mean birthweight than those in the low-income group. The reported prevalence of low birthweight (less than 2,500 gm. or 5.5 pounds) was also greater among the lowest-income group, in comparison with the low-income group (11% vs. 7%).

In comparison with the higher-income group, birth characteristics of 5-10-year-old children in the lowest-income group were generally less favorable. Children in the lowest-income group were born to younger mothers, on average, than children in the higher-income group and were more likely to be have been born to an adolescent mother (23% vs. 6%). In addition, mothers of 28 percent of 5-10-year-old children in the lowest-income group smoked during the pregnancy, compared with 21 percent of mothers of children in the higher-income group. Based on caregiver reports, children in the lowest-income

Figure 47—Birth characteristics of 5-10 year olds



*Statistically significant difference from lowest-income group at the .05 level or better.
Source: NHANES-III, 1988-94.

group had a lower mean birthweight than children in the higher-income group and had a prevalence of low birthweight that was 2.75 times greater (11% vs. 4%). A similar pattern was noted for the reported prevalence of very-low birthweight (less than 1,500 gm .or 3.3 pounds). Finally, 15 percent of 5-10-year-olds in the lowest-income group were reportedly hospitalized in neonatal intensive care units (NICUs) at the time of their birth, compared with 10 percent of 5-10-year-olds in the higher-income group.

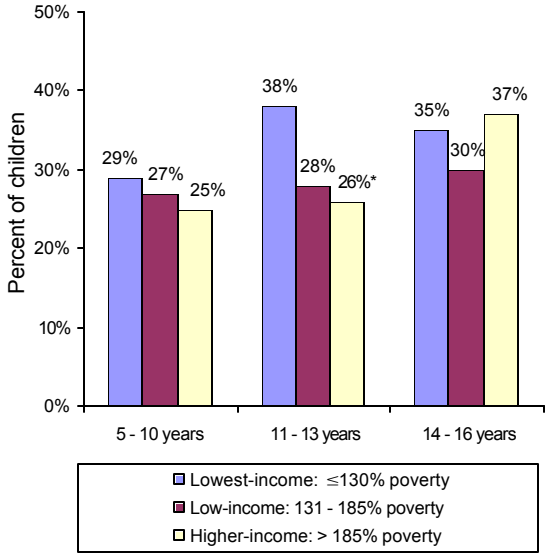
Measures of Childhood Health

This section presents data on a variety of measures related to childhood health. Topics covered include hospitalizations since birth, accidents, injuries, and poisonings requiring medical attention, chronic respiratory conditions, and lead poisoning. Data on lead poisoning include estimates of the prevalence of elevated blood lead levels, based on laboratory measurements. All other data were reported by parents or other caregivers. With the exception of data on measured blood lead levels, data were collected only for children 5-16 years of age.

Hospitalizations Since Birth

Thirty-one percent of 5-16-year-olds had been hospitalized at least once since birth (table D-101). There were no significant differences between income groups in the prevalence of hospitalizations, overall, or for 5-10-year-olds or 14-16-year-olds (figure 48). Among 11-13-year-

Figure 48—Percent of 5-16-year-olds with hospital stays since birth



*Statistically significant difference from lowest-income group at the .05 level or better.
Source: NHANES-III, 1988-94.

olds, however, children in the lowest-income group were more likely than those in the higher-income group to have been hospitalized (38% vs. 26%). This difference was concentrated among males. Among 11-13-year-old males, the prevalence of hospitalization was 68 percent higher for the lowest-income group, relative to the higher-income group (47% vs. 28%) (table D-101).

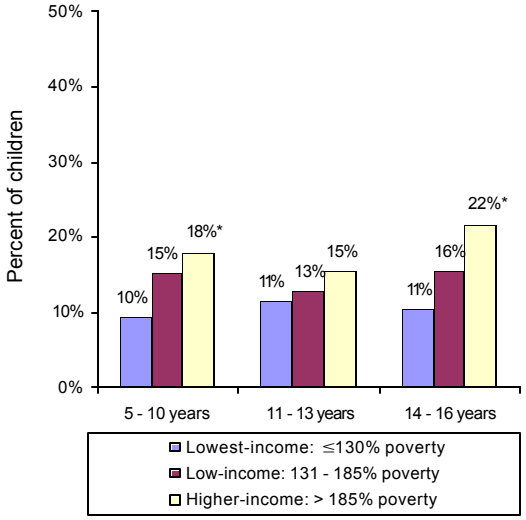
Accidents, Injuries, and Poisonings Requiring Medical Attention

Caregivers were asked whether children had experienced an accident, injury, or poisoning, anytime during the preceding 12 months, that was serious enough to require medical attention. Overall, 15 percent of all 5-16-year-olds had had at least one such medical emergency in the previous 12 months (table D-102). There were no significant differences between the lowest-income group and the low-income group on this measure. In comparison with the higher-income group, however, children in the lowest-income group were significantly less likely to have experienced a medical emergency (10% vs. 19%). This difference was noted for both males and females (table D-102), and was concentrated among 5-10-year-olds and 14-16-year olds (figure 49). The observed differences may reflect differences in child behavior/response at the time of the incident, parental response, and/or the relative severity of a child's condition.

Chronic Respiratory Conditions

Parents and caregivers of children up to the age of 16 were asked whether a health professional had ever told them that their child had asthma, chronic bronchitis, or hay fever. Overall, 11 percent of children were reported to have asthma and 5 percent were reported to have chronic bronchitis (tables D-103 and D-104). There were no significant differences between income-groups in the prevalence of either of these chronic conditions (figure 50).

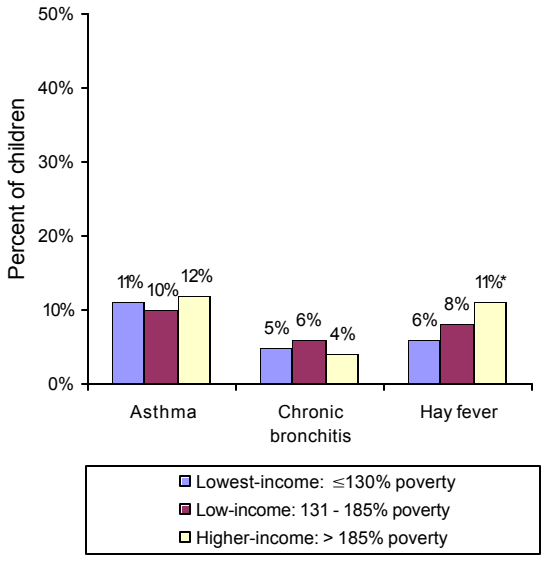
Figure 49—Percent of 5-16-year-olds with accident, injury, or poisoning requiring medical attention in the past 12 months



*Statistically significant difference from lowest-income group at the .05 level or better.
Source: NHANES-III, 1988-94.

The reported prevalence of hay fever was 9 percent, overall (table D-105). Children in the lowest-income group were significantly less likely to suffer from this problem, based on caregiver reports, than children in the higher-

Figure 50—Percent of 5-16-year-olds with chronic respiratory conditions



*Statistically significant difference from lowest-income group at the .05 level or better.
Source: NHANES-III, 1988-94.

income group (6% vs. 11%) (figure 50). This was true for both males and females (table D-105).

Lead Poisoning

Parents and caregivers of children up to the age of 16 were asked whether the child had been screened for lead poisoning. Caregivers of children who had been screened were asked whether the results indicated that the child had "high lead or lead poisoning."

Overall, fewer than 1 in 10 children under the age of 17 had been screened for lead poisoning (table D-106). The reported prevalence of lead screening varied substantially between income groups. Children in the lowest-income group were significantly more likely than children in either the low-income group or the higher-income group to have been screened for lead poisoning (14% vs. 9% and 5%). Significant differences between the lowest-income group and the higher-income group were noted for both males and females and for all but one gender-and-age-specific subgroup. Significant differences between the lowest-income group and the low-income group were noted for 5-10-year-olds and 11-13-year-olds, but not for 14-16-year-olds.

According to caregiver reports, the percentage of 5-16-year-old children who were found to have lead poisoning at any point in time was very low (0 to 1 percent) for all three income groups (table D-107). Nonetheless, children in the lowest-income group were significantly more likely than children in either the low-income group or the higher-income group to have been diagnosed with lead poisoning (point estimates for the low-income and higher-income groups are not statistically reliable because of low prevalence).

NHANES-III measured blood lead levels for all school-age children, including 17- and 18-year-olds. These data indicate that the prevalence of high levels of blood lead (indicative of lead poisoning) among school- age children was somewhat greater than suggested by caregiver reports. Overall, the prevalence of excessive blood lead levels among school-age children was 2 percent (table D-108). The prevalence of high blood lead levels was somewhat greater among males than females and consistently decreased with age (statistical significance of gender- and age-based differences not tested). Moreover, among children under the age of 14, the prevalence of high levels of blood lead was significantly greater in the lowest-income group than in either of the other income groups.

The problem of lead poisoning has been declining sharply in recent years. Between NHANES-II (1976 and 1980) and the first phase of the NHANES-III study (1988-91), the overall prevalence of lead poisoning in the population as a whole decreased from 77.8 percent to 4.4 percent (CDC, 1997). Moreover, between Phase I (1988-91) and Phase II (1991-94) of NHANES-III, the overall prevalence of high blood lead levels continued to decline, with percentage point decreases generally being greater among groups with the highest prevalence of elevated lead levels during Phase I (CDC, 1997).

Tables D-109 and D-110 present data on the prevalence of elevated blood lead levels among school-age children in Phase I and Phase II of the NHANES-III data collection. (The data reported in Table D-108 reflect the complete NHANES-III sample.) The overall prevalence of elevated blood lead levels among school-age-children decreased by 48 percent between Phase I and Phase II (2.7% vs. 1.4%). For children in the lowest-income group, the prevalence of elevated blood lead levels in school-age children decreased from 6.6 percent in Phase I to 3.0 percent in Phase II (statistical significance of phase-based difference not tested). At both points in time, the prevalence of elevated blood

lead levels was significantly greater in the lowest-income group than in either the low-income or higher-income groups; however, point estimates for the two other income groups were statistically unreliable because of low prevalence.

Dental Health

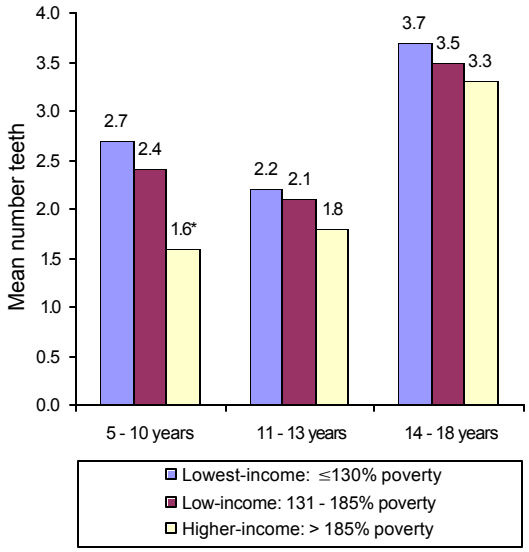
All NHANES-III respondents who completed the physical examination received a dental exam, in which all decayed, missing, and filled teeth were charted. Overall, school-age children (5-18-year-olds) had an average of 2.5 missing, decayed, or filled teeth (table D-111). Findings were similar for males and females and, as expected, the mean number of decayed, missing, and filled teeth increased with age (statistical significance of age-based differences not tested).

School-age children in the lowest-income and low-income groups had comparable dental health status. In comparison with children in the higher-income group, however, children in the lowest-income group had more decayed, missing, and filled teeth (2.9, on average, vs. 2.3). This difference was concentrated among 5-10-year-olds. In this age group, the lowest-income children had 2.7 missing, decayed, or filled teeth, compared with 1.6 for children in the higher-income group (figure 51). This difference was noted for both males and females (table D-111).

Visits to a Dentist or Dental Hygienist

Overall, 92 percent of all school-age children had visited a dentist or dental hygienist at least once (table D-112). Results for males and females were comparable, but the prevalence of dental visits was notably lower among 5-10-year-olds than among the two older age groups (87% vs. 95%) (statistical significance of age-based differences not tested).

Figure 51—Mean number of decayed, missing, or filled teeth: School-age children

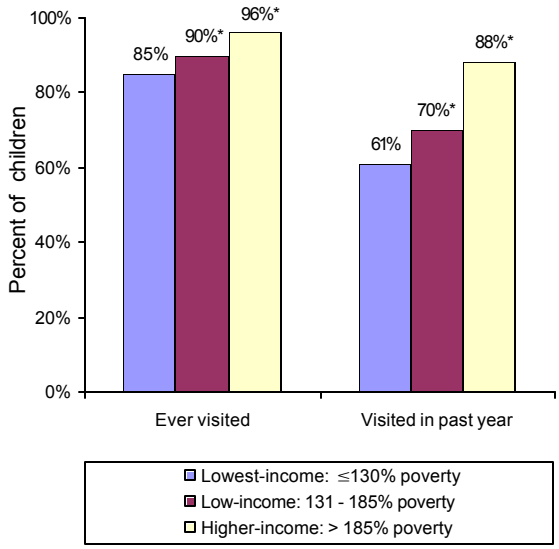


*Statistically significant difference from lowest-income group at the .05 level or better.
Source: NHANES-III, 1988-94.

Although most children in all three income groups had completed at least one dental visit, children in the lowest-income group were less likely to have visited a dentist or hygienist than children in either of the other income groups (85% vs. 90% and 96%) (figure 52). The difference between the lowest-income and higher-income groups was observed for both males and females and for all but one gender-and-age-specific subgroup (table D-112). The difference between the lowest-income and low-income groups was observed only for males and was concentrated among 11-13-year-olds and 14-18-year-olds.

Differences between the lowest-income group and the two other income groups were also observed for the prevalence of dental visits *within the past year.* Sixty-one percent of children in the lowest-income group had had a dental visit during the past year, compared with 70 percent of children in the low-income group and 88 percent of children in the higher-income group (figure 52 and table D-113).

Figure 52—Percent of school-age children who have visited a dentist or dental hygienist



*Statistically significant difference from lowest-income group at the .05 level or better.
Source: NHANES-III, 1988-94.

These between-group differences were noted for both males and females. The difference between the lowest- and higher-income groups was observed for all gender-and-age-specific subgroups. The difference between the lowest-income group and the low-income group was concentrated among the oldest males and the youngest females.

Chapter Seven

Access to Health Care Services

This chapter focuses on issues that affect children's access to and use of health care services—health insurance coverage, the availability of a regular source (location) of health care, and the availability of a regular physician or other health care provider. The chapter also describes utilization of health care services in the past year.

Health Insurance Coverage

NHANES-III collected information on health insurance coverage of all respondents. Survey questions considered Medicare, Medicaid, Veteran's Administration (VA) benefits, CHAMPUS, CHAMPVA, and private health insurance.[1]

During the survey period, four different versions of the survey instrument were used and health insurance questions varied across versions. The major difference was the time frame referenced; for example, "now" vs. "in the last month." In addition, some questions had slight variations in wording across versions.[2] When differences in versions were considered slight, NHANES-III staff created the variable for the full survey time period. All variables used in this analysis were available for the full survey sample except the question about receipt of CHAMPUS, CHAMPVA, Veteran's Administration (VA) benefits, and military health care. The prevalence of this type of insurance coverage was calculated using data for respondents who answered that question. These data were not tabulated separately because of very low prevalence, but contributed to overall estimates of health insurance coverage.

Almost 9 out of 10 school-age children were covered by some type of health insurance (table D-114). Children in the lowest-income group had the lowest rate of health insurance coverage, overall, and were less likely than children in either of the other income groups to have health insurance (77% vs. 87% and 96%) (figure 53). The difference between the lowest-income group and the low-income group was concentrated among 5-10-year-olds, with a 9 percentage point difference between the two groups (81% vs. 90%) (table D-114). Differences between the lowest-income and low-income groups were smaller for the older age groups and were not statistically significant. In contrast, the difference between the lowest-income group and the higher-group was pervasive. Significant differences were noted for all gender-and-age-specific subgroups.

School-age children in the lowest-income group were significantly *less* likely than children in the other two income groups to have private health insurance and *more* likely to be receiving Medicaid benefits (figure 54 and tables D-115

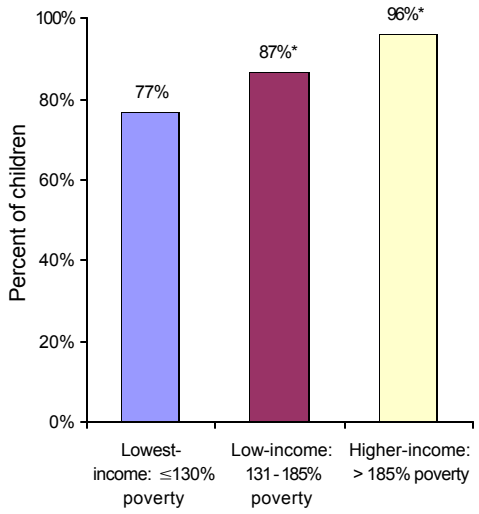
[1]CHAMPUS (now known as TRICARE) is a health care benefits program for active duty and retired members of the military. CHAMPVA is a health care benefits program for permanently disabled veterans and their dependents.

[2]Version differences for health insurance questions varied for different sources of health insurance. Two versions of the Medicare and Medicaid questions were asked: "At any time DURING THE LAST 12 MONTHS were you covered by Medicare/Medicaid?" and "DURING THE LAST MONTH were you covered by Medicare/Medicaid?"

Two versions of the questions about CHAMPUS, CHAMPVA, Veteran's benefits, and military health care were asked: "DURING THE PAST 12 MONTHS were you covered by……?" and "DURING THE LAST MONTH were you covered by……"

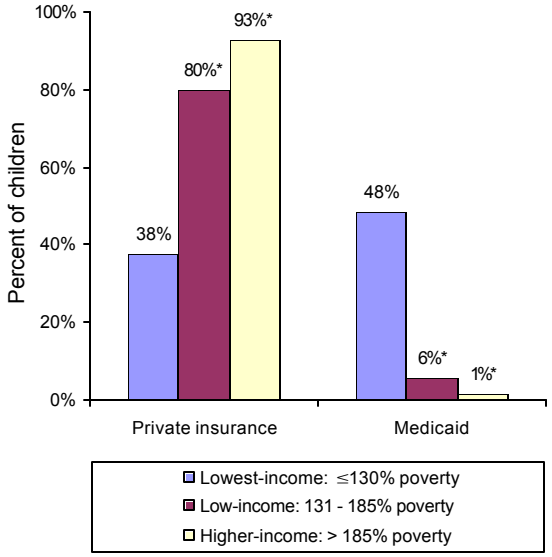
Three versions of the private health insurance question were asked: "Are you NOW covered by a health insurance plan?", "Are you covered by a health insurance plan?" and "During the LAST MONTH were you covered by a health insurance plan obtained privately or through an employer or union?"

Figure 53—Percent of school-age children with any health insurance coverage



*Statistically significant difference from lowest-income group at the .05 level or better.
Source: NHANES-III, 1988-94.

Figure 54—Percent of school-age children with private health insurance and Medicaid



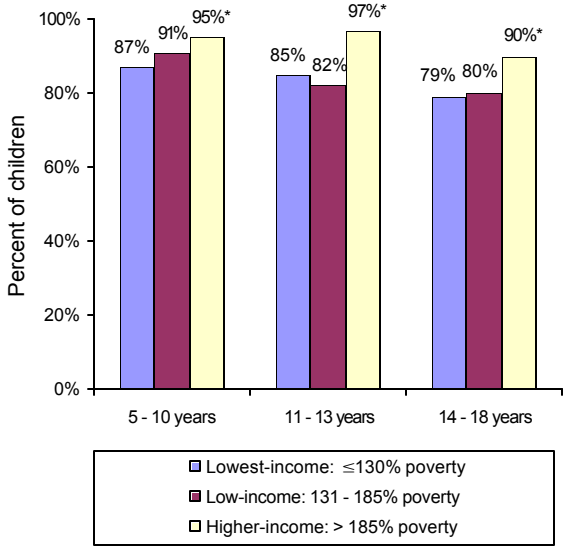
*Statistically significant difference from lowest-income group at the .05 level or better.
Source: NHANES-III, 1988-94.

and D-116). Overall, only 38 percent of children in the lowest-income group had private health insurance, compared with 80 percent of children in the low-income group and 93 percent of children in the higher-income group. Close to half (48%) of school-age children in the lowest-income group received Medicaid benefits, compared with 6 percent of children in the low-income group and 1 percent of children in the higher-income group. These patterns were observed for both males and females and for all gender-and-age subgroups.

Regular Source of Health Care

Overall, about 9 out of 10 school-age children had a regular source of health care—that is, a specific clinic, health center, or doctor's office that was used for health care needs or to obtain health-related advice and information (table D-117). Children in the lowest-income and low-income groups were equally likely to have a regular source of care (83% vs. 93%). This pattern was observed for all three age groups (figure 55), as well as for all but one of the gender-and-age-specific subgroups (table D-117).

Figure 55—Percent of school-age children with a regular source of health care



*Statistically significant difference from lowest-income group at the .05 level or better.
Source: NHANES-III, 1988-94.

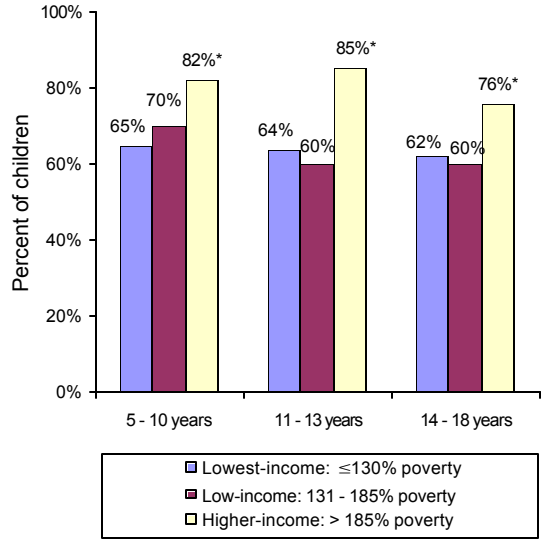
More than 7 out of 10 (73%) school-age children had a regular physician or other health care provider (table D-118). The percentage of children with a regular healthcare provider was roughly equivalent for the lowest-income and low-income groups but, in comparison with higher-income children, children in the lowest-income group were significantly less likely to have a regular provider (64% vs. 80%). This pattern was observed for all three age groups (figure 56) and for all gender-and-age-specific subgroups (table D-118).

Use of Health Care Services in the Past Year

Overall, approximately three-quarters of school-age children saw a physician or other health care provider at least once during the preceding 12 months (excluding overnight hospital stays) (table D-119). School-age children in the lowest-income group were *more* likely than children in the low-income group and *less* likely than children in the higher-income group to have seen a health care provider during the past year (70% vs. 63% and 79%). This pattern was observed for both males and females; however, the difference between the lowest-income group and the low-income group was not statistically significant for females.

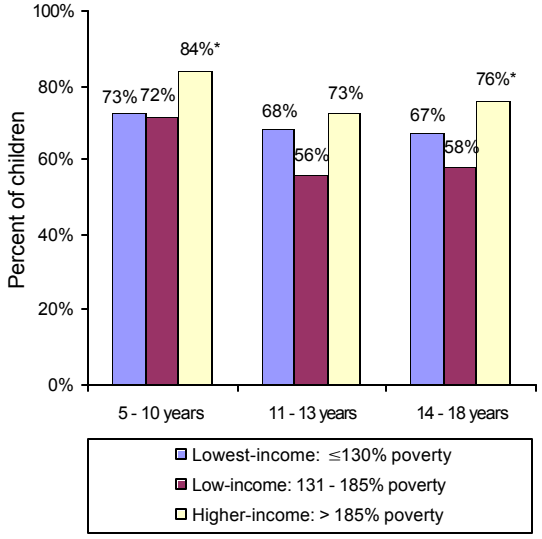
When the data were examined by age, there were no statistically significant differences between the lowest-income group and the low-income group in the percentage of children who had visited a health care provider in the past year (figure 57). The significant difference between the lowest-income group and the higher-income group remained for two of the three age groups.

Figure 56—Percent of school-age children with a regular physician or health care provider



*Statistically significant difference from lowest-income group at the .05 level or better.
Source: NHANES-III, 1988-94.

Figure 57—Percent of school-age children who saw a health care provider during the past year



*Statistically significant difference from lowest-income group at the .05 level or better.
Source: NHANES-III, 1988-94.

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Appendix A
NHANES-III Data Files

NHANES-III included a number of different interviews as well as a comprehensive physical examination. Most interview data were collected through 'household interviews,' which were conducted in respondents' homes. Physical exams were generally conducted in Mobile Exam Centers (MEC), although home examinations were offered if the sample person was 2-11 months, 60 years or older and wheelchair-bound, or primarily bedridden. The home examination included a subset of the measures collected in the MEC. Additional interview data were collected at the time of the exam. The content of these interviews varied for adults and youth and included questions about use of alcohol and tobacco, physical activity, reproductive health, and selected aspects of diet.

The organization of NHANES-III data files corresponds to the origin of the data—household interviews or examinations. The four main data files are:

- ***Household adult data file***—contains data from the household interview on individual demographics, household composition, family background, family characteristics, health insurance, health services, selected health conditions, reproductive health, functional impairment, physical activity, use of tobacco and alcohol, and vitamin and mineral supplements.

- ***Household youth data file***—parallels the adult data file, with the exception of questions that cover physical activity, use of tobacco and alcohol, reproductive health, and selected diet-related topics (e.g., dieting). These topics were included as part of the MEC youth interview, which was completed by youth 8 years of age and older, generally without caregiver involvement. In addition, the youth file contains data on some topics not included in the adult file. This includes data on birth characteristics, infant feeding practices, and television viewing.

- ***Examination data file***—contains results of the physical examinations conducted in the MEC or at home, and data from interviews conducted in the MEC.

- ***Laboratory data file***—contains results of laboratory tests on blood samples collected in the MEC.

The origin of each data item determines the sample for analysis. NHANES-III provides sample weights for three samples: interview-only, MEC-examined, and home-examined. The sample sizes for these samples are shown in Chapter One, table 1. The sample weight used for each tabulation is specific to the data item tabulated. Source notes at the bottom of each detailed table (appendix D) identify the NHANES-III data file used in the tabulation.

In addition to the four main data files, NHANES-III released several dietary recall data files and supplementary files containing constructed variables or raw data unavailable at the initial release date. The additional files used for this series of reports are:

- ***Dietary recall data files***—contain information about individual foods, combination foods, and ingredients reported during 24-hour recalls. The file includes nutrient values from two different nutrient databases—the USDA Survey Nutrient Data Base and the nutrient data base maintained by the University of Minnesota's Nutrition Coordinating Center (NCC). All of the nutrient analyses presented in this series of reports are based on nutrient values from the USDA Survey Nutrient Data Base.

- ***Healthy Eating Index (HEI) file*—**contains HEI scores (based on NHANES-III 24-hour dietary recalls) based on the measure developed by the U.S. Department of Agriculture to measure overall dietary quality (Kennedy et al., 1995).

Subgroups Used for Tabulations

Each volume of this report examines specific subgroups of the low-income population (volume I: Food Stamp Program participants and nonparticipants; volume II: WIC Program participants and nonparticipants; volume III: school-age children; and volume IV: older adults.) In the detailed tables provided in each volume (appendix D), table columns correspond to subgroups defined by program participation and/or income level, and table rows present information for gender- and age-specific subgroups. The subgroup definitions used for each volume of the report, and the NHANES-III variables used to identify persons in each subgroup, are summarized in table A-1.

Survey questions about program participation and income level each suffered some degree of nonresponse. Table A-2 shows cell sizes for the various age/gender/income or program participation subgroups reported on in this particular volume. Cell sizes are shown for all subgroups, including those with missing income or program participation. In appendix D tables, the final column is suppressed due to small cell sizes, although the "Total Persons" or "All Children" columns include individuals with missing program participation or income.

The age groups shown in Table A-2 were used for most of the tabulations included in appendix D. A smaller number of age groups, however, are used for the analysis of dietary intake data and related variables for consistency with the *Dietary Reference Intakes* (DRIs).

Table A-1—Subgroup definitions

	Definition	Data Items[a]
Groups included in volume		
Volume I: Food Stamp Program participants and nonparticipants	Total population	
Volume II: WIC Program participants and nonparticipants	Children	12 ≤ HSAITMOR < 60
	Infants	2 ≤ HSAITMOR < 12
	Postpartum women	
	Breastfeeding up to 12 months postpartum	(MYPC25 = 1 or MAPF20 = 1) and (1 ≤ MYPC20 ≤ 4 or 1 ≤ MAPF15 ≤ 4)
	Non-lactating up to 6 months postpartum	(MYPC25 = 2 and MAPF20= 2) and (1 ≤ MYPC20 ≤ 2 or 1 ≤ MAPF15 ≤ 2)
	Pregnant women	MYPC17 = 1 or MAPF12 = 1
Volume III: School-age children and adolescents	Age 5-18 years and in school	(5 ≤ HSAGEIR ≤ 16 & 1 ≤ HYJ7 ≤ 2) or (17 ≤ HSAGEIR ≤ 18 & HAS22 = 4 & 0 < HFA8R < 12)
Volume IV: Older Adults	Age 60 years and older	HSAGEIR ≥ 60
Column definitions		
Volume I	Currently receiving food stamps	HFF11 = 1
	Income-eligible nonparticipant	HFF11 = 2 and 0 ≤ DMPPIR ≤ 130
	Higher-income nonparticipant	HFF11 = 2 and DMPPIR > 130
Volume II	Current WIC participant[c]	MAPF17 = 1 or MYPC22 = 1 or MPPB6 = 1
	Income-eligible nonparticipant	(MAPF17 = 2 & MYPC22 = 2 & MPPB6 = 2) and 0 < DMPPIR ≤ 185
	Higher-income nonparticipant	(MAPF17 = 2 & MYPC22 = 2 & MPPB6 = 2) and DMPPIR > 185
Volumes III and IV	Income ≤ 130% poverty or current FSP participant	HFF11=1 or (HFF11=2 and 0 ≤ DMPPIR ≤130)
	Income 131-185% poverty	HFF11=2 and 130 < DMPPIR ≤ 185
	Income > 185% poverty	HFF11=2 and DMPPIR > 185
Row definitions		
	Gender[b]	HSSEX
	Age	HSAGEIR (Age at household interview[b])

[a] Program participation and income variables:

HFF11 = "(Are you / Is your family) receiving food stamps at the present time?" (Household interview)

MAPF17, MYPC22, MPPB6 = "Are you now receiving benefits from the WIC program?" (MEC-adult, MEC-youth, MEC-proxy) If WIC participation is missing, and response to household interview question (HFF9) "Did you or any member of this family receive benefits from the WIC program LAST MONTH?" is "no" then sampled person is assumed to be a nonparticipant.

DMPPIR = Poverty income ratio (Household interview)

[b] Gender not tabulated in Volume II.

[c] Age at household interview defines table rows; age in months at the MEC examination was used to assess children's height and weight relative to growth curves.

[d] WIC participation of the sampled person is measured during the MEC examination interview and all WIC tables are limited to MEC respondents. The household interview included a question about WIC participation by any member of the family (HFF9), and this question was used to establish nonparticipation in the case of nonresponse to the MEC WIC question.

Table A-2—Number of School-age NHANES-III respondents by income group

	NHANES-III respondents to household interview				
	All children	Lowest income: ≤ 130% poverty	Low-income: 131-185% poverty	Higher-income: > 185% poverty	Income missing
Both sexes					
5-10 years	3,671	1,817	436	1,194	224
11-13 years	1,503	724	172	510	97
14-18 years	1,650	750	198	579	123
Total	6,824	3,291	806	2,283	444
Male					
5-10 years	1,868	896	213	637	122
11-13 years	718	344	89	241	44
14-18 years	784	356	94	265	69
Total	3,370	1,596	396	1,143	235
Female					
5-10 years	1,803	921	223	557	102
11-13 years	785	380	83	269	53
14-18 years	866	394	104	314	54
Total	3,454	1,695	410	1,140	209

Source: NHANES-III, 1988-94.

Appendix B
Reference Standards

Some of the variables included in this report required variable construction based on outside reference standards. This appendix describes the variables that were constructed, the standards that were used, and the manner in which the standards were applied. To the extent possible, standards used are those defined in the *Healthy People 2010* objectives (U.S. DHHS, 2000a).

The appendix covers all four volumes of the report; some variables are used only in selected volumes. With the exception of Healthy Eating Index (HEI) variables, which were constructed by staff at the National Center for Health Statistics (NCHS), all variable construction was carried out by the authors.

Body Weight and Height

NHANES-III examinations included measurement of body weight and stature (or recumbent length).[1] These data were used to determine Body Mass Index (BMI)[2] for both adults and children and to assess children's anthropometric status relative to reference growth charts.

Table B-1 shows the reference standards used in these analyses. As shown, BMI is interpreted differently for children, depending on age, because normal body fatness changes as children age. For children, overweight and underweight status is determined by comparing BMI to gender- and age-specific growth charts developed by the Centers for Disease Control and Prevention (CDC).[3] In addition, stature-for-age growth charts are used to assess children's linear growth. Copies of the CDC growth charts used in these analyses are provided at the end of the appendix.

Bone Density Measures

NHANES-III measured bone density for all men and non-pregnant women age 20 and over. Bone density of the proximal femur was measured during the MEC exam using dual energy x-ray absorptiometry (DXA).

Volumes I (FSP participants and nonparticipants) and IV (the elderly) present the prevalence of normal, reduced, and severely reduced bone mineral density. Standards used to define these conditions are those specified by NCHS (NCHS, 1999):

- Reduced bone mass, or osteopenia, is defined as bone mineral density 1–2.5 standard deviations below the mean of non-Hispanic white women 20–29 years of age as measured in NHANES-III.

- Severely reduced bone mass, or osteoporosis, is defined as bone mineral density more than 2.5 standard deviations below the mean of non-Hispanic white women 20–29 years of age as measured in NHANES-III.

The latter standard is used in the *Healthy People 2010* objectives.

Coronary Heart Disease Risk

The National Cholesterol Education Program (NCEP), sponsored by the National Institutes of Health (NIH), provides a methodology for estimating individuals' 10-year risk for coronary heart disease (NIH, 2001). The 10-year risk

[1] Recumbent length was measured for infants and children up to age 3; stature was measured for persons age 2 and over. Both length and height were measured for children age 24 to 36 months.

[2] BMI is equal to [weight in kilograms] / [height in meters]^2.

[3] Reference charts for assessing children's anthropometric status were originally developed by NCHS in 1977. Revised charts were released in May 2000, based on pooled data from five national U.S. health examination surveys including NHANES-III (Kuczmarski et al., 2002).

Table B-1¾ Reference Standards Used to Assess Body Mass Index and Linear Growth

Measure	Standard	Source
Adults		
Underweight	BMI < 18.5	*Healthy People 2010* (U.S. DHHS, 2000a)[1]
Healthy weight	BMI ≥ 18.5 and < 25	*Healthy People 2010* (U.S. DHHS, 2000a)
Overweight	BMI ≥ 25 and < 30	National Institutes of Health (NIH) and World Health Organization (WHO) guidelines (NIH, 1998 and WHO, 1998)
Obese	BMI ≥ 30	*Healthy People 2010* (U.S. DHHS, 2000a)
Children age 2 and over		
Underweight	< 5th percentile on BMI-for-age chart	CDC guidelines on using BMI-for-age growth charts (CDC, 2003)
At-risk of overweight	≥ 85th and < 95th percentile on BMI-for-age chart	CDC guidelines on using BMI-for-age growth charts (CDC, 2003)
Overweight	≥ 95th percentile on BMI-for-age chart	*Healthy People 2010* (U.S. DHHS, 2000a)
Growth retarded	< 5th percentile on stature-for-age chart	*Healthy People 2010* (U.S. DHHS, 2000a)
Children age 1-4-years-old (WIC volume)		
Underweight	< 5th percentile on weight-for-height chart	CDC guidelines on using weight-for-height growth charts (CDC, 2003)
At-risk of overweight	≥ 85th and < 95th percentile on weight-for-height chart	CDC guidelines on using weight-for-height growth charts (CDC, 2003)
Overweight	≥ 95th percentile on weight-for-height chart	CDC guidelines on using weight-for-height growth charts (CDC, 2003)

[1]Adapted from Health People 2010 goal, which specifies BMI ≥ 18.5 as a healthy weight.

estimate is based on six factors: gender, age, total cholesterol, smoking status, HDL cholesterol, and systolic blood pressure. In Volumes I (FSP participants and nonparticipants) and IV (the elderly), the NCEP methodology was used to estimate the 10-year- risk of coronary heart disease among adults.

Nutrient Intake Standards

In recent years, the Institute of Medicine (IOM) has issued a comprehensive set of *Dietary Reference Intakes* (DRIs), reference values for use in planning and assessing nutrient intake. DRIs replace the *Recommended Dietary Allowances* (RDAs), first developed by the Food and Nutrition Board in 1941 (National Research Council (NRC), 1989a). The DRIs were released in a series of nutrient-specific reports; the first report was released in 1999 and the most recent in late 2004 (IOM, 1999, 2000a, 2000b, 2002a, 2002b, 2004).[4] The DRIs specify up to four different reference values for each nutrient for age- and gender-specific subgroups of the population. These reference values include:

- **Estimated Average Requirement (EAR).** The EAR is the daily level of intake estimated to meet the requirements of 50 percent of healthy individuals in a specific age- and gender subgroup. EAR values are

[4] With the exception of the 2004 reports, dates are final publication dates. Pre-publication copies of all reports were available two or more years prior to final publication.

used to set RDAs and may be used to assess the adequacy of intake of groups of individuals.

- **Recommended Dietary Allowance (RDA)**. The RDA is the daily level of intake sufficient to meet the nutrient requirements of nearly all (97-98 percent) healthy individuals in a specific subgroup. RDAs are based on EARs.

- **Adequate Intake (AI)**. An AI is defined when the available data are insufficient to estimate requirements and establish an EAR and an RDA. The AI is the daily level of intake that is assumed to be adequate, based on observed or experimentally determined estimates of intake.

- **Tolerable Upper Intake Level (UL)**. The UL is the maximum daily level of intake that is safe for nearly all members of a group. Intake above the UL increases risk of toxicity.

At the time the analyses presented in this series of reports were completed, DRIs had been established for four of the nutrients examined: vitamin C, iron, zinc, and calcium. For vitamin C, iron, and zinc, EARs were used to assess prevalence of adequate usual intake (the methodology used in estimating usual intake and in determining the prevalence of adequate intake is described in appendix C). It is not possible to assess the prevalence of adequate calcium intake, however, because the DRI committee established an AI for calcium rather than an EAR (IOM, 1999). Consequently, analysis of calcium intakes focuses on comparing mean intakes for each subgroup to age- and gender-specific AIs.

Because DRIs had not yet been established, intakes of food energy and the other nutrients and food components examined (total fat, saturated fat, cholesterol, sodium, and fiber) were assessed relative to then-current standards. Data on usual energy intake were compared to the 1989 Recommended Energy Allowance (REA) (NRC, 1989a). The prevalence of appropriate usual intakes of total fat, saturated fat, cholesterol, and sodium was assessed relative to the recommended maximum intakes defined in the *Dietary Guidelines for Americans* (U.S. Departments of Agriculture and Health and Human Services, 2000). (The standards for total fat, saturated fat, and sodium intake are also included in the *Healthy People 2010* objectives). Finally, the prevalence of adequate fiber intake was assessed on the basis of the "age-plus-5" standard. This standard, originally developed by Williams (1995), was adapted by the American Heart Association (AHA) (Van Horn, 1997) and was used in other research that preceded establishment of the DRIs for fiber (Gleason and Suitor, 2001). Under this standard, recommended fiber intake (in gm.) is equivalent to age in years plus five, up to a maximum of 25 gm.

Prior to the time the reports were to be published, DRIs were released for energy, total fat, sodium, and fiber. While it was not possible to re-do the analyses to incorporate these new standards, the text was expanded, to the extent possible, to assess usual nutrient intakes in light of the new standards. Specifically, discussions of total fat, sodium, and fiber intakes were updated by comparing means and distributions of usual intake to the new standards. It was not possible to update discussions of energy intake because the new energy standards (Estimated Energy Requirements or EERs) incorporate information on individuals' weight, height, and level of physical activity (IOM, 2002b).

Tables B-2 – B-4 show the nutrient standards used in the analysis as well as other relevant standards. Table B-2 lists EARs for vitamin C, iron, and zinc, and AIs for calcium, all of which were used in the main analysis. It also shows

Table B-2—Dietary Reference Intakes for Individuals

	Estimated Average Requirements			Adequate Intakes[1]	
	Vitamin C (mg/day)	Iron (mg/day)	Zinc (mg/day)	Calcium (mg/day)	Total fiber (g/day)
Children					
1-3 yrs	13	3.0	2.2	500	19
4-8 yrs	22	4.1	4.0	800	25
Males					
9-13 yrs	39	5.9	7.0	1,300	31
14-18 yrs	63	7.7	8.5	1,300	38
19-30 yrs	75	6.0	9.4	1,000	38
31-50 yrs	75	6.0	9.4	1,000	38
51-70 yrs	75	6.0	9.4	1,200	30
>70 yrs	75	6.0	9.4	1,200	30
Females					
9-13 yrs	39	5.7	7.0	1,300	26
14-18 yrs	56	7.9	7.5	1,300	36
19-30 yrs	60	8.1	6.8	1,000	25
31-50 yrs	60	8.1	6.8	1,000	25
51-70 yrs	60	5.0	6.8	1,200	21
>70 yrs	60	5.0	6.8	1,200	28
Pregnant Women					
14-18 yrs	66	23.0	10.5	1,300	22
19-30 yrs	70	22.0	9.5	1,000	28
31-50 yrs	70	22.0	9.5	1,000	28
Lactating Women					
14-18 yrs	96	7.0	11.6	1,300	29
19-30 yrs	100	6.5	10.4	1,000	29

[1] Estimated Average Requirements have not been set for calcium, sodium, or fiber.
Source: Dietary Reference Intakes. Institute of Medicine, Food and Nutrition Board (1999, 2000b, 2002a, 2002b, 2004).

Table B-3—1989 Recommended Dietary Allowances

	Energy allowance (REA) (kcal)	Vitamin C (mg)	Iron (mg)	Zinc (mg)	Calcium (mg)
Children					
1-3 yrs	1,300	40	10	10	800
4-6 yrs	1,800	45	10	10	800
7-10 yrs	2,000	45	10	10	800
Males					
11-14 yrs	2,500	50	12	15	1,200
15-18 yrs	3,000	60	12	15	1,200
19-24 yrs	2,900	60	10	15	1,200
25-50 yrs	2,900	60	10	15	800
51+ yrs	2,300	60	10	15	800
Females					
11-14 yrs	2,200	50	15	12	1,200
15-18 yrs	2,200	60	15	12	1,200
19-24 yrs	2,200	60	15	12	1,200
25-50 yrs	2,200	60	15	12	800
51+ yrs	1,900	60	10	12	800
Pregnant					
1st trimester ..	+0	70	30	15	1,200
2nd trimester	+300	70	30	15	1,200
3rd trimester	+300	70	30	15	1,200
Lactating					
1st 6 months	+500	95	15	19	1,200
2nd 6 months	+500	90	15	16	1,200

Source: Recommended Dietary Allowances, 10th edition. National Research Council (1989b).

Table B-4¾ Standards Used to Assess Usual Intake of Fat, Saturated Fat, Cholesterol, and Sodium

Nutrient/Food Component	*Dietary Guidelines* Standard[1]	DRI Standard	
Total fat	≤ 30% of total energy[2]	AMDRs	
		1-3 years	30-40% of total energy
		4-18 years	25-35% of total energy
		19+ years	20-35% of total energy
Saturated fat	< 10% of total energy[2]	N/A	
Cholesterol	≤ 300 mg.	N/A	
Sodium	≤ 2,400 mg.[2]	ULs	
		1-3 years	1,500 mg. (1.5 g.)
		4-8 years	1,900 mg. (1.9 g.)
		9-13 years	2,200 mg. (2.2 g.)
		14+ years	2,300 mg. (2.3 g.)

[1]Dietary Guidelines standards apply to all individuals 2 years of age and older.

[2]Also included as objective in *Healthy People 2010* (U. S. DHHS, 2000a).

newly established AIs for fiber.[5] Table B-3 shows the 1989 RDAs for vitamin C, iron, zinc, and calcium (the precursors to the DRIs), as well as the 1989 REA. Table B-4 shows the *Dietary Guidelines for Americans* recommendations for total fat, saturated fat, cholesterol, and sodium, as well as the newly-defined Acceptable Macronutrient Distribution Range (AMDR) for total fat and ULs for sodium.

Healthy Eating Index

The Healthy Eating Index (HEI), developed by USDA's Center for Nutrition Policy and Promotion (CNPP), is a summary measure of the overall quality of people's diets (Basiotis, et al., 2002). The HEI is based on 10 component scores, all of which are weighted equally in the total score. The 10 component scores measure different aspects of a healthy diet based on accepted public health recommendations. Five of the component scores are food-based and evaluate food consumption in comparison with recommendations of the USDA Food Guide Pyramid (grains, vegetables, fruits, dairy, and meat) (USDA, CNPP, 1996). A sixth component is also food-based and measures the level of dietary variety. The remaining four component scores are nutrient-based and assess compliance with the *Dietary Guidelines for Americans* recommendations for intake of fat, saturated fat, cholesterol, and sodium.[6]

Table B-5 shows the criteria used for scoring the five food-group-based components. Criteria vary by age, depending on total energy intake. Because the Food Guide Pyramid presents serving recommendations for only three levels of energy intake (1,600, 2,200, and 2,800 kilocalories) (USDA, CNPP, 1996), interpolation techniques were used to estimate the recommended number of servings for gender and age

[5]It is important to note that the fiber AIs have been defined for *total* fiber and that the data presented in this report reflect *dietary* fiber. Total fiber includes dietary fiber as well as fructo-oligosaccharides, compounds which are destroyed in the current analytical methods used to quantitate fiber in foods (IOM, 2002b). Although fructo-oligosaccharides are assumed to make up a relatively small percentage of total fiber, authors of the DRI report estimated that, on average, American adults were consuming approximately 5.1 gm. more fiber per day than estimated in the most recent Continuing Survey of Food Intakes of Individuals (CSFII), because CSFII data, like the data used in this analysis, include only *dietary* fiber (IOM, 2002b).

[6]When the HEI was first developed, the standards for cholesterol and sodium were based on recommendations made in the NRC's *Diet and Health* report (NRC, 1989b) because the version of the *Dietary Guidelines* in effect at the time did not include quantitative standards for these nutrients (USDA and U. S. DHHS, 1995). Since that time, the NRC standards for sodium and cholesterol have been incorporated into both the Nutrition Facts section of food labels and the most recent version of the *Dietary Guidelines* (USDA and U.S. DHHS, 2000).

Table B-5¾ Scoring criteria for food-based components of the Healthy Eating Index (HEI)

	Criteria for maximum score of 10 (number of servings per day)				
Age	**Grains**	**Vegetables**	**Fruits**	**Milk**	**Meat**
2-3 years	6.0	3.0	2.0	2.0	2.0
4-6 years	7.0	3.3	2.3	2.0	2.1
7-10 years	7.8	3.7	2.7	2.0	2.3
Males					
11-14 years	9.9	4.5	3.5	3.0	2.6
15-18 years	11.0	5.0	4.0	3.0	2.8
19-24 years	11.0	5.0	4.0	3.0	2.8
25-50 years	11.0	5.0	4.0	2.0	2.8
51+ years	9.1	4.2	3.2	2.0	2.5
Females					
11-24 years	9.0	4.0	3.0	3.0	2.4
25-50 years	9.0	4.0	3.0	2.0	2.4
51+ years	7.4	3.5	2.5	2.0	2.2

Notes: The minimum score of 0 was assigned only when zero servings were consumed.
For the variety component, the maximum score of 10 was assigned if 8 or more different items were consumed; the minimum score of 0 was assigned if 3 or fewer different items were consumed.
Scores were assigned proportionately for consumption between the minimum and maximum criteria.
Source: NHANES-III documentation for the HEI file. NCHS (2000).

groups with other recommended energy allowances.

Two exceptions were made to the straight interpolation. The first involved 2-3-year-old children. The 1989 REA for 2-3 year-olds is less than the lowest level of energy intake (1,600 kilocalories) referenced in the Food Guide Pyramid.[7] Extrapolation of the Food Guide Pyramid's recommended number of servings to a lower calorie level would result in smaller numbers of servings than the minimums defined in the Pyramid. Rather than use these minimal numbers of servings, NCHS staff set the numbers of servings to be equivalent with defined minimums, but reduced reference portion sizes for food groups other than milk to two-thirds of the adult reference (NCHS, 2000). This is consistent with Pyramid guidance (i.e., that individuals with lower energy needs eat smaller servings) as well as with the approach used by other researchers (Basiotis et al., 2002).

The second exception was made for males between 15 and 50 years of age. The 1989 REA for this group is slightly higher than the highest level of energy intake (2,800 kilocalories) references in the Food Guide Pyramid. Simple extrapolation would have resulted in greater numbers of servings than the maximums defined in the Pyramid. Because the Food Guide Pyramid provides no guidance on how to accommodate greater energy needs, NCHS researchers truncated the number of servings at the maximums defined in the Pyramid. This is consistent with the approach used by other researchers (Basiotis et al., 2002). Moreover, preliminary analyses completed by NCHS indicated that truncation did not have a significant impact on HEI scores (NCHS, 2000).

The methodology used to determine serving definitions for counting servings in each of the five major food groups is the same as that used in the initial research that calculated the HEI using data from the 1989-90 Continuing Survey of Food Intake of Individuals (CSFII) (USDA, CNPP, 1995). It differs, however, from the methodology used in subsequent research to

[7] HEI computations were completed be NCHS staff prior to the release of the new REEs (see discussion on *Dietary Reference Intakes*), so the reference standard used for energy intake was the 1989 REAs.

calculate the HEI using the 1994-96 CSFII data (USDA, ARS, 1998) as well as recent research that calculated the HEI using data from NHANES 1999-2000 (Basiotis et al., 2002).

In particular, milk serving definitions in the NHANES-III data used in this report were based on grams of nonfat milk solids contained in a food divided by the amount of grams of nonfat milk solids contained in 1 cup of milk (NCHS, 2000). The alternative methodology used in the two analyses noted above based milk serving definitions on calcium equivalents. This approach defines a milk serving as one that provides the same amount of calcium as 1 cup of skim milk (302 mg). In choosing to use the "nonfat milk solids" approach rather than the "calcium equivalents" approach, NCHS researchers cited concerns that the latter may lead to low milk group component scores because of the omission of foods such as butter and cream cheese nonfat milk solids but small to negligible amounts of calcium (NCHS, 2000).

For the four other food groups, serving definitions used by NCHS researchers are similar to those used by USDA researchers and were designed to be as consistent as possible with the serving definitions used in the Food Guide Pyramid (USDA, ARS, 2003). Servings of breads and grains are defined on the basis of "flour equivalents," using the flour content of a typical slice of bread (16 gm) as the base. Servings of most vegetables are counted as ½ cup cooked or 1 cup raw. Fruits are treated similarly.

Servings of meat are based on "lean meat equivalents." The base serving is 2.5 oz. of lean meat, fish, or poultry, with a specified minimum amount of fat.[8] Numbers of servings for non-lean-meats are assigned based on fat content. As an example, 2 oz. of cooked sausage has the equivalent of 1.5 oz. of cooked lean meat, or .61 servings of meat. (For a more detailed explanation of how meat servings are determined, see USDA, ARS, 2003).

Several non-meat foods are also included in the meat group. Serving equivalents for these items are defined as ½ cup cooked dry beans or peas, 1 egg, 2 Tbsp. peanut butter, 1/3 cup nuts, ¼ cup seeds, and ½ cup of tofu (USDA, ARS, 2003). The Food Guide Pyramid considers dried beans and peas (legumes) to be considered contributors to the meat group, but they may also be counted toward vegetable intake. In computing the HEI, NCHS investigators applied any legume consumption that was not "needed" in the meat group toward the vegetable group (NCHS, 2000).

Variety Score

Both The Food Guide Pyramid and the *Dietary Guidelines for Americans* recommend consuming a variety of foods, but neither provides guidance on how to measure dietary variety. Following the protocols established in the initial HEI research (USDA, CNPP, 1995), variety scores were assigned based on the total number of different types of food a person consumed in a day. Similar foods were grouped together and the totals were computed for each individual. Fats, sweets, seasonings, and similar foods were not included in the calculations (for a complete list of excluded foods see NCHS, 2000), and neither were food components that contributed less than one-half of a serving.

A maximum score of 10 points was assigned for variety scores of 8 or more (indicating that the person consumed at least half a serving of 8 or more different types of food in the preceding 24-hour period). A minimum score of 0 was assigned for variety scores of 3 or less. Intermediate scores were assigned proportionately.

[8]Two different definitions have been used to define lean meats – no more than 2.65 gm. fat per oz. and no more than 2.4 gm. fat per oz. (USDA, ARS, 2003). The NCHS documentation does not specify which of these definitions was used in computing lean meat equivalents in the NHANES-III database (NCHS, 2000).

Table B-6¾ Scoring criteria for nutrient-based components of the Healthy Eating Index (HEI)

Component	Standard for maximum score of 10	Standard for minimum score of 0
Total fat	≤ 30% of total calories	≥ 45% of total calories
Saturated fat	< 10 percent of total calories	≥ 15 percent of total calories
Cholesterol	≤ 300 mg per day	≥ 450 mg per day
Sodium	≤ 2,400 mg per day	≥ 2,400 mg per day

Note: Standards for nutrient-based components apply to all age groups.

Source: NHANES-III documentation for the HEI file. NCHS (2000).

Nutrient-based Scores

The four nutrient-based component scores of the HEI assess compliance with the *Dietary Guidelines for Americans* recommendations for intake of total fat, saturated fat, cholesterol, and sodium (USDA and U.S. DHHS, 2000). The manner in which these recommendations were used to determine HEI component scores is summarized in table B-6.

Rating Total Scores

As noted in the preceding discussion, the maximum score for the full HEI (all ten components combined) is 100 and the minimum score is zero. Using standards defined by USDA's CNPP, individuals with total HEI scores of more than 80 were considered to have good diets. Those with scores between 51 and 80 were considered to have diets that need improvement. And those who scored below 51 on the HEI were considered to have poor diets (Basitotis et al., 2002).

Serum and Blood Measurements

Several serum and blood measurements are examined in this series of reports. Most reflect serum levels of nutrients or assess iron or lipid status. In addition, levels of blood lead were examined to assess the prevalence of lead poisoning. Serum cotinine levels were also analyzed to examine exposure to second-hand smoke. Cotinine, a breakdown product of nicotine, is used as a biological marker for tobacco use and exposure to environmental tobacco smoke.

Table B-7 lists the serum and blood measures examined, the reference standards used in assessing them, and the source of the standard. The prevalence of iron deficiency was assessed using the *Healthy People 2010* definition: abnormal results on two of three specific measures of iron status (serum ferritin, free erythrocyte protoporphorin, and transferring saturation) (U.S. DHHS, 2000a). Iron deficiency anemia was defined as the presence of iron deficiency plus an abnormally low hemoglobin. Cutoffs used to define abnormal values are summarized in table B-7.

Table B-7 ¾ Reference values for serum and blood measures

Measure	Age group	Abnormal range		Source
		Male	Female	
Hemoglobin (g/dL)[1]	1-2 years	< 11.0	< 11.0	CDC Recommendations to Prevent and Control Iron Deficiency in the U.S. (CDC, 1998)
	2-5 years	< 11.1	< 11.1	
	5-8 years	< 11.5	< 11.5	
	8-12 years	< 11.9	< 11.9	
	12-15 years	< 12.5	< 11.8	
	15-18 years	< 13.3	< 12.0	
	≥ 18 years	< 13.5	< 12.0	
Hematocrit (%)[1]	1-2 years	< 32.9	< 32.9	CDC Recommendations to Prevent and Control Iron Deficiency in the U.S. (CDC, 1998)
	2-5 years	< 33.0	< 33.0	
	5-8 years	< 34.5	< 34.5	
	8-12 years	< 35.4	< 35.4	
	12-15 years	< 37.3	< 35.7	
	15-18 years	< 39.7	< 35.9	
	≥ 18 years	< 39.9	< 35.7	
Serum ferritin (mcg/mL)	1-4 years	< 10	< 10	*Healthy People 2010* (U.S. DHHS, 2000a) and CDC Recommendations to Prevent and Control Iron Deficiency in the U.S. (CDC, 1998)
	5-11 years	< 15	< 15	
	12-49 years	< 15	< 12	
	≥ 50 years	< 15	< 15	
Free erythrocyte protoporphorin (mcg/dL)	1-2 year	> 80	> 80	*Healthy People 2010* (U.S. DHHS, 2000a)
	> 2 years	> 70	> 70	
Transferrin saturation (%)	1-2 years	< 10	< 10	*Healthy People 2010* (U.S. DHHS, 2000a) and CDC Recommendations to Prevent and Control Iron Deficiency in the U.S. (CDC, 1998)
	3-4 years	< 12	< 12	
	12-15 years	< 16	< 14	
	≥ 16 years	< 16	< 15	
Total cholesterol (mg/dL)	2-19 years	High: ≥ 200 Borderline: 170-199		National Institutes of Health, National Cholesterol Education Program (2001 (adults) and 1991 (children))
	20 years and over	High: ≥ 240 Borderline: 200-239		
LDL cholesterol (mg/dL)	2-19 years	High: ≥ 130 Borderline: 110-129		National Institutes of Health, National Cholesterol Education Program (2001 (adults) and 1991 (children))
	20 years and over	High: ≥ 160 Borderline: 130-159		
HDL cholesterol (mg/dL)	2-19 years	< 35		National Institutes of Health, National Cholesterol Education Program, 2001 (adults) and American Heart Association, 2002 (children)
	20 years and over	< 40		
Triglycerides (mg/dL)	12-19 years	≥ 150		National Institutes of Health, National Cholesterol Education Program, 2001 (adults) and American Heart Association, 2002 (children)
	20 years and over	High: ≥ 200 Borderline: 150-199		
RBC folate (ng/mL)[2]	All ages	< 95		*Dietary Reference Intakes* (IOM, 2000a)
Serum vitamin B_{12} (pg/mL)	All ages	< 200		*Dietary Reference Intakes* (IOM, 2000a)
Serum albumin (g/dL)	60 years and over	< 3.8 (liberal definition) < 3.5 (conservative)		Institute of Medicine, Committee on Nutrition Services for Medicare Beneficiaries (2000)

¾ **Continued**

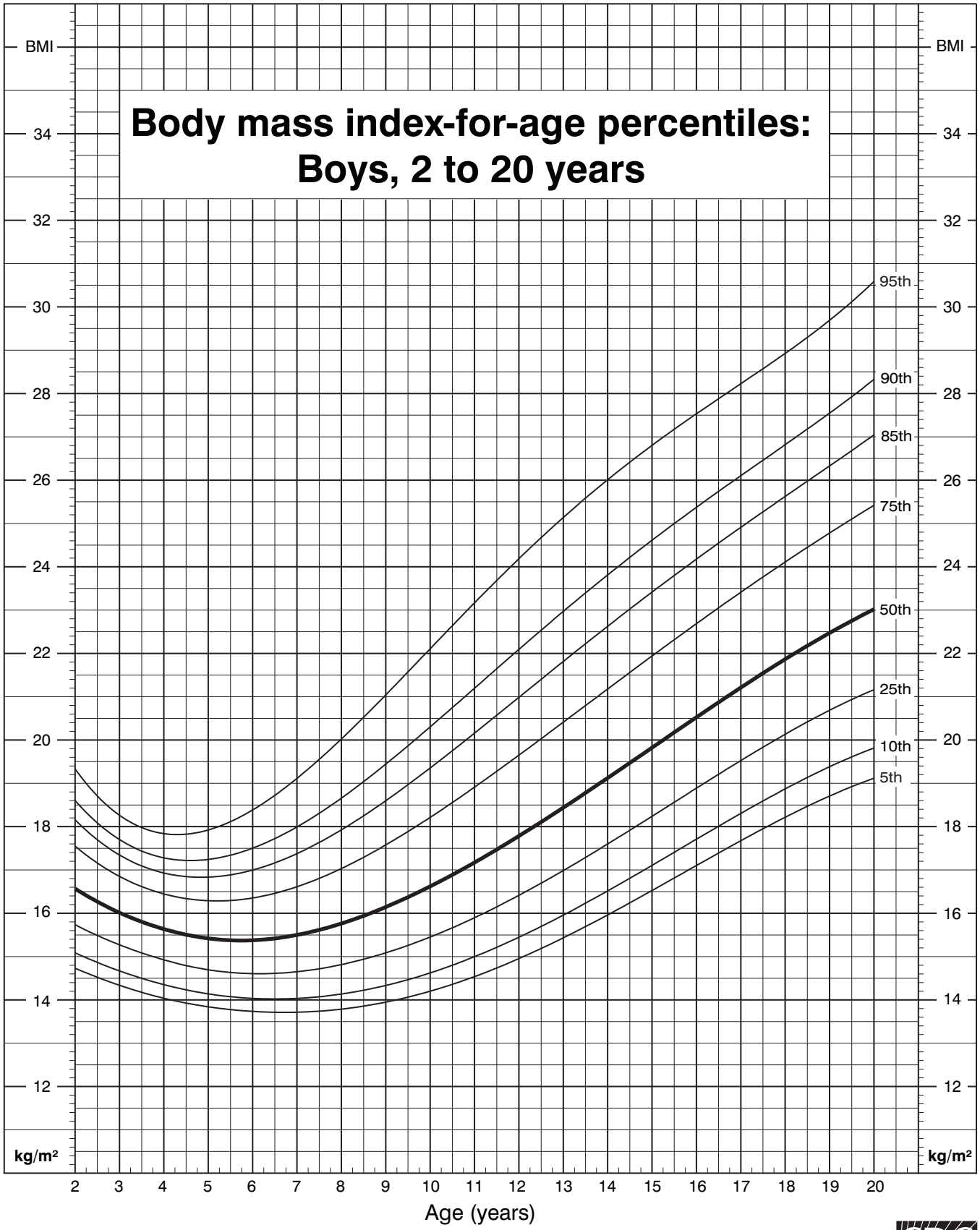
Table B-7 ¾ Reference values for serum and blood measures (continued)

Measure	Age group	Abnormal range		Source
		Male	Female	
Lead exposure				CDC Report on Blood Levels in the U.S.: 1991-1994. (CDC, 1997)
Lead (mcg/dL)	All ages	≥ 10.0		
Exposure to second-hand smoke				*Healthy People 2010* (U.S. DHHS, 2000a)
Cotinine (ng/dL)	All ages	> 0.10		

[1]Hemoglobin and hematocrit cutoffs were adjusted for smokers, per CDC recommendations (1998). Adjustment for high altitudes is also suggested, but data on the altitude at which respondents live is not available in NHANES-III. Hemoglobin cutoffs for smokers were adjusted based on reported daily cigarette use, as follows: +0.3 for 0.5 to less than 1 pack per day; +0.5 for 1 to less than 2 packs per day; +0.7 for 2 or more packs per day. Parallel adjustments for hematocrit were +1.0, +1.5, and +2.0.

[2]The cutoff of 95 ng/mL is specific to the radioassay kit used by NHANES-III beginning in December 1993, and is applied to all NHANES-III RBC folate measures because NCHS adjusted the data for comparability (Wright, et al., 1998). This cutoff differs from that recommended based on NHANES-II data (less than 140 ng/mL) due to use of the revised test kit.

CDC Growth Charts: United States



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SOURCE: Developed by the National Center for Health Statistics in collaboration with the National Center for Chronic Disease Prevention and Health Promotion (2000).

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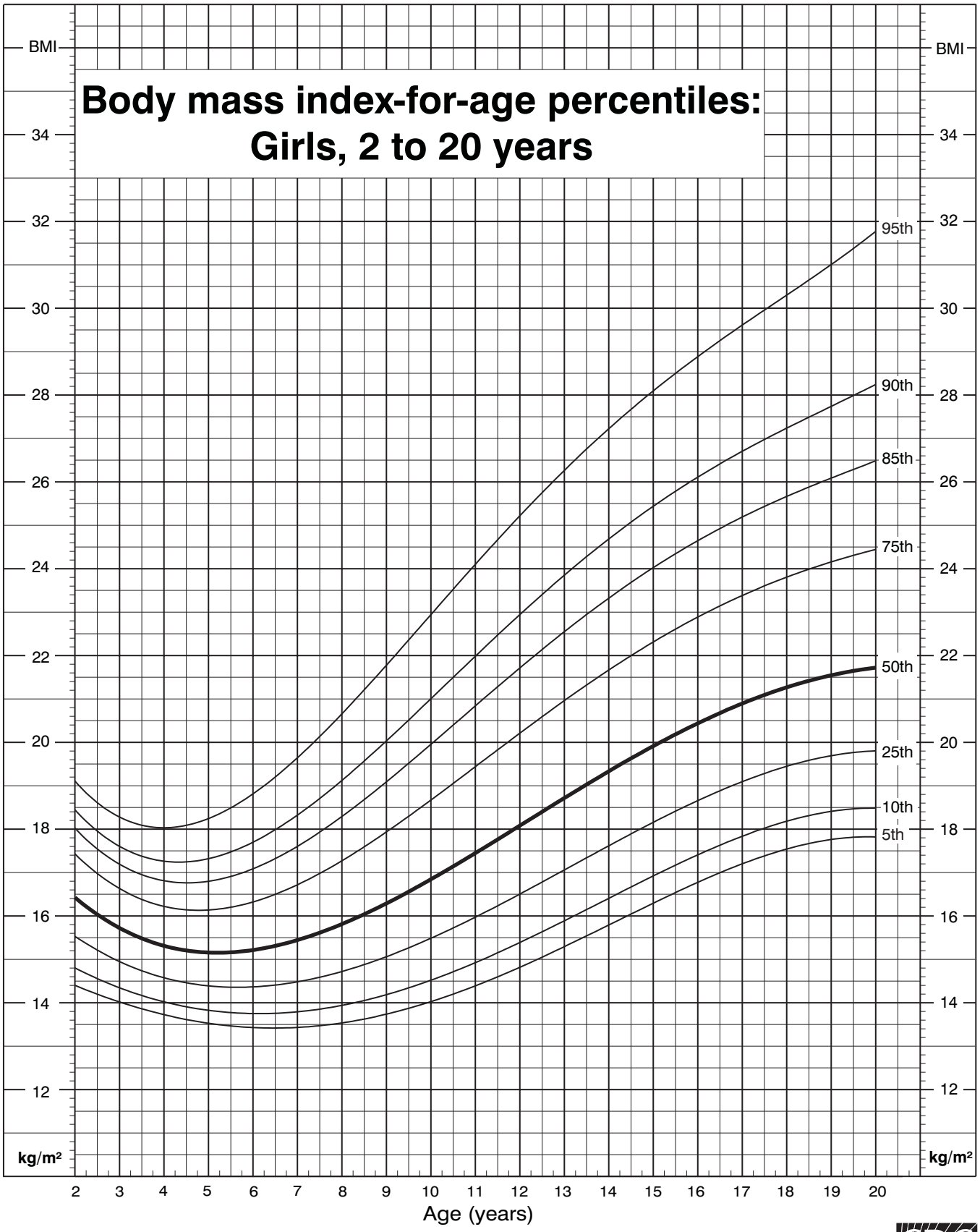

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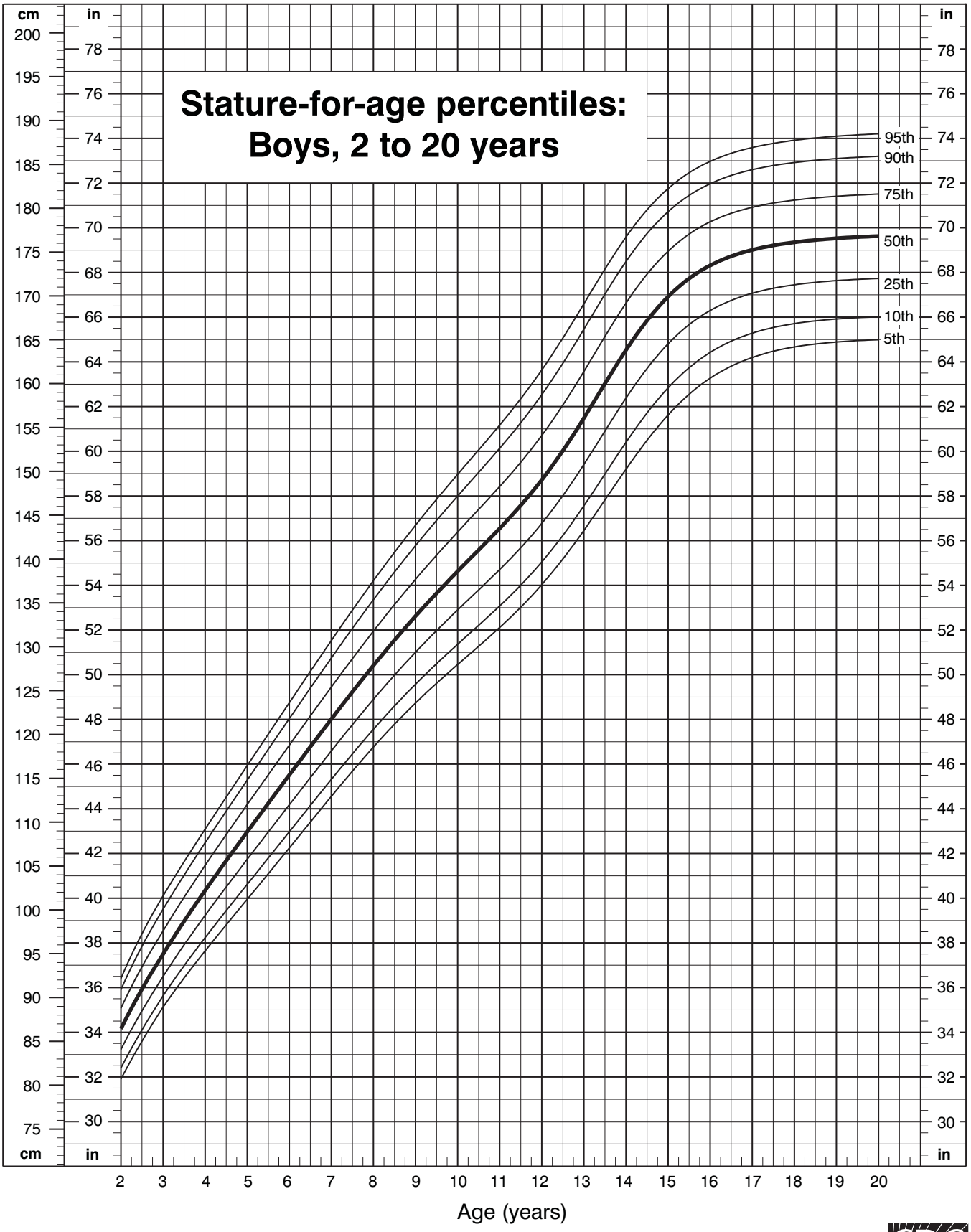

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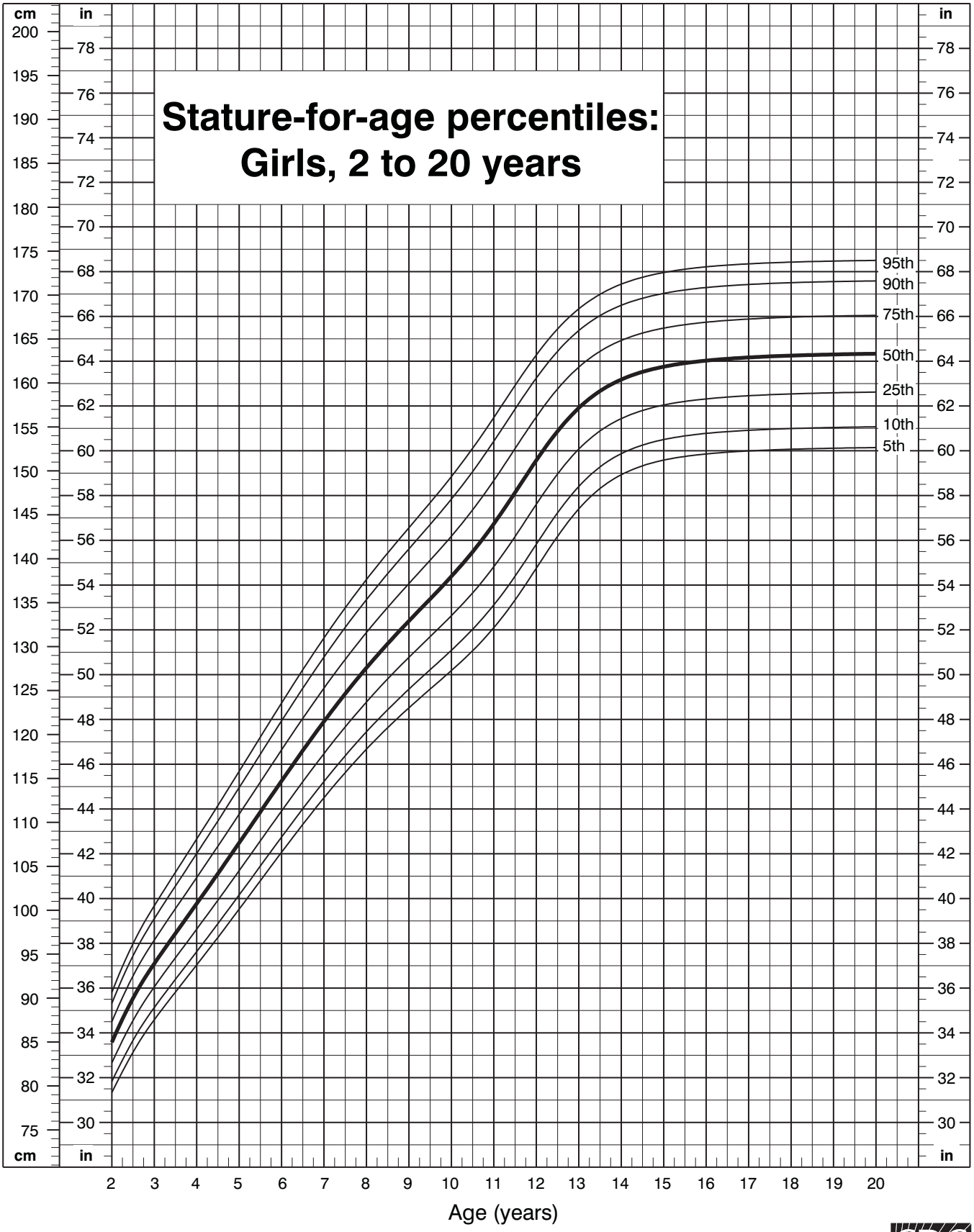

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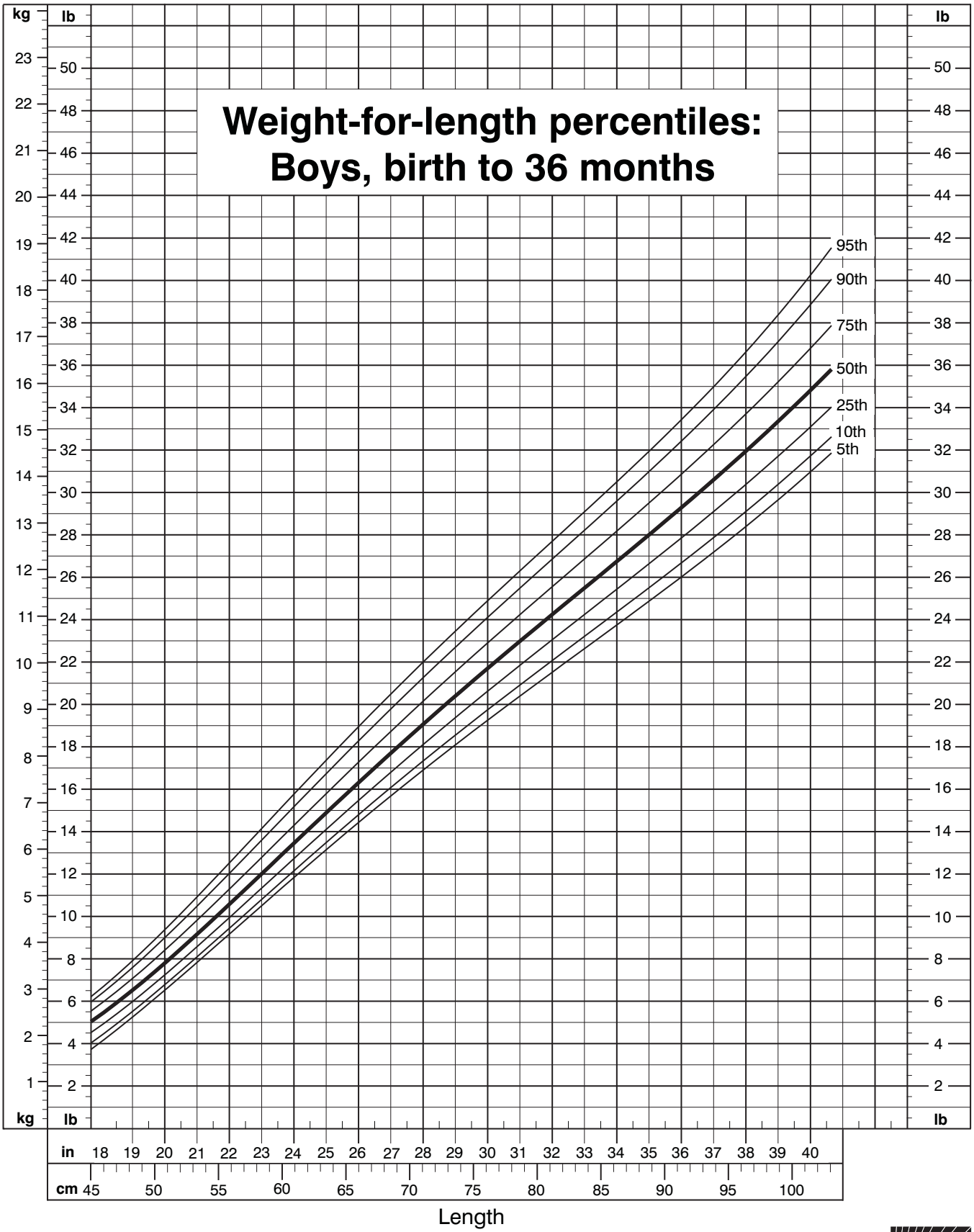

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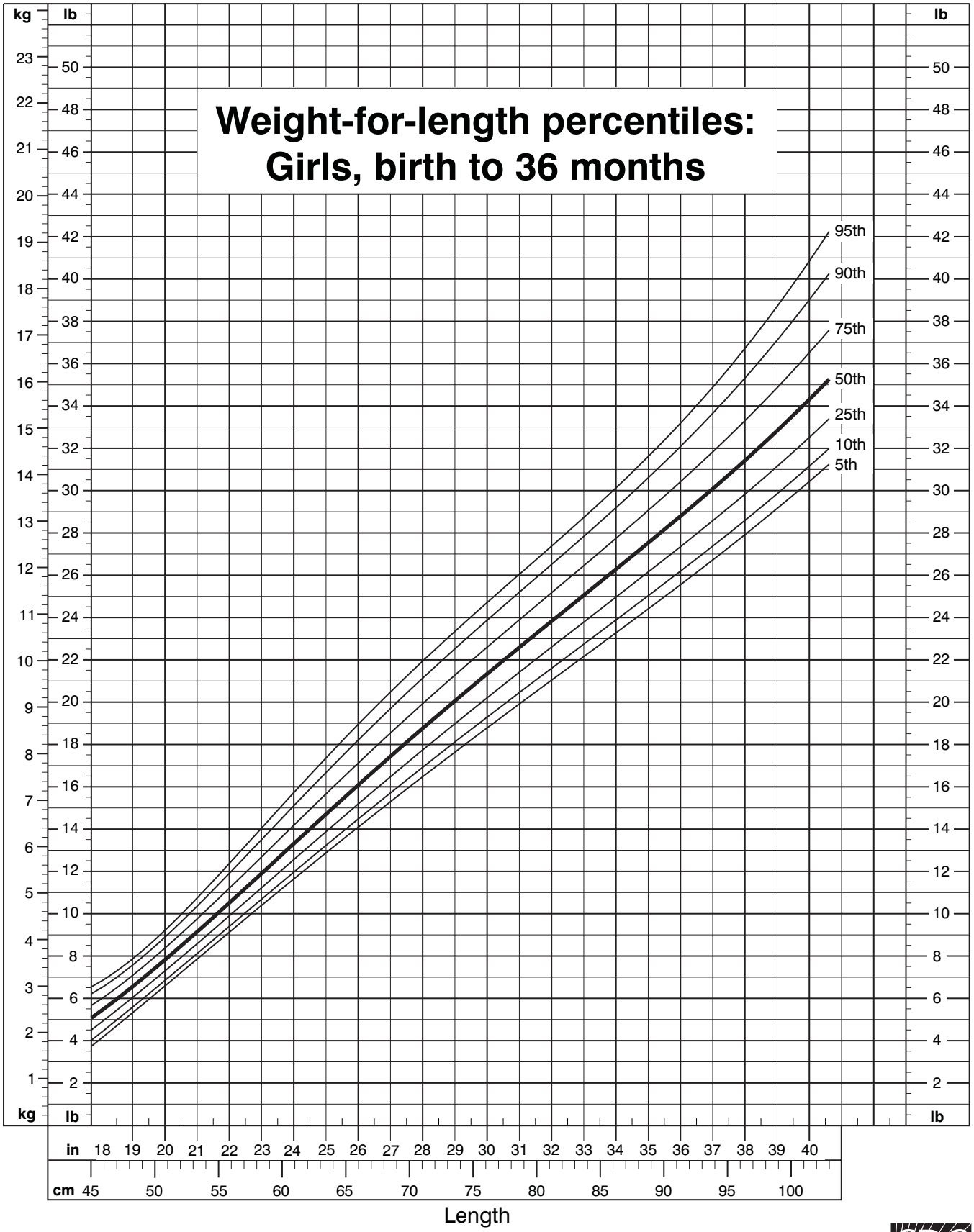

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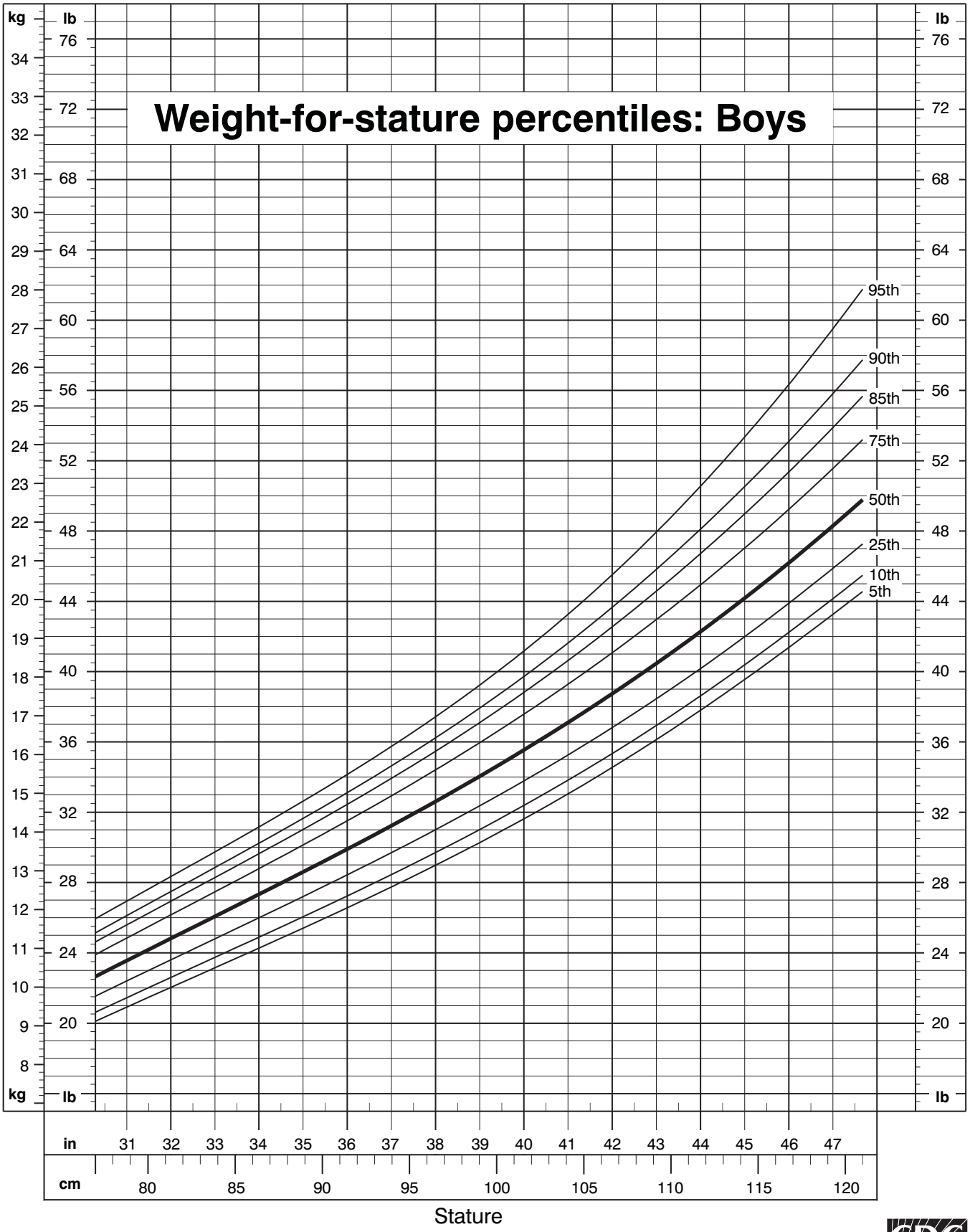

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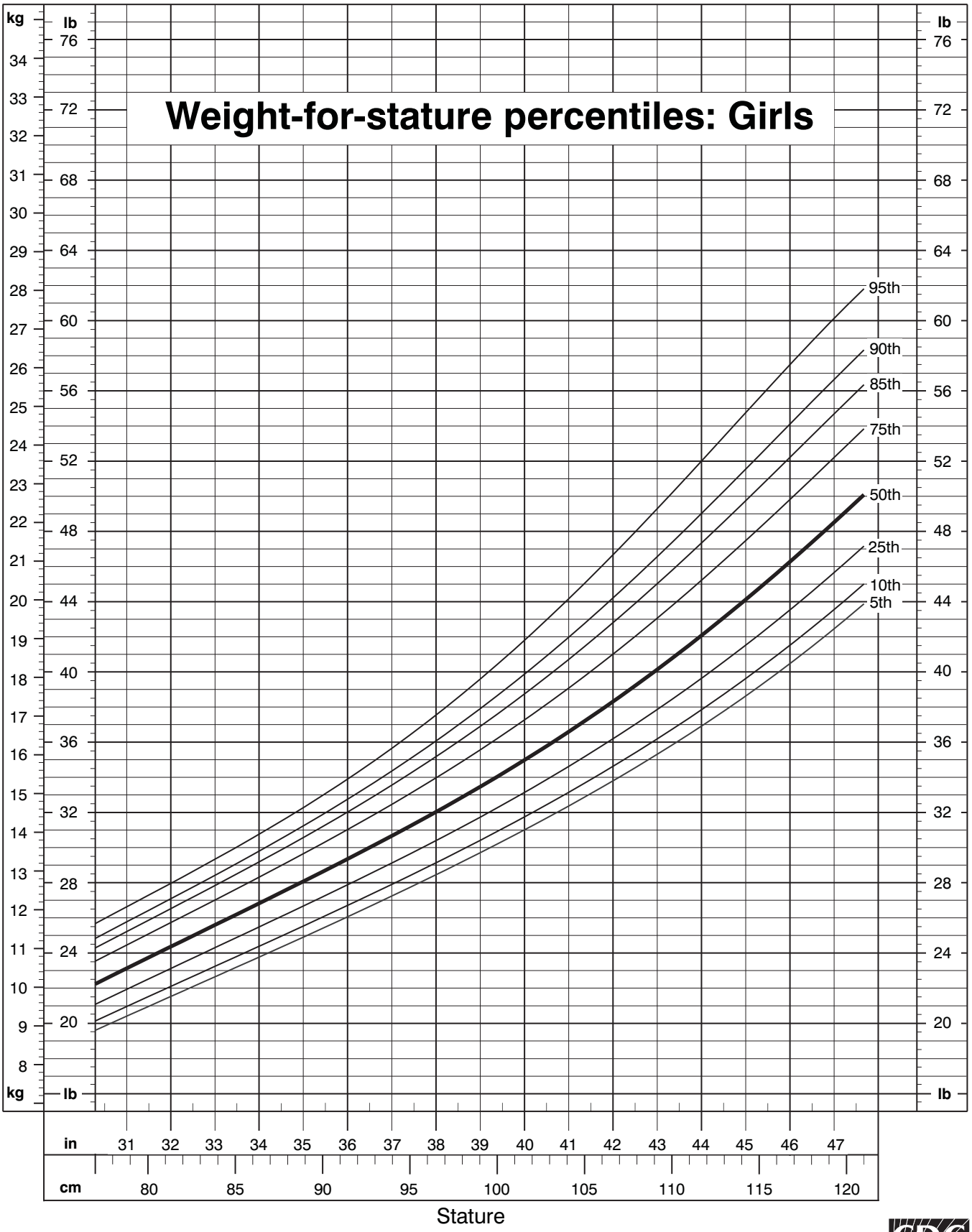

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Appendix C
Statistical and Reporting Guidelines

This report presents population means and proportions, standard errors of estimates, and percentiles of dietary intake distributions. Sample weights were used to account for sample design and nonresponse. Information about the NHANES-III survey design was used in estimating variances and testing for statistical significance.

Several software packages were used to produce the tabulations:

- ***C-SIDE: Software for Intake Distribution Estimation (Version 1.0)***—used to estimate means, percentiles, and standard errors for nutrient intake tables.

- ***SUDAAN (Version 7.5)***—used to calculate means, standard errors, and tests of statistical significance for non-nutrient tables, using the DESCRIPT procedure.

- ***SAS (Version 8.2)***—used to read the NHANES-III data files, call SUDAAN procedures, process SUDAAN output, and write SUDAAN results to ASCII files.

- ***TPL (Table Producing Language)***—this software produced all data tables in appendix D.

General Procedures

NHANES-III sample weights account for the fact that each sample person does not have an equal probability of selection into the sample. NHANES-III provides sample weights for three samples: the interviewed sample weight (WTPEQX6), the MEC-examined sample weight (WTPFEX6), and the MEC and home-examined sample weight (WTPFHX6). The sampling weight used for each table in this report was specific to the data item presented in the table, and is indicated by the source of data listed in the table footnote.

Variance is generally underestimated in a complex survey when information about the survey design is not used in variance estimation. For this report, two alternate methods were used to account for the sample design.

- Balance repeated replication (BRR)—this method was specified when using C-SIDE software to obtain estimates for nutrient tables. The BRR method used the 52 replicate weights provided in the NHANES-III data.

- Taylor series linearization—this method is used in SUDAAN procedures. The complex survey design is accounted for by specifying strata and PSU in the "nest" statement of SUDAAN procedures.

Coefficients of variation (CVs) and t-statistics were generated and examined, but are not provided in the tables. CVs were examined to determine the statistical reliability of estimates, as described below in the section on Reporting Guidelines. T-statistics were examined to determine the statistical significance of differences in means and proportions. When examining categorical data, t-statistics were used and the Bonferroni adjustment was applied to adjust for multiplicity of tests.

All tests for statistical significance are tests for differences between two independent samples defined by program participation and/or income-level. In volumes I and II, differences between

program participants and income-eligible nonparticipants are denoted by symbols on values for income-eligible nonparticipants; differences between program participants and higher-income nonparticipants are denoted by symbols on values for higher-income nonparticipants. In volumes III and IV, differences between the lowest-income group and the low-income group are denoted by symbols on values for the low-income group; differences between the lowest-income group and high-income group are denoted by symbols on values for the high-income group.

Differences in means and proportions were tested for statistical significance using α levels of 0.01, 0.05, and 0.001. For categorical data, differences involve multiple non-independent comparisons and were tested using α levels of 0.01, 0.05, and 0.001 adjusted using the Bonferroni method, by dividing α levels by the number of comparisons.

Age Standardization

Tables presented in appendix A include age-adjusted estimates for the total population (i.e., all age groups), calculated using the direct method (Klein, 2001). The age-adjusted estimates were obtained by weighting estimates for each age category by the year 2000 population distribution.

The population distribution used for age-adjustment is from *Monthly Estimates of the United States Population: April 2000*. Age-adjusted estimates were calculated by the SUDAAN software.

Nutrient Analyses

A primary goal for the analysis of dietary intake was to estimate the proportion of individuals whose intake is inadequate. Reference standards used to define adequate intake reflect expectations for usual intake. To apply these standards appropriately, it is necessary to have information about the distribution of intake in the population of interest. The variance of the distribution of observed intake is too large to produce reliable estimates of the prevalence of inadequate intake. This is because the variance of observed intake includes both within-person (day-to-day) and between-person variation. Methods have been established for adjusting observed intake distributions to estimate distributions of usual intake by removing within-person variation (NRC, 1986 and Nusser et al, 1996). These adjustments require two or more days of intake data for at least some subjects.

NHANES-III collected replicate 24-hour recalls on a convenience sample of approximately 5 percent of respondents. The nonrandom nature and small size of the replicate recall sample prohibited its use in estimating usual dietary intake. Instead, we used the Continuing Survey of Food Intake of Individuals (CSFII) 1994-96, to obtain estimates of within-person variation. CSFII is a nationally representative survey that includes two days of dietary intake data for all subjects.

CSFII data were used to estimate variance components for 96 demographic cells defined by age group (8), gender (male, female, both), and program participation or income (3 plus overall).[1] The variance components from CSFII were used to adjust observed intakes collected in the NHANES-III single-day dietary recalls. Estimation for all nutrients was done using *C-SIDE: Software for Intake Distribution Estimation* (Iowa State University, 1996). Because iron requirements for menstruating females are known to be asymmetrical, the adjustments performed by the C-SIDE software (using this "Iowa State Method") were not appropriate.

[1] Age groups correspond to the DRI age groups for volumes I, III, IV. CSFII used to estimate variance components for volume II (WIC participants and nonparticipants) were aggregated by year of age (4) and program participation or income (3 plus overall), but not by gender.

Therefore, distributions of iron intake were adjusted using the full probability approach as described in the IOM report *Dietary Reference Intakes: Applications in Dietary Assessment* (IOM, 2001). CSFII variance components are shown in table C1.

Reporting Guidelines

This report follows the recommendations in the NHANES-III Analytic Guidelines in the appendix titled "Joint Policy on Variance Estimation and Statistical Reporting Standards for NHANES-III and CSFII Reports: HNIS/NCHS Analytic Working Group Recommendations" (NCHS, 1996). The recommendations for presentation of statistical data call for estimates to be flagged if any of the following conditions are met:

1. **Inadequate sample size for normal approximation.** For means and for proportions based on commonly occurring events (where $0.25 < P < 0.75$), an estimate is flagged if it is based on a cell size of less than 30 times a "broadly calculated average design effect."

2. **Large coefficient of variation.** Estimates are flagged if the coefficient of variation (ratio of the standard error to the mean expressed as a percent) is greater than 30.

3. **Inadequate sample size for uncommon or very common events.** For proportions below 0.25 or above 0.75, the criteria for statistical reliability is that the cell size be sufficiently large that the minimum of nP and n(1-P) be greater than or equal to 8 times a broadly calculated average design effect, where n is the cell size and P is the estimated proportion. (I.e., an estimate is flagged when $n < 8 * (\text{avg design effect}) / \min(P,(1-P))$.) The coefficient of variation is not used in these cases.

For each data item, the design effect was calculated for each table cell as the ratio of the complex sampling design variance calculated by SUDAAN, to the simple random sample variance. The average design effect for a data item is the average of estimated design effects across age groups (pooled genders) within a demographic group, where demographic groups correspond to the columns of tables (groups defined by program participation and income).

Table C-1—CSFII variance components for 10 nutrients

Total energy

	All children		Lowest income: ≤ 130% poverty		Low-income: 131-185% poverty		Higher-income: > 185% poverty	
	Sample size	Within-individual variance	Sample size	Within-individual variance	Sample size	Within-individual variance	Sample size	Within-individual variance
Both sexes								
5-8 years old	1,200	0.64563	396	0.67989	153	0.57904	646	0.64096
9-13 years old	1,160	0.60193	328	0.60372	155	0.83547	671	0.55644
14-18 years old	923	0.50309	264	0.61671	103	0.67097	549	0.40835
Male								
5-8 years old	615	0.66296	204	0.71617	82	0.59752	324	0.67722
9-13 years old	574	0.64775	150	0.66855	82	0.92401	341	0.58725
14-18 years old	474	0.56137	142	0.64129	50	0.77678	278	0.48238
Female								
5-8 years old	585	0.65811	192	0.66275	71	0.69065	322	0.64703
9-13 years old	586	0.62250	178	0.64161	73	0.86215	330	0.56842
14-18 years old	449	0.65739	122	0.73755	53	0.98718	271	0.54774

Vitamin C

	All children		Lowest income: ≤ 130% poverty		Low-income: 131-185% poverty		Higher-income: > 185% poverty	
	Sample size	Within-individual variance	Sample size	Within-individual variance	Sample size	Within-individual variance	Sample size	Within-individual variance
Both sexes								
5-8 years old	1,200	0.69967	396	0.68525	153	0.59931	646	0.73627
9-13 years old	1,160	0.68751	328	0.72097	155	0.62853	671	0.69784
14-18 years old	923	0.66448	264	0.71579	103	0.64937	549	0.65834
Male								
5-8 years old	615	0.63162	204	0.65406	82	0.49264	324	0.66443
9-13 years old	574	0.75005	150	0.84172	82	0.71827	341	0.73194
14-18 years old	474	0.64366	142	0.71882	50	0.50866	278	0.64320
Female								
5-8 years old	585	0.78051	192	0.74510	71	0.74310	322	0.81309
9-13 years old	586	0.62965	178	0.64481	73	0.57962	330	0.66260
14-18 years old	449	0.71795	122	0.71471	53	0.83331	271	0.70275

Source: Variance components were estimated from two days of 24-hour recalls from the *Continuing Survey of Food Intakes by Individuals (CSFII)* using *C-SIDE: Software for Intake Distribution Estimation.*

Table C-1—CSFII variance components for 10 nutrients — Continued

Iron

	All children		Lowest income: ≤ 130% poverty		Low-income: 131-185% poverty		Higher-income: > 185% poverty	
	Sample size	Within-individual variance	Sample size	Within-individual variance	Sample size	Within-individual variance	Sample size	Within-individual variance
Both sexes								
5-8 years old	1,200	0.64656	396	0.65287	153	0.50501	646	0.68303
9-13 years old	1,160	0.66462	328	0.64309	155	0.84353	671	0.63139
14-18 years old	923	0.55725	264	0.63152	103	0.63970	549	0.50132
Male								
5-8 years old	615	0.65083	204	0.65335	82	0.53149	324	0.70742
9-13 years old	574	0.70599	150	0.68009	–	–	341	0.63531
14-18 years old	474	0.64123	142	0.67109	50	0.79143	278	0.61468
Female								
5-8 years old	585	0.67081	192	0.71131	71	0.59392	322	0.69057
9-13 years old	586	0.68154	178	0.67599	73	0.70395	330	0.68327
14-18 years old	449	0.63120	–	–	53	0.75923	271	0.55397

Zinc

	All children		Lowest income: ≤ 130% poverty		Low-income: 131-185% poverty		Higher-income: > 185% poverty	
	Sample size	Within-individual variance	Sample size	Within-individual variance	Sample size	Within-individual variance	Sample size	Within-individual variance
Both sexes								
5-8 years old	1,200	0.68615	396	0.70217	153	0.56120	646	0.71909
9-13 years old	1,160	0.72507	328	0.72126	155	0.93164	671	0.69166
14-18 years old	923	0.63981	264	0.70146	103	0.66696	549	0.60372
Male								
5-8 years old	615	0.71421	204	0.69299	82	0.57452	324	0.80509
9-13 years old	574	0.80163	150	0.75879	–	–	341	0.77774
14-18 years old	474	0.76450	142	0.70162	50	0.72367	278	0.81911
Female								
5-8 years old	585	0.70320	192	0.73745	71	0.66357	322	0.69698
9-13 years old	586	0.72335	178	0.77254	73	0.86709	330	0.68344
14-18 years old	449	0.71099	–	–	53	0.99831	271	0.60356

– Data not available. Estimate of within-person variance could not be obtained from CSFII.

Source: Variance components were estimated from two days of 24-hour recalls from the *Continuing Survey of Food Intakes by Individuals (CSFII)* using *C-SIDE: Software for Intake Distribution Estimation.*

Table C-1—CSFII variance components for 10 nutrients — Continued

Calcium

	All children		Lowest income: ≤ 130% poverty		Low-income: 131-185% poverty		Higher-income: > 185% poverty	
	Sample size	Within-individual variance	Sample size	Within-individual variance	Sample size	Within-individual variance	Sample size	Within-individual variance
Both sexes								
5-8 years old	1,200	0.66481	396	0.69105	153	0.63871	646	0.65837
9-13 years old	1,160	0.64510	328	0.70655	155	0.63498	671	0.63231
14-18 years old	923	0.54078	264	0.59736	103	0.71750	549	0.48039
Male								
5-8 years old	615	0.67623	204	0.73051	82	0.68509	324	0.64517
9-13 years old	574	0.66883	150	0.72458	82	0.63964	341	0.66343
14-18 years old	474	0.56500	142	0.57810	50	0.66374	278	0.54808
Female								
5-8 years old	585	0.66657	192	0.65391	71	0.58929	322	0.68952
9-13 years old	586	0.65420	178	0.75460	73	0.64270	330	0.62755
14-18 years old	449	0.66246	122	0.72296	53	0.96977	271	0.57468

Total fat

	All children		Lowest income: ≤ 130% poverty		Low-income: 131-185% poverty		Higher-income: > 185% poverty	
	Sample size	Within-individual variance	Sample size	Within-individual variance	Sample size	Within-individual variance	Sample size	Within-individual variance
Both sexes								
5-8 years old	1,200	0.75695	396	0.78752	153	0.69302	646	0.75267
9-13 years old	1,160	0.78766	328	0.79234	155	0.81384	671	0.78036
14-18 years old	923	0.73785	264	0.81929	103	0.84428	549	0.68569
Male								
5-8 years old	615	0.77502	204	0.77276	82	0.63507	324	0.80703
9-13 years old	574	0.84520	150	0.94216	82	0.87001	341	0.80528
14-18 years old	474	0.74780	142	0.76793	50	0.72466	278	0.76368
Female								
5-8 years old	585	0.73605	192	0.80603	71	0.74939	322	0.69713
9-13 years old	586	0.73421	178	0.68071	73	0.79022	330	0.76368
14-18 years old	449	0.72518	122	0.88103	53	0.92136	271	0.62990

Source: Variance components were estimated from two days of 24-hour recalls from the *Continuing Survey of Food Intakes by Individuals (CSFII)* using *C-SIDE: Software for Intake Distribution Estimation.*

Table C-1—CSFII variance components for 10 nutrients — Continued

Saturated fat

	All children		Lowest income: ≤ 130% poverty		Low-income: 131-185% poverty		Higher-income: > 185% poverty	
	Sample size	Within-individual variance	Sample size	Within-individual variance	Sample size	Within-individual variance	Sample size	Within-individual variance
Both sexes								
5-8 years old	1,200	0.75839	396	0.75803	153	0.67629	646	0.77623
9-13 years old	1,160	0.82115	328	0.82244	155	0.88264	671	0.81170
14-18 years old	923	0.73860	264	0.84076	103	0.69077	549	0.69979
Male								
5-8 years old	615	0.77701	204	0.76687	82	0.66677	324	0.80029
9-13 years old	574	0.85686	150	0.91520	82	0.88527	341	0.82944
14-18 years old	474	0.72889	142	0.74720	50	0.63924	278	0.72752
Female								
5-8 years old	585	0.74531	192	0.75410	71	0.70250	322	0.75042
9-13 years old	586	0.78723	178	0.74058	73	0.89188	330	0.80516
14-18 years old	449	0.75136	122	0.94526	53	0.72077	271	0.69149

Cholesterol

	All children		Lowest income: ≤ 130% poverty		Low-income: 131-185% poverty		Higher-income: > 185% poverty	
	Sample size	Within-individual variance	Sample size	Within-individual variance	Sample size	Within-individual variance	Sample size	Within-individual variance
Both sexes								
5-8 years old	1,200	0.71983	396	0.79130	153	0.73983	646	0.71434
9-13 years old	1,160	0.77319	328	0.82575	155	0.85483	671	0.74862
14-18 years old	923	0.76702	264	0.86552	103	0.84932	549	0.68532
Male								
5-8 years old	615	0.69441	204	0.81756	82	0.62241	324	0.67669
9-13 years old	574	0.82410	–	–	82	0.81907	341	0.82416
14-18 years old	474	0.79341	–	–	50	0.74427	278	0.73885
Female								
5-8 years old	585	0.76591	192	0.77679	71	0.89985	322	0.77100
9-13 years old	586	0.76725	178	0.80748	73	0.92618	330	0.73228
14-18 years old	449	0.82269	122	0.80299	–	–	271	0.77642

– Data not available. Estimate of within-person variance could not be obtained from CSFII.

Source: Variance components were estimated from two days of 24-hour recalls from the *Continuing Survey of Food Intakes by Individuals (CSFII)* using *C-SIDE: Software for Intake Distribution Estimation.*

Table C-1—CSFII variance components for 10 nutrients — Continued

Sodium

	All children		Lowest income: ≤ 130% poverty		Low-income: 131-185% poverty		Higher-income: > 185% poverty	
	Sample size	Within-individual variance	Sample size	Within-individual variance	Sample size	Within-individual variance	Sample size	Within-individual variance
Both sexes								
5-8 years old	1,200	0.68844	396	0.65403	153	0.65134	646	0.72932
9-13 years old	1,160	0.70650	328	0.75644	155	0.88986	671	0.64068
14-18 years old	923	0.65402	264	0.79165	103	0.74218	549	0.55714
Male								
5-8 years old	615	0.66953	204	0.66852	82	0.64605	324	0.73027
9-13 years old	574	0.72338	150	0.83047	82	0.96578	341	0.61501
14-18 years old	474	0.70948	142	0.79749	50	0.78070	278	0.65162
Female								
5-8 years old	585	0.74113	192	0.66840	71	0.77560	322	0.76133
9-13 years old	586	0.75399	178	0.77111	–	–	330	0.73251
14-18 years old	449	0.79052	122	0.90254	–	–	271	0.68420

Fiber

	All children		Lowest income: ≤ 130% poverty		Low-income: 131-185% poverty		Higher-income: > 185% poverty	
	Sample size	Within-individual variance	Sample size	Within-individual variance	Sample size	Within-individual variance	Sample size	Within-individual variance
Both sexes								
5-8 years old	1,200	0.72267	396	0.78046	153	0.64452	646	0.69572
9-13 years old	1,160	0.67375	328	0.67523	155	0.58027	671	0.70963
14-18 years old	923	0.67390	264	0.76122	103	0.76593	549	0.61061
Male								
5-8 years old	615	0.76335	204	0.78724	82	0.71858	324	0.75792
9-13 years old	574	0.69010	150	0.74114	82	0.58389	341	0.69763
14-18 years old	474	0.72004	142	0.77868	50	0.84791	278	0.65561
Female								
5-8 years old	585	0.68392	192	0.78455	71	0.61234	322	0.65287
9-13 years old	586	0.68649	178	0.68586	73	0.65453	330	0.73565
14-18 years old	449	0.72705	122	0.77933	53	0.90248	271	0.66310

– Data not available. Estimate of within-person variance could not be obtained from CSFII.

Source: Variance components were estimated from two days of 24-hour recalls from the *Continuing Survey of Food Intakes by Individuals (CSFII)* using *C-SIDE: Software for Intake Distribution Estimation.*

Appendix D
Detailed Tables

Chapter Two
Usual Intake of Food Energy and Nutrients

Chapter Three
Healthy Eating Index Scores and Usual Intake of Dietary Fiber

Chapter Four
Other Measures of Nutritional Status

Chapter Five
Health-Related Behaviors

Chapter Six
Health Status, Conditions, and Risks

Chapter Seven
Access to Health Care Services

Table D-1—Percent of income-eligible school-age children receiving benefits from the Food Stamp Program

	All children			Lowest income: ≤ 130% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
Both sexes						
5-10 years	3,440	19.2	1.7	1,816	55.9	3.3
11-13 years	1,406	15.9	1.4	724	51.0	4.4
14-18 years	1,525	15.3	1.8	750	50.2	4.3
Total, age-adjusted ...	6,371	17.1	1.4	3,290	52.8	3.2
Male						
5-10 years	1,740	17.6	2.0	895	55.6	4.1
11-13 years	674	14.3	2.1	344	48.2	6.4
14-18 years	713	15.0	2.2	356	51.5	5.9
Total, age-adjusted ...	3,127	16.0	1.6	1,595	52.6	4.3
Female						
5-10 years	1,700	20.9	2.0	921	56.2	3.6
11-13 years	732	17.5	1.8	380	53.6	4.9
14-18 years	812	15.5	2.5	394	49.0	5.5
Total, age-adjusted ...	3,244	18.2	1.6	1,695	53.1	3.2

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94: Adult and youth interview files. The 'All Children' column includes children with missing income.

Table D-2—Percent of 5-16-year-old children attending school that participates in the National School Lunch Program

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
Both sexes												
5-10 years	3,568	90.5	1.3	1,757	95.4	1.2	425	91.8	2.9	1,167	›› 87.6	2.1
11-13 years	1,501	93.7	1.2	723	97.0 *	2.2	172	94.7 *	3.1	509	91.7	1.8
14-16 years	1,247	96.7	0.7	560	97.7 *	1.0	149	97.8 *	1.6	454	95.6 *	1.3
Total, age adjusted	6,316	92.8	0.9	3,040	96.4	1.1	746	94.0	2.1	2,130	›› 90.6	1.3
Male												
5-10 years	1,808	90.5	1.2	861	92.4	2.2	205	96.3 *	1.7	623	88.6	2.0
11-13 years	717	92.8	2.0	343	93.7 *	4.3	89	99.0 *	1.0	241	91.1 *	3.0
14-16 years	577	96.8 *	1.1	265	97.6 *	0.7	71	96.6 *	3.0	197	96.1 *	2.0
Total, age adjusted	3,102	92.6	1.0	1,469	94.0	2.0	365	97.1 *	1.2	1,061	91.1	1.5
Female												
5-10 years	1,760	90.4	1.8	896	98.2 *	0.5	220	› 87.8 *	5.2	544	››› 86.2	2.7
11-13 years	784	94.6	1.5	380	100.0	0.0	83	89.6 *	6.5	268	›› 92.3 *	2.7
14-16 years	670	96.6 *	0.9	295	97.9 *	1.6	78	99.3 *	0.7	257	95.1 *	1.6
Total, age adjusted	3,214	93.0	1.1	1,571	98.6 *	0.5	381	91.1	4.0	1,069	››› 89.9	1.6

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94: Youth interview files. The 'All Children' column includes children with missing income.

Table D-3—Percent of 5-16-year-old children usually eating school lunch 5 days per week

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
Both sexes												
5-10 years	3,568	53.3	2.2	1,757	78.3	2.6	425	›››55.5	4.8	1,167	›››37.4	3.1
11-13 years	1,501	57.3	2.6	723	78.7	3.7	172	76.4	4.9	509	›››41.7	3.4
14-16 years	1,247	52.6	2.8	560	59.4	4.3	149	68.5	5.8	454	› 46.3	3.7
Total, age adjusted	6,316	54.1	2.0	3,040	73.7	2.6	746	› 63.9	3.6	2,130	›››40.6	2.5
Male												
5-10 years	1,808	52.8	2.4	861	74.7	3.3	205	› 62.2	4.5	623	›››39.7	3.2
11-13 years	717	63.8	3.0	343	78.2	5.4	89	80.9 *	5.3	241	›››52.5	4.4
14-16 years	577	62.2	3.0	265	66.1	5.2	71	79.0 *	6.8	197	58.9	5.2
Total, age adjusted	3,102	57.8	1.9	1,469	73.5	3.1	365	71.0	3.1	1,061	›››47.6	2.7
Female												
5-10 years	1,760	53.8	2.7	896	81.6	2.6	220	›››49.5	6.8	544	›››34.5	4.0
11-13 years	784	50.7	3.7	380	79.0	4.0	83	70.9 *	8.6	268	›››30.3	4.4
14-16 years	670	43.4	3.9	295	53.1	6.2	78	56.9 *	10.7	257	› 35.2	5.2
Total, age adjusted	3,214	50.5	2.3	1,571	74.0	2.9	381	›› 56.6	5.8	1,069	›››33.6	3.2

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94: Youth interview files. The 'All Children' column includes children with missing income.

Table D-4—Percent of 5-16-year-old children attending school that participates in the School Breakfast Program

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
Both sexes												
5-10 years	3,551	50.8	3.0	1,752	68.0	3.6	424	› 54.4	5.7	1,156	››› 39.4	3.3
11-13 years	1,487	52.8	2.8	719	70.3	4.8	171	64.3	4.6	500	››› 40.8	3.3
14-16 years	1,213	48.8	2.5	554	58.5	4.8	142	64.2	5.3	435	›› 41.8	3.2
Total, age adjusted	6,251	50.8	2.3	3,025	66.2	3.2	737	59.3	3.5	2,091	››› 40.4	2.6
Male												
5-10 years	1,804	47.4	3.0	863	67.0	4.3	204	55.9	5.9	617	››› 35.9	3.8
11-13 years	712	54.8	3.5	342	72.0	7.8	88	69.1 *	8.1	238	››› 43.5	3.5
14-16 years	565	53.4	3.6	262	58.2 *	6.6	66	68.6 *	6.4	194	50.0	4.8
Total, age adjusted	3,081	50.7	2.7	1,467	66.1	4.8	358	62.3	4.4	1,049	››› 41.3	3.0
Female												
5-10 years	1,747	54.4	3.4	889	69.0	4.0	220	› 53.1	7.2	539	››› 43.9	3.8
11-13 years	775	50.6	3.1	377	68.7	4.9	83	58.5 *	6.5	262	››› 37.9	4.5
14-16 years	648	44.2	3.3	292	58.8	6.1	76	59.8 *	9.5	241	››› 34.0	4.3
Total, age adjusted	3,170	51.0	2.4	1,558	66.4	2.8	379	› 56.1	4.5	1,042	››› 40.0	2.8

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94: Youth interview files. The 'All Children' column includes children with missing income.

Table D-5—Percent of 5-16-year-old children usually eating school breakfast 5 days per week

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
Both sexes												
5-10 years	3,551	16.0	1.5	1,752	37.1	2.7	424	›››11.4	2.3	1,156	›››3.9	0.9
11-13 years	1,487	11.6	1.4	719	28.0	3.4	171	› 13.8	4.8	500	›››2.1 *	0.8
14-16 years	1,213	7.6	1.2	554	16.4	2.4	142	›› 5.5 *	2.5	435	›››3.2 *	1.5
Total, age adjusted	6,251	12.9	1.0	3,025	29.8	2.0	737	›››10.5	1.7	2,091	›››3.3	0.7
Male												
5-10 years	1,804	14.2	1.5	863	36.0	3.2	204	›››11.2	2.9	617	›››3.0 *	0.9
11-13 years	712	13.6	1.8	342	35.6	5.1	88	›› 14.0 *	4.1	238	›››2.7 *	1.0
14-16 years	565	9.6	2.1	262	17.2	4.0	66	6.4 *	4.1	194	› 6.2 *	2.9
Total, age adjusted	3,081	12.9	1.3	1,467	31.3	2.9	358	›››10.7	2.3	1,049	›››3.7	0.9
Female												
5-10 years	1,747	18.0	2.1	889	38.2	4.1	220	›››11.6	2.4	539	›››5.2	1.5
11-13 years	775	9.5	1.7	377	20.8	3.6	83	13.5 *	7.7	262	›››1.6 *	0.8
14-16 years	648	5.7	1.0	292	15.7	2.8	76	›› 4.6 *	2.7	241	›››0.3 *	0.2
Total, age adjusted	3,170	12.8	1.1	1,558	28.3	2.1	379	›››10.4	2.0	1,042	›››3.1	0.8

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94: Youth interview files. The 'All Children' column includes children with missing income.

Table D-6—Distribution of school-age children by household food sufficiency status

	All children				Lowest income: ≤ 130% poverty				Low-income: 131-185% poverty				Higher-income: > 185% poverty			
	Sample size	Enough food to eat	Sometimes not enough	Often not enough	Sample size	Enough food to eat	Sometimes not enough	Often not enough	Sample size	Enough food to eat	Sometimes not enough	Often not enough	Sample size	Enough food to eat	Sometimes not enough	Often not enough
Both sexes																
5-10 years	3,658	94.3	5.1	0.6	1,817	85.9	12.7	1.4	436	94.6	4.7	0.7	1,194	99.6	0.4	0.0
11-13 years	1,500	94.1	5.1	0.8	724	83.7	13.8	2.6	172	93.7	6.2	0.1	510	99.8	0.2	› 0.0
14-18 years	1,645	94.0	5.3	0.6	750	84.1	14.4	1.5	198	90.7	7.7	1.6	579	99.9	0.1	› 0.0
Total, age adjusted	6,803	94.2	5.2	0.6	3,291	84.8	13.5	1.7	806	93.0	6.1	0.9	2,283	99.8	0.2	›› 0.0
Male																
5-10 years	1,860	94.8	4.8	0.4	896	85.9	13.1	1.0	213	96.3	2.6	1.1	637	99.4	0.6	0.0
11-13 years	716	93.4	5.9	0.8	344	80.8	16.5	2.7	89	91.7	8.3	0.0	241	99.8	0.2	0.0
14-18 years	781	93.8	5.7	0.5	356	81.2	17.7	1.1	94	93.8	4.4	1.8	265	99.8	0.2	0.0
Total, age adjusted	3,357	94.2	5.3	0.5	1,596	83.2	15.5	1.4	396	94.4	4.5	1.1	1,143	99.6	0.4	› 0.0
Female																
5-10 years	1,798	93.8	5.5	0.7	921	85.9	12.2	1.9	223	93.0	6.7	0.3	557	99.8	0.2	0.0
11-13 years	784	94.9	4.3	0.8	380	86.4	11.2	2.4	83	96.2	3.5	0.3	269	99.8	0.2	0.0
14-18 years	864	94.3	5.0	0.7	394	86.6	11.5	1.9	104	87.7	11.0	1.3	314	100.0	0.0	0.0
Total, age adjusted	3,446	94.2	5.1	0.7	1,695	86.2	11.8	2.0	410	91.8	7.6	0.6	1,140	99.9	0.1	0.0
	Standard errors															
Both sexes																
5-10 years	3,658	0.7	0.7	0.2	1,817	1.9	1.8	0.7	436	2.8	2.5	0.4	1,194	0.2	0.2	0.0
11-13 years	1,500	0.8	0.8	0.3	724	2.4	2.2	1.0	172	2.6	2.6	0.1	510	0.1	0.1	0.0
14-18 years	1,645	1.1	1.1	0.3	750	3.3	3.2	0.6	198	4.0	4.0	1.6	579	0.1	0.1	0.0
Total, age adjusted	6,803	0.6	0.6	0.2	3,291	1.7	1.6	0.6	806	2.5	2.4	0.6	2,283	0.1	0.1	0.0
Male																
5-10 years	1,860	0.6	0.6	0.2	896	2.1	2.1	0.6	213	1.4	1.1	0.8	637	0.3	0.3	0.0
11-13 years	716	1.4	1.4	0.4	344	4.3	4.3	1.3	89	4.4	4.4	0.0	241	0.1	0.1	0.0
14-18 years	781	1.4	1.3	0.3	356	4.4	4.3	0.5	94	3.3	2.8	1.8	265	0.2	0.2	0.0
Total, age adjusted	3,357	0.7	0.7	0.2	1,596	2.4	2.4	0.6	396	2.2	2.1	0.8	1,143	0.2	0.2	0.0
Female																
5-10 years	1,798	1.1	1.1	0.4	921	2.6	2.3	1.2	223	4.5	4.6	0.2	557	0.1	0.1	0.0
11-13 years	784	0.8	0.7	0.4	380	2.2	1.7	1.4	83	1.6	1.6	0.3	269	0.2	0.2	0.0
14-18 years	864	1.1	1.1	0.3	394	2.8	2.6	0.9	104	5.2	5.4	1.3	314	0.0	0.0	0.0
Total, age adjusted	3,446	0.8	0.7	0.3	1,695	1.6	1.3	0.9	410	3.1	3.2	0.5	1,140	>0	>0	0.0

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences, compared to lowest income group, are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). The Bonferroni adjustment was used to adjust for the multiplicity of tests when examining multiple outcome categories.
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Source: NHANES-III, 1988-94: Adult and youth interview files. The 'All Children' column includes children with missing income.

Table D-7—Percent of school-age children eating fewer than three meals per day

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
Both sexes												
5-10 years	3,260	19.6	1.12	1,644	22.2	1.96	397	21.1	4.05	1,034	› 16.8	1.68
11-13 years	1,375	39.2	1.95	673	46.2	3.64	161	41.4	5.45	459	› 34.1	2.89
14-18 years	1,511	55.2	2.58	711	56.0	3.86	186	56.8	6.26	510	55.2	3.37
Total, age adjusted	6,146	36.4	1.28	3,028	39.2	1.73	744	38.1	3.35	2,003	›› 34.1	1.42
Male												
5-10 years	1,638	20.1	1.39	808	24.2	2.85	191	22.7	4.61	543	› 16.2	2.20
11-13 years	658	40.5	2.86	319	45.7	6.10	83	51.0	8.65	221	34.4	4.73
14-18 years	717	53.4	2.94	333	50.3	4.47	88	62.2	6.67	234	54.2	4.75
Total, age adjusted	3,013	36.2	1.50	1,460	38.0	2.70	362	42.7	3.57	998	33.6	2.22
Female												
5-10 years	1,622	19.2	1.42	836	20.2	2.45	206	19.7	6.49	491	17.4	1.91
11-13 years	717	37.7	2.51	354	46.6	3.93	78	› 28.8	7.64	238	› 33.8	3.63
14-18 years	794	57.0	3.66	378	60.8	5.22	98	51.6	8.19	276	56.2	4.49
Total, age adjusted	3,133	36.5	1.81	1,568	40.2	2.45	382	33.0	4.49	1,005	› 34.6	2.02

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94: Exam file, 24-hour dietary recall. The 'All Children' column includes children with missing income.

Table D-8—Average number of meals consumed per day by school-age children

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Mean	Standard Error	Sample size	Mean	Standard Error	Sample size	Mean	Standard Error	Sample size	Mean	Standard Error
Both sexes												
5-10 years	3,260	2.8	0.02	1,644	2.8	0.02	397	2.8	0.06	1,034	› 2.9	0.02
11-13 years	1,375	2.6	0.03	673	2.4	0.05	161	2.5	0.07	459	››› 2.7	0.04
14-18 years	1,511	2.3	0.05	711	2.3	0.07	186	2.3	0.11	510	2.4	0.06
Total, age adjusted	6,146	2.6	0.02	3,028	2.6	0.03	744	2.6	0.05	2,003	››› 2.7	0.02
Male												
5-10 years	1,638	2.8	0.02	808	2.8	0.04	191	2.7	0.08	543	2.9	0.04
11-13 years	658	2.6	0.05	319	2.4	0.09	83	2.4	0.10	221	› 2.7	0.07
14-18 years	717	2.3	0.06	333	2.3	0.10	88	2.1	0.12	234	2.4	0.07
Total, age adjusted	3,013	2.6	0.03	1,460	2.5	0.05	362	2.4	0.05	998	› 2.7	0.03
Female												
5-10 years	1,622	2.8	0.02	836	2.8	0.03	206	2.9	0.09	491	2.9	0.02
11-13 years	717	2.6	0.04	354	2.4	0.06	78	› 2.7	0.08	238	›› 2.7	0.05
14-18 years	794	2.4	0.06	378	2.3	0.07	98	2.4	0.14	276	2.4	0.07
Total, age adjusted	3,133	2.6	0.03	1,568	2.6	0.04	382	2.7	0.07	1,005	› 2.6	0.03

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94: Exam file, 24-hour dietary recall. The 'All Children' column includes children with missing income.

Table D-9—Percent of school-age children who eat breakfast every day

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
Both sexes												
5-10 years	3,669	87.2	1.0	1,815	85.5	1.9	436	82.7	3.4	1,194	89.3	1.5
11-13 years	1,496	27.0	1.9	720	21.4	2.5	171	29.5	4.6	508	›› 30.6	2.6
14-18 years	1,650	8.0	1.0	750	7.0	1.2	198	7.7 *	2.5	579	8.1	1.6
Total, age adjusted	6,815	46.4	0.9	3,285	44.0	1.0	805	44.8	2.3	2,281	›› 48.1	1.2
Male												
5-10 years	1,867	89.1	1.4	895	86.8	2.2	213	85.6	3.7	637	91.0	1.7
11-13 years	713	26.2	1.9	342	22.3	3.8	88	26.7	5.4	239	29.2	3.0
14-18 years	784	10.0	1.8	356	7.6 *	1.7	94	4.5 *	3.0	265	11.8	2.9
Total, age adjusted	3,364	47.7	1.1	1,593	45.0	1.3	395	44.3	2.2	1,141	›› 49.8	1.4
Female												
5-10 years	1,802	85.2	1.4	920	84.2	2.7	223	80.1	5.2	557	87.2	2.2
11-13 years	783	27.9	3.0	378	20.5	3.4	83	32.9	7.4	269	› 32.1	4.5
14-18 years	866	6.1	1.1	394	6.4 *	1.4	104	11.0 *	3.9	314	4.5 *	1.5
Total, age adjusted	3,451	45.0	1.1	1,692	43.1	1.5	410	45.6	3.4	1,140	46.2	1.6

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94: Adult and youth interview files. The 'All Children' column includes children with missing income.

Table D-10—Percent of school-age children eating at least one snack per day

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
Both sexes												
5-10 years	3,260	89.7	1.2	1,644	90.0	1.4	397	90.0	2.3	1,034	90.0	1.8
11-13 years	1,375	89.2	1.3	673	87.1	1.9	161	86.4	3.0	459	91.3	1.6
14-18 years	1,511	89.1	1.3	711	87.3	1.8	186	90.0	3.1	510	90.2	1.9
Total, age adjusted	6,146	89.4	0.8	3,028	88.4	1.0	744	89.2	1.6	2,003	90.3	1.1
Male												
5-10 years	1,638	91.6	1.2	808	92.4	1.1	191	89.4	3.4	543	92.4	1.6
11-13 years	658	88.3	2.0	319	82.8	3.1	83	85.6 *	4.6	221	› 90.9	2.6
14-18 years	717	88.5	1.9	333	85.2	3.3	88	94.3 *	3.4	234	88.9	2.8
Total, age adjusted	3,013	89.8	0.8	1,460	87.8	1.3	362	90.3	2.3	998	90.8	1.1
Female												
5-10 years	1,622	87.7	1.9	836	87.7	2.4	206	90.5	3.1	491	86.9	3.2
11-13 years	717	90.2	1.3	354	91.0	2.1	78	87.4 *	4.6	238	91.7	2.2
14-18 years	794	89.8	1.4	378	89.2	1.5	98	85.8 *	4.5	276	91.5	2.5
Total, age adjusted	3,133	88.9	1.0	1,568	88.9	1.4	382	88.2	2.1	1,005	89.6	1.8

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94: Exam file, 24-hour dietary recall. The 'All Children' column includes children with missing income.

Table D-11—Average number of snacks consumed per day by school-age children

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Mean	Standard Error	Sample size	Mean	Standard Error	Sample size	Mean	Standard Error	Sample size	Mean	Standard Error
Both sexes												
5-10 years	3,260	2.0	0.06	1,644	2.0	0.11	397	2.0	0.11	1,034	2.0	0.08
11-13 years	1,375	2.1	0.09	673	2.0	0.12	161	2.4	0.43	459	2.0	0.10
14-18 years	1,511	2.0	0.06	711	1.9	0.12	186	2.1	0.14	510	2.0	0.07
Total, age adjusted ...	6,146	2.0	0.04	3,028	2.0	0.07	744	2.1	0.13	2,003	2.0	0.04
Male												
5-10 years	1,638	2.1	0.08	808	2.0	0.13	191	2.2	0.20	543	2.1	0.09
11-13 years	658	2.1	0.14	319	1.8	0.17	83	2.8 *	0.73	221	2.0	0.14
14-18 years	717	2.0	0.09	333	1.9	0.13	88	2.3 *	0.24	234	2.0	0.14
Total, age adjusted ...	3,013	2.0	0.06	1,460	1.9	0.08	362	› 2.4	0.23	998	2.1	0.06
Female												
5-10 years	1,622	1.9	0.07	836	1.9	0.11	206	1.9	0.13	491	1.9	0.09
11-13 years	717	2.1	0.09	354	2.2	0.15	78	1.9 *	0.19	238	2.1	0.14
14-18 years	794	2.0	0.06	378	2.0	0.17	98	1.8	0.15	276	2.1	0.08
Total, age adjusted ...	3,133	2.0	0.04	1,568	2.0	0.08	382	1.9	0.10	1,005	2.0	0.06

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94: Exam file, 24-hour dietary recall. The 'All Children' column includes children with missing income.

Table D-12—Mean usual intake of food energy in kilocalories: School-age children

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Mean	Standard error	Sample size	Mean	Standard error	Sample size	Mean	Standard error	Sample size	Mean	Standard error
Both sexes												
5-8 years old	2,187	1,840	10.5	1,118	1,896	18.8	270	›› 1,806	25.5	673	›› 1,816	19.8
9-13 years old	2,448	2,162	20.3	1,199	2,089	22.8	288	2,205	76.9	820	›› 2,206	29.4
14-18 years old	1,513	2,386	31.2	712	2,395	49.1	186	2,391	97.4	510	2,353	45.7
Total, age adjusted ...	6,148	2,152	14.2	3,029	2,143	22.8	744	2,160	41.5	2,003	2,155	17.9
Male												
5-8 years old	1,084	1,974	19.2	535	2,046	22.7	130	››› 1,876	37.0	356	› 1,967	30.2
9-13 years old	1,212	2,397	35.0	592	2,264	34.4	144	› 2,555	135.4	408	››› 2,466	50.3
14-18 years old	718	2,839	49.0	334	2,707	80.2	88	› 3,008	127.3	234	2,888	68.0
Total, age adjusted ...	3,014	2,432	23.2	1,461	2,358	34.2	362	› 2,522	64.3	998	› 2,471	28.5
Female												
5-8 years old	1,103	1,686	10.9	583	1,752	23.8	140	1,743	39.0	317	››› 1,602	26.7
9-13 years old	1,236	1,921	22.1	607	1,920	30.0	144	1,864	159.6	412	1,928	30.7
14-18 years old	795	1,937	30.0	378	2,126	54.8	98	››› 1,790	71.3	276	››› 1,846	39.0
Total, age adjusted ...	3,134	1,859	13.4	1,568	1,946	26.8	382	››› 1,804	31.4	1,005	››› 1,807	19.5

Notes: Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94 Exam file, 24-hour dietary recall. Data reflect nutrient intake from foods. Does not include the contribution of vitamin and mineral supplements. Usual intake was estimated using *C-SIDE: Software for Intake Distribution Estimation,* accounting for within-person variance as estimated from the *Continuing Survey of Food Intakes by Individuals (CSFII).*
'All Children' includes children with missing income.

Table D-13—Mean usual intake of food energy as a percent of the 1989 Recommended Energy Allowance: School-age children

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard error	Sample size	Percent	Standard error	Sample size	Percent	Standard error	Sample size	Percent	Standard error
Both sexes												
5-8 years old	2,187	96.4	0.6	1,118	99.3	1.0	270	›› 94.6	1.3	673	›› 95.1	1.0
9-13 years old	2,448	97.9	0.9	1,199	94.6	1.0	288	99.8	3.5	820	›› 99.9	1.3
14-18 years old	1,513	94.4	1.2	712	94.8	1.9	186	94.7	3.9	510	93.2	1.8
Total, age adjusted ...	6,148	97.0	0.6	3,029	96.6	1.0	744	97.3	1.9	2,003	97.1	0.8
Male												
5-8 years old	1,084	103.3	1.0	535	107.1	1.2	130	›››98.2	1.9	356	› 103.0	1.6
9-13 years old	1,212	104.3	1.5	592	98.5	1.5	144	› 111.2	5.9	408	›››107.3	2.2
14-18 years old	718	99.4	1.7	334	94.7	2.8	88	› 105.3	4.5	234	101.1	2.4
Total, age adjusted ...	3,014	103.6	1.0	1,461	100.4	1.5	362	› 107.5	2.7	998	› 105.3	1.2
Female												
5-8 years old	1,103	88.3	0.6	583	91.8	1.2	140	91.4	2.0	317	›››84.0	1.4
9-13 years old	1,236	90.7	1.0	607	90.7	1.4	144	88.0	7.5	412	91.1	1.4
14-18 years old	795	88.1	1.4	378	96.6	2.5	98	›››81.4	3.2	276	›››83.9	1.8
Total, age adjusted ...	3,134	89.1	0.6	1,568	93.3	1.3	382	›››86.5	1.5	1,005	›››86.6	0.9

Notes: Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94 Exam file, 24-hour dietary recall. Data reflect nutrient intake from foods. Does not include the contribution of vitamin and mineral supplements. Usual intake was estimated using *C-SIDE: Software for Intake Distribution Estimation,* accounting for within-person variance as estimated from the *Continuing Survey of Food Intakes by Individuals (CSFII).*
'All Children' includes children with missing income.

Table D-14—Distribution of usual food energy intake in kilocalories: School-age children

Male

	1989 REA[1] (kcal)	Percentiles									Standard errors of percentiles								
		5th	10th	15th	25th	50th	75th	85th	90th	95th	5th	10th	15th	25th	50th	75th	85th	90th	95th
All children																			
5-8 years old	1,910	1,422	1,527	1,602	1,718	1,951	2,205	2,349	2,449	2,601	18.90	19.10	19.20	19.40	19.80	21.90	23.60	24.80	26.80
9-13 years old	2,299	1,560	1,708	1,814	1,979	2,317	2,718	2,975	3,172	3,503	22.30	22.70	22.80	23.00	26.30	46.00	71.80	90.40	117.00
14-18 years old	2,857	1,686	1,895	2,044	2,278	2,759	3,311	3,643	3,883	4,265	40.20	41.40	42.80	45.00	48.20	56.80	64.40	70.50	82.00
Total, age adjusted ...	na	1,457	1,619	1,738	1,927	2,332	2,820	3,128	3,359	3,743	13.90	13.90	14.40	15.90	20.50	28.60	37.70	48.90	69.70
Lowest income: ≤ 130% poverty																			
5-8 years old	1,910	1,498	1,603	1,678	1,794	2,026	2,278	2,420	2,518	2,666	19.70	19.10	19.30	20.40	24.10	27.90	29.80	31.20	33.10
9-13 years old	2,299	1,563	1,700	1,797	1,946	2,239	2,556	2,735	2,860	3,051	29.20	28.80	28.90	29.70	33.90	41.30	47.10	52.30	62.60
14-18 years old	2,857	1,580	1,784	1,928	2,151	2,607	3,143	3,484	3,742	4,172	67.40	69.00	69.60	70.00	75.90	96.20	112.00	125.00	149.00
Total, age adjusted ...	na	1,471	1,630	1,742	1,916	2,278	2,704	2,970	3,171	3,509	22.20	21.60	21.70	22.90	29.30	45.00	58.20	68.60	83.10
Low-income: 131-185% poverty																			
5-8 years old	1,910	›› 1,371	›› 1,465	›› 1,532	››› 1,636	››› 1,848	›› 2,085	›› 2,224	› 2,323	2,478	33.70	34.10	34.50	35.10	38.00	44.40	50.10	55.60	67.20
9-13 years old	2,299	››› 2,029	››› 2,130	›› 2,201	› 2,310	2,529	2,772	2,914	3,014	3,171	100.00	107.00	111.00	118.00	132.00	152.00	164.00	174.00	189.00
14-18 years old	2,857	››› 2,176	››› 2,360	››› 2,484	›› 2,667	3,002	3,346	3,538	3,668	3,860	130.00	128.00	125.00	121.00	124.00	139.00	148.00	153.00	159.00
Total, age adjusted ...	na	› 1,612	› 1,769	› 1,885	› 2,071	› 2,460	2,900	3,162	3,351	3,652	38.60	41.80	43.70	45.70	55.10	82.60	102.00	116.00	141.00
Higher-income: > 185% poverty																			
5-8 years old	1,910	1,428	1,533	1,607	1,722	1,950	2,194	2,331	2,425	2,567	27.70	28.60	29.30	30.20	31.50	33.40	35.10	36.70	39.90
9-13 years old	2,299	1,544	1,698	1,809	1,985	2,361	›› 2,827	››› 3,129	››› 3,360	›› 3,748	30.00	29.80	30.20	31.20	35.20	57.90	85.30	114.00	176.00
14-18 years old	2,857	1,696	1,899	2,048	2,284	2,788	3,382	3,743	4,005	4,423	47.10	51.10	54.40	60.00	73.00	86.30	92.20	97.70	116.00
Total, age adjusted ...	na	1,467	1,627	1,745	1,938	2,359	› 2,880	› 3,209	› 3,455	› 3,856	15.10	15.80	16.70	18.90	25.50	36.50	45.60	55.60	79.90

Notes: Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty). The Bonferroni adjustment was used to adjust levels of significant and control for multiplicity in the number of tests.

[1] The 1989 Recommended Energy Allowance (REA) is specified for age groups that differ from those used in this analysis. Number shown in this column, as a point of reference, is a weighted average REA for the group. New recommendations for energy intake have recently been established (IOM, 2002b). They are not shown here because estimation of energy requirements is based on body weight and physical activity level as well as age and gender.

Source: NHANES-III, 1988-94 Exam file, 24-hour dietary recall. Data reflect nutrient intake from foods. Does not include the contribution of vitamin and mineral supplements. Usual intake was estimated using *C-SIDE: Software for Intake Distribution Estimation,* accounting for within-person variance as estimated from the *Continuing Survey of Food Intakes by Individuals (CSFII).*
'All Children' includes children with missing income.

Table D-14—Distribution of usual food energy intake in kilocalories: School-age children — Continued

Female

	1989 REA[1] (kcal)	Percentiles									Standard errors of percentiles								
		5th	10th	15th	25th	50th	75th	85th	90th	95th	5th	10th	15th	25th	50th	75th	85th	90th	95th
All children																			
5-8 years old	1,908	1,211	1,305	1,370	1,470	1,667	1,881	2,003	2,090	2,224	13.90	12.70	12.00	11.20	10.70	12.80	15.30	17.50	21.60
9-13 years old	2,117	1,269	1,393	1,480	1,614	1,880	2,184	2,370	2,504	2,715	18.90	18.90	19.10	19.70	21.60	25.80	29.20	31.90	36.60
14-18 years old	2,200	1,217	1,347	1,439	1,584	1,886	2,236	2,445	2,596	2,832	19.30	19.50	20.40	22.60	28.50	37.60	43.80	48.60	56.90
Total, age adjusted	na	1,217	1,337	1,422	1,552	1,816	2,118	2,302	2,437	2,651	9.45	9.28	9.50	10.40	12.70	16.40	19.80	23.00	28.70
Lowest income: ≤ 130% poverty																			
5-8 years old	1,908	1,268	1,360	1,425	1,525	1,728	1,953	2,084	2,176	2,319	20.30	19.40	19.20	19.60	23.10	28.90	32.80	35.90	41.10
9-13 years old	2,117	1,240	1,369	1,461	1,603	1,886	2,201	2,385	2,517	2,719	23.70	23.30	23.40	24.60	30.10	38.30	43.80	47.60	53.30
14-18 years old	2,200	1,385	1,515	1,609	1,757	2,070	2,436	2,656	2,814	3,061	28.70	30.60	33.00	38.40	53.40	71.80	81.80	88.70	98.80
Total, age adjusted	na	1,278	1,397	1,482	1,615	1,892	2,220	2,421	2,567	2,799	13.20	13.80	14.80	16.90	23.60	35.30	44.50	51.60	61.30
Low-income: 131-185% poverty																			
5-8 years old	1,908	1,293	1,388	1,453	1,551	1,738	1,927	2,031	2,103	2,213	39.50	39.40	39.70	40.00	40.30	43.40	47.10	51.00	58.40
9-13 years old	2,117	›››1,514	› 1,585	1,635	1,709	1,854	2,009	2,095	2,155	2,246	57.70	67.30	75.70	91.50	134.00	202.00	251.00	290.00	358.00
14-18 years old	2,200	›››1,664	1,692	1,710	1,738	› 1,789	›››1,842	›››1,870	›››1,890	›››1,919	66.00	67.10	67.90	69.10	71.30	73.70	75.00	75.80	77.10
Total, age adjusted	na	›››1,408	› 1,489	1,544	1,629	1,793	›››1,968	›››2,066	›››2,133	›››2,236	24.90	25.60	26.20	27.60	31.20	35.90	38.70	40.60	43.60
Higher-income: > 185% poverty																			
5-8 years old	1,908	›› 1,150	›› 1,241	›› 1,304	›› 1,401	›››1,589	›››1,789	›››1,901	›››1,979	›››2,096	25.50	25.30	25.40	25.80	26.90	29.20	31.50	33.70	38.20
9-13 years old	2,117	1,240	1,367	1,457	1,598	1,878	2,205	2,409	2,558	2,790	29.30	27.70	27.20	27.40	30.20	37.70	43.80	49.10	59.20
14-18 years old	2,200	›››1,114	›››1,252	›››1,348	›››1,496	›››1,803	› 2,154	› 2,359	› 2,505	› 2,729	33.90	30.90	31.00	34.00	42.80	50.30	54.70	57.70	61.40
Total, age adjusted	na	›››1,158	›››1,281	›››1,366	›››1,496	›››1,762	›› 2,071	› 2,258	› 2,393	2,607	18.00	17.30	17.30	17.70	19.80	23.00	25.90	28.40	32.80

Notes: Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty). The Bonferroni adjustment was used to adjust levels of significant and control for multiplicity in the number of tests.

[1] The 1989 Recommended Energy Allowance (REA) is specified for age groups that differ from those used in this analysis. Number shown in this column, as a point of reference, is a weighted average REA for the group. New recommendations for energy intake have recently been established (IOM, 2002b). They are not shown here because estimation of energy requirements is based on body weight and physical activity level as well as age and gender.

Source: NHANES-III, 1988-94 Exam file, 24-hour dietary recall. Data reflect nutrient intake from foods. Does not include the contribution of vitamin and mineral supplements. Usual intake was estimated using *C-SIDE: Software for Intake Distribution Estimation,* accounting for within-person variance as estimated from the *Continuing Survey of Food Intakes by Individuals (CSFII).*
'All Children' includes children with missing income.

Table D-14—Distribution of usual food energy intake in kilocalories: School-age children — Continued

Both sexes

	1989 REA[1] (kcal)	Percentiles									Standard errors of percentiles								
		5th	10th	15th	25th	50th	75th	85th	90th	95th	5th	10th	15th	25th	50th	75th	85th	90th	95th
All children																			
5-8 years old	1,909	1,299	1,403	1,476	1,589	1,815	2,064	2,207	2,308	2,463	10.40	10.10	10.20	10.70	11.90	12.70	13.60	14.40	16.20
9-13 years old	2,209	1,368	1,510	1,610	1,764	2,085	2,473	2,718	2,901	3,207	13.40	14.10	14.50	15.00	16.80	21.50	33.20	48.60	76.50
14-18 years old	2,526	1,273	1,456	1,592	1,811	2,285	2,847	3,190	3,440	3,842	13.70	16.90	19.80	24.20	30.80	39.30	46.40	52.50	63.10
Total, age adjusted ...	na	1,284	1,431	1,537	1,705	2,063	2,496	2,770	2,977	3,320	6.18	7.28	8.37	9.83	12.30	18.00	22.80	28.10	40.80
Lowest income: ≤ 130% poverty																			
5-8 years old	1,909	1,360	1,460	1,532	1,643	1,869	2,121	2,266	2,368	2,524	13.60	13.70	14.10	15.40	19.40	23.70	25.90	27.30	29.60
9-13 years old	2,209	1,338	1,483	1,583	1,737	2,049	2,401	2,606	2,749	2,968	21.00	20.10	19.50	19.20	21.90	28.50	33.00	36.20	42.40
14-18 years old	2,526	1,363	1,535	1,661	1,862	2,293	2,812	3,135	3,375	3,769	24.70	27.60	30.40	35.50	47.40	64.20	75.80	85.10	102.00
Total, age adjusted ...	na	1,321	1,465	1,567	1,729	2,067	2,470	2,722	2,910	3,220	11.10	11.10	11.90	14.20	20.40	30.20	38.00	45.00	57.10
Low-income: 131-185% poverty																			
5-8 years old	1,909	1,286	1,389	1,461	1,571	1,789	2,022	› 2,154	› 2,246	› 2,387	29.50	28.60	28.30	28.00	26.30	26.70	30.20	33.50	39.10
9-13 years old	2,209	››› 1,620	››› 1,723	››› 1,798	› 1,914	2,157	2,443	2,618	2,746	2,953	42.90	46.70	49.90	55.90	71.70	93.00	108.00	121.00	144.00
14-18 years old	2,526	1,452	1,620	1,746	1,948	2,360	2,792	3,033	3,200	3,456	60.20	69.10	76.20	86.80	102.00	114.00	123.00	131.00	144.00
Total, age adjusted ...	na	› 1,398	1,527	1,621	1,770	2,087	2,468	2,706	2,882	3,169	23.80	26.10	27.90	30.80	37.50	49.10	60.10	70.50	91.30
Higher-income: > 185% poverty																			
5-8 years old	1,909	›› 1,276	›› 1,380	› 1,454	› 1,567	1,793	2,040	2,181	2,280	2,432	18.90	19.30	19.70	20.40	20.90	21.90	23.30	24.80	28.10
9-13 years old	2,209	1,353	1,499	1,603	1,766	2,112	› 2,540	›› 2,817	›› 3,027	›› 3,379	19.60	19.10	18.80	18.80	22.00	33.20	47.60	64.00	103.00
14-18 years old	2,526	››› 1,213	›› 1,406	› 1,543	1,759	2,231	2,827	3,203	3,477	3,909	26.70	27.30	29.40	34.90	48.90	61.10	69.20	76.50	91.60
Total, age adjusted ...	na	››› 1,258	›› 1,407	› 1,515	1,687	2,054	2,508	2,803	3,028	3,399	11.50	11.60	12.10	13.30	16.20	22.30	28.60	35.20	50.40

Notes: Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty). The Bonferroni adjustment was used to adjust levels of significant and control for multiplicity in the number of tests.

[1] The 1989 Recommended Energy Allowance (REA) is specified for age groups that differ from those used in this analysis. Number shown in this column, as a point of reference, is a weighted average REA for the group. New recommendations for energy intake have recently been established (IOM, 2002b). They are not shown here because estimation of energy requirements is based on body weight and physical activity level as well as age and gender.

Source: NHANES-III, 1988-94 Exam file, 24-hour dietary recall. Data reflect nutrient intake from foods. Does not include the contribution of vitamin and mineral supplements. Usual intake was estimated using *C-SIDE: Software for Intake Distribution Estimation,* accounting for within-person variance as estimated from the *Continuing Survey of Food Intakes by Individuals (CSFII).*
'All Children' includes children with missing income.

Table D-15—Mean usual intake of Vitamin C in milligrams: School-age children

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Mean	Standard error	Sample size	Mean	Standard error	Sample size	Mean	Standard error	Sample size	Mean	Standard error
Both sexes												
5-8 years old	2,187	102	2.1	1,118	105	2.2	270	98	4.1	673	103	3.4
9-13 years old	2,448	105	1.7	1,199	108	3.0	288	109	4.7	820	103	3.0
14-18 years old	1,513	110	3.7	712	119	6.3	186	112	10.0	510	108	4.9
Total, age adjusted ...	6,148	107	1.7	3,029	111	2.8	744	106	4.4	2,003	106	2.4
Male												
5-8 years old	1,084	107	2.8	535	113	3.4	130	›› 92	5.6	356	109	4.8
9-13 years old	1,212	109	2.6	592	110	4.3	144	129	11.7	408	105	4.3
14-18 years old	718	128	5.2	334	128	7.7	88	133	12.8	234	133	6.4
Total, age adjusted ...	3,014	116	2.5	1,461	117	3.4	362	118	7.4	998	117	3.4
Female												
5-8 years old	1,103	97	2.2	583	98	3.2	140	104	6.1	317	95	3.5
9-13 years old	1,236	101	2.5	607	105	5.3	144	91	5.6	412	102	3.1
14-18 years old	795	91	3.4	378	111	8.9	98	93	10.9	276	›› 83	4.7
Total, age adjusted ...	3,134	97	1.9	1,568	105	3.8	382	94	5.1	1,005	›› 93	2.5

Notes: Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94 Exam file, 24-hour dietary recall. Data reflect nutrient intake from foods. Does not include the contribution of vitamin and mineral supplements. Usual intake was estimated using *C-SIDE: Software for Intake Distribution Estimation,* accounting for within-person variance as estimated from the *Continuing Survey of Food Intakes by Individuals (CSFII).*
'All Children' includes children with missing income.

Table D-16—Percent of school-age children with adequate usual intake of Vitamin C[1]

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard error	Sample size	Percent	Standard error	Sample size	Percent	Standard error	Sample size	Percent	Standard error
Both sexes												
5-8 years old	2,187	99.9	0.04	1,118	99.8	0.04	270	99.7	0.10	673	› 100.0	0.05
9-13 years old	2,448	96.6	0.35	1,199	96.9	0.49	288	95.0	1.48	820	97.3	0.39
14-18 years old	1,513	79.6	1.56	712	84.3	1.75	186	84.0	4.24	510	› 78.1	2.27
Total, age adjusted ...	6,148	91.5	0.57	3,029	93.3	0.65	744	92.4	1.60	2,003	› 91.2	0.82
Male												
5-8 years old	1,084	99.8	0.05	535	99.8	0.05	130	› 99.0	0.39	356	99.9	0.06
9-13 years old	1,212	98.4	0.24	592	99.7	0.11	144	98.6	0.87	408	›››97.8	0.35
14-18 years old	718	83.3	1.90	334	85.7	2.12	88	80.8	4.99	234	85.0	2.15
Total, age adjusted ...	3,014	93.4	0.68	1,461	94.8	0.75	362	92.4	1.80	998	93.9	0.77
Female												
5-8 years old	1,103	100.0	0.00	583	100.0	0.06	140	100.0	0.00	317	100.0	0.00
9-13 years old	1,236	94.8	0.67	607	94.2	0.96	144	91.4	2.80	412	› 96.7	0.71
14-18 years old	795	76.0	2.47	378	83.2	2.69	98	87.1	6.82	276	› 71.4	3.95
Total, age adjusted ...	3,134	89.6	0.91	1,568	91.9	1.02	382	92.3	2.62	1,005	88.7	1.42

Notes: Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).
[1] Estimated Average Requirements (EARs) were used to assess the adequacy of intake in groups, using the EAR cut-point method described in IOM, *Dietary Reference Intakes: Applications in Dietary Assessment,* Chapter 4. EARs are defined separately for gender and age groups as listed in appendix B.

Source: NHANES-III, 1988-94 Exam file, 24-hour dietary recall. Data reflect nutrient intake from foods. Does not include the contribution of vitamin and mineral supplements. Usual intake was estimated using *C-SIDE: Software for Intake Distribution Estimation,* accounting for within-person variance as estimated from the *Continuing Survey of Food Intakes by Individuals (CSFII).*
'All Children' includes children with missing income.

Table D-17—Distribution of usual Vitamin C intake in milligrams: School-age children

Male

	EAR (mg/dy)	Percentiles									Standard errors of percentiles								
		5th	10th	15th	25th	50th	75th	85th	90th	95th	5th	10th	15th	25th	50th	75th	85th	90th	95th
All children																			
5-8 years old	22	44	53	60	72	99	133	155	172	199	1.60	1.85	2.04	2.32	2.88	3.55	4.06	4.51	5.45
9-13 years old	39	50	59	66	77	103	134	154	168	192	1.40	1.58	1.71	1.95	2.51	3.28	3.81	4.23	4.90
14-18 years old	63	40	51	60	76	114	166	200	225	265	2.34	2.77	3.06	3.50	4.88	6.95	8.13	8.97	10.40
Total, age adjusted ...	na	43	53	61	74	105	146	172	192	224	1.16	1.33	1.45	1.67	2.27	3.22	3.81	4.29	5.15
Lowest income: ≤ 130% poverty																			
5-8 years old	22	48	58	65	78	105	140	161	177	202	2.08	2.35	2.54	2.82	3.44	4.23	4.73	5.07	5.55
9-13 years old	39	61	70	76	86	107	131	145	156	172	2.81	2.95	3.11	3.41	4.16	5.17	5.77	6.20	6.89
14-18 years old	63	45	56	64	79	114	162	193	217	255	3.06	3.26	3.43	3.92	6.34	10.50	13.30	15.60	19.70
Total, age adjusted ...	na	49	59	66	79	107	145	170	188	217	1.73	1.92	2.03	2.18	2.83	4.54	6.02	7.15	8.94
Low-income: 131-185% poverty																			
5-8 years old	22	›››33	›› 42	›› 48	›› 59	›› 83	› 114	135	152	182	2.97	3.56	3.90	4.29	5.27	7.42	8.83	9.83	11.60
9-13 years old	39	53	65	74	88	121	161	185	203	› 232	5.84	6.79	7.49	8.68	11.60	14.90	16.60	17.90	19.80
14-18 years old	63	32	45	55	73	118	180	220	247	288	5.82	6.73	7.46	8.86	14.30	19.60	21.00	21.50	22.40
Total, age adjusted ...	na	›› 37	49	58	72	105	152	184	207	243	3.19	3.91	4.36	5.05	7.09	10.50	12.10	13.00	14.20
Higher-income: > 185% poverty																			
5-8 years old	22	47	56	63	74	101	136	158	174	201	2.69	3.15	3.51	4.08	5.14	6.12	6.75	7.33	8.63
9-13 years old	39	›››47	›››55	›› 62	› 73	98	129	149	165	189	1.59	1.94	2.23	2.74	3.93	5.58	6.73	7.64	9.25
14-18 years old	63	42	54	63	79	119	173	207	232	272	3.16	3.70	4.08	4.72	6.35	8.56	9.88	10.80	12.30
Total, age adjusted ...	na	44	54	62	75	107	148	175	195	227	1.67	1.93	2.17	2.59	3.44	4.40	5.01	5.47	6.18

Notes: Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).
The Bonferroni adjustment was used to adjust levels of significant and control for multiplicity in the number of tests.
na EAR differs for age or gender groups and is not applicable to pooled data.

Source: NHANES-III, 1988-94 Exam file, 24-hour dietary recall. Data reflect nutrient intake from foods. Does not include the contribution of vitamin and mineral supplements. Usual intake was estimated using *C-SIDE: Software for Intake Distribution Estimation,* accounting for within-person variance as estimated from the *Continuing Survey of Food Intakes by Individuals (CSFII).*
'All Children' includes children with missing income.

Table D-17—Distribution of usual Vitamin C intake in milligrams: School-age children — Continued

Female

	EAR (mg/dy)	Percentiles									Standard errors of percentiles								
		5th	10th	15th	25th	50th	75th	85th	90th	95th	5th	10th	15th	25th	50th	75th	85th	90th	95th
All children																			
5-8 years old	22	50	58	64	73	93	116	130	140	156	1.37	1.46	1.53	1.66	2.08	2.81	3.31	3.69	4.35
9-13 years old	39	39	48	55	67	94	127	148	163	187	1.47	1.68	1.83	2.08	2.57	3.08	3.47	3.86	4.86
14-18 years old	56	33	40	46	57	82	116	137	154	180	1.62	1.94	2.20	2.60	3.41	4.43	5.14	5.73	6.91
Total, age adjusted ...	na	38	47	54	65	89	122	143	158	182	0.97	1.14	1.25	1.42	1.75	2.49	3.13	3.63	4.38
Lowest income: ≤ 130% poverty																			
5-8 years old	22	48	56	62	72	94	119	134	145	162	2.31	2.43	2.52	2.70	3.16	3.80	4.27	4.64	5.35
9-13 years old	39	37	47	54	66	94	132	158	177	211	1.94	2.10	2.25	2.58	3.98	7.56	9.98	11.90	15.70
14-18 years old	56	36	46	53	67	101	144	170	190	223	2.72	3.33	3.91	5.12	8.35	12.10	14.40	16.20	19.20
Total, age adjusted ...	na	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Low-income: 131-185% poverty																			
5-8 years old	22	54	62	69	78	100	125	140	152	169	3.80	4.24	4.53	4.96	6.01	7.52	8.40	8.99	9.87
9-13 years old	39	33	41	47	58	83	114	135	150	175	3.64	3.99	4.22	4.61	5.57	6.78	7.57	8.23	9.59
14-18 years old	56	45	52	58	68	88	113	128	138	› 155	7.04	7.92	8.55	9.53	11.30	12.60	13.30	13.70	14.40
Total, age adjusted ...	na	41	49	56	66	89	117	134	146	166	2.94	3.34	3.64	4.13	5.13	6.19	6.77	7.19	7.87
Higher-income: > 185% poverty																			
5-8 years old	22	51	58	64	73	92	114	127	136	151	2.36	2.51	2.61	2.78	3.25	4.16	4.97	5.68	7.03
9-13 years old	39	44	53	60	72	97	126	144	157	177	2.10	2.33	2.46	2.64	3.08	3.76	4.23	4.58	5.15
14-18 years old	56	30	37	43	53	76	› 106	› 125	› 140	› 162	2.14	2.58	2.94	3.55	4.87	6.18	6.82	7.24	7.96
Total, age adjusted ...	na	38	47	53	64	88	117	135	148	168	1.24	1.47	1.64	1.92	2.46	3.14	3.65	4.09	4.92

Notes: Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty). The Bonferroni adjustment was used to adjust levels of significant and control for multiplicity in the number of tests.

– Estimate of usual intake could not be obtained for the gender-age group cell. The cell was pooled with a neighboring age group to determine its contribution to the 'Total, age-adjusted' row.

na EAR differs for age or gender groups and is not applicable to pooled data.

Source: NHANES-III, 1988-94 Exam file, 24-hour dietary recall. Data reflect nutrient intake from foods. Does not include the contribution of vitamin and mineral supplements. Usual intake was estimated using *C-SIDE: Software for Intake Distribution Estimation,* accounting for within-person variance as estimated from the *Continuing Survey of Food Intakes by Individuals (CSFII).*
'All Children' includes children with missing income.

Table D-17—Distribution of usual Vitamin C intake in milligrams: School-age children — Continued

Both sexes

	EAR (mg/dy)	Percentiles									Standard errors of percentiles								
		5th	10th	15th	25th	50th	75th	85th	90th	95th	5th	10th	15th	25th	50th	75th	85th	90th	95th
All children																			
5-8 years old	22	46	55	62	72	96	126	144	157	179	1.26	1.39	1.50	1.68	2.10	2.63	3.05	3.41	4.07
9-13 years old	39	43	53	60	72	98	131	152	167	191	0.94	1.09	1.21	1.41	1.76	2.12	2.42	2.72	3.37
14-18 years old	na	35	44	52	65	97	141	170	192	227	1.52	1.87	2.14	2.59	3.56	4.75	5.52	6.10	7.11
Total, age adjusted ...	na	40	50	57	69	97	134	158	175	205	0.86	0.99	1.08	1.24	1.63	2.18	2.57	2.89	3.47
Lowest income: ≤ 130% poverty																			
5-8 years old	22	47	56	63	74	99	129	148	162	184	1.42	1.54	1.63	1.82	2.24	2.70	2.99	3.20	3.52
9-13 years old	39	45	55	62	74	100	133	154	170	196	1.63	1.75	1.82	1.96	2.50	4.29	5.62	6.42	7.58
14-18 years old	na	40	50	58	72	107	153	182	203	239	2.09	2.49	2.89	3.74	5.87	8.07	9.82	11.30	14.20
Total, age adjusted ...	na	42	52	59	71	100	140	165	183	211	1.03	1.18	1.31	1.58	2.39	4.03	4.79	5.40	6.75
Low-income: 131-185% poverty																			
5-8 years old	22	41	50	57	67	91	121	140	155	179	2.31	2.61	2.80	3.06	3.83	5.31	6.27	7.01	8.41
9-13 years old	39	40	49	57	70	99	138	163	182	213	2.37	2.50	2.66	3.01	4.25	6.38	7.80	8.91	10.80
14-18 years old	na	35	46	54	68	101	144	171	191	224	4.89	5.84	6.56	7.76	10.40	13.10	14.40	15.10	16.40
Total, age adjusted ...	na	38	48	56	69	97	134	157	175	203	2.14	2.45	2.71	3.20	4.34	5.68	6.58	7.25	8.36
Higher-income: > 185% poverty																			
5-8 years old	22	49	58	64	74	98	126	143	156	177	2.10	2.36	2.55	2.83	3.41	4.12	4.66	5.13	6.07
9-13 years old	39	45	54	61	72	97	128	147	161	184	1.30	1.55	1.75	2.09	2.85	3.89	4.58	5.13	6.06
14-18 years old	na	34	43	51	64	96	139	168	189	224	2.09	2.55	2.91	3.51	4.88	6.40	7.24	7.81	8.74
Total, age adjusted ...	na	41	50	57	69	97	133	156	173	201	1.19	1.34	1.47	1.70	2.28	3.06	3.55	3.91	4.47

Notes: Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty). The Bonferroni adjustment was used to adjust levels of significant and control for multiplicity in the number of tests.
na EAR differs for age or gender groups and is not applicable to pooled data.

Source: NHANES-III, 1988-94 Exam file, 24-hour dietary recall. Data reflect nutrient intake from foods. Does not include the contribution of vitamin and mineral supplements. Usual intake was estimated using *C-SIDE: Software for Intake Distribution Estimation,* accounting for within-person variance as estimated from the *Continuing Survey of Food Intakes by Individuals (CSFII).*
'All Children' includes children with missing income.

Table D-18—Mean usual intake of iron in milligrams: School-age children

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Mean	Standard error	Sample size	Mean	Standard error	Sample size	Mean	Standard error	Sample size	Mean	Standard error
Both sexes												
5-8 years old	2,187	13.3	0.14	1,118	13.7	0.18	270	›› 12.6	0.28	673	13.4	0.24
9-13 years old	2,448	15.2	0.18	1,199	14.8	0.30	288	14.3	0.44	820	› 15.8	0.33
14-18 years old	1,513	16.2	0.53	712	15.1	0.29	186	14.9	0.79	510	17.1	1.01
Total, age adjusted ...	6,148	15.0	0.16	3,029	14.6	0.12	744	14.0	0.31	2,003	›› 15.6	0.29
Male												
5-8 years old	1,084	14.4	0.23	535	14.8	0.28	130	› 13.3	0.53	356	14.7	0.37
9-13 years old	1,212	16.5	0.27	592	15.8	0.41	144	15.8	0.81	408	› 17.2	0.48
14-18 years old	718	20.1	1.06	334	17.1	0.45	88	18.9	1.15	234	› 22.5	2.07
Total, age adjusted ...	3,014	17.1	0.33	1,461	16.0	0.17	362	16.1	0.50	998	››› 18.4	0.61
Female												
5-8 years old	1,103	12.0	0.14	583	12.6	0.22	140	12.0	0.37	317	› 11.7	0.27
9-13 years old	1,236	13.9	0.33	607	13.7	0.40	144	12.8	0.60	412	14.2	0.46
14-18 years old	795	12.4	0.29	378	13.6	0.39	98	››› 10.9	0.67	276	›› 11.9	0.40
Total, age adjusted ...	3,134	12.8	0.17	1,568	13.3	0.20	382	››› 11.9	0.31	1,005	12.7	0.25

Notes: Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94 Exam file, 24-hour dietary recall. Data reflect nutrient intake from foods. Does not include the contribution of vitamin and mineral supplements. Usual intake was estimated using *C-SIDE: Software for Intake Distribution Estimation,* accounting for within-person variance as estimated from the *Continuing Survey of Food Intakes by Individuals (CSFII).*
'All Children' includes children with missing income.

Table D-19—Percent of school-age children with adequate usual intake of iron[1]

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard error	Sample size	Percent	Standard error	Sample size	Percent	Standard error	Sample size	Percent	Standard error
Both sexes												
5-8 years old	2,187	100.0	0.00	1,118	100.0	0.00	270	100.0	0.00	673	100.0	0.00
9-13 years old	2,448	99.8	0.05	1,199	99.7	0.08	288	›› 100.0	0.05	820	99.9	0.06
14-18 years old	1,513	92.9	0.71	712	95.4	0.73	186	93.9	2.53	510	›››89.9	1.18
Total, age adjusted ...	6,148	97.4	0.25	3,029	98.2	0.26	744	97.8	0.90	2,003	›››96.4	0.42
Male												
5-8 years old	1,084	100.0	0.00	535	100.0	0.00	130	100.0	0.00	356	100.0	0.00
9-13 years old	1,212	100.0	0.00	592	100.0	0.06	144	100.0	0.07	408	100.0	0.03
14-18 years old	718	99.5	0.11	334	99.0	0.31	88	›› 99.9	0.17	234	› 99.8	0.08
Total, age adjusted ...	3,014	99.8	0.04	1,461	99.6	0.11	362	› 100.0	0.06	998	› 99.9	0.03
Female												
5-8 years old	1,103	100.0	0.00	583	100.0	0.00	140	100.0	0.00	317	100.0	0.00
9-13 years old	1,236	99.7	0.10	607	99.4	0.15	144	›› 100.0	0.07	412	99.8	0.11
14-18 years old	795	86.4	1.40	378	92.2	1.32	98	87.9	5.01	276	›››80.3	2.31
Total, age adjusted ...	3,134	95.1	0.50	1,568	97.0	0.47	382	95.7	1.78	1,005	›››92.9	0.82

Notes: Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).
[1] Estimated Average Requirements (EARs) were used to assess the adequacy of intake in groups. The EAR cut-point method was used for all groups except females age 9-18; the probability approach was used for menstruating females because the distribution of nutrient requirements is not symmetrical. See IOM, *Dietary Reference Intakes: Applications in Dietary Assessment,* Chapter 4. EARs are defined separately for gender and age groups as listed in appendix B.

Source: NHANES-III, 1988-94 Exam file, 24-hour dietary recall. Data reflect nutrient intake from foods. Does not include the contribution of vitamin and mineral supplements. Usual intake was estimated using *C-SIDE: Software for Intake Distribution Estimation,* accounting for within-person variance as estimated from the *Continuing Survey of Food Intakes by Individuals (CSFII).*
'All Children' includes children with missing income.

Table D-20—Distribution of usual iron intake in milligrams: School-age children

Male

	EAR (mg/dy)	Percentiles									Standard errors of percentiles								
		5th	10th	15th	25th	50th	75th	85th	90th	95th	5th	10th	15th	25th	50th	75th	85th	90th	95th
All children																			
5-8 years old	4.1	8.7	9.7	10.4	11.5	13.9	16.7	18.4	19.7	21.9	0.18	0.18	0.18	0.19	0.21	0.27	0.32	0.36	0.45
9-13 years old	5.9	10.2	11.2	12.0	13.2	15.8	19.0	21.0	22.5	25.1	0.14	0.14	0.15	0.16	0.22	0.38	0.48	0.54	0.67
14-18 years old	7.7	10.5	11.7	12.7	14.2	17.7	22.8	26.9	30.4	37.4	0.24	0.25	0.27	0.32	0.54	1.21	1.84	2.47	4.00
Total, age adjusted ...	na	9.5	10.6	11.4	12.7	15.7	19.6	22.5	24.8	29.2	0.09	0.10	0.10	0.11	0.16	0.32	0.53	0.77	1.36
Lowest income: ≤ 130% poverty																			
5-8 years old	4.1	9.2	10.1	10.8	11.9	14.2	17.0	18.8	20.2	22.5	0.20	0.21	0.21	0.22	0.26	0.34	0.41	0.48	0.63
9-13 years old	5.9	9.8	10.8	11.6	12.7	15.2	18.4	20.3	21.7	23.8	0.26	0.26	0.28	0.30	0.42	0.50	0.57	0.65	0.78
14-18 years old	7.7	9.8	11.0	11.8	13.1	16.0	19.9	22.5	24.6	28.2	0.30	0.30	0.31	0.32	0.43	0.63	0.73	0.80	0.94
Total, age adjusted ...	na	9.4	10.5	11.3	12.5	15.2	18.5	20.6	22.3	25.2	0.14	0.13	0.13	0.13	0.15	0.24	0.32	0.39	0.50
Low-income: 131-185% poverty																			
5-8 years old	4.1	›› 8.0	›› 8.8	›› 9.4	›› 10.4	12.6	15.4	17.2	18.6	20.9	0.28	0.32	0.35	0.40	0.53	0.69	0.78	0.85	1.00
9-13 years old	5.9	9.5	10.6	11.4	12.7	15.3	18.3	20.3	21.8	24.1	0.47	0.53	0.57	0.62	0.76	0.99	1.17	1.30	1.50
14-18 years old	7.7	12.3	13.6	14.5	16.0	18.8	21.8	23.4	24.4	25.9	0.96	1.01	1.05	1.11	1.22	1.27	1.27	1.26	1.23
Total, age adjusted ...	na	10.3	11.3	12.1	13.3	15.8	18.6	20.3	21.4	23.2	0.35	0.37	0.38	0.41	0.50	0.61	0.68	0.71	0.75
Higher-income: > 185% poverty																			
5-8 years old	4.1	9.3	10.3	11.0	12.1	14.3	16.8	18.4	19.6	21.6	0.28	0.28	0.29	0.30	0.34	0.45	0.53	0.59	0.72
9-13 years old	5.9	9.9	11.0	11.9	13.3	16.4	20.2	22.7	24.5	27.5	0.20	0.19	0.19	0.21	0.38	0.68	0.85	0.99	1.27
14-18 years old	7.7	10.8	11.9	12.8	14.3	18.4	25.3	31.1	36.3	47.1	0.33	0.40	0.46	0.57	0.93	1.94	3.19	4.59	7.97
Total, age adjusted ...	na	9.7	10.8	11.7	13.0	› 16.2	›› 20.8	›› 24.4	›› 27.5	›› 33.8	0.12	0.13	0.14	0.17	0.28	0.61	0.99	1.42	2.50

Notes: Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty). The Bonferroni adjustment was used to adjust levels of significant and control for multiplicity in the number of tests.
na EAR differs for age or gender groups and is not applicable to pooled data.

Source: NHANES-III, 1988-94 Exam file, 24-hour dietary recall. Data reflect nutrient intake from foods. Does not include the contribution of vitamin and mineral supplements. Usual intake was estimated using *C-SIDE: Software for Intake Distribution Estimation,* accounting for within-person variance as estimated from the *Continuing Survey of Food Intakes by Individuals (CSFII).*
'All Children' includes children with missing income.

Table D-20—Distribution of usual iron intake in milligrams: School-age children — Continued

Female

	EAR (mg/dy)	Percentiles									Standard errors of percentiles								
		5th	10th	15th	25th	50th	75th	85th	90th	95th	5th	10th	15th	25th	50th	75th	85th	90th	95th
All children																			
5-8 years old	4.1	7.5	8.3	8.9	9.8	11.6	13.9	15.2	16.3	17.9	0.11	0.10	0.10	0.11	0.13	0.18	0.22	0.25	0.30
9-13 years old	5.7	8.0	8.9	9.6	10.6	13.1	16.4	18.5	20.0	22.6	0.18	0.19	0.20	0.21	0.28	0.42	0.52	0.59	0.70
14-18 years old	7.9	6.5	7.4	8.1	9.2	11.7	14.8	16.8	18.2	20.6	0.15	0.17	0.18	0.22	0.28	0.36	0.43	0.49	0.62
Total, age adjusted	na	7.2	8.1	8.8	9.8	12.2	15.0	16.9	18.3	20.6	0.09	0.09	0.10	0.12	0.16	0.21	0.26	0.31	0.40
Lowest income: ≤ 130% poverty																			
5-8 years old	4.1	8.2	8.9	9.5	10.4	12.2	14.3	15.6	16.6	18.2	0.16	0.16	0.17	0.19	0.22	0.26	0.29	0.32	0.38
9-13 years old	5.7	7.7	8.6	9.4	10.5	13.1	16.2	18.1	19.6	21.9	0.20	0.21	0.23	0.27	0.39	0.52	0.61	0.69	0.84
14-18 years old	7.9	7.3	8.3	9.1	10.3	13.1	16.3	18.1	19.4	21.5	0.22	0.25	0.28	0.32	0.39	0.49	0.57	0.65	0.78
Total, age adjusted	na	7.9	8.8	9.5	10.5	12.8	15.5	17.2	18.4	20.4	0.14	0.15	0.16	0.18	0.20	0.24	0.28	0.31	0.36
Low-income: 131-185% poverty																			
5-8 years old	4.1	7.6	8.4	8.9	9.9	11.7	13.8	15.1	16.0	17.3	0.24	0.26	0.29	0.34	0.40	0.44	0.48	0.52	0.61
9-13 years old	5.7	8.3	9.0	9.6	10.5	12.3	14.7	16.2	17.3	19.2	0.38	0.42	0.44	0.49	0.61	0.74	0.80	0.85	0.93
14-18 years old	7.9	7.1	7.7	8.2	8.9	› 10.6	›› 12.7	›› 13.9	››› 14.8	››› 16.1	0.38	0.41	0.44	0.51	0.68	0.88	0.95	0.97	0.97
Total, age adjusted	na	7.5	8.3	8.8	9.7	›› 11.5	››› 13.7	››› 15.1	››› 16.1	››› 17.7	0.20	0.22	0.23	0.26	0.31	0.39	0.43	0.46	0.50
Higher-income: > 185% poverty																			
5-8 years old	4.1	››› 7.1	›› 7.9	›› 8.5	›› 9.3	› 11.2	13.4	14.8	15.9	17.7	0.20	0.21	0.21	0.22	0.24	0.31	0.39	0.46	0.59
9-13 years old	5.7	8.1	9.0	9.7	10.8	13.4	16.7	18.8	20.4	23.0	0.23	0.23	0.24	0.27	0.42	0.63	0.73	0.80	0.92
14-18 years old	7.9	››› 5.8	››› 6.7	››› 7.3	››› 8.5	›› 11.1	› 14.3	16.5	18.2	21.2	0.22	0.23	0.24	0.29	0.38	0.50	0.60	0.69	0.89
Total, age adjusted	na	››› 6.8	››› 7.7	››› 8.4	››› 9.5	› 11.9	14.9	16.9	18.5	21.2	0.14	0.15	0.15	0.16	0.21	0.32	0.40	0.48	0.61

Notes: Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty). The Bonferroni adjustment was used to adjust levels of significant and control for multiplicity in the number of tests.
na EAR differs for age or gender groups and is not applicable to pooled data.

Source: NHANES-III, 1988-94 Exam file, 24-hour dietary recall. Data reflect nutrient intake from foods. Does not include the contribution of vitamin and mineral supplements. Usual intake was estimated using *C-SIDE: Software for Intake Distribution Estimation,* accounting for within-person variance as estimated from the *Continuing Survey of Food Intakes by Individuals (CSFII).*
'All Children' includes children with missing income.

Table D-20—Distribution of usual iron intake in milligrams: School-age children — Continued

Both sexes

	EAR (mg/dy)	Percentiles									Standard errors of percentiles								
		5th	10th	15th	25th	50th	75th	85th	90th	95th	5th	10th	15th	25th	50th	75th	85th	90th	95th
All children																			
5-8 years old	4.1	8.0	8.9	9.6	10.6	12.8	15.4	17.1	18.3	20.3	0.11	0.10	0.11	0.11	0.13	0.17	0.20	0.23	0.28
9-13 years old	na	8.7	9.8	10.5	11.7	14.4	17.9	20.2	21.8	24.5	0.11	0.11	0.10	0.10	0.14	0.25	0.33	0.38	0.46
14-18 years old	na	7.4	8.6	9.5	11.0	14.4	18.9	22.2	25.1	30.8	0.11	0.14	0.16	0.18	0.24	0.50	0.84	1.21	2.14
Total, age adjusted ...	na	7.9	9.0	9.8	11.1	13.9	17.4	19.9	21.9	25.7	0.06	0.06	0.06	0.07	0.08	0.14	0.24	0.35	0.65
Lowest income: ≤ 130% poverty																			
5-8 years old	4.1	8.4	9.3	9.9	10.9	13.1	15.8	17.4	18.7	20.7	0.13	0.13	0.13	0.14	0.16	0.22	0.29	0.35	0.43
9-13 years old	na	8.4	9.4	10.2	11.4	14.0	17.4	19.5	21.0	23.5	0.17	0.18	0.18	0.19	0.26	0.39	0.48	0.55	0.70
14-18 years old	na	8.1	9.3	10.1	11.5	14.4	17.7	20.0	21.8	24.9	0.19	0.21	0.23	0.24	0.27	0.37	0.46	0.54	0.67
Total, age adjusted ...	na	8.3	9.3	10.1	11.3	13.9	17.0	19.1	20.7	23.3	0.10	0.10	0.10	0.11	0.12	0.16	0.20	0.24	0.34
Low-income: 131-185% poverty																			
5-8 years old	4.1	›››7.6	›››8.4	›››9.0	›››9.9	› 12.1	14.8	16.4	17.6	19.5	0.16	0.17	0.18	0.21	0.28	0.36	0.44	0.52	0.63
9-13 years old	na	›››10.1	›› 10.8	11.3	12.2	14.0	16.0	› 17.3	›› 18.2	›››19.6	0.32	0.34	0.35	0.38	0.42	0.50	0.56	0.62	0.72
14-18 years old	na	7.7	8.8	9.7	11.1	14.4	18.2	20.4	21.9	24.1	0.41	0.47	0.53	0.64	0.85	1.00	1.06	1.09	1.13
Total, age adjusted ...	na	8.2	9.2	9.9	11.0	13.5	16.5	18.3	19.6	21.7	0.18	0.20	0.22	0.25	0.31	0.38	0.43	0.48	0.55
Higher-income: > 185% poverty																			
5-8 years old	4.1	8.2	9.1	9.8	10.8	12.9	15.5	17.1	18.3	20.3	0.18	0.18	0.19	0.19	0.22	0.29	0.35	0.39	0.47
9-13 years old	na	8.7	9.8	10.5	11.8	14.8	18.7	21.3	23.1	26.2	0.13	0.13	0.13	0.14	0.26	0.48	0.60	0.69	0.86
14-18 years old	na	›››7.0	›› 8.2	› 9.1	10.6	14.1	19.2	23.5	27.5	› 35.9	0.19	0.22	0.23	0.26	0.40	0.86	1.39	2.02	3.85
Total, age adjusted ...	na	›› 7.8	9.0	9.8	11.1	14.0	› 18.0	›› 20.9	›› 23.4	›› 28.3	0.10	0.09	0.09	0.09	0.13	0.28	0.48	0.72	1.31

Notes: Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty). The Bonferroni adjustment was used to adjust levels of significant and control for multiplicity in the number of tests.
na EAR differs for age or gender groups and is not applicable to pooled data.

Source: NHANES-III, 1988-94 Exam file, 24-hour dietary recall. Data reflect nutrient intake from foods. Does not include the contribution of vitamin and mineral supplements. Usual intake was estimated using *C-SIDE: Software for Intake Distribution Estimation,* accounting for within-person variance as estimated from the *Continuing Survey of Food Intakes by Individuals (CSFII).*
'All Children' includes children with missing income.

Table D-21—Mean usual intake of zinc in milligrams: School-age children

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Mean	Standard error	Sample size	Mean	Standard error	Sample size	Mean	Standard error	Sample size	Mean	Standard error
Both sexes												
5-8 years old	2,187	9.2	0.10	1,118	9.7	0.18	270	›››8.5	0.19	673	› 9.1	0.16
9-13 years old	2,448	10.8	0.11	1,199	10.6	0.16	288	10.3	0.33	820	11.2	0.25
14-18 years old	1,513	12.2	0.37	712	11.5	0.24	186	12.2	0.63	510	12.7	0.80
Total, age adjusted ...	6,148	10.9	0.12	3,029	10.7	0.11	744	10.5	0.25	2,003	11.1	0.24
Male												
5-8 years old	1,084	9.9	0.16	535	10.6	0.26	130	›››8.8	0.38	356	› 9.9	0.25
9-13 years old	1,212	11.9	0.18	592	11.8	0.21	144	11.5	0.58	408	12.1	0.32
14-18 years old	718	15.3	0.72	334	13.3	0.44	88	› 15.6	1.04	234	› 17.0	1.65
Total, age adjusted ...	3,014	12.5	0.23	1,461	12.0	0.18	362	12.2	0.42	998	› 13.1	0.50
Female												
5-8 years old	1,103	8.5	0.12	583	8.9	0.17	140	› 8.2	0.28	317	›› 8.1	0.22
9-13 years old	1,236	9.7	0.21	607	9.5	0.21	144	9.1	0.23	412	10.0	0.43
14-18 years old	795	9.1	0.20	378	10.0	0.25	98	› 8.9	0.46	276	›› 8.7	0.39
Total, age adjusted ...	3,134	9.1	0.10	1,568	9.5	0.12	382	›› 8.8	0.22	1,005	› 9.0	0.19

Notes: Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94 Exam file, 24-hour dietary recall. Data reflect nutrient intake from foods. Does not include the contribution of vitamin and mineral supplements. Usual intake was estimated using *C-SIDE: Software for Intake Distribution Estimation,* accounting for within-person variance as estimated from the *Continuing Survey of Food Intakes by Individuals (CSFII).*
'All Children' includes children with missing income.

Table D-22—Percent of school-age children with adequate usual intake of zinc[1]

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard error	Sample size	Percent	Standard error	Sample size	Percent	Standard error	Sample size	Percent	Standard error
Both sexes												
5-8 years old	2,187	99.8	0.04	1,118	100.0	0.00	270	›››99.4	0.14	673	›› 99.8	0.06
9-13 years old	2,448	91.4	0.65	1,199	91.7	0.93	288	›› 96.1	1.17	820	90.7	1.04
14-18 years old	1,513	83.1	1.26	712	83.9	1.62	186	›››98.0	1.28	510	› 78.9	1.59
Total, age adjusted ...	6,148	90.8	0.51	3,029	91.3	0.67	744	›››97.7	0.62	2,003	› 89.1	0.68
Male												
5-8 years old	1,084	100.0	0.04	535	100.0	0.00	130	99.7	0.19	356	100.0	0.00
9-13 years old	1,212	98.5	0.26	592	98.1	0.47	144	98.2	0.84	408	97.9	0.49
14-18 years old	718	96.6	0.74	334	87.5	2.11	88	› 95.9	2.58	234	›››99.1	0.36
Total, age adjusted ...	3,014	98.2	0.28	1,461	94.9	0.77	362	› 97.8	0.97	998	›››98.9	0.22
Female												
5-8 years old	1,103	99.8	0.05	583	100.0	0.00	140	99.8	0.11	317	›› 99.4	0.19
9-13 years old	1,236	84.1	1.30	607	85.5	1.78	144	›› 94.1	2.16	412	83.1	2.09
14-18 years old	795	69.7	2.39	378	80.7	2.41	98	›››100.0	0.25	276	›››59.3	3.10
Total, age adjusted ...	3,134	83.4	0.97	1,568	87.9	1.07	382	›››97.8	0.79	1,005	›››79.3	1.34

Notes: Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

[1] Estimated Average Requirements (EARs) were used to assess the adequacy of intake in groups, using the EAR cut-point method described in IOM, *Dietary Reference Intakes: Applications in Dietary Assessment,* Chapter 4. EARs are defined separately for gender and age groups as listed in appendix B.

Source: NHANES-III, 1988-94 Exam file, 24-hour dietary recall. Data reflect nutrient intake from foods. Does not include the contribution of vitamin and mineral supplements. Usual intake was estimated using *C-SIDE: Software for Intake Distribution Estimation,* accounting for within-person variance as estimated from the *Continuing Survey of Food Intakes by Individuals (CSFII).*
'All Children' includes children with missing income.

Table D-23—Distribution of usual zinc intake in milligrams: School-age children

Male

	EAR (mg/dy)	Percentiles									Standard errors of percentiles								
		5th	10th	15th	25th	50th	75th	85th	90th	95th	5th	10th	15th	25th	50th	75th	85th	90th	95th
All children																			
5-8 years old	4.0	6.3	7.0	7.4	8.1	9.6	11.4	12.5	13.2	14.5	0.13	0.13	0.13	0.14	0.16	0.19	0.22	0.24	0.30
9-13 years old	7.0	8.0	8.7	9.2	10.0	11.6	13.5	14.7	15.6	16.9	0.12	0.13	0.13	0.14	0.16	0.22	0.30	0.37	0.49
14-18 years old	8.5	8.9	9.9	10.5	11.6	14.1	17.5	20.0	22.0	25.8	0.24	0.26	0.28	0.32	0.44	0.82	1.26	1.70	2.68
Total, age adjusted ...	na	7.2	8.1	8.7	9.6	11.7	14.4	16.2	17.7	20.4	0.09	0.09	0.10	0.11	0.15	0.24	0.37	0.53	0.94
Lowest income: ≤ 130% poverty																			
5-8 years old	4.0	6.7	7.3	7.8	8.5	10.2	12.3	13.6	14.5	16.0	0.17	0.18	0.19	0.21	0.27	0.32	0.36	0.38	0.45
9-13 years old	7.0	7.9	8.6	9.2	10.0	11.6	13.5	14.5	15.2	16.4	0.18	0.18	0.18	0.18	0.20	0.26	0.31	0.34	0.40
14-18 years old	8.5	7.2	8.1	8.8	10.0	12.5	15.8	17.8	19.4	21.9	0.25	0.28	0.30	0.34	0.44	0.56	0.63	0.69	0.84
Total, age adjusted ...	na	7.0	7.8	8.4	9.4	11.5	13.9	15.5	16.7	18.7	0.11	0.11	0.12	0.14	0.18	0.24	0.29	0.33	0.41
Low-income: 131-185% poverty																			
5-8 years old	4.0	5.2	5.7	6.1	6.7	8.2	10.2	11.6	12.6	14.3	0.16	0.18	0.20	0.24	0.36	0.56	0.67	0.74	0.85
9-13 years old	7.0	7.8	8.6	9.1	9.8	11.3	13.0	14.0	14.7	15.9	0.37	0.41	0.44	0.48	0.56	0.69	0.78	0.85	0.96
14-18 years old	8.5	8.8	10.0	10.9	12.2	15.1	18.5	20.5	21.9	24.2	0.76	0.81	0.84	0.90	1.05	1.26	1.39	1.49	1.69
Total, age adjusted ...	na	7.1	7.9	8.5	9.5	11.7	14.3	16.0	17.2	19.2	0.27	0.30	0.32	0.35	0.41	0.52	0.61	0.69	0.84
Higher-income: > 185% poverty																			
5-8 years old	4.0	6.9	7.4	7.8	8.4	9.7	11.1	12.0	12.6	13.6	0.20	0.20	0.20	0.20	0.23	0.28	0.33	0.38	0.50
9-13 years old	7.0	7.7	8.5	9.0	9.9	11.7	13.9	15.3	16.3	18.0	0.18	0.19	0.19	0.20	0.25	0.39	0.52	0.63	0.87
14-18 years old	8.5	10.1	11.0	11.7	12.8	15.5	19.4	22.2	24.6	28.8	0.41	0.46	0.50	0.62	1.04	1.94	2.81	3.64	5.40
Total, age adjusted ...	na	7.5	8.3	8.9	9.9	12.1	15.0	17.2	18.9	22.2	0.12	0.13	0.15	0.17	0.27	0.54	0.85	1.18	1.95

Notes: Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty). The Bonferroni adjustment was used to adjust levels of significant and control for multiplicity in the number of tests.
na EAR differs for age or gender groups and is not applicable to pooled data.

Source: NHANES-III, 1988-94 Exam file, 24-hour dietary recall. Food intake does not account for vitamin/mineral supplements. Usual intake was estimated using *C-SIDE: Software for Intake Distribution Estimation,* accounting for within-person variance as estimated from the *Continuing Survey of Food Intake of Individuals (CSFII).*

Table D-23—Distribution of usual zinc intake in milligrams: School-age children — Continued

Female

	EAR (mg/dy)	Percentiles									Standard errors of percentiles								
		5th	10th	15th	25th	50th	75th	85th	90th	95th	5th	10th	15th	25th	50th	75th	85th	90th	95th
All children																			
5-8 years old	4.0	5.5	6.0	6.4	7.0	8.2	9.7	10.6	11.2	12.3	0.09	0.09	0.10	0.10	0.12	0.14	0.17	0.18	0.21
9-13 years old	7.0	5.8	6.5	6.9	7.7	9.3	11.3	12.6	13.6	15.3	0.10	0.10	0.10	0.11	0.16	0.26	0.36	0.46	0.75
14-18 years old	7.5	5.3	5.9	6.4	7.2	8.7	10.6	11.8	12.8	14.3	0.12	0.13	0.13	0.15	0.18	0.23	0.30	0.36	0.49
Total, age adjusted ...	na	5.5	6.1	6.6	7.3	8.7	10.5	11.7	12.6	14.1	0.06	0.06	0.06	0.07	0.08	0.11	0.14	0.18	0.28
Lowest income: ≤ 130% poverty																			
5-8 years old	4.0	6.2	6.6	7.0	7.5	8.6	10.0	10.9	11.5	12.5	0.11	0.11	0.11	0.12	0.16	0.23	0.26	0.29	0.33
9-13 years old	7.0	5.9	6.6	7.0	7.8	9.3	11.0	12.0	12.8	14.0	0.14	0.14	0.15	0.16	0.20	0.27	0.32	0.35	0.41
14-18 years old	7.5	5.8	6.6	7.1	8.0	9.7	11.7	12.9	13.8	15.1	0.18	0.19	0.19	0.20	0.25	0.31	0.34	0.36	0.39
Total, age adjusted ...	na	6.1	6.7	7.1	7.8	9.2	10.9	11.9	12.7	13.8	0.08	0.09	0.09	0.10	0.13	0.15	0.16	0.18	0.19
Low-income: 131-185% poverty																			
5-8 years old	4.0	5.3	5.8	6.2	6.8	8.1	9.4	10.1	10.6	11.4	0.20	0.22	0.24	0.26	0.29	0.33	0.36	0.39	0.44
9-13 years old	7.0	6.9	7.3	7.6	8.1	9.0	10.0	10.5	10.9	11.5	0.18	0.19	0.19	0.21	0.24	0.27	0.28	0.30	0.31
14-18 years old	7.5	8.6	8.6	8.7	8.8	8.9	9.0	9.1	9.1	9.2	0.44	0.44	0.45	0.45	0.46	0.48	0.48	0.48	0.49
Total, age adjusted ...	na	6.3	6.7	7.1	7.6	8.6	9.8	10.5	11.0	11.9	0.14	0.15	0.16	0.17	0.21	0.26	0.29	0.31	0.34
Higher-income: > 185% poverty																			
5-8 years old	4.0	5.1	5.6	6.0	6.6	7.9	9.4	10.3	11.0	12.1	0.15	0.16	0.17	0.18	0.23	0.28	0.31	0.33	0.37
9-13 years old	7.0	5.8	6.4	6.8	7.6	9.3	11.6	13.2	14.5	16.7	0.15	0.15	0.16	0.17	0.24	0.46	0.71	0.98	1.62
14-18 years old	7.5	4.4	5.1	5.6	6.4	8.1	10.3	11.7	12.8	14.7	0.18	0.17	0.17	0.18	0.24	0.40	0.61	0.83	1.36
Total, age adjusted ...	na	5.0	5.7	6.1	6.8	8.4	10.4	11.8	13.0	15.0	0.09	0.10	0.10	0.11	0.13	0.19	0.28	0.37	0.65

Notes: Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty). The Bonferroni adjustment was used to adjust levels of significant and control for multiplicity in the number of tests.
na EAR differs for age or gender groups and is not applicable to pooled data.

Source: NHANES-III, 1988-94 Exam file, 24-hour dietary recall. Food intake does not account for vitamin/mineral supplements. Usual intake was estimated using *C-SIDE: Software for Intake Distribution Estimation,* accounting for within-person variance as estimated from the *Continuing Survey of Food Intake of Individuals (CSFII).*

Table D-23—Distribution of usual zinc intake in milligrams: School-age children — Continued

Both sexes

	EAR (mg/dy)	Percentiles									Standard errors of percentiles								
		5th	10th	15th	25th	50th	75th	85th	90th	95th	5th	10th	15th	25th	50th	75th	85th	90th	95th
All children																			
5-8 years old	4.0	5.8	6.4	6.8	7.5	8.9	10.6	11.7	12.5	13.8	0.08	0.08	0.08	0.08	0.09	0.12	0.14	0.15	0.18
9-13 years old	7.0	6.5	7.3	7.8	8.6	10.4	12.5	13.8	14.8	16.6	0.07	0.08	0.08	0.09	0.10	0.14	0.19	0.25	0.38
14-18 years old	na	6.0	6.9	7.6	8.7	11.1	14.2	16.5	18.4	22.0	0.11	0.13	0.14	0.15	0.20	0.34	0.54	0.77	1.41
Total, age adjusted ...	na	6.0	6.8	7.3	8.2	10.2	12.6	14.2	15.5	17.9	0.04	0.05	0.05	0.06	0.08	0.12	0.19	0.28	0.51
Lowest income: ≤ 130% poverty																			
5-8 years old	4.0	6.3	6.9	7.3	7.9	9.4	11.2	12.3	13.1	14.4	0.09	0.10	0.11	0.13	0.18	0.24	0.28	0.30	0.34
9-13 years old	7.0	6.5	7.2	7.8	8.6	10.3	12.3	13.5	14.4	15.8	0.12	0.13	0.13	0.14	0.15	0.20	0.24	0.26	0.30
14-18 years old	na	6.4	7.2	7.8	8.8	10.9	13.5	15.2	16.5	18.6	0.15	0.16	0.17	0.19	0.24	0.31	0.36	0.40	0.49
Total, age adjusted ...	na	6.3	7.0	7.6	8.4	10.2	12.4	13.9	14.9	16.6	0.07	0.08	0.08	0.09	0.12	0.15	0.17	0.19	0.23
Low-income: 131-185% poverty																			
5-8 years old	4.0	5.1	5.6	6.0	6.6	8.1	9.8	11.0	11.8	13.2	0.13	0.14	0.15	0.17	0.20	0.25	0.29	0.33	0.44
9-13 years old	7.0	8.3	8.7	9.0	9.4	10.2	11.1	11.6	11.9	12.4	0.25	0.27	0.28	0.30	0.33	0.37	0.40	0.42	0.45
14-18 years old	na	6.3	7.2	7.8	8.9	11.5	14.7	16.7	18.1	20.5	0.32	0.38	0.42	0.51	0.66	0.83	0.94	1.02	1.17
Total, age adjusted ...	na	6.2	6.9	7.4	8.2	10.0	12.2	13.6	14.6	16.3	0.13	0.16	0.18	0.21	0.26	0.31	0.36	0.41	0.49
Higher-income: > 185% poverty																			
5-8 years old	4.0	5.8	6.4	6.8	7.5	8.9	10.5	11.5	12.3	13.4	0.13	0.14	0.14	0.14	0.15	0.18	0.21	0.24	0.32
9-13 years old	7.0	6.4	7.1	7.6	8.5	10.4	12.9	14.6	16.0	18.4	0.11	0.11	0.12	0.13	0.16	0.28	0.43	0.59	0.98
14-18 years old	na	5.8	6.7	7.3	8.4	10.9	14.5	17.3	19.8	24.9	0.16	0.18	0.19	0.22	0.31	0.63	1.09	1.64	3.13
Total, age adjusted ...	na	5.9	6.6	7.2	8.1	10.2	12.9	14.8	16.4	19.5	0.07	0.07	0.07	0.08	0.11	0.23	0.38	0.55	1.01

Notes: Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty). The Bonferroni adjustment was used to adjust levels of significant and control for multiplicity in the number of tests.
na EAR differs for age or gender groups and is not applicable to pooled data.

Source: NHANES-III, 1988-94 Exam file, 24-hour dietary recall. Food intake does not account for vitamin/mineral supplements. Usual intake was estimated using *C-SIDE: Software for Intake Distribution Estimation,* accounting for within-person variance as estimated from the *Continuing Survey of Food Intake of Individuals (CSFII).*

Table D-24—Mean usual intake of calcium in milligrams: School-age children

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Mean	Standard error	Sample size	Mean	Standard error	Sample size	Mean	Standard error	Sample size	Mean	Standard error
Both sexes												
5-8 years old	2,187	960	12.3	1,118	984	20.4	270	›› 905	16.7	673	955	19.7
9-13 years old	2,448	978	12.0	1,199	925	18.0	288	› 993	26.0	820	›› 1,009	18.6
14-18 years old	1,513	957	19.3	712	918	25.2	186	967	59.1	510	957	27.1
Total, age adjusted ...	6,148	964	9.0	3,029	939	13.9	744	960	22.6	2,003	› 977	11.3
Male												
5-8 years old	1,084	1,031	21.3	535	1,016	41.9	130	944	30.7	356	1,062	28.4
9-13 years old	1,212	1,081	17.4	592	1,001	22.7	144	› 1,102	42.0	408	›››1,132	26.0
14-18 years old	718	1,144	31.2	334	1,028	31.0	88	› 1,251	87.5	234	› 1,162	42.7
Total, age adjusted ...	3,014	1,086	15.1	1,461	1,015	21.6	362	› 1,109	36.2	998	›››1,121	18.0
Female												
5-8 years old	1,103	879	11.0	583	955	19.5	140	› 866	31.5	317	›››808	22.9
9-13 years old	1,236	871	14.3	607	850	20.4	144	889	41.1	412	877	21.1
14-18 years old	795	774	17.5	378	828	36.9	98	› 700	42.5	276	762	25.8
Total, age adjusted ...	3,134	836	7.4	1,568	871	16.1	382	› 811	20.6	1,005	›› 817	11.5

Notes: Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94 Exam file, 24-hour dietary recall. Data reflect nutrient intake from foods. Does not include the contribution of vitamin and mineral supplements. Usual intake was estimated using *C-SIDE: Software for Intake Distribution Estimation,* accounting for within-person variance as estimated from the *Continuing Survey of Food Intakes by Individuals (CSFII).*
'All Children' includes children with missing income.

Table D-25—Mean usual intake of calcium as a percent of Adequate Intake (AI): School-age children

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard error	Sample size	Percent	Standard error	Sample size	Percent	Standard error	Sample size	Percent	Standard error
Both sexes												
5-8 years old	2,187	120.0	1.5	1,118	123.0	2.6	270	›› 113.1	2.1	673	119.4	2.5
9-13 years old	2,448	75.2	0.9	1,199	71.1	1.4	288	› 76.4	2.0	820	›› 77.6	1.4
14-18 years old	1,513	73.6	1.5	712	70.6	1.9	186	74.4	4.5	510	73.6	2.1
Total, age adjusted ...	6,148	83.3	0.8	3,029	81.2	1.2	744	82.9	2.0	2,003	› 84.5	1.0
Male												
5-8 years old	1,084	128.8	2.7	535	127.0	5.2	130	117.9	3.8	356	132.7	3.6
9-13 years old	1,212	83.2	1.3	592	77.0	1.8	144	› 84.8	3.2	408	››› 87.1	2.0
14-18 years old	718	88.0	2.4	334	79.1	2.4	88	› 96.2	6.7	234	› 89.4	3.3
Total, age adjusted ...	3,014	94.3	1.3	1,461	88.2	1.9	362	› 96.4	3.2	998	››› 97.4	1.6
Female												
5-8 years old	1,103	109.9	1.4	583	119.3	2.4	140	› 108.3	3.9	317	››› 101.0	2.9
9-13 years old	1,236	67.0	1.1	607	65.4	1.6	144	68.4	3.2	412	67.4	1.6
14-18 years old	795	59.5	1.4	378	63.7	2.8	98	› 53.8	3.3	276	58.6	2.0
Total, age adjusted ...	3,134	71.8	0.6	1,568	74.8	1.4	382	› 69.7	1.8	1,005	›› 70.2	1.0

Notes: Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94 Exam file, 24-hour dietary recall. Data reflect nutrient intake from foods. Does not include the contribution of vitamin and mineral supplements. Usual intake was estimated using *C-SIDE: Software for Intake Distribution Estimation,* accounting for within-person variance as estimated from the *Continuing Survey of Food Intakes by Individuals (CSFII).*
'All Children' includes children with missing income.

Table D-26—Distribution of usual calcium intake in milligrams: School-age children

Male

	AI (mg/dy)	Percentiles									Standard errors of percentiles								
		5th	10th	15th	25th	50th	75th	85th	90th	95th	5th	10th	15th	25th	50th	75th	85th	90th	95th
All children																			
5-8 years old	800	606	688	745	830	999	1,195	1,320	1,412	1,562	16.40	16.30	16.40	16.60	18.50	25.30	32.20	38.10	49.10
9-13 years old	1,300	620	707	768	862	1,053	1,270	1,399	1,492	1,638	15.30	15.50	15.60	15.70	16.20	20.60	24.80	28.00	33.00
14-18 years old	1,300	530	635	712	836	1,095	1,400	1,585	1,719	1,929	22.40	23.40	24.30	26.20	31.10	38.40	43.00	46.60	52.90
Total, age adjusted	na	578	671	737	840	1,049	1,289	1,436	1,544	1,719	11.30	11.60	11.70	12.10	13.80	17.30	20.10	22.50	26.80
Lowest income: ≤ 130% poverty																			
5-8 years old	800	606	683	735	814	974	1,167	1,296	1,397	1,567	23.70	24.00	24.00	24.00	29.40	60.90	82.50	94.10	112.00
9-13 years old	1,300	617	696	750	832	990	1,157	1,252	1,319	1,421	23.30	22.80	22.40	22.00	22.60	24.80	26.20	27.30	29.30
14-18 years old	1,300	455	542	608	717	960	1,265	1,458	1,601	1,833	19.60	21.90	23.40	25.90	32.10	42.30	49.30	55.70	71.00
Total, age adjusted	na	551	636	696	789	976	1,193	1,330	1,434	1,610	14.10	14.50	14.80	15.20	18.00	26.00	35.40	43.30	54.90
Low-income: 131-185% poverty																			
5-8 years old	800	571	645	697	777	932	1,098	1,191	1,256	1,354	31.70	31.60	31.60	31.90	33.30	35.50	37.00	38.30	40.80
9-13 years old	1,300	567	660	728	836	1,063	› 1,326	›› 1,481	›› 1,593	››› 1,768	29.80	32.50	34.30	36.50	41.80	51.90	59.70	65.40	74.90
14-18 years old	1,300	640	› 759	› 843	›› 974	› 1,234	1,508	1,660	1,765	1,923	67.70	69.20	70.70	74.70	88.10	106.00	116.00	122.00	131.00
Total, age adjusted	na	593	689	757	865	1,084	1,326	1,465	1,563	1,713	26.40	27.00	27.80	29.60	35.20	44.20	50.40	54.90	61.90
Higher-income: > 185% poverty																			
5-8 years old	800	614	700	759	852	1,039	1,248	1,369	1,455	1,586	23.30	23.30	23.50	24.50	27.80	33.60	38.10	41.90	48.60
9-13 years old	1,300	657	744	806	902	›› 1,100	››› 1,327	››› 1,463	››› 1,562	››› 1,719	23.50	23.00	22.70	22.50	23.70	29.40	35.30	40.60	51.20
14-18 years old	1,300	544	648	725	› 849	› 1,112	1,421	1,605	1,738	1,948	33.70	34.60	35.40	37.00	42.60	52.30	59.00	63.80	70.60
Total, age adjusted	na	601	› 696	› 763	›› 867	››› 1,082	››› 1,335	›› 1,489	›› 1,599	1,773	15.50	15.40	15.50	15.80	17.80	21.70	24.00	25.70	28.60

Notes: Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty). The Bonferroni adjustment was used to adjust levels of significant and control for multiplicity in the number of tests.

na Adequate Intake (AI) differs for age or gender groups and is not applicable to pooled data.

Source: NHANES-III, 1988-94 Exam file, 24-hour dietary recall. Food intake does not account for vitamin/mineral supplements. Usual intake was estimated using *C-SIDE: Software for Intake Distribution Estimation,* accounting for within-person variance as estimated from the *Continuing Survey of Food Intake of Individuals (CSFII).*

Table D-26—Distribution of usual calcium intake in milligrams: School-age children — Continued

Female

	AI (mg/dy)	Percentiles									Standard errors of percentiles								
		5th	10th	15th	25th	50th	75th	85th	90th	95th	5th	10th	15th	25th	50th	75th	85th	90th	95th
All children																			
5-8 years old	800	520	589	638	713	862	1,027	1,123	1,191	1,295	10.00	10.30	10.50	10.70	11.10	13.60	15.60	16.70	18.60
9-13 years old	1,300	454	528	582	667	846	1,047	1,164	1,247	1,375	12.00	12.70	13.10	13.60	14.60	16.10	17.20	18.30	21.00
14-18 years old	1,300	376	442	490	568	736	937	1,062	1,154	1,302	10.30	11.10	11.80	13.20	16.90	22.30	26.40	29.80	35.90
Total, age adjusted	na	428	500	552	635	808	1,006	1,123	1,207	1,338	5.64	5.89	6.00	6.22	7.41	9.40	10.90	12.30	15.00
Lowest income: ≤ 130% poverty																			
5-8 years old	800	581	650	700	778	938	1,112	1,210	1,279	1,385	16.70	16.90	17.10	17.70	19.40	21.50	23.50	26.20	34.20
9-13 years old	1,300	483	551	599	675	831	1,004	1,104	1,175	1,284	15.40	16.50	17.40	18.70	20.80	23.30	25.10	26.50	29.30
14-18 years old	1,300	415	484	536	619	796	998	1,120	1,211	1,357	20.10	22.80	24.60	27.30	34.60	46.20	54.30	60.50	70.20
Total, age adjusted	na	469	541	592	673	842	1,040	1,157	1,240	1,368	8.67	9.59	10.30	11.50	15.10	20.80	24.40	26.80	30.30
Low-income: 131-185% poverty																			
5-8 years old	800	517	580	625	697	844	1,011	1,110	1,180	1,290	26.80	28.30	28.90	29.40	32.30	40.10	44.70	47.50	51.50
9-13 years old	1,300	508	574	622	699	860	1,048	1,161	1,242	1,371	23.80	26.30	28.60	32.60	42.20	52.60	57.70	60.80	65.40
14-18 years old	1,300	›› 584	608	625	650	698	››› 747	››› 775	››› 794	››› 822	39.10	39.70	40.00	40.70	42.30	44.60	46.10	47.20	49.10
Total, age adjusted	na	491	552	596	663	796	› 943	›› 1,029	›› 1,090	››› 1,184	16.80	17.10	17.40	18.00	20.50	24.90	27.50	29.30	31.70
Higher-income: > 185% poverty																			
5-8 years old	800	››› 469	››› 534	››› 579	››› 650	››› 793	››› 950	››› 1,040	››› 1,103	››› 1,199	19.50	20.60	21.20	21.90	23.50	26.00	27.80	29.40	32.30
9-13 years old	1,300	446	522	578	667	852	1,057	1,176	1,260	1,392	18.00	18.70	19.10	19.70	21.00	23.30	25.80	28.60	34.80
14-18 years old	1,300	347	411	460	540	716	934	1,070	1,170	1,332	15.50	17.00	18.10	19.90	24.80	31.90	37.50	42.70	53.10
Total, age adjusted	na	››› 403	››› 474	››› 526	››› 610	› 788	990	1,110	1,195	1,330	9.67	10.00	10.30	10.80	11.70	13.60	15.60	17.70	22.10

Notes: Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty). The Bonferroni adjustment was used to adjust levels of significant and control for multiplicity in the number of tests.

na Adequate Intake (AI) differs for age or gender groups and is not applicable to pooled data.

Source: NHANES-III, 1988-94 Exam file, 24-hour dietary recall. Food intake does not account for vitamin/mineral supplements. Usual intake was estimated using *C-SIDE: Software for Intake Distribution Estimation,* accounting for within-person variance as estimated from the *Continuing Survey of Food Intake of Individuals (CSFII).*

Table D-26—Distribution of usual calcium intake in milligrams: School-age children — Continued

Both sexes

	AI (mg/dy)	Percentiles									Standard errors of percentiles								
		5th	10th	15th	25th	50th	75th	85th	90th	95th	5th	10th	15th	25th	50th	75th	85th	90th	95th
All children																			
5-8 years old	800	557	634	688	771	936	1,118	1,228	1,310	1,446	8.86	9.20	9.53	10.10	11.40	14.50	17.80	21.30	28.50
9-13 years old	1,300	517	600	660	755	950	1,169	1,297	1,388	1,533	9.88	10.10	10.20	10.50	11.40	13.50	15.70	17.70	21.70
14-18 years old	1,300	396	484	551	660	899	1,191	1,374	1,508	1,722	10.90	11.80	12.70	14.40	19.10	24.50	28.80	32.00	37.80
Total, age adjusted	na	479	564	626	724	928	1,161	1,302	1,404	1,570	5.99	6.32	6.55	6.92	8.19	10.50	12.40	14.00	17.30
Lowest income: ≤ 130% poverty																			
5-8 years old	800	586	660	712	792	952	1,136	1,253	1,341	1,489	15.30	15.20	15.20	15.60	17.60	23.60	31.20	38.90	55.00
9-13 years old	1,300	520	597	652	738	909	1,093	1,197	1,270	1,382	14.50	15.20	15.60	16.30	18.00	20.30	22.10	23.60	26.30
14-18 years old	1,300	398	478	539	638	857	1,130	1,305	1,436	1,650	15.10	16.30	17.20	18.90	23.50	33.10	39.40	43.70	51.80
Total, age adjusted	na	489	569	628	719	905	1,118	1,249	1,347	1,507	7.83	8.49	9.04	9.99	12.10	16.30	20.20	23.90	31.20
Low-income: 131-185% poverty																			
5-8 years old	800	541	610	659	735	888	1,056	1,152	1,220	1,324	15.10	15.70	16.10	16.70	18.00	20.50	22.50	24.00	27.00
9-13 years old	1,300	527	606	664	756	954	1,187	› 1,328	›› 1,431	›› 1,593	18.30	19.50	20.40	22.10	25.90	31.20	35.60	39.70	48.20
14-18 years old	1,300	494	578	639	735	937	1,166	1,300	1,396	1,545	35.10	38.40	40.90	45.20	57.00	73.90	84.10	91.30	102.00
Total, age adjusted	na	512	591	648	739	930	1,148	1,277	1,368	1,510	16.10	16.30	16.50	17.20	21.00	28.10	32.90	36.70	43.10
Higher-income: > 185% poverty																			
5-8 years old	800	538	616	672	759	935	1,130	1,242	1,321	1,442	15.50	16.10	16.60	17.50	20.00	23.50	26.00	28.00	31.90
9-13 years old	1,300	532	617	679	777	978	›› 1,205	››› 1,340	››› 1,437	››› 1,592	14.00	14.40	14.70	15.30	17.20	21.20	24.90	28.50	36.00
14-18 years old	1,300	383	470	536	645	891	1,197	1,388	1,530	1,759	15.00	16.90	18.60	21.50	27.50	34.80	40.90	45.80	53.30
Total, age adjusted	na	473	561	625	727	939	› 1,184	›› 1,333	›› 1,442	› 1,614	8.93	9.43	9.75	10.20	11.00	13.20	15.10	16.50	19.20

Notes: Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty). The Bonferroni adjustment was used to adjust levels of significant and control for multiplicity in the number of tests.

na Adequate Intake (AI) differs for age or gender groups and is not applicable to pooled data.

Source: NHANES-III, 1988-94 Exam file, 24-hour dietary recall. Food intake does not account for vitamin/mineral supplements. Usual intake was estimated using *C-SIDE: Software for Intake Distribution Estimation,* accounting for within-person variance as estimated from the *Continuing Survey of Food Intake of Individuals (CSFII).*

Table D-27—Mean daily intake of milk (grams): School-age children

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Mean	Standard Error	Sample size	Mean	Standard Error	Sample size	Mean	Standard Error	Sample size	Mean	Standard Error
Both sexes												
5-8 years	2,187	228.7	11.6	1,118	226.7	16.6	270	216.8	27.9	673	230.2	12.8
9-13 years	2,448	184.5	9.1	1,199	163.0	9.5	288	192.0	21.7	820	› 196.6	15.7
14-18 years	1,511	170.4	14.2	711	156.1	22.6	186	182.0	42.0	510	168.7	17.5
Total, age adjusted	6,146	192.0	7.6	3,028	178.5	11.1	744	195.5	18.6	2,003	196.2	9.8
Male												
5-8 years	1,084	252.4	18.7	535	240.5	34.2	130	223.7	29.2	356	264.8	20.6
9-13 years	1,212	213.8	11.7	592	176.0	13.6	144	› 226.5	24.0	408	› 232.6	22.2
14-18 years	717	211.2	19.4	333	168.6	23.5	88	250.9	72.4	234	212.2	29.2
Total, age adjusted	3,013	223.8	10.4	1,460	191.6	11.8	362	234.4	27.6	998	› 234.5	15.3
Female												
5-8 years	1,103	201.5	9.2	583	213.9	17.7	140	210.0	40.2	317	181.4	13.9
9-13 years	1,236	154.5	14.4	607	150.3	15.1	144	158.5	32.6	412	158.2	22.0
14-18 years	794	130.0	14.5	378	145.4	38.8	98	114.8	32.5	276	126.7	13.0
Total, age adjusted	3,133	159.1	8.3	1,568	166.5	16.2	382	157.5	17.3	1,005	153.6	10.9

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94: Exam file, 24-hour dietary recall. The 'All Children' column includes children with missing income.

Table D-28—Mean number of 8-ounce servings of milk consumed per day: School-age children

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Mean	Standard Error	Sample size	Mean	Standard Error	Sample size	Mean	Standard Error	Sample size	Mean	Standard Error
Both sexes												
5-8 years	2,187	1.0	0.05	1,118	0.9	0.07	270	0.9	0.12	673	1.0	0.05
9-13 years	2,448	0.8	0.04	1,199	0.7	0.04	288	0.8	0.09	820	› 0.8	0.07
14-18 years	1,511	0.7	0.06	711	0.6	0.09	186	0.8	0.17	510	0.7	0.07
Total, age adjusted	6,146	0.8	0.03	3,028	0.7	0.05	744	0.8	0.08	2,003	0.8	0.04
Male												
5-8 years	1,084	1.0	0.08	535	1.0	0.14	130	0.9	0.12	356	1.1	0.09
9-13 years	1,212	0.9	0.05	592	0.7	0.06	144	› 0.9	0.10	408	› 1.0	0.09
14-18 years	717	0.9	0.08	333	0.7	0.10	88	1.0	0.30	234	0.9	0.12
Total, age adjusted	3,013	0.9	0.04	1,460	0.8	0.05	362	1.0	0.12	998	› 1.0	0.06
Female												
5-8 years	1,103	0.8	0.04	583	0.9	0.07	140	0.9	0.17	317	0.8	0.06
9-13 years	1,236	0.6	0.06	607	0.6	0.06	144	0.7	0.14	412	0.7	0.09
14-18 years	794	0.5	0.06	378	0.6	0.16	98	0.5	0.14	276	0.5	0.05
Total, age adjusted	3,133	0.7	0.03	1,568	0.7	0.07	382	0.7	0.07	1,005	0.6	0.05

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94: Exam file, 24-hour dietary recall. The 'All Children' column includes children with missing income.

Table D-29—Mean daily intake of soft drinks (grams): School-age children

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Mean	Standard Error	Sample size	Mean	Standard Error	Sample size	Mean	Standard Error	Sample size	Mean	Standard Error
Both sexes												
5-8 years	2,187	306.3	12.13	1,118	299.6	20.67	270	316.2	28.38	673	313.8	16.01
9-13 years	2,448	442.6	14.52	1,199	422.0	28.68	288	466.5	44.14	820	450.6	21.46
14-18 years	1,511	670.0	31.95	711	612.5	53.75	186	759.3	78.75	510	672.7	38.55
Total, age adjusted	6,146	484.8	14.19	3,028	455.0	24.04	744	527.9	34.56	2,003	490.8	16.66
Male												
5-8 years	1,084	331.3	17.79	535	319.5	28.92	130	326.4	41.70	356	342.0	26.04
9-13 years	1,212	489.6	21.17	592	476.6	49.06	144	591.3	72.68	408	478.3	18.91
14-18 years	717	797.2	46.32	333	745.9	99.93	88	922.8 *	123.42	234	800.4	56.35
Total, age adjusted	3,013	554.0	21.31	1,460	527.8	41.85	362	634.1	56.29	998	554.1	24.23
Female												
5-8 years	1,103	277.6	18.46	583	281.0	30.12	140	306.0	34.13	317	274.0	20.28
9-13 years	1,236	394.4	18.27	607	369.1	39.76	144	345.5	33.52	412	421.2	32.79
14-18 years	794	544.2	33.65	378	498.8	59.72	98	599.4	64.44	276	549.6	41.21
Total, age adjusted	3,133	414.6	13.65	1,568	390.3	27.77	382	424.4	27.93	1,005	425.2	16.76

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94: Exam file, 24-hour dietary recall. The 'All Children' column includes children with missing income.

Table D-30—Mean number of 8-ounce servings of soft drinks consumed per day: School-age children

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Mean	Standard Error	Sample size	Mean	Standard Error	Sample size	Mean	Standard Error	Sample size	Mean	Standard Error
Both sexes												
5-8 years	2,187	1.3	0.05	1,118	1.2	0.09	270	1.3	0.12	673	1.3	0.07
9-13 years	2,448	1.8	0.06	1,199	1.8	0.12	288	1.9	0.18	820	1.9	0.09
14-18 years	1,511	2.8	0.13	711	2.6	0.22	186	3.2	0.33	510	2.8	0.16
Total, age adjusted	6,146	2.0	0.06	3,028	1.9	0.10	744	2.2	0.14	2,003	2.0	0.07
Male												
5-8 years	1,084	1.4	0.07	535	1.3	0.12	130	1.4	0.17	356	1.4	0.11
9-13 years	1,212	2.0	0.09	592	2.0	0.20	144	2.5	0.30	408	2.0	0.08
14-18 years	717	3.3	0.19	333	3.1	0.42	88	3.8 *	0.51	234	3.3	0.23
Total, age adjusted	3,013	2.3	0.09	1,460	2.2	0.17	362	2.6	0.23	998	2.3	0.10
Female												
5-8 years	1,103	1.2	0.08	583	1.2	0.13	140	1.3	0.14	317	1.1	0.08
9-13 years	1,236	1.6	0.08	607	1.5	0.17	144	1.4	0.14	412	1.8	0.14
14-18 years	794	2.3	0.14	378	2.1	0.25	98	2.5	0.27	276	2.3	0.17
Total, age adjusted	3,133	1.7	0.06	1,568	1.6	0.12	382	1.8	0.12	1,005	1.8	0.07

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94: Exam file, 24-hour dietary recall. The 'All Children' column includes children with missing income.

Table D-31—Prevalence of dietary supplement use in the past month among school-age children

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
Both sexes												
5-8 years	2,491	40.0	2.2	1,245	26.2	3.1	305	36.2	5.5	785	›››49.7	2.8
9-13 years	2,667	28.7	1.8	1,287	21.1	2.3	302	16.5	3.4	913	›››35.3	3.1
14-18 years	1,642	24.4	1.9	745	14.3	2.0	197	› 28.4	5.8	578	›››29.4	2.8
Total, age adjusted	6,800	30.4	1.2	3,277	20.2	1.7	804	26.3	3.4	2,276	›››37.3	1.7
Male												
5-8 years	1,256	42.1	2.9	600	25.4	3.7	150	29.6	7.3	421	›››53.4	3.8
9-13 years	1,322	28.5	2.5	634	20.7	2.6	152	15.8	4.4	455	›››35.4	3.7
14-18 years	779	23.9	2.9	353	9.5 *	2.4	93	27.8 *	9.4	265	›››31.6	3.9
Total, age adjusted	3,357	30.7	1.7	1,587	18.1	2.0	395	24.0	4.7	1,141	›››39.1	2.3
Female												
5-8 years	1,235	37.6	2.9	645	26.9	4.6	155	43.2	6.6	364	›› 44.6	4.3
9-13 years	1,345	28.8	2.3	653	21.5	3.6	150	17.2	6.0	458	› 35.1	4.0
14-18 years	863	24.8	2.4	392	18.6	3.1	104	29.0	7.3	313	› 27.2	3.2
Total, age adjusted	3,443	29.9	1.6	1,690	22.0	2.4	409	28.7	4.4	1,135	›››35.0	2.4

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94: Adult and youth interview files. The 'All Children' column includes children with missing income.

Table D-32—Number of dietary supplements taken by school-age children using dietary supplements in past month

	All children				Lowest income: ≤ 130% poverty				Low-income: 131-185% poverty				Higher-income: > 185% poverty			
	Sample size	Number supplements used			Sample size	Number supplements used			Sample size	Number supplements used			Sample size	Number supplements used		
		One	Two	Three +		One	Two	Three +		One	Two	Three +		One	Two	Three +
Both sexes																
5-8 years	828	91.3	8.2	0.5 *	298	94.9	5.0	0.1 *	110	84.8	14.1	1.1 *	371	91.0	8.6	0.4 *
9-13 years	581	84.4	13.4	2.1 *	206	84.8	14.0	1.2 *	54	89.8	9.2	1.0 *	280	84.1	14.0	1.9 *
14-18 years	335	77.9	14.3	7.8	104	85.9	8.3	5.8 *	39	84.0	11.9	4.1 *	169	75.1	16.5	8.4 *
Total, age adjusted	1,744	84.1	12.3	3.6	608	88.0	9.4	2.5 *	203	86.4	11.5	2.1 *	820	82.9	13.4	3.8 *
Male																
5-8 years	419	90.9	8.7	0.4 *	141	95.8	4.0	0.2 *	48	89.4	10.6	0.0 *	202	89.2	10.3	0.5 *
9-13 years	283	81.2	17.6	1.2 *	107	82.9	15.4	1.8 *	25	83.3	16.7	0.0 *	138	81.0	18.6	0.4 *
14-18 years	144	79.7	12.8	7.6 *	40	79.7	4.8	15.6 *	15	88.3	11.7	0.0 *	77	78.3	13.2	8.5 *
Total, age adjusted	846	83.4	13.4	3.2 *	288	85.4	8.4	6.2 *	88	86.8	13.2	0.0	417	82.3	14.4	3.3 *
Female																
5-8 years	409	91.9	7.6	0.5 *	157	94.1	5.9	>0	62	81.5	16.7	1.9 *	169	94.1	5.6	0.4 *
9-13 years	298	87.7	9.3	3.0 *	99	86.6	12.7	0.7 *	29	95.4	2.8	1.8 *	142	87.5	9.1	3.4 *
14-18 years	191	76.2	15.9	7.9 *	64	88.7	9.9	1.4 *	24	79.8	12.0	8.2 *	92	71.5	20.2	8.3 *
Total, age adjusted	898	84.8	11.2	4.0 *	320	89.4	9.8	0.8 *	115	85.9	10.0	4.1 *	403	83.7	12.0	› 4.3 *
	Standard errors															
Both sexes																
5-8 years	828	1.4	1.4	0.2	298	1.9	1.9	0.1	110	8.2	8.1	1.1	371	1.9	1.9	0.3
9-13 years	581	2.4	2.5	0.8	206	6.7	6.7	0.8	54	5.9	5.8	1.0	280	3.6	3.6	0.9
14-18 years	335	3.9	3.0	2.1	104	5.2	2.8	3.8	39	7.1	6.3	3.5	169	5.2	4.4	2.9
Total, age adjusted	1,744	1.9	1.7	0.9	608	3.7	2.9	1.4	203	5.6	5.6	1.5	820	2.4	2.4	1.2
Male																
5-8 years	419	2.0	2.0	0.4	141	1.7	1.7	0.2	48	7.6	7.6	0.0	202	2.8	2.8	0.5
9-13 years	283	4.3	4.3	0.6	107	7.8	7.7	1.5	25	11.0	11.0	0.0	138	6.0	6.0	0.3
14-18 years	144	6.1	5.0	3.4	40	11.2	2.5	11.4	15	11.0	11.0	0.0	77	7.6	6.6	4.4
Total, age adjusted	846	2.8	2.7	1.2	288	5.8	2.9	4.1	88	8.0	8.0	0.0	417	3.6	3.6	1.6
Female																
5-8 years	409	2.4	2.2	0.3	157	2.8	2.8	>0	62	10.2	10.1	1.9	169	2.6	2.5	0.4
9-13 years	298	1.9	1.9	1.3	99	7.2	7.0	0.6	29	2.6	1.8	1.9	142	2.9	2.6	1.7
14-18 years	191	4.0	3.5	2.8	64	4.3	4.1	0.9	24	7.9	6.2	6.9	92	6.2	5.4	4.1
Total, age adjusted	898	1.8	1.6	1.2	320	3.4	3.2	0.4	115	4.4	4.0	2.8	403	2.6	2.2	1.7

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences, compared to lowest income group, are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). The Bonferroni adjustment was used to adjust for the multiplicity of tests when examining multiple outcome categories.
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Source: NHANES-III, 1988-94: Adult and youth interview files. The 'All Children' column includes children with missing income.

Table D-33—Types of dietary supplements taken by school-age children using dietary supplements in past month[1]

All children

	Sample size	Single vitamin		Multiple vitamin		Single mineral		Vitamin/mineral combo		Other supplements	
		Percent	Std Error	Percent	Std Error	Percent	Std Error	Percent	Std Error	Percent	Std Error
Both sexes											
5-8 years	828	7.9	1.8	56.3	4.0	5.6	1.4	35.0	4.2	0.9 *	0.3
9-13 years	581	19.9	3.4	52.8	3.5	2.9 *	1.1	34.3	3.4	3.0	1.0
14-18 years	335	33.4	4.2	35.4	5.0	13.6	1.9	36.3	5.1	7.4	2.0
Total, age adjusted	1,744	21.3	2.4	47.6	2.7	7.4	1.0	35.2	2.5	4.0	0.8
Male											
5-8 years	419	9.7	2.8	56.5	4.9	6.2	1.5	33.1	5.5	0.5 *	0.4
9-13 years	283	20.6	4.0	53.5	4.7	4.4 *	2.1	35.8	4.0	1.3 *	0.6
14-18 years	144	38.7	6.8	32.2	6.5	7.8 *	2.8	36.8	8.3	9.3 *	3.4
Total, age adjusted	846	23.9	3.0	46.8	3.2	6.1	1.5	35.4	3.4	3.9	1.2
Female											
5-8 years	409	5.5 *	2.1	56.1	4.3	4.9 *	2.0	37.4	4.7	1.4 *	0.6
9-13 years	298	19.3	5.4	52.0	4.9	1.3 *	0.5	32.8	5.7	4.7 *	2.0
14-18 years	191	28.3	5.6	38.6	6.1	19.1	3.3	35.8	6.1	5.7 *	2.5
Total, age adjusted	898	18.6	3.5	48.4	3.5	8.6	1.4	35.2	3.2	4.1	1.2

See footnotes at end of table.

Table D-33—Types of dietary supplements taken by school-age children using dietary supplements in past month[1] — Continued

Children receiving food stamps or with income ≤ 130% of poverty

	Sample size	Single vitamin		Multiple vitamin		Single mineral		Vitamin/mineral combo		Other supplements	
		Percent	Std Error	Percent	Std Error	Percent	Std Error	Percent	Std Error	Percent	Std Error
Both sexes											
5-8 years	298	9.6 *	4.9	46.6	5.6	3.8 *	1.4	40.8	6.9	0.9 *	0.7
9-13 years	206	31.2	8.5	40.3	6.7	3.5 *	1.3	35.2	6.4	1.2 *	0.8
14-18 years	104	19.1 *	6.1	31.1	8.3	15.8 *	6.0	37.6 *	8.6	9.0 *	4.8
Total, age adjusted	608	20.8	5.1	38.8	4.0	8.0	2.3	37.6	4.6	3.9	1.8
Male											
5-8 years	141	17.2 *	9.1	42.9	7.7	4.6 *	2.0	36.2	10.4	0.5 *	0.4
9-13 years	107	38.8 *	11.7	34.6	8.7	5.4 *	2.2	30.0 *	9.4	1.8 *	1.5
14-18 years	40	31.4 *	12.0	46.7 *	13.5	2.1 *	1.6	21.2 *	6.3	18.1 *	11.6
Total, age adjusted	288	30.1	7.9	41.2	6.3	4.0 *	1.2	28.6	6.2	7.2 *	4.2
Female											
5-8 years	157	3.0 *	2.1	49.7	5.4	3.1 *	1.8	44.8	5.7	1.3 *	1.3
9-13 years	99	24.1 *	9.5	45.5	8.2	1.8 *	0.8	39.9 *	7.7	0.8 *	0.8
14-18 years	64	13.6 *	5.4	24.0 *	9.9	22.0 *	8.6	45.0 *	11.5	4.8 *	4.7
Total, age adjusted	320	14.4	4.3	39.1	5.2	9.3	3.1	43.1	4.6	2.4 *	1.7

See footnotes at end of table.

Table D-33—Types of dietary supplements taken by school-age children using dietary supplements in past month[1] — Continued

Children with income between 131-185% of poverty

	Sample size	Single vitamin		Multiple vitamin		Single mineral		Vitamin/mineral combo		Other supplements	
		Percent	Std Error	Percent	Std Error	Percent	Std Error	Percent	Std Error	Percent	Std Error
Both sexes											
5-8 years	110	12.0 *	6.4	61.1	8.5	11.2 *	7.1	27.4	7.9	1.3 *	1.1
9-13 years	54	13.2 *	7.3	58.0 *	13.7	‘‘ 0.0 *	0.0	32.4 *	10.7	2.6 *	1.7
14-18 years	39	24.7 *	10.3	20.5 *	8.3	8.9 *	6.2	53.3 *	13.4	2.3 *	1.6
Total, age adjusted	203	16.9	6.8	45.6	7.5	6.3 *	3.0	38.4	6.9	2.1 *	1.2
Male											
5-8 years	48	10.3 *	7.6	’ 70.6 *	11.1	8.7 *	7.2	18.8 *	9.1	0.4 *	0.4
9-13 years	25	25.8 *	14.4	49.2 *	17.0	’ 0.0 *	0.0	36.6 *	15.5	3.6 *	2.8
14-18 years	15	14.1 *	11.6	’ 11.0 *	8.6	0.6 *	0.6	‘‘ 72.7 *	15.5	3.2 *	3.0
Total, age adjusted	88	17.3 *	8.8	41.7	6.8	2.7 *	2.0	44.4	7.0	2.6 *	1.6
Female											
5-8 years	62	13.2 *	9.3	54.3 *	10.8	13.0 *	8.3	33.6 *	10.4	1.9 *	1.9
9-13 years	29	’ 2.4 *	2.0	65.5 *	19.4	’ 0.0 *	0.0	28.8 *	14.6	1.8 *	1.9
14-18 years	24	35.1 *	13.0	29.7 *	14.1	17.0 *	11.4	34.4 *	10.5	1.4 *	1.4
Total, age adjusted	115	17.0 *	5.4	49.7	10.9	9.7 *	4.7	32.2	8.2	1.7 *	1.7

See footnotes at end of table.

Table D-33—Types of dietary supplements taken by school-age children using dietary supplements in past month[1] — Continued

Children with income > 185% of poverty

	Sample size	Single vitamin		Multiple vitamin		Single mineral		Vitamin/mineral combo		Other supplements	
		Percent	Std Error	Percent	Std Error	Percent	Std Error	Percent	Std Error	Percent	Std Error
Both sexes											
5-8 years	371	6.9	1.8	58.4	5.8	3.7 *	1.1	36.0	5.9	0.8 *	0.4
9-13 years	280	16.4	4.4	› 57.0	4.8	2.7 *	1.4	34.0	3.9	2.9 *	1.7
14-18 years	169	› 38.4	5.3	38.3	6.6	15.0	2.9	33.7	5.5	7.1 *	2.4
Total, age adjusted	820	21.5	3.0	› 50.8	3.5	7.4	1.2	34.4	3.2	3.8	0.9
Male											
5-8 years	202	8.1 *	2.6	57.4	6.6	4.6 *	1.6	36.5	7.0	0.5 *	0.5
9-13 years	138	› 13.5	4.0	› 61.0	6.2	4.0 *	2.6	37.4	4.9	0.2 *	0.2
14-18 years	77	44.6	7.6	31.4 *	7.7	› 10.8 *	4.1	34.1	8.7	9.5 *	4.5
Total, age adjusted	417	23.0	3.2	49.5	3.8	6.6	1.7	36.0	3.9	3.6	1.6
Female											
5-8 years	169	4.8 *	2.4	60.0	7.2	2.2 *	1.2	35.0	7.4	1.4 *	0.8
9-13 years	142	19.6	8.2	52.8	6.8	1.3 *	0.7	30.3	6.6	5.8 *	3.4
14-18 years	92	› 31.4	7.5	46.2	8.5	19.9	5.5	33.1	7.7	4.4 *	2.2
Total, age adjusted	403	19.6	4.9	52.5	5.0	8.2	2.0	32.6	4.4	4.1	1.3

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).
[1] Percents do not sum to 100 because some respondents took two or more supplements.

Source: NHANES-III, 1988-94: Adult and youth interview files. The 'All Children' column includes children with missing income.

Table D-34—Total Healthy Eating Index score: School-age children

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Mean	Standard Error	Sample size	Mean	Standard Error	Sample size	Mean	Standard Error	Sample size	Mean	Standard Error
Both sexes												
5-8 years	2,187	66.2	0.4	1,118	66.1	0.7	270	65.4	1.1	673	66.7	0.8
9-13 years	2,448	63.0	0.4	1,199	62.3	0.6	288	61.3	0.9	820	› 63.9	0.5
14-18 years	1,511	59.7	0.6	711	59.1	0.8	186	57.7	1.1	510	60.6	0.8
Total, age adjusted	6,146	62.8	0.3	3,028	62.3	0.5	744	61.2	0.7	2,003	63.6	0.5
Male												
5-8 years	1,084	66.3	0.7	535	66.8	0.8	130	64.6	1.5	356	66.8	0.9
9-13 years	1,212	62.4	0.4	592	61.3	0.8	144	61.2	1.6	408	› 63.6	0.7
14-18 years	717	60.0	0.8	333	57.6	1.0	88	58.3	1.3	234	›› 61.8	1.1
Total, age adjusted	3,013	62.7	0.4	1,460	61.6	0.5	362	61.1	1.0	998	››› 63.8	0.5
Female												
5-8 years	1,103	66.2	0.6	583	65.4	1.0	140	66.3	1.6	317	66.7	1.2
9-13 years	1,236	63.5	0.6	607	63.3	0.8	144	61.4	1.0	412	64.3	0.8
14-18 years	794	59.5	0.6	378	60.4	1.0	98	57.2	1.5	276	59.6	0.8
Total, age adjusted	3,133	62.8	0.4	1,568	62.9	0.7	382	61.3	0.8	1,005	63.3	0.7

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94: Healthy Eating Index Data File. The 'All Children' column includes children with missing income.

Table D-35—Percent of school-age children by Healthy Eating Index ratings

	All children				Lowest income: ≤ 130% poverty				Low-income: 131-185% poverty				Higher-income: > 185% poverty			
	Sample size	Poor	Needs Improve-ment	Good	Sample size	Poor	Needs Improve-ment	Good	Sample size	Poor	Needs Improve-ment	Good	Sample size	Poor	Needs Improve-ment	Good
Both sexes																
5-8 years	2,187	10.3	78.6	11.1	1,118	9.6	79.8	10.6	270	9.9	80.0	10.2	673	10.3	78.3	11.4
9-13 years	2,448	14.8	79.2	6.0	1,199	17.9	77.1	5.0	288	12.2	83.5	4.4	820	13.1	80.1	6.8
14-18 years	1,511	21.0	76.3	2.6	711	22.7	74.1	3.2	186	26.4	72.4	1.2	510	18.7	78.3	2.9
Total, age adjusted	6,146	15.8	78.0	6.2	3,028	17.3	76.8	5.9	744	16.6	78.6	4.9	2,003	14.3	79.0	6.8
Male																
5-8 years	1,084	9.8	80.8	9.4	535	8.7	80.4	10.9	130	12.0	83.0	› 5.0	356	8.4	82.5	9.1
9-13 years	1,212	14.5	79.6	5.9	592	19.0	77.0	3.9	144	13.1	81.9	5.0	408	12.2	80.4	7.4
14-18 years	717	19.2	78.0	2.7	333	25.1	72.7	2.3	88	20.8	79.1	0.2	234	15.8	80.1	4.0
Total, age adjusted	3,013	14.8	79.4	5.8	1,460	18.3	76.4	5.3	362	15.5	81.2	3.3	998	› 12.4	80.9	6.7
Female																
5-8 years	1,103	11.0	76.0	13.0	583	10.5	79.3	10.2	140	7.8	76.9	15.4	317	12.9	72.4	14.7
9-13 years	1,236	15.0	79.0	6.0	607	16.8	77.2	5.9	144	11.2	85.0	3.8	412	14.0	79.7	6.2
14-18 years	794	22.8	74.6	2.5	378	20.7	75.4	4.0	98	31.8	65.9	2.3	276	21.5	76.6	1.9
Total, age adjusted	3,133	16.7	76.6	6.8	1,568	16.4	77.2	6.4	382	17.6	76.0	6.5	1,005	16.4	76.6	7.1
	Standard errors															
Both sexes																
5-8 years	2,187	1.3	1.6	1.1	1,118	1.3	2.0	1.7	270	3.6	4.6	3.1	673	2.4	2.3	1.9
9-13 years	2,448	1.0	1.2	0.7	1,199	1.8	1.8	1.2	288	2.2	2.6	2.0	820	1.5	2.0	1.2
14-18 years	1,511	1.8	1.8	0.7	711	2.5	2.5	1.1	186	4.9	4.6	1.0	510	2.6	2.9	1.1
Total, age adjusted	6,146	1.0	1.0	0.5	3,028	1.2	1.1	0.8	744	2.3	2.4	1.4	2,003	1.5	1.6	0.9
Male																
5-8 years	1,084	2.0	2.1	1.4	535	1.7	2.7	2.1	130	4.9	5.2	1.5	356	2.6	2.7	2.1
9-13 years	1,212	1.4	1.6	1.0	592	3.2	3.2	0.9	144	4.2	3.8	2.9	408	1.9	2.4	1.7
14-18 years	717	2.1	2.2	1.1	333	3.8	3.6	1.0	88	5.4	5.4	0.2	234	3.5	4.0	2.1
Total, age adjusted	3,013	1.2	1.4	0.8	1,460	1.7	1.8	0.8	362	2.8	2.9	1.2	998	1.7	1.9	1.3
Female																
5-8 years	1,103	1.8	2.0	1.8	583	2.0	2.7	2.6	140	3.3	6.3	5.6	317	3.9	3.5	3.1
9-13 years	1,236	1.8	2.1	1.2	607	1.9	2.5	2.1	144	2.7	3.6	2.3	412	2.8	3.2	1.5
14-18 years	794	2.5	2.6	0.8	378	3.6	3.9	1.8	98	6.7	6.1	2.0	276	3.4	3.6	0.9
Total, age adjusted	3,133	1.4	1.4	0.8	1,568	1.7	1.6	1.2	382	2.3	2.8	2.1	1,005	2.2	2.1	1.2

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences, compared to lowest income group, are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). The Bonferroni adjustment was used to adjust for the multiplicity of tests when examining multiple outcome categories.

Source: NHANES-III, 1988-94: Healthy Eating Index Data File. The 'All Children' column includes children with missing income.

Table D-36—Healthy Eating Index component scores and food pyramid servings for grains: School-age children[1]

	Mean HEI score				Mean # food pyramid servings				Percent meeting HEI recommendations			
	All children	Lowest income: ≤ 130% poverty	Low-income: 131-185% poverty	Higher-income: > 185% poverty	All children	Lowest income: ≤ 130% poverty	Low-income: 131-185% poverty	Higher-income: > 185% poverty	All children	Lowest income: ≤ 130% poverty	Low-income: 131-185% poverty	Higher-income: > 185% poverty
Both sexes												
5-8 years	7.3	7.4	7.4	7.2	6.2	6.3	6.0	6.1	28.6	29.2	28.9	28.8
9-13 years	7.1	7.0	7.2	7.2	7.2	7.0	7.3	7.4	28.3	27.6	28.8	28.4
14-18 years	6.6	6.7	6.8	6.5	7.6	7.5	8.1	7.5	23.6	23.7	29.8	21.0
Total, age adjusted	7.0	7.0	7.1	7.0	7.1	7.0	7.2	7.1	26.7	26.6	29.2	25.9
Male												
5-8 years	7.6	7.9	7.6	7.5	6.7	7.0	6.3	6.7	34.6	37.9	32.3	34.9
9-13 years	7.4	7.2	7.2	7.7	8.2	7.5	8.2	› 8.7	36.0	29.0	38.7	› 39.8
14-18 years	7.1	6.7	› 7.7	7.1	9.2	8.4	› 10.6	9.4	31.9	27.1	› 45.2	30.5
Total, age adjusted	7.4	7.2	7.5	7.4	8.1	7.7	8.5	› 8.4	34.1	30.8	› 39.2	35.1
Female												
5-8 years	6.9	7.0	7.2	6.7	5.6	5.7	5.8	5.4	21.8	21.1	25.4	20.2
9-13 years	6.8	6.9	7.2	6.6	6.3	6.4	6.4	6.1	20.4	26.2	19.1	› 16.4
14-18 years	6.2	6.7	6.0	› 6.0	6.1	6.7	5.7	› 5.7	15.4	20.8	14.7 *	› 11.9
Total, age adjusted	6.6	6.8	6.8	› 6.4	6.0	6.3	6.0	›› 5.8	19.0	22.8	19.3	› 15.9
	Standard errors											
Both sexes												
5-8 years	0.11	0.19	0.25	0.15	0.14	0.28	0.25	0.16	1.6	3.0	4.2	1.9
9-13 years	0.10	0.14	0.30	0.12	0.18	0.23	0.49	0.22	1.8	2.1	4.8	2.3
14-18 years	0.13	0.19	0.32	0.18	0.25	0.28	0.66	0.34	1.9	2.7	4.9	2.5
Total, age adjusted	0.08	0.11	0.19	0.09	0.14	0.17	0.34	0.16	1.3	1.8	3.2	1.5
Male												
5-8 years	0.14	0.22	0.35	0.20	0.19	0.36	0.38	0.24	2.7	4.6	6.7	3.1
9-13 years	0.14	0.21	0.45	0.18	0.27	0.42	0.84	0.37	2.5	3.2	6.7	3.5
14-18 years	0.18	0.25	0.32	0.27	0.36	0.39	0.85	0.53	2.8	4.2	6.0	4.2
Total, age adjusted	0.12	0.13	0.22	0.15	0.21	0.24	0.43	0.27	2.0	2.4	3.8	2.7
Female												
5-8 years	0.14	0.26	0.34	0.23	0.15	0.30	0.32	0.21	1.6	2.8	4.1	2.6
9-13 years	0.14	0.19	0.34	0.18	0.16	0.21	0.37	0.20	2.0	3.8	4.2	2.1
14-18 years	0.17	0.26	0.44	0.21	0.23	0.40	0.53	0.26	2.3	4.0	7.2	2.6
Total, age adjusted	0.10	0.16	0.23	0.12	0.12	0.20	0.24	0.14	1.5	2.6	2.9	1.6

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).
1 See Table D-34 for sample sizes.

Source: NHANES-III, 1988-94: Healthy Eating Index Data File. The 'All Children' column includes children with missing income.

Table D-37—Healthy Eating Index component scores and food pyramid servings for vegetables: School-age children[1]

	Mean HEI score				Mean # food pyramid servings				Percent meeting HEI recommendations			
	All children	Lowest income: ≤ 130% poverty	Low-income: 131-185% poverty	Higher-income: > 185% poverty	All children	Lowest income: ≤ 130% poverty	Low-income: 131-185% poverty	Higher-income: > 185% poverty	All children	Lowest income: ≤ 130% poverty	Low-income: 131-185% poverty	Higher-income: > 185% poverty
Both sexes												
5-8 years	4.2	4.5	4.3	4.1	1.7	1.8	1.8	1.6	11.2	15.0	10.2	›› 9.0
9-13 years	4.4	4.5	4.7	4.3	2.1	2.1	2.5	2.1	12.9	11.0	12.9	14.3
14-18 years	4.5	4.4	4.4	4.5	2.3	2.4	2.2	2.3	12.8	14.8	8.7 *	12.6
Total, age adjusted	4.4	4.5	4.5	4.3	2.1	2.1	2.2	2.0	12.4	13.5	10.7	12.2
Male												
5-8 years	4.4	4.8	4.4	4.1	1.8	2.0	1.9	1.7	12.7	17.8	10.9 *	› 10.5
9-13 years	4.4	4.5	4.8	4.2	2.2	2.2	3.2	2.0	12.5	9.4	17.1	13.9
14-18 years	4.5	4.1	5.0	4.5	2.6	2.4	2.7 *	2.6	12.6	16.6	10.9 *	10.8
Total, age adjusted	4.4	4.4	4.8	4.3	2.2	2.2	2.6	2.1	12.6	14.3	13.2	11.8
Female												
5-8 years	4.1	4.2	4.1	4.0	1.7	1.7	1.8	1.6	9.5	12.4	9.6 *	7.0
9-13 years	4.5	4.5	4.6	4.4	2.1	2.0	1.9	2.1	13.4	12.6	8.9 *	14.8
14-18 years	4.4	4.7	3.8	4.5	2.1	2.3	1.6	2.1	12.9	13.3	6.6 *	14.4
Total, age adjusted	4.4	4.5	4.2	4.3	2.0	2.0	1.8	2.0	12.1	12.8	8.3	12.5
	Standard errors											
Both sexes												
5-8 years	0.14	0.20	0.28	0.23	0.08	0.09	0.17	0.13	1.6	2.3	3.0	2.1
9-13 years	0.13	0.16	0.38	0.20	0.09	0.09	0.49	0.15	1.3	1.4	4.6	2.1
14-18 years	0.16	0.21	0.48	0.22	0.10	0.18	0.27	0.13	1.2	2.3	3.7	1.6
Total, age adjusted	0.10	0.13	0.27	0.13	0.06	0.08	0.23	0.08	0.8	1.2	2.6	1.2
Male												
5-8 years	0.24	0.33	0.41	0.33	0.12	0.16	0.20	0.17	2.6	3.8	3.9	3.2
9-13 years	0.18	0.19	0.70	0.27	0.12	0.11	0.92	0.15	1.5	1.5	8.8	2.5
14-18 years	0.25	0.33	0.72	0.29	0.16	0.25	0.40	0.19	2.1	2.9	5.5	2.3
Total, age adjusted	0.15	0.18	0.42	0.16	0.08	0.11	0.39	0.09	1.2	1.6	4.3	1.4
Female												
5-8 years	0.13	0.25	0.42	0.23	0.09	0.10	0.29	0.19	1.6	2.5	3.8	2.4
9-13 years	0.15	0.21	0.38	0.25	0.14	0.11	0.15	0.24	2.1	2.1	3.9	3.2
14-18 years	0.17	0.32	0.44	0.28	0.11	0.23	0.19	0.16	1.8	3.3	4.4	2.8
Total, age adjusted	0.09	0.18	0.24	0.16	0.06	0.10	0.11	0.12	0.9	1.7	1.9	1.6

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).
1 See Table D-34 for sample sizes.

Source: NHANES-III, 1988-94: Healthy Eating Index Data File. The 'All Children' column includes children with missing income.

Table D-38—Healthy Eating Index component scores and food pyramid servings for fruit: School-age children[1]

	Mean HEI score				Mean # food pyramid servings				Percent meeting HEI recommendations			
	All children	Lowest income: ≤ 130% poverty	Low-income: 131-185% poverty	Higher-income: > 185% poverty	All children	Lowest income: ≤ 130% poverty	Low-income: 131-185% poverty	Higher-income: > 185% poverty	All children	Lowest income: ≤ 130% poverty	Low-income: 131-185% poverty	Higher-income: > 185% poverty
Both sexes												
5-8 years	4.8	4.7	4.4	5.1	1.6	1.5	1.3	1.8	24.6	24.0	17.3	27.1
9-13 years	3.6	3.5	› 2.9	3.9	1.4	1.3	1.0	1.5	13.9	11.8	11.2	15.9
14-18 years	2.9	2.8	2.4	3.1	1.2	1.2	1.0	1.4	12.1	12.6	10.6	13.4
Total, age adjusted	3.7	3.6	3.1	4.0	1.4	1.3	› 1.1	› 1.5	16.3	15.5	12.8	18.2
Male												
5-8 years	5.0	5.1	4.1	5.2	1.7	1.7	›› 1.2	1.8	26.0	25.9	17.2	28.5
9-13 years	3.3	3.1	2.8	3.5	1.3	1.1	1.1	1.5	11.6	10.0	9.8 *	13.5
14-18 years	2.9	2.6	2.6	3.2	1.4	1.1	1.2	› 1.7	13.2	9.2 *	12.9 *	› 17.4
Total, age adjusted	3.6	3.5	3.1	3.9	1.4	1.3	1.2	›› 1.6	16.3	14.2	13.0	› 19.1
Female												
5-8 years	4.7	4.3	4.6	4.9	1.6	1.4	1.4	1.7	22.9	22.2	17.5	25.0
9-13 years	4.0	3.9	› 3.0	4.3	1.4	1.4	› 1.0	1.6	16.2	13.6	12.7	18.4
14-18 years	2.9	3.0	2.2	3.0	1.0	1.2	0.7	1.1	11.1	15.5	8.4 *	9.5
Total, age adjusted	3.8	3.7	3.2	4.0	1.3	1.3	› 1.0	1.4	16.3	16.7	12.5	17.1
	Standard errors											
Both sexes												
5-8 years	0.22	0.26	0.39	0.30	0.10	0.11	0.12	0.13	1.9	2.3	3.0	2.8
9-13 years	0.18	0.18	0.23	0.27	0.09	0.11	0.10	0.14	1.6	1.5	2.6	2.5
14-18 years	0.19	0.26	0.42	0.28	0.09	0.12	0.21	0.14	1.5	2.5	3.8	2.2
Total, age adjusted	0.12	0.14	0.23	0.19	0.06	0.07	0.09	0.09	1.1	1.2	1.9	1.7
Male												
5-8 years	0.29	0.32	0.47	0.40	0.12	0.14	0.14	0.16	2.9	3.6	4.9	3.8
9-13 years	0.18	0.25	0.39	0.26	0.11	0.11	0.17	0.17	1.4	2.0	3.1	2.2
14-18 years	0.23	0.29	0.61	0.35	0.14	0.14	0.33	0.22	2.1	2.4	6.3	3.3
Total, age adjusted	0.14	0.13	0.33	0.22	0.07	0.06	0.15	0.11	1.2	1.1	2.9	2.1
Female												
5-8 years	0.29	0.40	0.71	0.33	0.12	0.15	0.23	0.15	2.2	3.2	4.4	3.1
9-13 years	0.25	0.25	0.30	0.38	0.12	0.18	0.11	0.18	2.4	2.2	3.4	3.9
14-18 years	0.23	0.44	0.41	0.38	0.09	0.22	0.16	0.14	2.0	4.5	4.1	3.0
Total, age adjusted	0.16	0.23	0.30	0.24	0.08	0.12	0.11	0.11	1.5	2.2	2.4	2.3

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).
1 See Table D-34 for sample sizes.

Source: NHANES-III, 1988-94: Healthy Eating Index Data File. The 'All Children' column includes children with missing income.

Table D-39—Healthy Eating Index component scores and food pyramid servings for dairy: School-age children[1]

	Mean HEI score				Mean # food pyramid servings				Percent meeting HEI recommendations			
	All children	Lowest income: ≤ 130% poverty	Low-income: 131-185% poverty	Higher-income: > 185% poverty	All children	Lowest income: ≤ 130% poverty	Low-income: 131-185% poverty	Higher-income: > 185% poverty	All children	Lowest income: ≤ 130% poverty	Low-income: 131-185% poverty	Higher-income: > 185% poverty
Both sexes												
5-8 years	8.4	8.3	8.4	8.4	2.7	2.7	› 2.4	2.8	60.4	59.4	56.2	61.2
9-13 years	7.3	7.0	7.5	7.4	2.7	2.5	2.8	2.8	44.9	41.0	43.1	› 48.0
14-18 years	6.1	5.9	6.1	6.2	2.6	2.6	2.4	2.6	29.5	26.8	30.7	30.4
Total, age adjusted	7.2	7.0	7.3	7.3	2.7	2.6	2.5	2.7	43.8	41.1	42.4	45.5
Male												
5-8 years	8.6	8.2	8.4	8.8	2.9	2.8	2.6	3.0	64.6	58.8	57.4	68.3
9-13 years	7.8	7.6	7.2	8.0	3.0	2.9	2.8	3.0	50.9	49.2	43.1	54.0
14-18 years	6.9	6.5	7.3	6.9	3.0	2.7	3.1	3.1	37.9	29.5	› 48.5	40.0
Total, age adjusted	7.7	7.4	7.6	› 7.8	2.9	2.8	2.8	3.0	50.2	44.9	49.1	› 53.1
Female												
5-8 years	8.2	8.5	8.4	7.9	2.6	2.7	2.3	2.5	55.5	59.9	55.0	51.2
9-13 years	6.8	6.4	››› 7.8	6.8	2.4	2.1	› 2.7	2.5	38.8	33.0	43.1	41.6
14-18 years	5.4	5.5	5.0	5.4	2.2	2.6	1.8	2.0	21.2	24.5	13.3 *	21.1
Total, age adjusted	6.7	6.6	7.0	6.6	2.4	2.4	2.2	2.3	37.3	37.6	35.9	37.0
	Standard errors											
Both sexes												
5-8 years	0.09	0.18	0.19	0.17	0.07	0.13	0.09	0.12	1.9	3.3	4.4	3.3
9-13 years	0.14	0.18	0.26	0.21	0.08	0.16	0.14	0.11	1.7	2.3	3.3	2.5
14-18 years	0.15	0.23	0.36	0.24	0.13	0.27	0.24	0.15	2.0	2.4	4.9	3.0
Total, age adjusted	0.08	0.12	0.17	0.13	0.06	0.12	0.10	0.08	1.1	1.6	2.6	1.7
Male												
5-8 years	0.13	0.28	0.30	0.18	0.11	0.23	0.19	0.15	2.5	5.0	6.4	3.7
9-13 years	0.16	0.30	0.43	0.23	0.11	0.28	0.26	0.13	2.5	3.7	4.9	3.5
14-18 years	0.21	0.30	0.45	0.32	0.15	0.17	0.37	0.25	3.3	3.5	7.4	5.2
Total, age adjusted	0.09	0.16	0.23	0.14	0.07	0.12	0.16	0.11	1.5	2.2	3.7	2.4
Female												
5-8 years	0.14	0.18	0.33	0.29	0.09	0.15	0.17	0.18	2.9	4.2	6.6	5.2
9-13 years	0.21	0.21	0.26	0.32	0.11	0.12	0.23	0.17	2.6	3.1	7.2	3.9
14-18 years	0.17	0.35	0.47	0.28	0.18	0.50	0.20	0.17	2.2	4.2	5.6	3.4
Total, age adjusted	0.11	0.14	0.22	0.19	0.08	0.19	0.12	0.10	1.2	2.2	3.6	2.2

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).
1 See Table D-34 for sample sizes.

Source: NHANES-III, 1988-94: Healthy Eating Index Data File. The 'All Children' column includes children with missing income.

Table D-40—Healthy Eating Index component scores and food pyramid servings for meat: School-age children[1]

	Mean HEI score				Mean # food pyramid servings				Percent meeting HEI recommendations			
	All children	Lowest income: ≤ 130% poverty	Low-income: 131-185% poverty	Higher-income: > 185% poverty	All children	Lowest income: ≤ 130% poverty	Low-income: 131-185% poverty	Higher-income: > 185% poverty	All children	Lowest income: ≤ 130% poverty	Low-income: 131-185% poverty	Higher-income: > 185% poverty
Both sexes												
5-8 years	5.7	6.1	› 5.4	› 5.5	1.4	1.4	1.3	1.4	19.0	20.4	18.1	18.4
9-13 years	6.2	6.6	5.9	›› 6.0	1.7	1.8	1.6	1.7	27.0	31.3	23.4	25.0
14-18 years	6.4	6.9	6.1	›› 6.3	2.0	2.2	2.0	2.0	31.4	35.8	26.0	29.6
Total, age adjusted	6.1	6.6	››› 5.8	››› 5.9	1.7	1.8	1.6	1.7	26.3	29.8	›› 22.8	› 24.8
Male												
5-8 years	5.8	6.3	› 5.3	5.6	1.4	1.5	1.2	1.4	20.2	21.1	17.5	20.3
9-13 years	6.4	7.1	› 6.3	››› 6.0	1.9	2.0	1.8	1.8	28.4	37.0	› 21.2	› 25.7
14-18 years	7.1	7.1	6.5	7.4	2.5	2.6	2.5	2.6	39.2	39.6	36.4	39.9
Total, age adjusted	6.5	6.9	›› 6.1	6.4	2.0	2.1	1.9	2.0	29.9	33.4	› 25.5	29.2
Female												
5-8 years	5.6	5.9	5.4	5.3	1.3	1.3	1.3	1.3	17.6	19.8	18.7	15.7
9-13 years	5.9	6.0	5.4	5.9	1.6	1.5	1.4	1.6	25.5	25.9	25.6	24.2
14-18 years	5.8	6.8	5.8	››› 5.2	1.6	1.8	1.5	››› 1.4	23.7	32.4	›› 15.9 *	›› 19.7
Total, age adjusted	5.8	6.3	› 5.5	››› 5.5	1.5	1.6	1.4	1.4	22.6	26.5	20.2	› 20.2
	Standard errors											
Both sexes												
5-8 years	0.13	0.15	0.29	0.21	0.04	0.05	0.09	0.07	1.3	2.0	3.5	2.3
9-13 years	0.12	0.14	0.27	0.18	0.05	0.06	0.11	0.09	1.4	2.1	3.4	2.5
14-18 years	0.16	0.24	0.34	0.19	0.07	0.12	0.17	0.09	2.2	3.5	4.3	2.4
Total, age adjusted	0.10	0.12	0.16	0.14	0.04	0.06	0.07	0.05	1.2	1.6	2.1	1.5
Male												
5-8 years	0.17	0.29	0.38	0.25	0.05	0.08	0.11	0.08	1.6	3.2	5.2	2.7
9-13 years	0.18	0.23	0.34	0.25	0.08	0.09	0.14	0.14	2.1	4.2	5.4	2.8
14-18 years	0.18	0.33	0.42	0.24	0.09	0.19	0.31	0.12	2.6	4.0	7.2	3.6
Total, age adjusted	0.10	0.16	0.19	0.16	0.05	0.08	0.11	0.08	1.3	2.3	3.0	2.1
Female												
5-8 years	0.17	0.23	0.40	0.25	0.05	0.08	0.14	0.08	2.1	3.3	5.4	3.1
9-13 years	0.16	0.23	0.39	0.24	0.06	0.08	0.12	0.11	2.1	2.3	5.2	3.7
14-18 years	0.23	0.28	0.54	0.26	0.08	0.12	0.14	0.09	2.7	4.6	4.2	3.0
Total, age adjusted	0.13	0.16	0.28	0.17	0.04	0.06	0.09	0.06	1.5	2.2	3.3	2.0

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).
1 See Table D-34 for sample sizes.

Source: NHANES-III, 1988-94: Healthy Eating Index Data File. The 'All Children' column includes children with missing income.

Table D-41—Healthy Eating Index component scores for variety: School-age children[1]

	Mean HEI score				Percent meeting HEI recommendations			
	All children	Lowest income: ≤ 130% poverty	Low-income: 131-185% poverty	Higher-income: > 185% poverty	All children	Lowest income: ≤ 130% poverty	Low-income: 131-185% poverty	Higher-income: > 185% poverty
Both sexes								
5-8 years	7.9	8.1	› 7.3	8.0	56.3	56.4	45.8	59.2
9-13 years	8.0	7.8	7.9	8.2	57.5	53.6	55.6	60.2
14-18 years	7.3	7.0	6.9	7.4	48.6	43.3	45.7	50.4
Total, age adjusted	7.7	7.6	7.4	7.9	54.0	50.7	49.3	› 56.4
Male								
5-8 years	8.1	8.2	7.5	8.3	59.2	57.7	50.2	63.4
9-13 years	8.1	8.3	7.8	8.1	58.0	59.1	55.0	58.4
14-18 years	7.7	7.1	8.0	› 7.8	54.5	45.2	59.5	55.0
Total, age adjusted	8.0	7.8	7.8	8.1	57.1	53.8	55.3	58.6
Female								
5-8 years	7.7	8.0	› 7.2	7.6	53.0	55.1	41.5	53.3
9-13 years	8.0	7.4	8.0	››› 8.3	57.0	48.2	56.1	› 62.1
14-18 years	6.9	7.0	› 5.8	7.0	42.7	41.6	32.1	46.0
Total, age adjusted	7.5	7.4	7.0	7.7	50.8	47.8	43.5	53.9
	Standard errors							
Both sexes								
5-8 years	0.11	0.16	0.30	0.18	2.0	3.1	5.0	3.1
9-13 years	0.09	0.16	0.28	0.13	1.7	3.0	5.2	2.7
14-18 years	0.18	0.19	0.50	0.26	2.7	3.3	6.1	3.8
Total, age adjusted	0.09	0.09	0.26	0.12	1.3	1.7	3.5	1.8
Male								
5-8 years	0.16	0.19	0.43	0.22	2.8	3.9	7.5	4.1
9-13 years	0.15	0.21	0.35	0.23	2.9	5.2	6.7	4.0
14-18 years	0.21	0.28	0.56	0.27	3.0	3.8	8.2	4.3
Total, age adjusted	0.12	0.16	0.30	0.15	1.9	2.5	5.0	2.3
Female								
5-8 years	0.15	0.24	0.36	0.26	3.0	4.8	6.4	4.0
9-13 years	0.10	0.20	0.34	0.16	2.0	3.8	5.9	3.7
14-18 years	0.21	0.26	0.54	0.33	3.2	4.6	5.9	5.2
Total, age adjusted	0.10	0.11	0.28	0.16	1.7	2.3	4.0	2.6

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).
[1] See Table D-34 for sample sizes.

Source: NHANES-III, 1988-94: Healthy Eating Index Data File. The 'All Children' column includes children with missing income.

Table D-42—Healthy Eating Index component scores for total fat: School-age children[1]

	Mean HEI score				Percent meeting HEI recommendations			
	All children	Lowest income: ≤ 130% poverty	Low-income: 131-185% poverty	Higher-income: > 185% poverty	All children	Lowest income: ≤ 130% poverty	Low-income: 131-185% poverty	Higher-income: > 185% poverty
Both sexes								
5-8 years	6.9	6.8	6.8	7.0	32.2	30.6	25.4	36.1
9-13 years	6.6	6.4	6.3	› 6.9	31.7	31.3	27.8	33.2
14-18 years	6.7	6.4	6.4	6.9	31.4	32.8	26.8	31.6
Total, age adjusted	6.7	6.5	6.4	› 6.9	31.8	31.6	26.8	33.4
Male								
5-8 years	6.7	6.6	6.6	6.9	31.6	31.9	20.3	34.9
9-13 years	6.6	6.0	6.6	›› 7.0	33.0	25.9	30.4	› 38.1
14-18 years	6.9	6.5	6.4	7.3	31.4	31.3	25.0	32.7
Total, age adjusted	6.8	6.4	6.5	›› 7.1	32.0	29.5	25.6	35.3
Female								
5-8 years	7.1	7.0	7.0	7.3	32.8	29.4	30.6	37.8
9-13 years	6.6	6.8	6.0	6.7	30.4	36.5	25.2	27.9
14-18 years	6.5	6.3	6.3	6.6	31.5	34.1	28.5	30.4
Total, age adjusted	6.7	6.7	6.4	6.8	31.5	33.6	27.9	31.6
	Standard errors							
Both sexes								
5-8 years	0.14	0.17	0.37	0.23	1.7	2.3	3.8	2.9
9-13 years	0.11	0.15	0.20	0.17	1.4	2.2	3.2	2.0
14-18 years	0.12	0.26	0.41	0.17	2.2	4.1	4.1	3.0
Total, age adjusted	0.07	0.12	0.18	0.10	1.2	2.0	2.1	1.5
Male								
5-8 years	0.22	0.27	0.45	0.33	2.6	3.8	4.9	4.1
9-13 years	0.14	0.32	0.37	0.19	1.7	3.8	5.5	2.5
14-18 years	0.17	0.36	0.59	0.28	3.1	5.8	6.3	4.4
Total, age adjusted	0.09	0.19	0.27	0.13	1.5	2.8	3.4	1.8
Female								
5-8 years	0.16	0.25	0.48	0.31	2.4	2.9	6.8	4.2
9-13 years	0.16	0.24	0.34	0.26	2.5	3.9	4.7	3.5
14-18 years	0.20	0.32	0.58	0.24	2.7	4.8	7.5	3.5
Total, age adjusted	0.11	0.20	0.29	0.15	1.8	2.7	4.0	2.4

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).
[1] See Table D-34 for sample sizes.

Source: NHANES-III, 1988-94: Healthy Eating Index Data File. The 'All Children' column includes children with missing income.

Table D-43—Healthy Eating Index component scores for saturated fat: School-age children[1]

	Mean HEI score				Percent meeting HEI recommendations			
	All children	Lowest income: ≤ 130% poverty	Low-income: 131-185% poverty	Higher-income: > 185% poverty	All children	Lowest income: ≤ 130% poverty	Low-income: 131-185% poverty	Higher-income: > 185% poverty
Both sexes								
5-8 years	5.1	4.9	5.2	5.2	23.0	20.4	19.4	26.7
9-13 years	5.4	5.4	5.1	5.6	29.1	27.3	26.2	30.9
14-18 years	6.0	5.9	5.6	6.2	33.2	34.3	29.7	34.9
Total, age adjusted	5.5	5.4	5.3	5.7	28.8	27.8	25.5	31.1
Male								
5-8 years	4.9	5.1	4.9	4.9	21.7	25.4	›› 13.0 *	22.0
9-13 years	5.3	4.7	5.7	› 5.6	27.0	21.6	31.7	29.4
14-18 years	5.9	5.6	4.9	6.5	30.5	30.9	24.5	34.0
Total, age adjusted	5.4	5.2	5.2	› 5.7	26.8	26.0	23.9	29.0
Female								
5-8 years	5.3	4.8	5.6	› 5.8	24.5	15.8	25.8	››› 33.3
9-13 years	5.6	6.0	› 4.4	5.6	31.2	32.8	›› 20.9	32.4
14-18 years	6.1	6.1	6.2	6.0	35.8	37.2	34.7	35.7
Total, age adjusted	5.7	5.7	5.4	5.8	31.0	29.6	27.2	33.8
	Standard errors							
Both sexes								
5-8 years	0.18	0.23	0.34	0.32	1.5	2.4	3.9	3.0
9-13 years	0.14	0.21	0.30	0.21	1.8	2.4	3.6	2.6
14-18 years	0.18	0.30	0.35	0.22	2.1	3.1	3.9	2.7
Total, age adjusted	0.12	0.17	0.20	0.17	1.3	1.8	2.2	1.9
Male								
5-8 years	0.26	0.31	0.41	0.44	2.5	3.6	3.6	4.1
9-13 years	0.18	0.38	0.57	0.23	1.8	3.7	6.8	2.6
14-18 years	0.26	0.43	0.60	0.36	3.0	5.1	5.9	4.4
Total, age adjusted	0.15	0.21	0.31	0.21	1.7	2.4	3.4	2.2
Female								
5-8 years	0.21	0.33	0.58	0.32	2.3	3.0	7.1	3.4
9-13 years	0.23	0.27	0.49	0.36	3.0	3.4	3.5	4.3
14-18 years	0.19	0.40	0.53	0.26	2.4	4.7	6.0	3.3
Total, age adjusted	0.13	0.22	0.30	0.19	1.6	2.3	3.5	2.4

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).
1 See Table D-34 for sample sizes.

Source: NHANES-III, 1988-94: Healthy Eating Index Data File. The 'All Children' column includes children with missing income.

Table D-44—Healthy Eating Index component scores for cholesterol: School-age children[1]

	Mean HEI score				Percent meeting HEI recommendations			
	All children	Lowest income: ≤ 130% poverty	Low-income: 131-185% poverty	Higher-income: > 185% poverty	All children	Lowest income: ≤ 130% poverty	Low-income: 131-185% poverty	Higher-income: > 185% poverty
Both sexes								
5-8 years	8.7	8.6	9.1	8.7	80.6	79.4	83.0	81.3
9-13 years	8.2	8.1	8.2	8.4	75.2	74.5	74.4	76.6
14-18 years	7.9	7.6	7.9	8.1	70.4	66.1	69.7	73.0
Total, age adjusted	8.3	8.1	8.3	8.4	75.0	72.9	75.2	76.7
Male								
5-8 years	8.6	8.6	8.9	8.5	79.2	79.4	77.9	79.8
9-13 years	7.9	7.6	7.6	8.2	70.9	68.4	62.5	74.9
14-18 years	7.1	6.7	6.4	7.3	59.5	55.3	51.9	62.1
Total, age adjusted	7.8	7.6	7.5	8.0	69.2	66.9	63.1	71.8
Female								
5-8 years	8.8	8.6	› 9.3	8.9	82.2	79.4	› 88.1 *	83.4
9-13 years	8.6	8.7	8.9	8.6	79.6	80.5	86.0 *	78.5
14-18 years	8.7	8.4	› 9.3	8.8	81.1	75.2	87.1 *	83.5
Total, age adjusted	8.7	8.5	›› 9.1	8.8	80.8	78.3	›› 87.0	81.7
	Standard errors							
Both sexes								
5-8 years	0.14	0.21	0.18	0.26	1.8	2.5	3.1	3.0
9-13 years	0.13	0.21	0.44	0.15	1.4	2.4	4.6	2.0
14-18 years	0.14	0.22	0.39	0.19	2.0	3.1	4.9	3.0
Total, age adjusted	0.08	0.13	0.25	0.12	1.2	1.6	2.8	1.9
Male								
5-8 years	0.20	0.21	0.33	0.36	2.2	2.7	6.1	3.7
9-13 years	0.20	0.34	0.55	0.26	2.1	3.4	5.9	3.1
14-18 years	0.23	0.32	0.63	0.30	3.0	4.0	7.0	4.6
Total, age adjusted	0.12	0.21	0.33	0.20	1.4	2.3	3.6	2.8
Female								
5-8 years	0.17	0.27	0.24	0.31	2.1	3.4	3.8	3.4
9-13 years	0.12	0.19	0.38	0.15	1.6	2.3	4.4	2.4
14-18 years	0.18	0.31	0.31	0.21	2.7	4.8	5.6	3.2
Total, age adjusted	0.08	0.13	0.20	0.13	1.4	1.9	2.9	2.0

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).
1 See Table D-34 for sample sizes.

Source: NHANES-III, 1988-94: Healthy Eating Index Data File. The 'All Children' column includes children with missing income.

Table D-45—Healthy Eating Index component scores for sodium: School-age children[1]

	Mean HEI score				Percent meeting HEI recommendations			
	All children	Lowest income: ≤ 130% poverty	Low-income: 131-185% poverty	Higher-income: > 185% poverty	All children	Lowest income: ≤ 130% poverty	Low-income: 131-185% poverty	Higher-income: > 185% poverty
Both sexes								
5-8 years	7.2	6.7	7.1	›› 7.5	36.3	29.1	36.5	›› 40.1
9-13 years	6.0	6.0	5.6	6.0	29.6	31.1	28.6	28.8
14-18 years	5.3	5.4	5.2	5.4	29.0	28.2	31.9	29.5
Total, age adjusted	6.1	6.0	5.9	6.2	31.3	29.5	32.0	32.2
Male								
5-8 years	6.7	6.0	6.9	› 6.9	31.1	26.8	33.8	30.8
9-13 years	5.3	5.2	5.1	5.3	24.7	26.2	23.4	23.8
14-18 years	4.0	4.7	3.4	3.7	16.2	24.5	13.4 *	› 12.4
Total, age adjusted	5.2	5.3	5.0	5.2	23.5	25.8	22.8	21.7
Female								
5-8 years	7.8	7.3	7.4	››› 8.3	42.4	31.2	39.2	››› 53.2
9-13 years	6.7	6.8	6.0	6.9	34.6	35.8	33.6	34.2
14-18 years	6.6	6.1	6.9	› 6.9	41.5	31.3	› 50.0	› 46.0
Total, age adjusted	7.0	6.7	6.7	›› 7.3	39.2	32.9	41.0	››› 43.8
	Standard errors							
Both sexes								
5-8 years	0.12	0.20	0.27	0.16	1.9	2.6	4.3	2.8
9-13 years	0.14	0.17	0.46	0.21	1.6	2.1	4.6	2.3
14-18 years	0.24	0.29	0.63	0.30	2.5	3.6	5.6	3.6
Total, age adjusted	0.13	0.15	0.34	0.14	1.4	1.9	3.1	1.7
Male								
5-8 years	0.19	0.33	0.51	0.25	2.8	4.4	6.3	4.1
9-13 years	0.22	0.25	0.65	0.31	2.5	2.8	5.3	3.9
14-18 years	0.24	0.42	0.74	0.32	2.6	5.3	4.9	3.0
Total, age adjusted	0.16	0.21	0.41	0.20	1.9	2.8	3.5	2.4
Female								
5-8 years	0.13	0.19	0.34	0.21	2.4	3.1	5.7	3.8
9-13 years	0.15	0.22	0.44	0.25	2.0	3.3	7.3	2.8
14-18 years	0.29	0.41	0.62	0.35	3.5	3.8	8.3	5.2
Total, age adjusted	0.12	0.18	0.32	0.16	1.7	2.1	4.3	2.2

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).
1 See Table D-34 for sample sizes.

Source: NHANES-III, 1988-94: Healthy Eating Index Data File. The 'All Children' column includes children with missing income.

Table D-46—Mean percent of usual energy intake from total fat: School-age children

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Mean	Standard error	Sample size	Mean	Standard error	Sample size	Mean	Standard error	Sample size	Mean	Standard error
Both sexes												
5-8 years old	2,187	33.4	0.16	1,118	34.0	0.21	270	34.0	0.47	673	›››32.7	0.29
9-13 years old	2,448	33.7	0.16	1,199	34.1	0.27	288	34.6	0.31	820	› 33.3	0.25
14-18 years old	1,511	33.6	0.23	711	34.1	0.36	186	35.1	0.56	510	› 33.0	0.32
Total, age adjusted ...	6,146	33.6	0.12	3,028	34.0	0.19	744	34.6	0.27	2,003	›››33.0	0.14
Male												
5-8 years old	1,084	33.6	0.27	535	34.1	0.33	130	34.3	0.66	356	› 32.9	0.44
9-13 years old	1,212	33.8	0.24	592	–	–	144	34.0	0.61	408	32.9	0.33
14-18 years old	717	33.0	0.34	333	33.9	0.58	88	34.8	0.80	234	›› 31.9	0.44
Total, age adjusted ...	3,013	33.5	0.17	1,460	34.5	0.29	362	34.4	0.44	998	›››32.5	0.20
Female												
5-8 years old	1,103	33.3	0.21	583	33.8	0.32	140	33.6	0.75	317	›› 32.5	0.42
9-13 years old	1,236	33.6	0.21	607	32.8	0.40	144	›››35.2	0.51	412	› 33.8	0.29
14-18 years old	794	34.3	0.35	378	34.2	0.41	98	35.3	0.91	276	34.0	0.45
Total, age adjusted ...	3,133	33.7	0.20	1,568	33.6	0.28	382	› 34.7	0.48	1,005	33.5	0.24

Notes: Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).
– Estimate of usual intake could not be obtained for the gender-age group cell. The cell was pooled with a neighboring age group to determine its contribution to the 'Total, age-adjusted' row.

Source: NHANES-III, 1988-94 Exam file, 24-hour dietary recall. Data reflect nutrient intake from foods. Does not include the contribution of vitamin and mineral supplements. Usual intake was estimated using *C-SIDE: Software for Intake Distribution Estimation,* accounting for within-person variance as estimated from the *Continuing Survey of Food Intakes by Individuals (CSFII).*
'All Children' includes children with missing income.

Table D-47—Percent of school-age children meeting Dietary Guidelines recommendation for usual intake of total fat[1]

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard error	Sample size	Percent	Standard error	Sample size	Percent	Standard error	Sample size	Percent	Standard error
Both sexes												
5-8 years old	2,187	17.6	1.15	1,118	11.1	1.13	270	15.4	2.47	673	›››24.2	2.49
9-13 years old	2,448	14.8	1.32	1,199	15.5	1.47	288	›››7.3	1.72	820	16.6	2.13
14-18 years old	1,511	19.2	1.59	711	12.1	2.37	186	›› 4.4	1.45	510	›››26.1	2.37
Total, age adjusted ...	6,146	17.6	0.86	3,028	13.7	1.24	744	› 9.6	1.26	2,003	›››22.4	1.14
Male												
5-8 years old	1,084	16.0	2.11	535	12.3	2.08	130	12.4	4.00	356	19.9	4.06
9-13 years old	1,212	10.7	1.85	592	–	–	144	5.7	3.70	408	19.0	3.20
14-18 years old	717	21.0	2.93	333	14.8	4.42	88	8.5	2.94	234	› 29.9	4.35
Total, age adjusted ...	3,013	16.3	1.39	1,460	9.6	1.51	362	10.7	2.34	998	›››22.9	2.00
Female												
5-8 years old	1,103	19.3	1.34	583	9.7	1.76	140	17.0	5.22	317	›››28.3	3.16
9-13 years old	1,236	18.2	1.54	607	27.9	3.01	144	›››6.5	1.92	412	›››13.9	1.92
14-18 years old	794	17.3	1.78	378	7.4	2.20	98	› 1.2	1.63	276	›››22.1	2.45
Total, age adjusted ...	3,133	18.5	1.27	1,568	17.6	1.96	382	›› 8.7	2.27	1,005	21.1	1.65

Notes: Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).
1 Recommended intake of total fat is less than or equal to 30 percent of total calories.
– Estimate of usual intake could not be obtained for the gender-age group cell. The cell was pooled with a neighboring age group to determine its contribution to the 'Total, age-adjusted' row.

Source: NHANES-III, 1988-94 Exam file, 24-hour dietary recall. Data reflect nutrient intake from foods. Does not include the contribution of vitamin and mineral supplements. Usual intake was estimated using *C-SIDE: Software for Intake Distribution Estimation,* accounting for within-person variance as estimated from the *Continuing Survey of Food Intakes by Individuals (CSFII).*
'All Children' includes children with missing income.

Table D-48—Distribution of usual intake of total fat as a percent of usual energy intake: School-age children

Male

	Percentiles									Standard errors of percentiles								
	5th	10th	15th	25th	50th	75th	85th	90th	95th	5th	10th	15th	25th	50th	75th	85th	90th	95th
All children																		
5-8 years old	27.6	29.0	29.8	31.2	33.6	36.0	37.3	38.1	39.4	0.36	0.33	0.32	0.29	0.26	0.26	0.28	0.29	0.30
9-13 years old	28.8	29.9	30.6	31.7	33.8	35.9	37.0	37.8	38.9	0.30	0.29	0.28	0.27	0.25	0.22	0.21	0.21	0.21
14-18 years old	26.7	28.1	29.1	30.5	33.1	35.6	36.9	37.8	39.1	0.45	0.42	0.40	0.38	0.34	0.32	0.33	0.33	0.33
Total, age adjusted	27.6	28.9	29.8	31.1	33.5	35.9	37.1	38.0	39.3	0.22	0.20	0.20	0.19	0.18	0.16	0.16	0.16	0.17
Lowest income: ≤ 130% poverty																		
5-8 years old	28.3	29.6	30.4	31.7	34.1	36.5	37.8	38.8	40.2	0.33	0.34	0.34	0.34	0.33	0.34	0.36	0.38	0.43
14-18 years old	27.7	29.1	30.0	31.4	33.9	36.4	37.8	38.7	40.0	0.75	0.72	0.70	0.67	0.61	0.54	0.50	0.48	0.45
Total, age adjusted	28.9	30.1	30.9	32.1	34.5	36.9	38.2	39.1	40.4	0.30	0.29	0.28	0.28	0.30	0.33	0.35	0.37	0.40
Low-income: 131-185% poverty																		
5-8 years old	27.8	29.5	30.5	31.9	34.4	36.8	38.1	38.9	40.3	0.98	0.83	0.76	0.69	0.63	0.64	0.67	0.70	0.75
9-13 years old	29.8	30.8	31.4	32.3	34.0	35.7	36.6	37.3	38.2	0.62	0.63	0.63	0.63	0.63	0.62	0.61	0.60	0.59
14-18 years old	29.1	30.3	31.1	32.4	34.7	37.1	38.5	39.4	40.8	0.68	0.69	0.71	0.73	0.81	0.92	0.99	1.04	1.13
Total, age adjusted	28.6	29.9	30.7	32.0	34.4	36.8	38.0	38.9	40.2	0.44	0.43	0.43	0.43	0.44	0.48	0.51	0.53	0.58
Higher-income: > 185% poverty																		
5-8 years old	27.2	28.5	29.3	30.6	33.0	35.2	36.4	› 37.2	› 38.4	0.53	0.51	0.50	0.48	0.45	0.43	0.42	0.42	0.43
9-13 years old	27.4	28.6	29.5	30.7	32.9	35.1	36.3	37.1	38.3	0.50	0.44	0.41	0.37	0.32	0.29	0.28	0.27	0.28
14-18 years old	25.5	27.0	28.0	29.4	32.0	› 34.4	› 35.7	›› 36.5	›› 37.8	0.57	0.55	0.52	0.48	0.43	0.42	0.42	0.42	0.43
Total, age adjusted	››› 26.7	››› 28.0	››› 28.9	››› 30.2	››› 32.6	››› 34.9	››› 36.1	››› 36.9	››› 38.1	0.29	0.27	0.25	0.23	0.19	0.18	0.17	0.17	0.17

Notes: Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty). The Bonferroni adjustment was used to adjust levels of significant and control for multiplicity in the number of tests.

Source: NHANES-III, 1988-94 Exam file, 24-hour dietary recall. Data reflect nutrient intake from foods. Does not include the contribution of vitamin and mineral supplements. Usual intake was estimated using *C-SIDE: Software for Intake Distribution Estimation,* accounting for within-person variance as estimated from the *Continuing Survey of Food Intakes by Individuals (CSFII).*
'All Children' includes children with missing income.

Table D-48—Distribution of usual intake of total fat as a percent of usual energy intake: School-age children — Continued

Female

	Percentiles									Standard errors of percentiles								
	5th	10th	15th	25th	50th	75th	85th	90th	95th	5th	10th	15th	25th	50th	75th	85th	90th	95th
All children																		
5-8 years old	27.2	28.5	29.4	30.7	33.1	35.7	37.2	38.2	39.8	0.20	0.19	0.18	0.18	0.20	0.25	0.28	0.31	0.35
9-13 years old	26.8	28.4	29.5	31.0	33.7	36.4	37.8	38.8	40.2	0.29	0.27	0.26	0.24	0.22	0.20	0.20	0.20	0.19
14-18 years old	26.9	28.5	29.6	31.2	34.2	37.2	38.9	40.1	41.9	0.33	0.32	0.32	0.32	0.34	0.38	0.42	0.46	0.52
Total, age adjusted	26.9	28.4	29.4	30.9	33.7	36.5	38.0	39.1	40.7	0.22	0.21	0.20	0.20	0.19	0.20	0.21	0.22	0.24
Lowest income: ≤ 130% poverty																		
5-8 years old	29.1	30.1	30.7	31.8	33.8	35.8	36.9	37.7	38.9	0.28	0.28	0.29	0.30	0.32	0.36	0.38	0.40	0.44
9-13 years old	24.5	26.4	27.7	29.5	32.9	36.1	37.7	38.9	40.6	0.59	0.54	0.51	0.47	0.41	0.35	0.33	0.33	0.34
14-18 years old	29.4	30.5	31.2	32.2	34.1	36.2	37.3	38.1	39.2	0.45	0.44	0.44	0.43	0.42	0.42	0.43	0.44	0.46
Total, age adjusted	27.2	28.6	29.6	31.0	33.6	36.1	37.5	38.4	39.9	0.34	0.32	0.30	0.29	0.27	0.27	0.27	0.28	0.29
Low-income: 131-185% poverty																		
5-8 years old	27.4	28.8	29.7	31.0	33.5	36.1	37.6	38.8	40.6	0.92	0.85	0.79	0.72	0.70	0.86	1.00	1.10	1.26
9-13 years old	›››29.5	›››30.8	›››31.7	›››33.0	›› 35.3	37.5	38.6	39.4	40.5	0.53	0.54	0.54	0.54	0.54	0.52	0.52	0.51	0.52
14-18 years old	31.4	32.2	32.8	33.7	35.3	36.9	37.8	38.4	39.3	0.77	0.79	0.81	0.84	0.91	0.99	1.04	1.07	1.12
Total, age adjusted	›› 29.1	› 30.3	› 31.1	32.3	34.7	37.0	38.3	39.2	40.6	0.45	0.44	0.44	0.44	0.47	0.52	0.55	0.57	0.61
Higher-income: > 185% poverty																		
5-8 years old	›››25.7	›››27.1	›››28.1	›››29.6	› 32.3	35.2	36.8	38.0	39.7	0.44	0.41	0.40	0.39	0.41	0.48	0.53	0.57	0.64
9-13 years old	›››27.9	›››29.3	›››30.2	›› 31.5	33.8	36.1	37.4	38.3	39.6	0.39	0.35	0.33	0.30	0.29	0.29	0.30	0.31	0.33
14-18 years old	›››25.4	›››27.3	›››28.6	› 30.5	33.9	37.4	› 39.4	›› 40.8	›››43.1	0.54	0.48	0.46	0.43	0.43	0.50	0.59	0.67	0.82
Total, age adjusted	26.3	27.9	29.0	30.5	33.4	36.4	38.0	39.2	40.9	0.28	0.27	0.26	0.25	0.24	0.26	0.28	0.31	0.36

Notes: Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty). The Bonferroni adjustment was used to adjust levels of significant and control for multiplicity in the number of tests.

Source: NHANES-III, 1988-94 Exam file, 24-hour dietary recall. Data reflect nutrient intake from foods. Does not include the contribution of vitamin and mineral supplements. Usual intake was estimated using *C-SIDE: Software for Intake Distribution Estimation,* accounting for within-person variance as estimated from the *Continuing Survey of Food Intakes by Individuals (CSFII).*
'All Children' includes children with missing income.

Table D-48—Distribution of usual intake of total fat as a percent of usual energy intake: School-age children — Continued

Both sexes

	Percentiles									Standard errors of percentiles								
	5th	10th	15th	25th	50th	75th	85th	90th	95th	5th	10th	15th	25th	50th	75th	85th	90th	95th
All children																		
5-8 years old	27.4	28.7	29.6	30.9	33.4	35.9	37.2	38.2	39.6	0.19	0.18	0.16	0.15	0.15	0.17	0.19	0.20	0.23
9-13 years old	27.8	29.1	30.0	31.3	33.8	36.1	37.4	38.3	39.6	0.24	0.22	0.21	0.19	0.15	0.13	0.13	0.13	0.13
14-18 years old	26.8	28.3	29.3	30.8	33.6	36.4	37.9	39.0	40.6	0.28	0.26	0.25	0.24	0.23	0.24	0.25	0.27	0.30
Total, age adjusted	27.2	28.6	29.6	31.0	33.6	36.2	37.6	38.6	40.0	0.15	0.14	0.13	0.12	0.12	0.11	0.12	0.12	0.13
Lowest income: ≤ 130% poverty																		
5-8 years old	28.7	29.8	30.6	31.7	33.9	36.1	37.4	38.2	39.6	0.17	0.18	0.18	0.19	0.21	0.24	0.26	0.27	0.30
9-13 years old	27.5	28.9	29.9	31.4	34.1	36.8	38.2	39.2	40.6	0.26	0.25	0.24	0.24	0.26	0.34	0.40	0.43	0.47
14-18 years old	28.3	29.6	30.5	31.7	34.0	36.4	37.7	38.6	39.9	0.42	0.40	0.40	0.39	0.38	0.36	0.34	0.34	0.34
Total, age adjusted	28.0	29.3	30.2	31.5	34.0	36.5	37.8	38.8	40.1	0.22	0.21	0.20	0.20	0.19	0.20	0.21	0.22	0.24
Low-income: 131-185% poverty																		
5-8 years old	27.5	29.0	29.9	31.3	33.9	36.5	38.0	39.1	40.7	0.43	0.41	0.40	0.40	0.46	0.59	0.67	0.74	0.84
9-13 years old	›››29.4	›› 30.5	›› 31.3	32.5	34.6	36.8	37.9	38.6	39.7	0.36	0.35	0.35	0.34	0.32	0.30	0.28	0.27	0.25
14-18 years old	› 30.2	31.2	31.9	33.0	35.0	37.1	38.2	38.9	40.1	0.47	0.48	0.49	0.50	0.56	0.63	0.67	0.70	0.75
Total, age adjusted	28.8	30.1	30.9	32.2	34.5	36.9	38.2	39.1	40.5	0.25	0.25	0.25	0.26	0.28	0.31	0.33	0.34	0.36
Higher-income: > 185% poverty																		
5-8 years old	›››26.4	›››27.8	›››28.7	›››30.1	›› 32.7	35.3	36.7	37.7	39.1	0.34	0.32	0.32	0.30	0.29	0.30	0.31	0.33	0.35
9-13 years old	27.6	28.9	29.8	31.0	33.4	35.7	› 36.9	› 37.7	› 39.0	0.38	0.33	0.31	0.28	0.24	0.22	0.22	0.23	0.24
14-18 years old	›››25.2	›››27.0	›››28.2	›› 29.8	32.9	36.0	37.7	38.9	40.8	0.44	0.41	0.38	0.34	0.30	0.32	0.36	0.40	0.49
Total, age adjusted	›››26.4	›››27.9	›››28.9	›››30.3	›››33.0	›› 35.7	37.1	38.1	39.6	0.20	0.18	0.17	0.15	0.13	0.14	0.15	0.16	0.18

Notes: Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty). The Bonferroni adjustment was used to adjust levels of significant and control for multiplicity in the number of tests.

Source: NHANES-III, 1988-94 Exam file, 24-hour dietary recall. Data reflect nutrient intake from foods. Does not include the contribution of vitamin and mineral supplements. Usual intake was estimated using *C-SIDE: Software for Intake Distribution Estimation,* accounting for within-person variance as estimated from the *Continuing Survey of Food Intakes by Individuals (CSFII).*
'All Children' includes children with missing income.

Table D-49—Mean percent of usual energy intake from saturated fat: School-age children

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Mean	Standard error	Sample size	Mean	Standard error	Sample size	Mean	Standard error	Sample size	Mean	Standard error
Both sexes												
5-8 years old	2,187	12.6	0.09	1,118	12.7	0.11	270	12.4	0.17	673	› 12.3	0.16
9-13 years old	2,448	12.2	0.08	1,199	12.2	0.13	288	› 12.7	0.17	820	12.0	0.12
14-18 years old	1,511	11.7	0.09	711	11.9	0.14	186	11.9	0.22	510	› 11.5	0.14
Total, age adjusted ...	6,146	12.1	0.05	3,028	12.3	0.07	744	12.3	0.12	2,003	››› 11.9	0.08
Male												
5-8 years old	1,084	12.7	0.15	535	12.5	0.17	130	12.7	0.26	356	12.6	0.23
9-13 years old	1,212	12.3	0.12	592	12.8	0.19	144	12.1	0.33	408	›› 12.1	0.18
14-18 years old	717	11.7	0.15	333	12.0	0.26	88	12.4	0.43	234	› 11.2	0.20
Total, age adjusted ...	3,013	12.2	0.08	1,460	12.4	0.12	362	12.4	0.23	998	›› 11.9	0.12
Female												
5-8 years old	1,103	12.4	0.10	583	13.0	0.14	140	›› 12.1	0.27	317	››› 11.9	0.19
9-13 years old	1,236	12.0	0.10	607	11.7	0.17	144	››› 13.2	0.26	412	11.9	0.16
14-18 years old	794	11.7	0.14	378	11.9	0.24	98	11.5	0.23	276	11.6	0.22
Total, age adjusted ...	3,133	12.0	0.08	1,568	12.2	0.12	382	12.3	0.13	1,005	› 11.8	0.12

Notes: Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94 Exam file, 24-hour dietary recall. Data reflect nutrient intake from foods. Does not include the contribution of vitamin and mineral supplements. Usual intake was estimated using *C-SIDE: Software for Intake Distribution Estimation,* accounting for within-person variance as estimated from the *Continuing Survey of Food Intakes by Individuals (CSFII).*
'All Children' includes children with missing income.

Table D-50—Percent of school-age children meeting Dietary Guidelines recommendation for usual intake of saturated fat[1]

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard error	Sample size	Percent	Standard error	Sample size	Percent	Standard error	Sample size	Percent	Standard error
Both sexes												
5-8 years old	2,187	6.6	0.84	1,118	3.2	0.46	270	› 6.6	1.56	673	›››9.5	1.86
9-13 years old	2,448	7.2	0.77	1,199	6.5	1.11	288	›››0.9	0.54	820	9.6	1.45
14-18 years old	1,511	17.8	1.49	711	10.0	2.01	186	14.3	2.74	510	›››23.9	2.30
Total, age adjusted ...	6,146	11.0	0.68	3,028	6.8	0.83	744	7.8	1.17	2,003	›››14.7	1.18
Male												
5-8 years old	1,084	5.7	1.36	535	5.6	1.29	130	4.5	1.78	356	6.2	2.18
9-13 years old	1,212	3.6	0.84	592	0.4	0.30	144	2.6	2.64	408	›››6.6	1.76
14-18 years old	717	16.6	2.40	333	13.6	3.92	88	13.1	4.43	234	24.3	4.01
Total, age adjusted ...	3,013	8.9	1.04	1,460	6.3	1.17	362	8.0	2.40	998	›› 11.9	1.60
Female												
5-8 years old	1,103	7.0	0.86	583	1.3	0.28	140	› 8.8	3.26	317	›››15.3	2.27
9-13 years old	1,236	11.2	1.20	607	16.2	2.52	144	›››0.2	0.15	412	12.0	2.03
14-18 years old	794	18.5	1.77	378	1.7	1.23	98	›››17.7	4.18	276	›››23.1	2.70
Total, age adjusted ...	3,133	13.2	0.94	1,568	8.4	1.18	382	7.3	1.61	1,005	›››17.7	1.66

Notes: Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).
[1] Recommended intake of saturated fat is less than 10 percent of total calories.

Source: NHANES-III, 1988-94 Exam file, 24-hour dietary recall. Data reflect nutrient intake from foods. Does not include the contribution of vitamin and mineral supplements. Usual intake was estimated using *C-SIDE: Software for Intake Distribution Estimation,* accounting for within-person variance as estimated from the *Continuing Survey of Food Intakes by Individuals (CSFII).*
'All Children' includes children with missing income.

Table D-51—Distribution of usual intake of saturated fat as a percent of usual energy intake: School-age children

Male

	Percentiles									Standard errors of percentiles								
	5th	10th	15th	25th	50th	75th	85th	90th	95th	5th	10th	15th	25th	50th	75th	85th	90th	95th
All children																		
5-8 years old	9.9	10.5	10.9	11.5	12.7	13.9	14.5	15.0	15.7	0.19	0.18	0.17	0.16	0.14	0.14	0.15	0.15	0.16
9-13 years old	10.2	10.6	11.0	11.4	12.3	13.2	13.6	14.0	14.4	0.13	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.13
14-18 years old	8.8	9.5	9.9	10.5	11.7	12.9	13.6	14.0	14.7	0.18	0.17	0.16	0.16	0.15	0.15	0.16	0.16	0.17
Total, age adjusted ...	9.5	10.1	10.5	11.1	12.2	13.3	13.9	14.4	15.0	0.10	0.10	0.10	0.09	0.09	0.08	0.08	0.08	0.08
Lowest income: ≤ 130% poverty																		
5-8 years old	9.9	10.5	10.8	11.4	12.5	13.6	14.2	14.6	15.3	0.17	0.17	0.18	0.18	0.18	0.18	0.19	0.20	0.23
9-13 years old	11.1	11.5	11.7	12.1	12.8	13.4	13.8	14.1	14.4	0.20	0.20	0.20	0.19	0.19	0.19	0.19	0.19	0.19
14-18 years old	9.1	9.7	10.1	10.7	11.9	13.1	13.8	14.3	14.9	0.33	0.31	0.30	0.30	0.27	0.24	0.23	0.22	0.22
Total, age adjusted ...	9.8	10.4	10.8	11.3	12.4	13.4	14.0	14.4	15.0	0.14	0.14	0.13	0.13	0.12	0.11	0.11	0.11	0.11
Low-income: 131-185% poverty																		
5-8 years old	10.1	10.7	11.1	11.7	12.7	13.8	14.4	14.8	15.5	0.30	0.28	0.27	0.26	0.25	0.26	0.30	0.32	0.37
9-13 years old	10.3	10.7	10.9	11.3	12.1	12.9	13.4	13.7	14.1	0.32	0.33	0.33	0.33	0.33	0.33	0.34	0.34	0.35
14-18 years old	8.8	9.6	10.2	11.0	12.5	13.8	14.6	15.1	15.9	0.52	0.51	0.50	0.48	0.43	0.43	0.46	0.48	0.49
Total, age adjusted ...	9.6	10.2	10.6	11.2	12.4	13.6	14.2	14.7	15.4	0.26	0.26	0.25	0.24	0.22	0.23	0.24	0.25	0.27
Higher-income: > 185% poverty																		
5-8 years old	9.8	10.4	10.9	11.5	12.6	13.8	14.4	14.9	15.5	0.28	0.26	0.25	0.24	0.23	0.22	0.23	0.23	0.24
9-13 years old	›››9.8	›››10.3	›››10.6	›› 11.1	› 12.0	13.0	13.5	13.8	14.4	0.18	0.18	0.18	0.17	0.18	0.18	0.18	0.19	0.20
14-18 years old	8.4	9.0	9.4	10.0	11.2	12.4	13.1	13.5	14.2	0.24	0.23	0.23	0.22	0.20	0.21	0.23	0.24	0.27
Total, age adjusted ...	9.3	›› 9.8	›› 10.2	› 10.8	› 11.9	13.0	13.7	14.1	14.7	0.13	0.12	0.12	0.12	0.12	0.12	0.12	0.13	0.14

Notes: Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty). The Bonferroni adjustment was used to adjust levels of significant and control for multiplicity in the number of tests.

Source: NHANES-III, 1988-94 Exam file, 24-hour dietary recall. Data reflect nutrient intake from foods. Does not include the contribution of vitamin and mineral supplements. Usual intake was estimated using *C-SIDE: Software for Intake Distribution Estimation,* accounting for within-person variance as estimated from the *Continuing Survey of Food Intakes by Individuals (CSFII).*
'All Children' includes children with missing income.

Table D-51—Distribution of usual intake of saturated fat as a percent of usual energy intake: School-age children — Continued

Female

	Percentiles									Standard errors of percentiles								
	5th	10th	15th	25th	50th	75th	85th	90th	95th	5th	10th	15th	25th	50th	75th	85th	90th	95th
All children																		
5-8 years old	9.7	10.3	10.7	11.3	12.4	13.6	14.2	14.7	15.4	0.10	0.10	0.10	0.10	0.11	0.12	0.13	0.13	0.14
9-13 years old	9.3	9.9	10.3	10.9	12.0	13.1	13.7	14.1	14.8	0.10	0.10	0.10	0.10	0.11	0.11	0.11	0.12	0.13
14-18 years old	8.7	9.3	9.8	10.4	11.6	12.9	13.7	14.2	15.1	0.13	0.13	0.12	0.11	0.11	0.15	0.20	0.24	0.34
Total, age adjusted	9.1	9.7	10.1	10.8	11.9	13.2	13.8	14.3	15.1	0.08	0.08	0.08	0.07	0.07	0.08	0.09	0.10	0.12
Lowest income: ≤ 130% poverty																		
5-8 years old	10.7	11.2	11.5	12.0	12.9	13.9	14.5	14.9	15.5	0.10	0.11	0.12	0.13	0.15	0.17	0.18	0.19	0.20
9-13 years old	8.9	9.5	9.9	10.5	11.7	12.9	13.6	14.0	14.7	0.21	0.19	0.18	0.18	0.17	0.17	0.18	0.19	0.20
14-18 years old	10.4	10.7	10.9	11.2	11.9	12.5	12.9	13.1	13.5	0.20	0.21	0.21	0.22	0.24	0.27	0.29	0.30	0.32
Total, age adjusted	9.6	10.1	10.5	11.0	12.1	13.2	13.9	14.3	15.0	0.12	0.11	0.11	0.11	0.12	0.14	0.17	0.18	0.20
Low-income: 131-185% poverty																		
5-8 years old	›› 9.6	›› 10.1	› 10.5	› 11.0	12.1	13.2	13.8	14.3	14.9	0.28	0.30	0.30	0.29	0.28	0.28	0.29	0.30	0.33
9-13 years old	››› 11.4	››› 11.8	››› 12.0	››› 12.4	››› 13.2	›› 14.0	14.4	14.7	15.2	0.24	0.24	0.24	0.25	0.27	0.28	0.29	0.30	0.30
14-18 years old	››› 8.8	›› 9.4	›› 9.8	10.4	11.5	12.5	13.1	13.5	14.0	0.29	0.27	0.26	0.25	0.24	0.24	0.24	0.25	0.26
Total, age adjusted	9.7	10.3	10.6	11.2	12.2	13.3	13.9	14.3	14.9	0.17	0.16	0.15	0.14	0.14	0.14	0.14	0.15	0.16
Higher-income: > 185% poverty																		
5-8 years old	››› 9.0	››› 9.6	››› 10.0	››› 10.6	››› 11.8	› 13.1	13.9	14.4	15.2	0.16	0.16	0.16	0.18	0.20	0.22	0.24	0.25	0.27
9-13 years old	9.3	9.8	10.2	10.8	11.9	13.0	13.6	13.9	14.5	0.18	0.18	0.17	0.17	0.16	0.16	0.16	0.16	0.17
14-18 years old	››› 8.2	››› 8.9	››› 9.4	››› 10.1	11.5	13.0	13.9	14.5	› 15.4	0.19	0.19	0.19	0.19	0.18	0.22	0.30	0.39	0.60
Total, age adjusted	››› 8.7	››› 9.4	››› 9.8	› 10.5	11.7	13.1	13.8	14.3	15.1	0.11	0.12	0.12	0.13	0.12	0.11	0.12	0.13	0.18

Notes: Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty). The Bonferroni adjustment was used to adjust levels of significant and control for multiplicity in the number of tests.

Source: NHANES-III, 1988-94 Exam file, 24-hour dietary recall. Data reflect nutrient intake from foods. Does not include the contribution of vitamin and mineral supplements. Usual intake was estimated using *C-SIDE: Software for Intake Distribution Estimation,* accounting for within-person variance as estimated from the *Continuing Survey of Food Intakes by Individuals (CSFII).*
'All Children' includes children with missing income.

Table D-51—Distribution of usual intake of saturated fat as a percent of usual energy intake: School-age children — Continued

Both sexes

	Percentiles									Standard errors of percentiles								
	5th	10th	15th	25th	50th	75th	85th	90th	95th	5th	10th	15th	25th	50th	75th	85th	90th	95th
All children																		
5-8 years old	9.8	10.4	10.8	11.4	12.5	13.7	14.4	14.9	15.6	0.11	0.10	0.10	0.09	0.09	0.10	0.10	0.10	0.11
9-13 years old	9.7	10.3	10.6	11.2	12.1	13.1	13.7	14.1	14.6	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
14-18 years old	8.8	9.4	9.8	10.4	11.6	12.9	13.6	14.1	14.9	0.11	0.11	0.10	0.10	0.08	0.08	0.10	0.12	0.17
Total, age adjusted	9.3	9.9	10.3	10.9	12.1	13.2	13.9	14.3	15.0	0.06	0.06	0.06	0.06	0.05	0.05	0.05	0.06	0.07
Lowest income: ≤ 130% poverty																		
5-8 years old	10.3	10.8	11.1	11.7	12.7	13.7	14.3	14.8	15.4	0.09	0.10	0.10	0.10	0.12	0.13	0.14	0.14	0.15
9-13 years old	9.8	10.4	10.7	11.2	12.2	13.2	13.8	14.2	14.7	0.13	0.12	0.12	0.12	0.13	0.13	0.14	0.14	0.16
14-18 years old	9.5	10.0	10.3	10.9	11.9	12.9	13.5	13.9	14.5	0.16	0.15	0.15	0.15	0.14	0.16	0.18	0.20	0.22
Low-income: 131-185% poverty																		
5-8 years old	9.8	10.4	10.7	11.3	12.4	13.5	14.1	14.6	15.3	0.19	0.19	0.18	0.18	0.17	0.17	0.19	0.21	0.24
9-13 years old	›››10.8	›› 11.2	›› 11.4	› 11.8	12.6	13.5	13.9	14.2	14.7	0.17	0.17	0.17	0.17	0.18	0.18	0.18	0.19	0.20
14-18 years old	8.9	9.6	10.1	10.7	12.0	13.2	13.8	14.3	14.9	0.23	0.23	0.23	0.23	0.22	0.22	0.23	0.24	0.26
Total, age adjusted	9.6	10.2	10.6	11.2	12.3	13.5	14.1	14.5	15.2	0.13	0.12	0.12	0.12	0.12	0.13	0.14	0.15	0.16
Higher-income: > 185% poverty																		
5-8 years old	›››9.4	›››10.0	› 10.5	› 11.1	12.3	13.5	14.2	14.7	15.4	0.19	0.18	0.17	0.16	0.16	0.16	0.17	0.18	0.19
9-13 years old	9.5	10.0	10.4	10.9	12.0	13.0	13.6	13.9	14.5	0.14	0.13	0.13	0.12	0.12	0.11	0.11	0.12	0.12
14-18 years old	›››8.2	›››8.9	›››9.4	›››10.1	11.4	12.8	13.5	14.1	14.9	0.17	0.16	0.16	0.14	0.12	0.13	0.17	0.23	0.36
Total, age adjusted	9.0	9.6	10.0	10.6	11.8	13.1	13.7	14.2	15.0	0.09	0.09	0.09	0.09	0.08	0.09	0.09	0.10	0.12

Notes: Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty). The Bonferroni adjustment was used to adjust levels of significant and control for multiplicity in the number of tests.

Source: NHANES-III, 1988-94 Exam file, 24-hour dietary recall. Data reflect nutrient intake from foods. Does not include the contribution of vitamin and mineral supplements. Usual intake was estimated using *C-SIDE: Software for Intake Distribution Estimation,* accounting for within-person variance as estimated from the *Continuing Survey of Food Intakes by Individuals (CSFII).*
'All Children' includes children with missing income.

Table D-52—Mean usual intake of cholesterol in milligrams: School-age children

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Mean	Standard error	Sample size	Mean	Standard error	Sample size	Mean	Standard error	Sample size	Mean	Standard error
Both sexes												
5-8 years old	2,187	215	4.0	1,118	231	8.3	270	›››190	8.1	673	210	6.6
9-13 years old	2,448	249	4.8	1,199	253	6.4	288	262	12.4	820	242	7.1
14-18 years old	1,513	263	5.8	712	274	6.7	186	272	22.7	510	› 252	8.4
Total, age adjusted ...	6,148	245	3.0	3,029	254	4.1	744	245	9.4	2,003	›› 236	4.1
Male												
5-8 years old	1,084	222	5.1	535	231	8.1	130	› 192	14.8	356	223	8.2
9-13 years old	1,212	274	7.9	592	293	10.3	144	355	1425.3	408	› 259	13.4
14-18 years old	718	318	9.1	334	325	13.2	88	370	41.8	234	308	12.8
Total, age adjusted ...	3,014	275	4.6	1,461	286	7.2	362	281	14.1	998	› 264	6.5
Female												
5-8 years old	1,103	207	4.8	583	231	11.9	140	› 189	12.2	317	›› 194	7.4
9-13 years old	1,236	225	4.4	607	214	5.7	144	246	19.7	412	221	6.2
14-18 years old	795	209	5.8	378	232	8.0	98	›››180	11.3	276	›› 198	8.6
Total, age adjusted ...	3,134	214	2.9	1,568	225	4.2	382	207	9.4	1,005	›› 205	4.8

Notes: Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94 Exam file, 24-hour dietary recall. Data reflect nutrient intake from foods. Does not include the contribution of vitamin and mineral supplements. Usual intake was estimated using *C-SIDE: Software for Intake Distribution Estimation,* accounting for within-person variance as estimated from the *Continuing Survey of Food Intakes by Individuals (CSFII).*
'All Children' includes children with missing income.

Table D-53—Percent of school-age children meeting Dietary Guidelines recommendation for usual intake of cholesterol[1]

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard error	Sample size	Percent	Standard error	Sample size	Percent	Standard error	Sample size	Percent	Standard error
Both sexes												
5-8 years old	2,187	86.8	1.2	1,118	84.3	3.2	270	93.7	1.9	673	87.5	1.9
9-13 years old	2,448	76.4	1.8	1,199	76.3	2.9	288	73.8	6.0	820	78.0	2.3
14-18 years old	1,513	70.4	2.3	712	67.5	3.4	186	67.5	10.5	510	73.3	3.0
Total, age adjusted ...	6,148	77.2	1.1	3,029	75.4	1.8	744	78.0	4.0	2,003	79.4	1.5
Male												
5-8 years old	1,084	84.8	1.5	535	86.8	3.0	130	90.0	4.0	356	83.5	2.5
9-13 years old	1,212	68.7	3.2	592	59.1	4.8	144	41.0	19.6	408	› 73.6	5.1
14-18 years old	718	47.5	3.7	334	45.3	4.9	88	32.7	9.8	234	53.4	5.1
Total, age adjusted ...	3,014	65.7	1.8	1,461	62.4	3.5	362	62.8	4.9	998	› 71.1	2.3
Female												
5-8 years old	1,103	89.6	1.5	583	82.6	4.6	140	98.7	1.8	317	92.2	1.9
9-13 years old	1,236	83.6	1.6	607	88.8	1.9	144	85.3	9.8	412	83.8	2.1
14-18 years old	795	91.2	1.5	378	84.3	2.8	98	98.5	1.0	276	› 91.5	2.1
Total, age adjusted ...	3,134	88.0	0.9	1,568	84.6	1.6	382	90.1	2.9	1,005	› 89.2	1.4

Notes: Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).
[1] National Research Council's Diet and Health recommendation for intake of cholesterol is less than or equal to 300 milligrams.

Source: NHANES-III, 1988-94 Exam file, 24-hour dietary recall. Data reflect nutrient intake from foods. Does not include the contribution of vitamin and mineral supplements. Usual intake was estimated using *C-SIDE: Software for Intake Distribution Estimation,* accounting for within-person variance as estimated from the *Continuing Survey of Food Intakes by Individuals (CSFII).*
'All Children' includes children with missing income.

Table D-54—Distribution of usual intake of cholesterol in milligrams: School-age children

Male

	Percentiles									Standard errors of percentiles								
	5th	10th	15th	25th	50th	75th	85th	90th	95th	5th	10th	15th	25th	50th	75th	85th	90th	95th
All children																		
5-8 years old	113	131	144	165	209	265	301	328	373	3.60	3.79	3.95	4.21	4.82	5.94	7.05	7.96	9.43
9-13 years old	159	178	191	212	259	318	358	388	439	3.32	3.67	3.94	4.41	5.87	10.30	14.80	18.50	25.20
14-18 years old	182	205	221	248	306	374	416	446	495	5.60	6.19	6.62	7.31	8.91	11.20	12.70	13.80	15.70
Lowest income: ≤ 130% poverty																		
5-8 years old	145	159	170	187	223	267	294	313	345	5.23	5.64	5.97	6.53	7.88	9.67	10.80	11.70	13.10
9-13 years old	178	198	212	234	281	340	377	404	448	5.18	5.72	6.18	7.09	9.57	13.20	15.40	16.90	19.00
14-18 years old	175	200	218	248	312	388	434	467	518	8.69	9.30	9.84	10.80	12.90	15.90	17.80	19.30	21.90
Total, age adjusted ...	176	195	208	229	275	332	367	393	433	3.96	4.24	4.49	4.99	6.65	9.21	10.90	12.00	13.50
Low-income: 131-185% poverty																		
5-8 years old	›››91	›››106	›››117	›››135	› 178	235	272	300	343	6.86	7.37	7.98	9.49	14.10	19.80	23.00	25.30	29.80
9-13 years old	177	202	221	253	327	426	492	543	629	11.40	18.20	29.30	67.40	229.00	710.00	48000.0	46000.0	25000.0
14-18 years old	183	215	238	275	354	448	504	545	609	24.10	25.50	26.80	29.50	38.20	52.30	62.30	69.70	81.60
Total, age adjusted ...	›››134	›››156	›› 173	201	264	343	393	429	488	7.40	8.05	8.64	9.74	13.00	17.80	21.70	25.10	31.20
Higher-income: > 185% poverty																		
5-8 years old	›››109	›››127	›› 141	163	210	269	307	336	383	5.39	5.74	6.00	6.36	7.34	10.00	12.00	13.70	16.70
9-13 years old	›››147	›››164	›››177	›› 198	245	304	343	372	421	4.51	4.96	5.33	6.10	9.23	16.60	23.50	29.80	42.30
14-18 years old	172	193	209	235	292	364	410	444	501	6.87	7.67	8.29	9.32	11.90	15.90	19.10	21.80	26.80
Total, age adjusted ...	›››132	›››152	›››167	›››191	›› 244	314	362	400	466	2.69	3.22	3.68	4.36	5.74	8.08	10.20	12.30	17.20

Notes: Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty). The Bonferroni adjustment was used to adjust levels of significant and control for multiplicity in the number of tests.

Source: NHANES-III, 1988-94 Exam file, 24-hour dietary recall. Data reflect nutrient intake from foods. Does not include the contribution of vitamin and mineral supplements. Usual intake was estimated using *C-SIDE: Software for Intake Distribution Estimation,* accounting for within-person variance as estimated from the *Continuing Survey of Food Intakes by Individuals (CSFII).*
'All Children' includes children with missing income.

Table D-54—Distribution of usual intake of cholesterol in milligrams: School-age children — Continued

Female

	Percentiles									Standard errors of percentiles								
	5th	10th	15th	25th	50th	75th	85th	90th	95th	5th	10th	15th	25th	50th	75th	85th	90th	95th
All children																		
5-8 years old	114	127	138	155	194	245	278	303	344	2.23	2.41	2.61	3.02	4.17	6.08	7.56	8.76	10.80
9-13 years old	115	132	145	166	212	270	306	333	376	2.43	2.48	2.58	2.91	4.05	5.83	7.08	8.04	9.74
14-18 years old	118	134	145	163	201	246	274	294	326	4.03	4.35	4.59	4.94	5.68	6.75	7.53	8.15	9.19
Total, age adjusted	114	130	142	161	202	254	286	311	352	1.86	1.96	2.07	2.27	2.76	3.59	4.29	4.92	6.05
Lowest income: ≤ 130% poverty																		
5-8 years old	128	142	153	172	214	272	311	341	392	3.74	4.46	5.09	6.36	10.50	16.60	20.10	22.70	27.50
9-13 years old	116	133	145	164	206	255	285	306	339	3.99	4.13	4.25	4.52	5.43	7.18	8.22	8.84	9.91
14-18 years old	133	150	162	181	221	271	303	327	366	5.16	5.75	6.06	6.32	7.57	9.85	11.20	12.30	14.20
Total, age adjusted	124	141	153	172	212	266	302	328	370	2.45	2.82	3.07	3.24	3.84	5.18	6.86	8.33	10.20
Low-income: 131-185% poverty																		
5-8 years old	133	143	150	161	184	212	› 229	›› 242	›› 262	7.09	7.63	8.09	8.95	11.30	14.80	17.40	19.40	23.10
9-13 years old	›››172	›› 185	›› 194	208	239	276	299	316	343	11.70	13.30	14.30	15.80	18.90	23.20	26.20	28.50	32.50
14-18 years old	104	118	129	› 144	› 176	›› 211	›››231	›››245	›››267	9.99	10.30	10.50	10.80	11.70	12.70	13.40	13.80	14.60
Total, age adjusted	113	128	139	156	195	244	275	299	339	4.96	5.24	5.58	6.39	8.88	12.10	14.30	16.20	19.70
Higher-income: > 185% poverty																		
5-8 years old	›››103	›››117	›››127	›› 144	182	231	262	286	326	3.67	3.99	4.27	4.81	6.47	9.35	11.60	13.60	17.30
9-13 years old	110	127	139	160	206	266	306	336	385	3.60	3.56	3.65	4.10	5.91	8.30	10.00	11.50	14.40
14-18 years old	›››101	›››117	›› 129	›› 147	› 188	237	268	291	328	5.32	5.90	6.36	7.10	8.52	10.20	11.50	12.70	14.90
Total, age adjusted	›››103	›››119	›››131	›››151	› 193	246	280	305	346	2.55	2.76	2.96	3.38	4.55	6.12	7.11	7.89	9.24

Notes: Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty). The Bonferroni adjustment was used to adjust levels of significant and control for multiplicity in the number of tests.

Source: NHANES-III, 1988-94 Exam file, 24-hour dietary recall. Data reflect nutrient intake from foods. Does not include the contribution of vitamin and mineral supplements. Usual intake was estimated using *C-SIDE: Software for Intake Distribution Estimation,* accounting for within-person variance as estimated from the *Continuing Survey of Food Intakes by Individuals (CSFII).*
'All Children' includes children with missing income.

Table D-54—Distribution of usual intake of cholesterol in milligrams: School-age children — Continued

Both sexes

	Percentiles									Standard errors of percentiles								
	5th	10th	15th	25th	50th	75th	85th	90th	95th	5th	10th	15th	25th	50th	75th	85th	90th	95th
All children																		
5-8 years old	112	128	140	160	202	256	291	318	363	2.18	2.38	2.57	2.89	3.64	4.97	6.01	6.87	8.27
9-13 years old	131	149	163	185	234	295	336	368	421	1.99	2.23	2.44	2.84	3.83	5.80	8.11	10.50	15.50
14-18 years old	136	157	172	196	250	315	355	385	434	3.08	3.37	3.58	3.99	5.42	7.53	9.09	10.20	11.80
Total, age adjusted	123	142	156	179	230	292	334	366	419	1.40	1.55	1.67	1.89	2.59	3.86	4.75	5.54	7.37
Lowest income: ≤ 130% poverty																		
5-8 years old	134	149	160	178	218	270	303	328	370	3.50	4.05	4.50	5.28	7.40	10.80	13.10	14.80	17.50
9-13 years old	147	165	179	200	244	297	329	353	391	3.40	3.76	4.06	4.64	5.99	8.11	9.59	10.60	12.10
14-18 years old	169	188	201	222	266	318	350	373	409	3.91	4.35	4.75	5.41	6.63	8.25	9.22	9.86	10.80
Low-income: 131-185% poverty																		
5-8 years old	›››106	›››119	›››128	›››144	›› 179	› 225	254	276	312	4.67	5.05	5.40	6.05	7.75	10.20	11.90	13.40	16.30
9-13 years old	161	178	191	210	252	303	335	358	396	5.82	6.64	7.33	8.56	11.50	15.50	18.10	20.10	23.40
14-18 years old	155	175	190	214	263	320	354	380	420	12.80	14.20	15.30	17.10	21.30	27.30	31.60	35.00	40.80
Total, age adjusted	135	152	165	187	234	291	326	351	393	4.35	4.93	5.48	6.52	9.04	12.20	14.20	15.80	18.40
Higher-income: > 185% poverty																		
5-8 years old	›››106	›››122	›››134	›› 154	198	253	288	314	357	3.61	3.92	4.17	4.62	5.83	8.20	9.89	11.20	13.30
9-13 years old	›››121	›››139	›››152	›››174	223	289	333	367	426	2.84	3.03	3.21	3.53	4.67	8.28	12.30	16.20	24.60
14-18 years old	›››116	›››137	›››153	›››179	› 235	306	353	388	447	4.61	4.88	5.13	5.67	7.51	10.70	13.10	15.10	18.90
Total, age adjusted	112	131	145	168	218	283	327	361	418	1.82	1.94	2.09	2.46	3.66	5.62	6.97	8.08	10.40

Notes: Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty). The Bonferroni adjustment was used to adjust levels of significant and control for multiplicity in the number of tests.

Source: NHANES-III, 1988-94 Exam file, 24-hour dietary recall. Data reflect nutrient intake from foods. Does not include the contribution of vitamin and mineral supplements. Usual intake was estimated using *C-SIDE: Software for Intake Distribution Estimation,* accounting for within-person variance as estimated from the *Continuing Survey of Food Intakes by Individuals (CSFII).*
'All Children' includes children with missing income.

Table D-55—Mean usual intake of sodium in milligrams: School-age children

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Mean	Standard error	Sample size	Mean	Standard error	Sample size	Mean	Standard error	Sample size	Mean	Standard error
Both sexes												
5-8 years old	2,187	2,933	28.3	1,118	3,132	41.0	270	›››2,904	53.6	673	›››2,824	44.1
9-13 years old	2,448	3,500	45.3	1,199	3,385	49.7	288	3,772	196.7	820	3,514	69.6
14-18 years old	1,513	3,829	73.6	712	3,807	91.6	186	4,123	281.5	510	3,737	89.0
Total, age adjusted ...	6,148	3,456	34.9	3,029	3,462	43.8	744	3,668	139.5	2,003	3,406	36.3
Male												
5-8 years old	1,084	3,128	45.4	535	3,375	68.4	130	›› 3,033	92.4	356	›››3,045	66.1
9-13 years old	1,212	3,809	77.9	592	3,731	79.4	144	4,222	324.5	408	3,821	115.6
14-18 years old	718	4,536	106.1	334	4,099	117.0	88	›› 5,358	416.5	234	›› 4,585	131.5
Total, age adjusted ...	3,014	3,870	58.1	1,461	3,761	61.1	362	› 4,286	212.3	998	3,872	67.1
Female												
5-8 years old	1,103	2,709	27.7	583	2,903	39.9	140	2,805	79.6	317	›››2,516	44.7
9-13 years old	1,236	3,186	53.4	607	3,061	52.2	144	› 3,341	98.9	412	3,180	81.8
14-18 years old	795	3,136	76.0	378	3,567	124.6	98	›››2,929	139.0	276	›››2,925	90.8
Total, age adjusted ...	3,134	3,024	28.9	1,568	3,195	56.0	382	3,038	77.4	1,005	›››2,898	34.5

Notes: Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94 Exam file, 24-hour dietary recall. Data reflect nutrient intake from foods. Does not include the contribution of vitamin and mineral supplements. Usual intake was estimated using *C-SIDE: Software for Intake Distribution Estimation,* accounting for within-person variance as estimated from the *Continuing Survey of Food Intakes by Individuals (CSFII).*
'All Children' includes children with missing income.

Table D-56—Percent of school-age children meeting Dietary Guidelines recommendation for usual intake of sodium[1]

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard error	Sample size	Percent	Standard error	Sample size	Percent	Standard error	Sample size	Percent	Standard error
Both sexes												
5-8 years old	2,187	21.8	1.3	1,118	15.1	1.2	270	› 22.2	2.9	673	›››25.7	2.4
9-13 years old	2,448	10.5	0.7	1,199	8.6	1.1	288	›››0.9	0.5	820	›› 13.3	1.1
14-18 years old	1,513	11.4	1.0	712	5.2	1.0	186	6.2	2.6	510	›››15.1	1.6
Total, age adjusted ...	6,148	15.1	0.6	3,029	11.2	0.8	744	8.9	1.6	2,003	›››17.8	0.8
Male												
5-8 years old	1,084	16.2	1.7	535	10.2	1.4	130	› 19.4	4.0	356	15.9	2.7
9-13 years old	1,212	5.6	0.8	592	1.6	0.5	144	›› 0.0	0.0	408	›››9.1	1.3
14-18 years old	718	2.3	0.6	334	2.5	1.0	88	0.5	0.5	234	2.4	0.7
Total, age adjusted ...	3,014	9.1	0.8	1,461	6.9	0.8	362	4.5	1.2	998	› 10.0	1.0
Female												
5-8 years old	1,103	29.2	1.8	583	20.0	2.0	140	20.2	5.1	317	›››43.9	3.6
9-13 years old	1,236	14.3	1.3	607	15.6	2.0	144	› 8.1	2.6	412	16.0	2.2
14-18 years old	795	17.2	2.3	378	1.6	0.9	98	›› 21.8	6.7	276	›››28.7	3.6
Total, age adjusted ...	3,134	20.2	1.0	1,568	13.6	1.2	382	›››4.8	2.1	1,005	›››27.5	1.6

Notes: Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).
1 National Research Council's Diet and Health recommendation for intake of sodium is less than or equal to 2400 milligrams.

Source: NHANES-III, 1988-94 Exam file, 24-hour dietary recall. Data reflect nutrient intake from foods. Does not include the contribution of vitamin and mineral supplements. Usual intake was estimated using *C-SIDE: Software for Intake Distribution Estimation,* accounting for within-person variance as estimated from the *Continuing Survey of Food Intakes by Individuals (CSFII).*
'All Children' includes children with missing income.

Table D-57—Distribution of usual sodium intake in milligrams: School-age children

Male

	Percentiles									Standard errors of percentiles								
	5th	10th	15th	25th	50th	75th	85th	90th	95th	5th	10th	15th	25th	50th	75th	85th	90th	95th
All children																		
5-8 years old	2,014	2,221	2,369	2,598	3,059	3,584	3,898	4,125	4,479	40.90	41.40	41.60	42.00	44.30	53.00	60.40	66.20	75.40
9-13 years old	2,364	2,614	2,791	3,071	3,661	4,377	4,832	5,175	5,748	46.80	48.50	49.40	50.70	58.00	93.70	140.00	178.00	236.00
14-18 years old	2,692	3,014	3,245	3,611	4,403	5,328	5,862	6,239	6,821	84.10	83.00	83.20	86.50	105.00	129.00	144.00	155.00	175.00
Total, age adjusted ...	2,155	2,443	2,649	2,976	3,680	4,560	5,117	5,533	6,213	37.30	38.80	40.00	42.10	48.00	67.10	89.30	111.00	151.00
Lowest income: ≤ 130% poverty																		
5-8 years old	2,171	2,392	2,550	2,797	3,304	3,876	4,212	4,451	4,823	48.00	51.50	53.90	58.10	69.40	86.00	97.10	105.00	117.00
9-13 years old	2,668	2,870	3,012	3,231	3,673	4,169	4,465	4,676	5,003	64.00	66.00	67.90	71.20	78.90	90.20	98.50	105.00	117.00
14-18 years old	2,622	2,892	3,084	3,383	3,999	4,704	5,126	5,431	5,916	106.00	110.00	113.00	116.00	119.00	126.00	134.00	142.00	158.00
Total, age adjusted ...	2,285	2,549	2,736	3,029	3,639	4,360	4,803	5,126	5,644	43.40	46.90	49.30	52.60	60.30	72.70	88.00	100.00	114.00
Low-income: 131-185% poverty																		
5-8 years old	1,986	2,169	2,301	2,513	› 2,963	› 3,480	› 3,778	› 3,988	4,310	69.80	74.30	79.10	87.00	97.30	111.00	119.00	128.00	151.00
9-13 years old	› 3,463	3,611	3,714	3,873	4,188	4,534	4,734	4,875	5,094	247.00	261.00	272.00	287.00	320.00	358.00	380.00	396.00	422.00
14-18 years old	3,273	3,651	3,920	4,336	› 5,203	› 6,222	› 6,841	› 7,288	› 7,978	281.00	302.00	317.00	343.00	406.00	496.00	549.00	583.00	624.00
Total, age adjusted ...	2,436	2,734	2,959	3,324	4,114	5,040	5,620	6,052	6,753	96.40	116.00	131.00	154.00	192.00	259.00	311.00	354.00	423.00
Higher-income: > 185% poverty																		
5-8 years old	2,057	2,246	2,379	2,584	›› 2,993	›› 3,450	›› 3,719	›› 3,913	››› 4,214	62.80	62.40	61.50	60.40	62.10	73.20	83.40	91.80	105.00
9-13 years old	››› 2,171	››› 2,442	››› 2,639	› 2,953	3,631	4,472	5,015	› 5,428	6,119	60.50	60.70	61.10	62.70	73.40	115.00	176.00	246.00	415.00
14-18 years old	2,709	3,059	3,301	3,678	4,465	›› 5,390	›› 5,922	›› 6,289	›› 6,832	111.00	107.00	108.00	114.00	139.00	162.00	173.00	181.00	201.00
Total, age adjusted ...	2,097	2,400	2,618	2,960	3,682	4,570	5,139	› 5,568	› 6,274	52.60	51.20	50.60	50.90	57.30	77.20	98.50	120.00	171.00

Notes: Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty). The Bonferroni adjustment was used to adjust levels of significant and control for multiplicity in the number of tests.

Source: NHANES-III, 1988-94 Exam file, 24-hour dietary recall. Data reflect nutrient intake from foods. Does not include the contribution of vitamin and mineral supplements. Usual intake was estimated using *C-SIDE: Software for Intake Distribution Estimation,* accounting for within-person variance as estimated from the *Continuing Survey of Food Intakes by Individuals (CSFII).*
'All Children' includes children with missing income.

Table D-57—Distribution of usual sodium intake in milligrams: School-age children — Continued

Female

	Percentiles									Standard errors of percentiles								
	5th	10th	15th	25th	50th	75th	85th	90th	95th	5th	10th	15th	25th	50th	75th	85th	90th	95th
All children																		
5-8 years old	1,911	2,065	2,173	2,340	2,672	3,038	3,250	3,401	3,635	27.20	26.90	26.40	25.70	26.40	31.00	34.80	37.80	42.80
9-13 years old	2,080	2,278	2,417	2,636	3,095	3,640	3,971	4,213	4,596	33.00	32.40	32.70	35.10	47.30	68.70	82.20	91.80	107.00
14-18 years old	1,980	2,190	2,341	2,578	3,066	3,618	3,942	4,173	4,534	49.30	53.30	56.50	62.00	74.60	89.00	97.90	105.00	117.00
Total, age adjusted ...	1,952	2,145	2,282	2,497	2,942	3,461	3,777	4,007	4,375	18.00	18.60	19.30	21.20	27.20	35.10	40.90	45.50	53.70
Lowest income: ≤ 130% poverty																		
5-8 years old	1,998	2,174	2,299	2,490	2,867	3,270	3,504	3,671	3,936	40.90	39.20	38.30	37.70	39.10	43.70	48.00	51.70	58.10
9-13 years old	2,048	2,248	2,386	2,597	3,012	3,470	3,740	3,935	4,243	46.50	45.10	44.60	45.20	50.60	62.70	71.60	78.60	90.20
14-18 years old	2,625	2,804	2,929	3,123	3,516	3,956	4,213	4,396	4,682	83.00	89.50	94.40	103.00	121.00	146.00	161.00	173.00	191.00
Total, age adjusted ...	2,096	2,296	2,437	2,658	3,115	3,648	3,968	4,198	4,563	30.00	30.90	32.20	36.30	51.60	73.50	86.60	95.90	111.00
Low-income: 131-185% poverty																		
5-8 years old	2,047	2,200	2,307	2,473	2,796	3,124	3,299	3,417	›› 3,592	69.70	74.20	77.30	81.40	86.50	85.80	84.50	84.10	86.00
9-13 years old	2,266	2,466	2,609	2,832	3,288	3,793	4,083	4,287	4,599	81.80	86.70	90.90	96.90	105.00	113.00	123.00	134.00	157.00
14-18 years old	››› 1,949	››› 2,127	››› 2,257	››› 2,462	›› 2,884	› 3,346	3,606	3,786	4,061	113.00	118.00	122.00	131.00	149.00	159.00	160.00	160.00	162.00
Total, age adjusted ...	››› 2,406	›› 2,532	2,620	2,755	3,019	› 3,301	››› 3,458	››› 3,566	››› 3,729	62.80	66.00	68.40	72.30	79.90	85.90	88.40	89.90	92.30
Higher-income: > 185% poverty																		
5-8 years old	›› 1,792	››› 1,928	››› 2,024	››› 2,171	››› 2,471	››› 2,810	››› 3,013	››› 3,159	››› 3,391	38.40	38.80	39.10	39.60	42.00	50.90	59.30	66.40	79.20
9-13 years old	2,044	2,238	2,376	2,594	3,061	3,636	4,000	4,273	4,721	51.20	49.70	50.00	52.70	72.00	104.00	125.00	143.00	177.00
14-18 years old	››› 1,666	››› 1,894	››› 2,058	››› 2,316	››› 2,849	› 3,451	3,803	4,054	4,445	67.70	72.20	75.70	81.50	93.70	106.00	113.00	118.00	124.00
Total, age adjusted ...	››› 1,807	››› 2,000	››› 2,137	››› 2,352	››› 2,803	›› 3,340	› 3,672	3,917	4,312	28.30	28.40	28.70	29.70	33.00	39.60	45.80	51.50	63.00

Notes: Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty). The Bonferroni adjustment was used to adjust levels of significant and control for multiplicity in the number of tests.

Source: NHANES-III, 1988-94 Exam file, 24-hour dietary recall. Data reflect nutrient intake from foods. Does not include the contribution of vitamin and mineral supplements. Usual intake was estimated using *C-SIDE: Software for Intake Distribution Estimation,* accounting for within-person variance as estimated from the *Continuing Survey of Food Intakes by Individuals (CSFII).*
'All Children' includes children with missing income.

Table D-57—Distribution of usual sodium intake in milligrams: School-age children — Continued

Both sexes

	Percentiles									Standard errors of percentiles								
	5th	10th	15th	25th	50th	75th	85th	90th	95th	5th	10th	15th	25th	50th	75th	85th	90th	95th
All children																		
5-8 years old	1,940	2,125	2,257	2,461	2,873	3,340	3,618	3,819	4,134	26.10	25.90	25.50	24.90	26.40	33.20	39.00	43.50	50.80
9-13 years old	2,147	2,381	2,547	2,807	3,358	4,037	4,467	4,791	5,325	23.40	24.70	26.10	29.40	37.50	52.30	73.40	96.40	141.00
14-18 years old	2,026	2,330	2,553	2,912	3,676	4,580	5,128	5,525	6,155	42.00	47.50	50.90	55.80	69.50	91.30	107.00	120.00	141.00
Total, age adjusted	1,965	2,217	2,398	2,684	3,297	4,052	4,531	4,890	5,481	17.70	19.10	20.50	23.20	29.60	40.80	52.50	64.20	88.10
Lowest income: ≤ 130% poverty																		
5-8 years old	2,056	2,257	2,398	2,617	3,063	3,571	3,875	4,096	4,444	30.20	29.80	30.30	32.20	39.80	52.50	61.80	69.00	81.10
9-13 years old	2,227	2,450	2,604	2,839	3,312	3,855	4,183	4,421	4,797	41.30	41.40	41.10	42.20	48.50	58.90	66.50	72.50	83.70
14-18 years old	2,388	2,639	2,820	3,105	3,699	4,391	4,808	5,111	5,593	58.70	64.90	69.30	75.90	89.40	109.00	123.00	134.00	154.00
Total, age adjusted	2,113	2,353	2,525	2,793	3,348	4,004	4,411	4,713	5,203	25.80	27.30	28.90	32.40	42.50	55.40	65.40	74.10	88.60
Low-income: 131-185% poverty																		
5-8 years old	1,939	2,120	2,250	2,453	› 2,865	›› 3,314	›› 3,567	›› 3,742	››› 4,005	50.00	51.70	53.10	55.20	57.50	58.10	59.20	61.20	67.40
9-13 years old	››› 2,735	›› 2,918	›› 3,050	3,257	3,691	4,196	4,504	4,729	5,090	101.00	117.00	129.00	148.00	190.00	238.00	269.00	293.00	334.00
14-18 years old	2,320	2,607	2,820	3,166	3,925	4,860	5,449	5,887	6,600	139.00	165.00	186.00	217.00	274.00	345.00	396.00	438.00	508.00
Total, age adjusted	2,215	2,442	2,614	2,899	3,534	4,285	4,727	5,050	5,577	56.20	64.80	74.10	92.30	131.00	174.00	205.00	230.00	278.00
Higher-income: > 185% poverty																		
5-8 years old	› 1,911	›› 2,081	››› 2,202	››› 2,389	››› 2,769	››› 3,199	››› 3,455	››› 3,639	››› 3,929	41.30	40.70	40.10	39.20	40.60	49.10	57.30	64.10	75.60
9-13 years old	›› 2,042	› 2,281	2,454	2,727	3,323	4,084	› 4,585	›› 4,970	›› 5,624	35.40	34.90	35.60	38.20	49.70	77.10	109.00	145.00	231.00
14-18 years old	››› 1,829	››› 2,155	››› 2,394	› 2,776	3,588	4,536	5,103	5,512	6,154	60.00	65.30	69.00	74.90	89.90	114.00	130.00	140.00	159.00
Total, age adjusted	››› 1,864	››› 2,122	››› 2,310	››› 2,609	3,239	4,014	4,514	4,893	5,517	25.60	25.70	25.80	26.70	30.60	40.80	51.90	64.80	97.50

Notes: Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty). The Bonferroni adjustment was used to adjust levels of significant and control for multiplicity in the number of tests.

Source: NHANES-III, 1988-94 Exam file, 24-hour dietary recall. Data reflect nutrient intake from foods. Does not include the contribution of vitamin and mineral supplements. Usual intake was estimated using *C-SIDE: Software for Intake Distribution Estimation,* accounting for within-person variance as estimated from the *Continuing Survey of Food Intakes by Individuals (CSFII).*
'All Children' includes children with missing income.

Table D-58—Percent of school-age children using table salt

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
Both sexes												
5-8 years	2,138	35.0	2.2	1,096	34.4	2.8	262	41.5	5.8	660	34.6	3.9
9-13 years	2,295	54.3	2.0	1,122	54.2	3.4	271	57.3	5.3	775	54.2	2.6
14-18 years	1,472	63.6	2.2	689	65.0	3.1	182	60.6	7.4	500	64.0	2.5
Total, age adjusted	5,905	52.1	1.3	2,907	52.4	1.7	715	54.0	4.4	1,935	52.2	1.8
Male												
5-8 years	1,059	32.7	2.6	524	31.7	3.1	128	37.3	7.9	348	32.6	4.6
9-13 years	1,143	54.2	2.9	562	52.4	5.0	135	63.2	8.5	386	52.9	3.4
14-18 years	692	67.2	3.2	321	62.6	5.3	85	67.3 *	10.9	227	69.6	3.3
Total, age adjusted	2,894	52.7	1.9	1,407	50.2	2.8	348	57.3	6.9	961	53.1	2.1
Female												
5-8 years	1,079	37.6	2.7	572	36.8	4.4	134	46.0	7.1	312	37.3	5.0
9-13 years	1,152	54.4	2.7	560	55.9	3.3	136	51.8	6.1	389	55.6	3.9
14-18 years	780	60.0	2.6	368	67.0	4.4	97	53.9	7.1	273	58.8	3.9
Total, age adjusted	3,011	51.7	1.6	1,500	54.5	2.5	367	50.9	4.0	974	51.6	2.6

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94: Exam file, 24-hour dietary recall. The 'All Children' column includes children with missing income.

Table D-59—Mean usual intake of dietary fiber in grams: School-age children

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Mean	Standard error	Sample size	Mean	Standard error	Sample size	Mean	Standard error	Sample size	Mean	Standard error
Both sexes												
5-8 years old	2,187	12.7	0.16	1,118	13.5	0.26	270	›› 12.2	0.35	673	›› 12.4	0.25
9-13 years old	2,448	14.4	0.16	1,199	14.3	0.24	288	13.4	0.66	820	14.6	0.28
14-18 years old	1,513	15.0	0.28	712	14.9	0.34	186	14.8	0.79	510	14.8	0.39
Total, age adjusted ...	6,148	14.1	0.13	3,029	14.3	0.19	744	› 13.5	0.36	2,003	14.0	0.19
Male												
5-8 years old	1,084	13.3	0.23	535	14.1	0.34	130	13.0	0.61	356	› 13.1	0.36
9-13 years old	1,212	15.4	0.27	592	–	–	144	15.5	1.23	408	16.0	0.44
14-18 years old	718	17.0	0.46	334	15.9	0.57	88	17.8	4.42	234	17.2	0.65
Total, age adjusted ...	3,014	15.3	0.21	1,461	15.0	0.28	362	15.5	0.59	998	15.6	0.27
Female												
5-8 years old	1,103	11.9	0.21	583	12.9	0.33	140	› 11.4	0.58	317	››› 11.3	0.28
9-13 years old	1,236	13.3	0.25	607	13.9	0.41	144	››› 11.6	0.44	412	13.2	0.33
14-18 years old	795	12.9	0.28	378	14.1	0.42	98	› 12.0	0.84	276	›› 12.4	0.48
Total, age adjusted ...	3,134	12.7	0.14	1,568	13.7	0.25	382	››› 11.5	0.37	1,005	››› 12.3	0.22

Notes: Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).
– Estimate of usual intake could not be obtained for the gender-age group cell. The cell was pooled with a neighboring age group to determine its contribution to the 'Total, age-adjusted' row.

Source: NHANES-III, 1988-94 Exam file, 24-hour dietary recall. Data reflect nutrient intake from foods. Does not include the contribution of vitamin and mineral supplements. Usual intake was estimated using *C-SIDE: Software for Intake Distribution Estimation,* accounting for within-person variance as estimated from the *Continuing Survey of Food Intakes by Individuals (CSFII).*
'All Children' includes children with missing income.

Table D-60—Percent of school-age children with usual intake of dietary fiber at or above reference standard[1]

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard error	Sample size	Percent	Standard error	Sample size	Percent	Standard error	Sample size	Percent	Standard error
Both sexes												
5-8 years old	2,187	78.0	1.61	1,118	87.2	1.83	270	›››68.8	3.49	673	›››75.3	2.63
9-13 years old	2,448	47.0	1.32	1,199	47.1	2.24	288	39.0	5.24	820	50.1	2.53
14-18 years old	1,513	19.9	1.62	712	17.3	2.05	186	17.0	4.79	510	19.8	2.19
Total, age adjusted ...	6,148	46.1	0.88	3,029	47.8	1.21	744	›› 39.6	2.73	2,003	46.5	1.41
Male												
5-8 years old	1,084	86.4	1.92	535	92.2	1.70	130	80.9	5.60	356	86.2	3.15
9-13 years old	1,212	55.8	1.97	592	–	–	144	50.7	7.70	408	60.3	3.23
14-18 years old	718	30.8	3.18	334	22.8	3.78	88	34.6	13.00	234	33.4	4.34
Total, age adjusted ...	3,014	55.6	1.44	1,461	34.1	1.42	362	›››53.5	5.62	998	›››58.1	2.13
Female												
5-8 years old	1,103	67.8	2.21	583	81.9	3.02	140	›››57.2	5.38	317	›››61.1	3.29
9-13 years old	1,236	38.2	2.42	607	43.1	3.49	144	›››23.5	4.06	412	37.7	3.69
14-18 years old	795	8.9	1.43	378	12.0	2.29	98	1.5	1.08	276	8.4	2.33
Total, age adjusted ...	3,134	36.2	1.19	1,568	43.0	1.73	382	›››25.2	2.15	1,005	›››33.9	1.83

Notes: Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).
1 Recommended fiber intake (in gm) is equivalent to age in years plus five.
– Estimate of usual intake could not be obtained for the gender-age group cell. The cell was pooled with a neighboring age group to determine its contribution to the 'Total, age-adjusted' row.

Source: NHANES-III, 1988-94 Exam file, 24-hour dietary recall. Data reflect nutrient intake from foods. Does not include the contribution of vitamin and mineral supplements. Usual intake was estimated using *C-SIDE: Software for Intake Distribution Estimation,* accounting for within-person variance as estimated from the *Continuing Survey of Food Intakes by Individuals (CSFII).*
'All Children' includes children with missing income.

Table D-61—Distribution of usual dietary fiber intake in grams: School-age children

Male

	Std[1] (g/dy)	Percentiles									Standard errors of percentiles								
		5th	10th	15th	25th	50th	75th	85th	90th	95th	5th	10th	15th	25th	50th	75th	85th	90th	95th
All children																			
5-8 years old	11.5	8.6	9.5	10.2	11.1	13.1	15.2	16.5	17.4	18.8	0.23	0.23	0.23	0.23	0.23	0.26	0.28	0.31	0.34
9-13 years old	16.0	8.8	9.9	10.7	11.9	14.6	18.0	20.2	21.9	24.8	0.18	0.18	0.18	0.19	0.22	0.38	0.55	0.66	0.80
14-18 years old	21.0	9.6	10.9	11.8	13.2	16.3	20.0	22.4	24.1	26.9	0.32	0.34	0.35	0.37	0.43	0.55	0.65	0.72	0.85
Total, age adjusted ...	na	8.7	9.8	10.6	11.9	14.7	18.0	20.1	21.7	24.3	0.14	0.15	0.15	0.16	0.18	0.26	0.32	0.37	0.46
Lowest income: ≤ 130% poverty																			
5-8 years old	11.5	9.4	10.3	11.0	11.9	13.8	16.0	17.4	18.4	20.0	0.27	0.28	0.28	0.29	0.34	0.40	0.44	0.47	0.51
9-13 years old	16.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
14-18 years old	21.0	9.2	10.4	11.2	12.6	15.3	18.6	20.7	22.2	24.7	0.41	0.43	0.44	0.47	0.54	0.67	0.77	0.84	0.96
Total, age adjusted ...	na	9.2	10.2	11.0	12.1	14.4	17.2	19.0	20.4	22.5	0.19	0.20	0.20	0.22	0.26	0.34	0.38	0.42	0.49
Low-income: 131-185% poverty																			
5-8 years old	11.5	7.8	8.8	9.5	10.6	12.8	15.2	16.6	17.5	19.0	0.66	0.64	0.63	0.62	0.62	0.65	0.68	0.72	0.79
9-13 years old	16.0	7.4	8.6	9.5	11.0	14.1	18.3	21.4	23.8	28.2	0.49	0.49	0.54	0.67	1.09	1.65	2.06	2.40	3.00
14-18 years old	21.0	12.3	13.3	14.0	15.2	17.5	20.1	21.7	22.8	24.5	1.04	1.30	1.53	2.00	3.37	5.67	7.45	8.92	11.60
Total, age adjusted ...	na	8.7	9.8	10.7	12.0	14.9	18.3	20.5	22.1	24.8	0.35	0.37	0.38	0.42	0.54	0.74	0.90	1.04	1.27
Higher-income: > 185% poverty																			
5-8 years old	11.5	8.7	9.5	10.1	11.1	13.0	15.0	16.1	17.0	18.2	0.32	0.34	0.35	0.36	0.36	0.38	0.42	0.46	0.53
9-13 years old	16.0	9.1	10.2	11.0	12.3	15.2	18.7	21.0	22.8	25.7	0.30	0.31	0.31	0.33	0.39	0.58	0.72	0.83	1.06
14-18 years old	21.0	9.2	10.4	11.4	13.0	16.5	20.6	23.0	24.9	27.9	0.44	0.50	0.52	0.56	0.64	0.79	0.91	1.01	1.17
Total, age adjusted ...	na	8.7	9.8	10.6	11.9	14.9	18.4	› 20.6	› 22.3	›› 25.1	0.16	0.18	0.20	0.21	0.24	0.35	0.43	0.49	0.58

Notes: Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).
The Bonferroni adjustment was used to adjust levels of significant and control for multiplicity in the number of tests.
1 Recommended fiber intake (in gm) is equivalent to age in years plus five.
– Estimate of usual intake could not be obtained for the gender-age group cell. The cell was pooled with a neighboring age group to determine its contribution to the 'Total, age-adjusted' row.

Source: NHANES-III, 1988-94 Exam file, 24-hour dietary recall. Data reflect nutrient intake from foods. Does not include the contribution of vitamin and mineral supplements. Usual intake was estimated using *C-SIDE: Software for Intake Distribution Estimation,* accounting for within-person variance as estimated from the *Continuing Survey of Food Intakes by Individuals (CSFII).*
'All Children' includes children with missing income.

Table D-61—Distribution of usual dietary fiber intake in grams: School-age children — Continued

Female

	Std[1] (g/dy)	Percentiles									Standard errors of percentiles								
		5th	10th	15th	25th	50th	75th	85th	90th	95th	5th	10th	15th	25th	50th	75th	85th	90th	95th
All children																			
5-8 years old	11.5	6.9	7.8	8.4	9.4	11.5	14.0	15.5	16.6	18.4	0.14	0.15	0.16	0.18	0.21	0.26	0.29	0.31	0.35
9-13 years old	16.0	7.5	8.4	9.1	10.3	12.7	15.7	17.5	18.8	20.9	0.14	0.15	0.16	0.19	0.24	0.32	0.36	0.39	0.44
14-18 years old	21.0	7.1	8.1	8.8	9.9	12.3	15.3	17.2	18.6	20.9	0.15	0.17	0.18	0.21	0.25	0.35	0.44	0.52	0.72
Total, age adjusted	na	7.2	8.1	8.8	9.9	12.2	15.0	16.7	18.0	20.1	0.09	0.10	0.10	0.12	0.14	0.16	0.19	0.22	0.30
Lowest income: ≤ 130% poverty																			
5-8 years old	11.5	8.3	9.1	9.7	10.6	12.5	14.8	16.2	17.2	18.8	0.25	0.26	0.27	0.28	0.33	0.39	0.42	0.44	0.48
9-13 years old	16.0	7.4	8.5	9.2	10.5	13.2	16.6	18.7	20.3	23.0	0.21	0.23	0.25	0.29	0.38	0.52	0.63	0.72	0.86
14-18 years old	21.0	8.4	9.4	10.1	11.2	13.7	16.6	18.3	19.5	21.4	0.27	0.29	0.31	0.34	0.42	0.52	0.56	0.59	0.62
Total, age adjusted	na	8.0	9.0	9.7	10.8	13.2	16.0	17.8	19.0	21.1	0.14	0.16	0.17	0.19	0.24	0.31	0.35	0.39	0.44
Low-income: 131-185% poverty																			
5-8 years old	11.5	›››6.2	›››6.9	›››7.5	›››8.5	› 10.6	13.4	15.3	16.7	19.0	0.29	0.32	0.36	0.41	0.52	0.76	0.94	1.08	1.33
9-13 years old	16.0	› 6.5	›› 7.3	› 7.9	› 9.0	›› 11.2	›› 13.8	›› 15.3	›››16.4	›››18.0	0.23	0.28	0.31	0.36	0.44	0.54	0.61	0.67	0.78
14-18 years old	21.0	8.2	8.9	9.3	10.1	11.7	13.6	› 14.7	› 15.5	›› 16.9	0.63	0.67	0.70	0.75	0.84	0.96	1.04	1.10	1.21
Total, age adjusted	na	›››6.8	›››7.6	›››8.1	›››9.0	›››11.0	›››13.5	›››15.0	›››16.1	›› 18.0	0.18	0.21	0.23	0.26	0.35	0.46	0.54	0.61	0.74
Higher-income: > 185% poverty																			
5-8 years old	11.5	›››6.5	›››7.3	›››7.9	›››8.9	›› 10.9	› 13.2	14.6	15.7	17.3	0.22	0.23	0.23	0.24	0.28	0.34	0.40	0.45	0.53
9-13 years old	16.0	8.1	9.0	9.7	10.7	12.9	15.4	16.9	18.0	›› 19.6	0.20	0.23	0.24	0.27	0.33	0.40	0.44	0.47	0.52
14-18 years old	21.0	›››6.6	›››7.5	›››8.2	›››9.2	›› 11.6	14.7	16.7	18.3	21.0	0.22	0.24	0.26	0.30	0.40	0.59	0.78	0.98	1.44
Total, age adjusted	na	›››7.0	›››7.9	›››8.6	›››9.6	›››11.8	›››14.4	›› 16.1	› 17.4	19.6	0.13	0.14	0.15	0.16	0.19	0.25	0.32	0.40	0.58

Notes: Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).
The Bonferroni adjustment was used to adjust levels of significant and control for multiplicity in the number of tests.
[1] Recommended fiber intake (in gm) is equivalent to age in years plus five.

Source: NHANES-III, 1988-94 Exam file, 24-hour dietary recall. Data reflect nutrient intake from foods. Does not include the contribution of vitamin and mineral supplements. Usual intake was estimated using *C-SIDE: Software for Intake Distribution Estimation,* accounting for within-person variance as estimated from the *Continuing Survey of Food Intakes by Individuals (CSFII).*
'All Children' includes children with missing income.

Table D-61—Distribution of usual dietary fiber intake in grams: School-age children — Continued

Both sexes

	Std[1] (g/dy)	Percentiles									Standard errors of percentiles								
		5th	10th	15th	25th	50th	75th	85th	90th	95th	5th	10th	15th	25th	50th	75th	85th	90th	95th
All children																			
5-8 years old	11.5	7.7	8.6	9.3	10.3	12.3	14.7	16.1	17.1	18.7	0.14	0.14	0.15	0.15	0.16	0.19	0.22	0.24	0.26
9-13 years old	16.0	8.0	9.0	9.8	11.0	13.7	16.9	19.0	20.6	23.2	0.09	0.10	0.10	0.11	0.14	0.20	0.27	0.33	0.44
14-18 years old	21.0	7.7	8.9	9.7	11.1	14.1	17.9	20.3	22.1	25.0	0.14	0.16	0.18	0.21	0.26	0.34	0.42	0.49	0.61
Total, age adjusted ...	na	7.7	8.7	9.5	10.7	13.4	16.6	18.6	20.2	22.7	0.08	0.08	0.08	0.09	0.11	0.16	0.20	0.25	0.32
Lowest income: ≤ 130% poverty																			
5-8 years old	11.5	8.7	9.6	10.3	11.2	13.2	15.4	16.8	17.8	19.4	0.20	0.21	0.22	0.23	0.27	0.30	0.33	0.35	0.38
9-13 years old	16.0	7.9	9.0	9.8	11.0	13.7	16.9	19.0	20.5	23.0	0.16	0.17	0.18	0.19	0.24	0.30	0.35	0.39	0.44
14-18 years old	21.0	8.5	9.6	10.4	11.7	14.3	17.5	19.5	21.0	23.4	0.23	0.25	0.26	0.28	0.32	0.40	0.47	0.52	0.61
Total, age adjusted ...	na	8.3	9.4	10.1	11.3	13.8	16.7	18.6	20.0	22.2	0.12	0.12	0.13	0.14	0.18	0.23	0.27	0.30	0.35
Low-income: 131-185% poverty																			
5-8 years old	11.5	›››6.7	›››7.6	›››8.3	›››9.4	›› 11.7	14.5	16.2	17.4	19.3	0.34	0.32	0.32	0.32	0.35	0.42	0.48	0.52	0.60
9-13 years old	16.0	›››6.6	›››7.6	›››8.3	›› 9.6	12.6	16.2	18.4	20.1	23.0	0.23	0.25	0.27	0.33	0.59	0.90	1.10	1.27	1.60
14-18 years old	21.0	8.4	9.5	10.3	11.5	14.2	17.5	19.5	20.9	23.3	0.52	0.58	0.61	0.66	0.77	0.93	1.06	1.17	1.35
Total, age adjusted ...	na	›››7.2	›››8.2	›››8.9	›› 10.2	12.9	16.1	18.1	19.6	22.0	0.20	0.21	0.23	0.26	0.32	0.45	0.54	0.62	0.76
Higher-income: > 185% poverty																			
5-8 years old	11.5	›››7.5	›››8.4	›››9.0	›› 10.0	› 12.1	14.4	15.7	16.6	18.1	0.20	0.22	0.22	0.23	0.25	0.28	0.30	0.33	0.39
9-13 years old	16.0	8.5	9.5	10.3	11.5	14.0	17.1	19.0	20.5	23.0	0.15	0.17	0.19	0.21	0.26	0.37	0.48	0.57	0.70
14-18 years old	21.0	›››7.3	›› 8.4	›› 9.2	10.6	13.8	17.8	20.4	22.3	25.6	0.20	0.23	0.25	0.30	0.39	0.50	0.60	0.70	0.94
Total, age adjusted ...	na	›› 7.7	›››8.7	›› 9.5	› 10.7	13.3	16.5	18.6	20.2	22.8	0.11	0.12	0.12	0.14	0.17	0.24	0.30	0.36	0.46

Notes: Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).
The Bonferroni adjustment was used to adjust levels of significant and control for multiplicity in the number of tests.
[1] Recommended fiber intake (in gm) is equivalent to age in years plus five.

Source: NHANES-III, 1988-94 Exam file, 24-hour dietary recall. Data reflect nutrient intake from foods. Does not include the contribution of vitamin and mineral supplements. Usual intake was estimated using *C-SIDE: Software for Intake Distribution Estimation,* accounting for within-person variance as estimated from the *Continuing Survey of Food Intakes by Individuals (CSFII).*
'All Children' includes children with missing income.

Table D-62—Mean Body Mass Index: School-age children

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Mean BMI	Standard Error	Sample size	Mean BMI	Standard Error	Sample size	Mean BMI	Standard Error	Sample size	Mean BMI	Standard Error
Both sexes												
5-10 years	3,447	17.2	0.11	1,743	17.2	0.13	418	17.1	0.26	1,101	17.2	0.18
11-13 years	1,402	20.2	0.16	689	20.9	0.28	164	20.0	0.40	464	›››19.7	0.19
14-18 years	1,482	22.5	0.25	684	23.4	0.42	188	› 22.2	0.50	508	› 22.1	0.42
Total, age adjusted	6,331	19.7	0.13	3,116	20.2	0.16	770	› 19.6	0.23	2,073	›› 19.5	0.22
Male												
5-10 years	1,738	17.2	0.12	858	17.3	0.16	203	17.2	0.31	580	17.0	0.18
11-13 years	668	20.0	0.18	327	20.3	0.26	84	20.2	0.45	222	19.7	0.27
14-18 years	733	22.5	0.41	340	23.0	0.61	91	22.0	0.54	240	22.5	0.68
Total, age adjusted	3,139	19.7	0.16	1,525	20.0	0.24	378	19.5	0.26	1,042	19.5	0.27
Female												
5-10 years	1,709	17.3	0.18	885	17.1	0.19	215	17.1	0.39	521	17.4	0.36
11-13 years	734	20.4	0.29	362	21.4	0.44	80	19.9 *	0.73	242	›› 19.8	0.37
14-18 years	749	22.5	0.23	344	23.8	0.49	97	22.4	0.71	268	›››21.7	0.28
Total, age adjusted	3,192	19.8	0.16	1,591	20.4	0.18	392	› 19.6	0.34	1,031	›››19.4	0.23

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94: Examination file. The 'All Children' column includes children with missing income.

Table D-63—Percent of school-age children overweight and at risk of overweight

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
	Percent of children overweight[1]											
Both sexes												
5-10 years	3,447	11.2	1.01	1,743	10.9	1.29	418	11.3	2.75	1,101	11.2	1.68
11-13 years	1,402	11.7	1.28	689	13.7	2.66	164	10.2 *	3.71	464	9.8	1.61
14-18 years	1,482	9.7	1.25	684	16.5	2.70	188	› 7.8 *	3.15	508	›› 6.5	1.86
Total, age adjusted	6,331	10.8	0.68	3,116	13.5	1.20	770	› 9.8	1.42	2,073	› 9.3	1.16
Male												
5-10 years	1,738	10.8	1.37	858	11.2	1.69	203	13.2	4.33	580	10.2	2.06
11-13 years	668	12.0	1.83	327	13.4	3.21	84	13.0 *	6.27	222	9.7	2.79
14-18 years	733	10.7	2.03	340	18.8	4.45	91	11.2 *	5.69	240	› 6.8 *	2.58
Total, age adjusted	3,139	11.0	0.97	1,525	14.3	1.97	378	12.5	2.42	1,042	› 8.9	1.40
Female												
5-10 years	1,709	11.5	1.49	885	10.7	1.78	215	9.5 *	3.15	521	12.6	3.16
11-13 years	734	11.3	1.86	362	14.0	3.72	80	6.7 *	3.19	242	9.8	2.05
14-18 years	749	8.7	1.29	344	14.3	2.57	97	››› 4.3 *	2.18	268	› 6.3 *	2.05
Total, age adjusted	3,192	10.4	0.96	1,591	12.7	1.21	392	›› 7.1	1.75	1,031	9.7	1.73
	Percent of children at risk of overweight[2]											
Both sexes												
5-10 years	3,447	13.0	0.99	1,743	12.7	1.19	418	›› 7.7	1.29	1,101	14.1	1.67
11-13 years	1,402	15.8	1.60	689	21.6	2.99	164	16.1	6.41	464	› 12.5	1.98
14-18 years	1,482	14.9	1.91	684	17.0	3.26	188	19.8	5.07	508	12.6	2.84
Total, age adjusted	6,331	14.3	0.94	3,116	16.1	1.41	770	13.7	2.25	2,073	13.2	1.37
Male												
5-10 years	1,738	13.6	1.73	858	14.1	2.53	203	7.4 *	2.78	580	14.0	2.30
11-13 years	668	15.9	2.48	327	21.2	5.07	84	17.2 *	6.62	222	12.6	3.32
14-18 years	733	13.5	2.44	340	11.7	3.16	91	14.9 *	6.19	240	14.7	3.83
Total, age adjusted	3,139	14.0	1.25	1,525	14.7	1.96	378	12.1	3.28	1,042	14.0	1.80
Female												
5-10 years	1,709	12.4	1.24	885	11.3	1.83	215	7.9 *	2.35	521	14.2	2.36
11-13 years	734	15.6	2.10	362	22.1	3.74	80	14.8 *	8.31	242	› 12.4	2.95
14-18 years	749	16.4	2.31	344	22.0	5.33	97	24.7	7.41	268	10.5	3.01
Total, age adjusted	3,192	14.5	1.15	1,591	17.4	2.19	392	15.3	2.79	1,031	12.5	1.55

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).
1 Overweight is defined by BMI ≥ 95th percentile of the BMI-for-age growth chart, as determined by age at measurement.
2 Risk of overweight is defined by BMI between the 85th and 95th percentile of the BMI-for-age growth chart, as determined by age at measurement.

Source: NHANES-III, 1988-94: Examination file. The 'All Children' column includes children with missing income.

Table D-64—Percent of school-age children underweight and percent growth retarded[1]

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
	Percent underweight[2]											
Both sexes												
5-10 years	3,447	4.0	0.65	1,743	2.9	0.76	418	4.0	1.43	1,101	4.6	1.10
11-13 years	1,402	3.0	0.78	689	2.1 *	0.60	164	0.8 *	0.66	464	4.2	1.36
14-18 years	1,482	3.5	0.69	684	5.3	1.96	188	1.8 *	1.22	508	2.9 *	0.74
Total, age adjusted	6,331	3.6	0.36	3,116	3.6	0.83	770	2.6	0.82	2,073	3.9	0.56
Male												
5-10 years	1,738	4.0	0.93	858	2.3 *	0.72	203	2.5 *	1.17	580	5.2	1.65
11-13 years	668	2.3 *	0.81	327	1.4 *	0.53	84	1.5 *	1.17	222	3.1 *	1.45
14-18 years	733	4.9	0.98	340	6.1 *	2.38	91	3.3 *	2.38	240	4.7 *	1.40
Total, age adjusted	3,139	4.0	0.51	1,525	3.5	0.88	378	2.6 *	1.18	1,042	4.6	0.82
Female												
5-10 years	1,709	4.0	0.88	885	3.5	1.32	215	5.4 *	2.56	521	3.8	1.29
11-13 years	734	3.8	1.39	362	2.8 *	1.09	80	› 0.1 *	0.08	242	5.4 *	2.51
14-18 years	749	2.0 *	0.98	344	4.5 *	3.07	97	0.2 *	0.24	268	1.0 *	0.61
Total, age adjusted	3,192	3.2	0.54	1,591	3.7	1.20	392	2.4 *	1.10	1,031	3.1	0.79
	Percent of children growth retarded[1]											
Both sexes												
5-10 years	3,466	4.2	0.66	1,758	4.5	0.96	418	6.8 *	2.29	1,101	3.6	0.91
11-13 years	1,422	2.7	0.50	699	3.3 *	1.09	165	2.1 *	1.57	472	› 1.5 *	0.73
14-18 years	1,505	4.5	0.84	699	6.9	1.17	188	3.6 *	1.52	515	››› 2.5 *	1.12
Total, age adjusted	6,393	4.0	0.40	3,156	5.1	0.61	771	4.7	1.11	2,088	›› 2.8	0.61
Male												
5-10 years	1,745	3.9	0.85	863	3.8	0.86	203	9.8 *	4.08	580	3.0 *	1.01
11-13 years	680	3.0	0.86	334	3.9	1.08	84	› 0.9 *	0.64	226	2.5 *	1.39
14-18 years	740	5.0	0.91	346	7.4	2.10	91	4.3 *	2.43	241	› 1.9 *	1.13
Total, age adjusted	3,165	4.1	0.48	1,543	5.1	0.82	378	6.0	1.59	1,047	›› 2.5	0.69
Female												
5-10 years	1,721	4.6	0.90	895	5.2	1.45	215	4.0 *	1.73	521	4.4 *	1.49
11-13 years	742	2.3	0.47	365	2.8 *	2.02	81	3.6 *	3.14	246	0.4 *	0.13
14-18 years	765	4.0	1.09	353	6.5	1.43	97	2.9 *	1.92	274	3.1 *	1.85
Total, age adjusted	3,228	3.9	0.51	1,613	5.1	0.87	393	3.5 *	1.19	1,041	3.1	0.87

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).
1 Growth retardation is identified as < 5th percentile of the CDC height-for-age growth chart.
2 Underweight is defined by BMI < 5th percentile of the BMI-for-age growth chart, as determined by age at measurement.

Source: NHANES-III, 1988-94: Examination file. The 'All Children' column includes children with missing income.

Table D-65—Percent of school-age children with iron deficiency[1]

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
Both sexes												
5-10 years	2,909	3.2	0.6	1,517	3.4	0.7	346	2.7 *	1.2	900	3.4	1.0
11-13 years	1,260	5.8	1.0	638	9.5	2.3	148	8.0 *	5.3	407	› 3.2 *	1.0
14-18 years	1,720	5.2	0.8	810	8.1	1.6	215	› 2.8 *	1.5	570	› 3.8	1.0
Total, age adjusted	5,889	4.5	0.5	2,965	6.3	0.8	709	3.9	1.4	1,877	›› 3.5	0.7
Male												
5-10 years	1,478	3.2	0.8	754	3.3 *	1.0	165	2.6 *	1.3	482	3.4 *	1.4
11-13 years	604	3.6 *	1.1	305	3.4 *	1.0	72	6.0 *	3.4	199	3.2 *	1.6
14-18 years	841	1.1 *	0.4	388	1.8 *	0.6	105	0.6 *	0.4	270	1.0 *	0.7
Total, age adjusted	2,923	2.5	0.5	1,447	2.8	0.5	342	2.6 *	0.9	951	2.5	0.8
Female												
5-10 years	1,431	3.3	0.9	763	3.4 *	1.0	181	2.9 *	1.4	418	3.4 *	1.8
11-13 years	656	8.4	1.7	333	15.7	4.3	76	10.5 *	8.0	208	›› 3.2 *	0.9
14-18 years	879	9.5	1.5	422	13.3	2.9	110	› 5.0 *	3.0	300	› 6.7	1.6
Total, age adjusted	2,966	6.6	0.8	1,518	9.5	1.5	367	5.3 *	2.2	926	›› 4.5	1.1

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).
1 Iron deficiency is indicated by at least 2 of the following: low serum transferrin saturation, high erythrocyte protoporphorin (EPP), and low serum ferritin. See appendix B.

Source: NHANES-III, 1988-94: Examination file. The 'All Children' column includes children with missing income. Table excludes pregnant females.

Table D-66—Percent of school-age children with low serum ferritin[1]

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
Both sexes												
5-10 years	2,990	6.1	0.8	1,555	4.6	1.1	358	6.5 *	1.3	926	7.3	1.4
11-13 years	1,288	6.9	1.1	651	9.2	2.6	152	8.4 *	3.6	416	5.4	1.4
14-18 years	1,764	6.7	0.9	824	8.9	1.8	217	› 3.0 *	1.5	594	6.1	1.6
Total, age adjusted	6,042	6.5	0.6	3,030	7.1	1.0	727	5.6	1.2	1,936	6.5	1.0
Male												
5-10 years	1,510	5.7	1.0	765	4.7 *	1.4	173	8.0 *	2.4	492	5.9	1.4
11-13 years	620	4.5	1.2	312	3.8 *	1.5	75	2.6 *	1.4	204	5.6 *	2.0
14-18 years	863	1.7 *	0.5	397	2.7 *	0.9	106	› 0.6 *	0.4	280	1.8 *	0.8
Total, age adjusted	2,993	4.0	0.6	1,474	3.8	0.6	354	4.2 *	1.2	976	4.4	0.9
Female												
5-10 years	1,480	6.6	1.5	790	4.5 *	1.9	185	5.2 *	1.9	434	9.0	2.8
11-13 years	668	9.6	2.0	339	14.8	4.8	77	15.4 *	8.6	212	5.1 *	2.1
14-18 years	901	11.8	1.7	427	14.0	3.4	111	5.4 *	3.0	314	10.6	2.9
Total, age adjusted	3,049	9.1	1.0	1,556	10.0	1.7	373	7.4 *	2.3	960	8.8	1.8

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).
1 Low serum ferritin is identified by < 12 mcg/mL for females age 12-18, and < 15 mcg/mL for all other children. Source: *Healthy People 2010* (U.S. DHHS, 2000a).

Source: NHANES-III, 1988-94: Examination file. The 'All Children' column includes children with missing income. Table excludes pregnant females.

Table D-67—Percent of school-age children with high free erythrocyte protoporphorin [1]

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
Both sexes												
5-10 years	3,033	4.7	0.72	1,574	5.8	0.91	364	4.6 *	1.12	942	3.9	1.02
11-13 years	1,303	6.8	1.21	662	9.2	2.24	153	10.0 *	5.20	418	4.4 *	1.52
14-18 years	1,781	5.8	0.81	833	10.2	1.91	221	4.1 *	2.28	598	›››3.5 *	0.83
Total, age adjusted	6,117	5.5	0.48	3,069	8.1	0.88	738	5.5	1.54	1,958	›››3.8	0.66
Male												
5-10 years	1,538	5.1	0.98	778	5.9	1.26	178	5.8 *	2.33	501	4.2 *	1.48
11-13 years	628	4.9	1.62	318	5.2 *	1.78	76	5.9 *	3.58	204	4.6 *	2.56
14-18 years	872	1.3 *	0.43	401	2.8 *	0.91	107	› 0.4 *	0.46	284	0.9 *	0.65
Total, age adjusted	3,038	3.7	0.59	1,497	4.6	0.70	361	3.9 *	1.32	989	3.1	0.87
Female												
5-10 years	1,495	4.3	0.98	796	5.8	1.38	186	3.5 *	1.24	441	3.4 *	1.39
11-13 years	675	9.0	1.95	344	13.4	4.02	77	15.1 *	8.93	214	› 4.0 *	1.56
14-18 years	909	10.4	1.64	432	16.3	3.31	114	7.7 *	4.54	314	›› 6.4 *	1.64
Total, age adjusted	3,079	7.5	0.78	1,572	11.1	1.58	377	7.4	2.71	969	›››4.6	0.95

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).
[1] High free erythrocyte protoporphorin is identified as > 70. Source: *Healthy People 2010* (U.S. DHHS, 2000a).

Source: NHANES-III, 1988-94: Examination file. The 'All Children' column includes children with missing income. Table excludes pregnant females.

Table D-68—Percent of school-age children with low transferrin saturation[1]

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
Both sexes												
5-10 years	2,963	26.4	1.7	1,544	27.4	2.4	352	29.4	4.4	918	25.4	2.4
11-13 years	1,287	24.0	1.7	653	26.6	3.4	151	28.8	6.6	414	21.3	2.6
14-18 years	1,759	18.3	1.7	820	24.4	2.3	218	›››10.3 *	3.0	594	› 16.6	2.4
Total, age adjusted	6,009	23.0	1.1	3,017	26.2	1.8	721	22.5	2.8	1,926	21.4	1.5
Male												
5-10 years	1,496	26.6	2.4	762	30.9	3.8	169	24.2	5.1	488	25.0	3.4
11-13 years	622	24.7	2.7	315	23.7	4.9	74	28.6 *	6.5	203	24.7	3.9
14-18 years	863	15.5	2.5	394	15.8	3.5	106	8.4 *	4.0	283	16.6	3.8
Total, age adjusted	2,981	22.2	1.6	1,471	24.0	2.3	349	19.5	2.7	974	22.0	2.5
Female												
5-10 years	1,467	26.1	2.2	782	24.1	3.6	183	33.7	5.7	430	25.8	2.7
11-13 years	665	23.2	2.3	338	29.7	4.2	77	28.9 *	9.4	211	› 17.3	3.3
14-18 years	896	21.3	2.1	426	31.6	3.6	112	›››12.2 *	4.1	311	››› 16.5	2.4
Total, age adjusted	3,028	23.8	1.5	1,546	27.9	2.3	372	25.0	4.3	952	›› 20.7	1.4

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).
1 Criteria for low transferrin saturation varies by age and gender. See appendix B.

Source: NHANES-III, 1988-94: Examination file. The 'All Children' column includes children with missing income. Table excludes pregnant females.

Table D-69—Percent of school-age children with iron deficiency anemia[1]

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
Both sexes												
5-10 years	2,909	0.5 *	0.2	1,517	0.4 *	0.1	346	0.6 *	0.5	900	0.4 *	0.2
11-13 years	1,260	0.3 *	0.1	638	0.7 *	0.2	148	0.2 *	0.2	407	0.2 *	0.1
14-18 years	1,720	1.6	0.4	810	2.2 *	0.6	215	› 0.7 *	0.5	570	1.2 *	0.5
Total, age adjusted	5,889	0.8	0.1	2,965	1.1	0.2	709	0.6 *	0.3	1,877	0.7 *	0.2
Male												
5-10 years	1,478	0.6 *	0.2	754	0.5 *	0.2	165	0.3 *	0.2	482	0.7 *	0.4
11-13 years	604	0.1 *	0.1	305	0.4 *	0.2	72	0.0	0.0	199	0.0	0.0
14-18 years	841	0.3 *	0.1	388	0.9 *	0.5	105	0.0	0.0	270	0.1 *	0.1
Total, age adjusted	2,923	0.4 *	0.1	1,447	0.6 *	0.2	342	› 0.1 *	0.1	951	0.3 *	0.2
Female												
5-10 years	1,431	0.3 *	0.2	763	0.4 *	0.2	181	0.9 *	1.0	418	0.1 *	0.1
11-13 years	656	0.6 *	0.2	333	1.0 *	0.4	76	0.5 *	0.6	208	0.4 *	0.3
14-18 years	879	2.9	0.7	422	3.3 *	1.0	110	1.5 *	1.0	300	2.5 *	1.1
Total, age adjusted	2,966	1.3	0.2	1,518	1.5	0.4	367	1.0 *	0.6	926	1.0 *	0.4

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).
1 Iron deficiency anemia is defined as iron deficiency and low hemoglobin. See appendix B.

Source: NHANES-III, 1988-94: Examination file. The 'All Children' column includes children with missing income. Table excludes pregnant females.

Table D-70—Percent of school-age children with low hemoglobin[1]

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
Both sexes												
5-10 years	3,002	5.8	0.7	1,565	7.6	1.2	359	5.5 *	1.7	926	› 4.6	0.9
11-13 years	1,293	5.0	1.1	653	6.8	1.3	154	›››2.0 *	0.9	417	5.0 *	1.7
14-18 years	1,749	6.8	1.1	826	10.3	2.0	220	8.1 *	2.4	576	›› 4.2 *	1.0
Total, age adjusted	6,044	6.0	0.6	3,044	8.4	1.0	733	› 5.7	1.0	1,919	›››4.5	0.6
Male												
5-10 years	1,525	5.5	0.8	776	7.6	1.4	174	6.6 *	2.6	493	› 4.0 *	1.1
11-13 years	625	5.3 *	1.5	312	6.5 *	1.8	78	2.5 *	1.4	206	5.7 *	2.6
14-18 years	854	5.0	1.3	397	11.8	4.0	107	8.5 *	4.0	272	›› 0.9 *	0.3
Total, age adjusted	3,004	5.3	0.7	1,485	8.9	1.8	359	6.4 *	1.7	971	›› 3.3	0.7
Female												
5-10 years	1,477	6.2	0.9	789	7.5	1.4	185	4.6 *	2.3	433	5.2 *	1.2
11-13 years	668	4.7 *	1.2	341	7.1 *	1.7	76	›› 1.5 *	1.0	211	4.2 *	1.7
14-18 years	895	8.7	1.6	429	9.1	1.6	113	7.8 *	2.6	304	7.6 *	2.1
Total, age adjusted	3,040	6.8	0.9	1,559	8.0	1.0	374	› 5.0 *	1.3	948	5.8	1.0

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).
1 Criteria for low hemoglobin varies by age, gender, and smoking status. See appendix B.

Source: NHANES-III, 1988-94: Examination file. The 'All Children' column includes children with missing income. Table excludes pregnant females.

Table D-71—Percent of school-age children with low hematocrit[1]

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
Both sexes												
5-10 years	3,002	5.8	0.7	1,565	6.7	0.9	359	7.1	2.2	926	4.9	0.9
11-13 years	1,293	4.8	1.2	653	5.4	1.0	154	›››0.9 *	0.7	417	5.7 *	2.1
14-18 years	1,749	6.1	0.9	826	8.8	1.9	220	9.4 *	3.0	576	›› 3.6 *	0.7
Total, age adjusted	6,044	5.7	0.6	3,044	7.2	0.9	733	6.6	1.4	1,919	› 4.6	0.8
Male												
5-10 years	1,525	5.2	0.8	776	6.3	1.2	174	6.4 *	2.7	493	4.5 *	1.3
11-13 years	625	4.5 *	1.4	312	5.2 *	1.4	78	› 1.6 *	1.2	206	5.1 *	2.4
14-18 years	854	4.4	1.3	397	8.3	3.8	107	11.7 *	5.1	272	1.4 *	0.6
Total, age adjusted	3,004	4.8	0.7	1,485	6.8	1.5	359	7.2	2.1	971	3.5	0.9
Female												
5-10 years	1,477	6.5	1.1	789	7.2	1.3	185	7.8 *	3.3	433	5.4 *	1.1
11-13 years	668	5.2	1.6	341	5.7 *	1.4	76	›››0.0 *	0.0	211	6.3 *	2.5
14-18 years	895	7.9	1.2	429	9.2	1.7	113	7.1 *	2.6	304	6.0 *	1.4
Total, age adjusted	3,040	6.7	0.9	1,559	7.6	1.0	374	5.9 *	1.6	948	5.8	1.0

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).
1 Criteria for low hematocrit varies by age, gender, and smoking status. See appendix B.

Source: NHANES-III, 1988-94: Examination file. The 'All Children' column includes children with missing income. Table excludes pregnant females.

Table D-72—Percent of school-age children with low red blood cell folate[1]

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
Both sexes												
5-10 years	2,989	1.3 *	0.3	1,547	1.9 *	0.7	360	1.6 *	0.6	931	1.0 *	0.4
11-13 years	1,293	6.6	0.9	654	8.2	1.6	154	7.3 *	2.6	415	5.7 *	1.3
14-18 years	1,755	12.2	1.2	817	16.8	2.4	218	›››5.4 *	1.6	593	› 10.9	2.0
Total, age adjusted	6,037	6.3	0.6	3,018	8.6	1.0	732	›››4.2	0.9	1,939	›› 5.5	0.8
Male												
5-10 years	1,509	0.7 *	0.4	760	1.9 *	1.3	175	>0	>0	494	0.2 *	0.1
11-13 years	628	4.4 *	1.2	316	4.9 *	2.0	77	8.0 *	4.5	205	3.4 *	1.5
14-18 years	855	10.3	1.3	389	13.6	3.1	105	›› 3.6 *	1.4	281	9.6	2.0
Total, age adjusted	2,992	4.9	0.6	1,465	6.7	1.3	357	› 3.0 *	1.1	980	4.2	0.8
Female												
5-10 years	1,480	2.0 *	0.4	787	2.0 *	0.4	185	3.0 *	1.2	437	1.8 *	0.8
11-13 years	665	9.1	1.5	338	11.6 *	2.4	77	6.4 *	2.8	210	8.4 *	2.5
14-18 years	900	14.2	2.2	428	19.5	3.1	113	›› 7.2 *	2.8	312	12.2	3.3
Total, age adjusted	3,045	7.8	0.9	1,553	10.2	1.2	375	›› 5.2 *	1.3	959	› 6.9	1.4

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).
1 Low RBC folate is identified as < 95 ng/mL. Source: *Healthy People 2010* (U.S. DHHS, 2000a).
>0 Value to small to display.

Source: NHANES-III, 1988-94: Examination file. The 'All Children' column includes children with missing income. Table excludes pregnant females.

Table D-73—Percent of school-age children with low serum vitamin B_{12}[1]

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
Both sexes												
5-10 years	1,380	0.2 *	0.11	775	0.3 *	0.26	148	0.0 *	0.00	407	0.1 *	0.08
11-13 years	697	0.1 *	0.05	374	0.1 *	0.13	73	0.4 *	0.37	220	0.0	0.00
14-18 years	948	0.9 *	0.48	506	0.4 *	0.27	98	0.6 *	0.57	293	1.2 *	0.90
Total, age adjusted	3,025	0.4 *	0.18	1,655	0.3 *	0.17	319	0.3 *	0.22	920	0.5 *	0.32
Male												
5-10 years	713	0.1 *	0.10	396	0.2 *	0.17	75	0.0 *	0.00	215	0.2 *	0.16
11-13 years	318	0.0	0.00	164	0.0	0.00	35	0.0 *	0.00	104	0.0 *	0.00
14-18 years	458	0.9 *	0.84	239	0.3 *	0.31	50	0.0 *	0.00	141	1.6 *	1.59
Total, age adjusted	1,489	0.4 *	0.30	799	0.2 *	0.13	160	0.0 *	0.00	460	0.6 *	0.57
Female												
5-10 years	667	0.2 *	0.20	379	0.5 *	0.49	73	0.0 *	0.00	192	0.0	0.00
11-13 years	379	0.2 *	0.12	210	0.2 *	0.25	38	0.9 *	0.94	116	0.0 *	0.00
14-18 years	490	0.8 *	0.48	267	0.6 *	0.31	48	1.3 *	1.30	152	0.9 *	0.86
Total, age adjusted	1,536	0.4 *	0.21	856	0.5 *	0.26	159	0.6 *	0.51	460	0.3 *	0.31

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).
1 Low serum vitamin B_{12} is identified as< 200 pg/mL. Source: *Healthy People 2010* (U.S. DHHS, 2000a).

Source: NHANES-III, 1988-94: Examination file. The 'All Children' column includes children with missing income. Table excludes pregnant females.

Table D-74—Percent of school-age children with high total cholesterol[1]

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
Both sexes												
5-10 years	2,950	11.0	1.0	1,535	10.0	1.2	351	7.4 *	2.1	916	12.2	1.8
11-13 years	1,281	9.9	1.5	649	11.2	2.2	152	8.4 *	2.4	411	8.5	2.2
14-18 years	1,754	8.7	1.2	817	10.8	1.8	216	6.6 *	2.4	592	7.3	1.5
Total, age adjusted	5,985	9.9	0.6	3,001	10.6	0.8	719	› 7.3	1.4	1,919	9.7	1.1
Male												
5-10 years	1,488	11.8	1.7	754	9.3	1.7	170	6.5 *	2.4	485	13.7	3.0
11-13 years	620	9.2	1.8	313	10.4 *	2.6	75	6.7 *	2.6	203	7.2 *	2.3
14-18 years	854	7.1	1.7	390	10.0	2.7	105	6.7 *	3.9	279	4.9 *	1.9
Total, age adjusted	2,962	9.6	1.1	1,457	9.8	1.3	350	6.6 *	1.8	967	9.2	1.7
Female												
5-10 years	1,462	10.1	1.4	781	10.7	1.9	181	8.1 *	3.3	431	10.5	2.4
11-13 years	661	10.8	2.2	336	12.0	2.6	77	10.5 *	4.4	208	10.1 *	3.6
14-18 years	900	10.3	1.6	427	11.5	2.2	111	6.4 *	2.9	313	9.9	2.3
Total, age adjusted	3,023	10.3	0.7	1,544	11.3	1.1	369	8.0 *	1.8	952	10.2	1.4

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).
1 High total cholesterol is identified as ≥ 200 mg/dL. Source: National Cholesterol Education Program, NIH (1991).

Source: NHANES-III, 1988-94: Examination file. The 'All Children' column includes children with missing income. Table excludes pregnant females.

Table D-75—Percent of school-age children with borderline-high total cholesterol[1]

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
Both sexes												
5-10 years	2,950	30.8	1.5	1,535	30.7	1.9	351	28.9	3.8	916	30.9	2.6
11-13 years	1,281	29.0	2.0	649	29.4	3.9	152	24.3	3.9	411	30.0	3.1
14-18 years	1,754	24.7	2.0	817	25.7	3.8	216	28.9	5.7	592	22.6	2.3
Total, age adjusted	5,985	28.3	1.2	3,001	28.6	2.2	719	27.9	2.8	1,919	27.8	1.6
Male												
5-10 years	1,488	31.2	2.1	754	30.0	3.0	170	31.6	7.2	485	32.3	3.7
11-13 years	620	30.8	2.4	313	27.9	5.7	75	25.9 *	7.8	203	33.8	4.2
14-18 years	854	21.6	2.5	390	28.2	4.8	105	19.3 *	6.9	279	18.3	3.5
Total, age adjusted	2,962	27.7	1.4	1,457	28.9	3.2	350	26.0	3.5	967	27.7	2.2
Female												
5-10 years	1,462	30.4	1.8	781	31.3	2.4	181	26.6	6.7	431	29.1	2.8
11-13 years	661	27.0	3.1	336	30.9	4.1	77	22.4 *	6.2	208	25.6	4.6
14-18 years	900	27.8	3.1	427	23.7	4.6	111	38.0	9.0	313	27.1	3.4
Total, age adjusted	3,023	28.8	1.7	1,544	28.5	2.1	369	29.8	5.0	952	27.7	2.2

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).
1 Borderline high total cholesterol is identified as 170-199 mg/dL. Source: National Cholesterol Education Program, NIH (1991).

Source: NHANES-III, 1988-94: Examination file. The 'All Children' column includes children with missing income. Table excludes pregnant females.

Table D-76—Percent of 12-18-year-old children with high LDL cholesterol[1]

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
Both sexes												
12-13 years	271	9.6 *	2.9	140	11.4 *	5.5	35	18.2 *	6.0	82	6.5 *	4.5
14-18 years	674	8.4	1.5	319	7.2 *	2.5	84	5.5 *	2.5	218	8.7 *	2.1
Total, age-adjusted ...	945	8.9	1.5	459	8.8	2.6	119	10.2 *	2.7	300	7.8 *	1.9
Male												
12-13 years	131	9.4 *	4.0	69	16.0 *	9.0	14	5.0 *	3.6	42	7.6 *	6.6
14-18 years	299	4.7 *	2.0	128	3.1 *	1.5	46	2.2 *	1.6	96	6.6 *	3.6
Total, age-adjusted ...	430	6.5 *	2.3	197	7.9 *	3.4	60	3.2 *	1.7	138	7.0 *	3.1
Female												
12-13 years	140	10.0 *	3.3	71	5.1 *	2.5	21	› 34.5 *	13.3	40	4.6 *	3.4
14-18 years	375	11.7	2.2	191	9.7 *	4.0	38	9.5 *	5.3	122	10.6 *	2.0
Total, age-adjusted ...	515	11.1	2.0	262	8.0 *	2.6	59	18.9 *	6.3	162	8.3 *	1.8

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).
1 High LDL cholesterol is identified as ≥ 160 mg/dL. The cutoff used to define high LDL cholesterol levels includes both high and very high levels as defined by the NCEP. Source: National Cholesterol Education Program, NIH (2001).

Source: NHANES-III, 1988-94: Examination file. The 'All Children' column includes children with missing income. Table excludes pregnant females.

Table D-77—Percent of 12-18-year-old children with borderline-high LDL cholesterol[1]

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
Both sexes												
12-13 years	271	14.2 *	3.0	140	20.9 *	5.4	35	9.3 *	6.3	82	11.0 *	4.3
14-18 years	674	12.4	2.3	319	12.6	2.9	84	22.6 *	6.9	218	11.7 *	3.8
Total, age-adjusted ...	945	13.1	1.6	459	15.7	2.8	119	17.6 *	4.8	300	11.4 *	2.4
Male												
12-13 years	131	7.8 *	2.7	69	14.9 *	5.0	14	12.3 *	9.9	42	›› 0.6 *	0.5
14-18 years	299	12.4 *	3.4	128	11.2 *	4.0	46	25.1 *	10.3	96	11.8 *	5.7
Total, age-adjusted ...	430	10.7	2.3	197	12.6 *	3.3	60	20.3 *	7.3	138	7.6 *	3.6
Female												
12-13 years	140	23.6 *	6.0	71	29.0 *	8.0	21	›› 5.5 *	4.3	40	28.2 *	11.0
14-18 years	375	12.5	2.9	191	13.4 *	4.1	38	19.5 *	8.8	122	11.6 *	4.2
Total, age-adjusted ...	515	16.6	2.3	262	19.3	4.1	59	14.3 *	5.7	162	17.8 *	3.9

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).
[1] Borderline high LDL cholesterol is identified as 110-129 mg/dL. Source: National Cholesterol Education Program, NIH (1991).

Source: NHANES-III, 1988-94: Examination file. The 'All Children' column includes children with missing income. Table excludes pregnant females.

Table D-78—Percent of school-age children with low HDL cholesterol[1]

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
Both sexes												
5-10 years	2,937	5.6	0.94	1,529	6.2	1.11	351	› 2.6 *	1.08	909	6.1	1.69
11-13 years	1,277	7.4	1.35	647	9.0	2.51	152	11.9 *	6.16	410	5.2 *	1.61
14-18 years	1,740	9.3	1.46	813	11.4	3.16	213	6.0 *	1.78	586	9.0	1.90
Total, age adjusted	5,954	7.3	0.71	2,989	8.6	1.28	716	5.8	1.37	1,905	6.9	1.11
Male												
5-10 years	1,483	5.3	0.96	751	5.6 *	1.39	170	›› 0.8 *	0.56	483	6.1 *	1.65
11-13 years	616	7.1 *	2.02	311	10.0 *	4.39	75	11.8 *	6.44	201	4.7 *	1.84
14-18 years	845	11.4	2.21	386	13.2	4.95	105	6.2 *	3.58	274	12.2 *	3.28
Total, age adjusted	2,944	7.9	1.02	1,448	9.2	1.84	350	5.1 *	2.17	958	8.0	1.59
Female												
5-10 years	1,454	5.9	1.45	778	6.7	1.71	181	4.1 *	1.90	426	6.0 *	2.87
11-13 years	661	7.8	1.59	336	7.9 *	2.41	77	12.1 *	6.99	209	5.7 *	2.27
14-18 years	895	7.2	1.68	427	10.0 *	3.80	108	5.7 *	3.11	312	5.7 *	1.82
Total, age adjusted	3,010	6.8	0.85	1,541	8.1	1.59	366	6.4 *	1.18	947	5.9	1.41

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).
[1] Low HDL cholesterol is identified as < 40 mg/dL. Source: National Cholesterol Education Program, NIH (2001).

Source: NHANES-III, 1988-94: Examination file. The 'All Children' column includes children with missing income. Table excludes pregnant females.

Table D-79—Percent of school-age children with high triglycerides[1,2]

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
Both sexes												
5-10 years	0	–	–	0	–	–	0	–	–	0	–	–
11-13 years	293	11.3 *	3.48	146	5.1 *	3.53	38	13.2 *	7.79	93	15.0 *	5.91
14-18 years	711	7.7	1.78	342	9.2 *	3.11	90	3.2 *	2.51	224	8.3 *	3.20
Total, age adjusted	1,004	9.1	1.82	488	7.7 *	2.56	128	6.9 *	3.27	317	10.8 *	3.24
Male												
5-10 years	0	–	–	0	–	–	0	–	–	0	–	–
11-13 years	142	8.2 *	3.29	72	6.9 *	6.04	16	3.5 *	3.64	47	10.5 *	4.87
14-18 years	318	4.6 *	2.16	142	6.7 *	4.04	48	5.5 *	4.56	101	4.1 *	3.63
Total, age adjusted	460	5.9 *	1.69	214	6.8 *	3.50	64	4.8 *	3.03	148	6.5 *	2.87
Female												
5-10 years	0	–	–	0	–	–	0	–	–	0	–	–
11-13 years	151	15.8 *	6.07	74	2.6 *	1.35	22	25.3 *	19.69	46	21.8 *	10.29
14-18 years	393	10.6 *	3.23	200	10.8 *	4.67	42	› 0.4 *	0.37	123	12.3 *	5.37
Total, age adjusted	544	12.5	3.12	274	7.8 *	2.96	64	9.7 *	7.37	169	15.9 *	5.26

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).
1 High triglycerides is identified as ≥ 200 mg/dL. The cutoff used to define high triglycerides includes both high and very high triglycerides as defined by the NCEP. Source: National Cholesterol Education Program, NIH (2001).
2 Table includes persons who fasted at least 9 hours and were examined before noon.
– Data not available.

Source: NHANES-III, 1988-94: Examination file. The 'All Children' column includes children with missing income. Table excludes pregnant females.

Table D-80—Frequency of vigorous physical activity per week among 8-16-year-old children

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Mean times per week	Standard Error	Sample size	Mean times per week	Standard Error	Sample size	Mean times per week	Standard Error	Sample size	Mean times per week	Standard Error
Both sexes												
8-10 years	1,550	4.7	0.1	763	4.7	0.2	178	4.7	0.2	521	4.7	0.1
11-13 years	1,365	5.0	0.1	670	4.6	0.2	159	4.9	0.3	457	›› 5.2	0.1
14-16 years	1,106	4.6	0.1	507	4.2	0.2	137	4.7	0.2	398	4.7	0.2
Total, age adjusted	4,021	4.7	0.1	1,940	4.5	0.1	474	4.8	0.2	1,376	› 4.9	0.1
Male												
8-10 years	801	4.9	0.1	389	4.9	0.2	88	5.2	0.4	273	4.8	0.2
11-13 years	655	5.4	0.2	320	5.0	0.3	82	5.2	0.3	220	5.7	0.2
14-16 years	531	5.3	0.2	252	5.2	0.3	66	5.2	0.3	176	5.5	0.3
Total, age adjusted	1,987	5.2	0.1	961	5.0	0.2	236	5.2	0.2	669	5.3	0.1
Female												
8-10 years	749	4.5	0.1	374	4.5	0.2	90	4.3	0.3	248	4.5	0.2
11-13 years	710	4.5	0.1	350	4.2	0.2	77	4.5	0.4	237	› 4.7	0.1
14-16 years	575	3.8	0.1	255	3.3	0.2	71	› 4.2	0.4	222	› 4.0	0.2
Total, age adjusted	2,034	4.2	0.1	979	4.0	0.1	238	4.3	0.2	707	› 4.4	0.1

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94: Examination file; youth ages 8-16 only. The 'All Children' column includes children with missing income.

Table D-81—Frequency of vigorous physical activity per week among healthy weight and overweight 8-16-year-old children

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Mean times per week	Standard Error	Sample size	Mean times per week	Standard Error	Sample size	Mean times per week	Standard Error	Sample size	Mean times per week	Standard Error
	Healthy weight children											
Both sexes												
8-10 years	1,100	4.6	0.1	553	4.6	0.2	126	4.8	0.2	364	4.5	0.2
11-13 years	913	4.9	0.1	444	4.6	0.2	115	4.8	0.2	304	› 5.1	0.1
14-16 years	785	4.6	0.1	336	4.2	0.2	106	4.8	0.3	294	4.8	0.2
Total, age adjusted	2,798	4.7	0.1	1,333	4.5	0.1	347	4.8	0.2	962	4.8	0.1
Male												
8-10 years	570	4.7	0.2	285	4.8	0.3	59	5.2	0.4	194	4.5	0.3
11-13 years	445	5.3	0.2	218	4.8	0.3	55	5.3	0.3	155	› 5.6	0.2
14-16 years	394	5.4	0.2	181	5.2	0.3	55	5.3	0.4	128	5.5	0.3
Total, age adjusted	1,409	5.1	0.1	684	5.0	0.2	169	5.3	0.2	477	5.2	0.2
Female												
8-10 years	530	4.5	0.1	268	4.5	0.3	67	4.5	0.4	170	4.5	0.2
11-13 years	468	4.4	0.1	226	4.2	0.3	60	4.1	0.3	149	4.5	0.2
14-16 years	391	3.9	0.1	155	3.2	0.2	51	4.1 *	0.5	166	› 4.1	0.2
Total, age adjusted	1,389	4.3	0.1	649	4.0	0.2	178	4.2	0.2	485	4.4	0.1
	Children who are overweight or at risk of overweight											
Both sexes												
8-10 years	439	5.0	0.2	202	5.0	0.2	52	4.3 *	0.6	156	5.1	0.2
11-13 years	434	5.2	0.2	218	4.7	0.4	43	5.3 *	0.7	145	› 5.6	0.2
14-16 years	297	4.3	0.2	155	4.2	0.3	31	4.5 *	0.5	97	4.4	0.4
Total, age adjusted	1,170	4.8	0.1	575	4.6	0.2	126	4.7	0.3	398	5.1	0.2
Male												
8-10 years	227	5.5	0.2	101	5.2 *	0.4	29	5.2 *	0.9	79	5.8	0.2
11-13 years	200	5.6	0.3	97	5.4 *	0.5	27	4.9 *	0.6	61	6.0 *	0.3
14-16 years	130	5.1	0.3	65	5.0 *	0.5	11	4.6 *	0.5	47	5.4 *	0.6
Total, age adjusted	557	5.4	0.2	263	5.2	0.3	67	4.9 *	0.3	187	5.7	0.3
Female												
8-10 years	212	4.3	0.2	101	4.7 *	0.2	23	››› 3.2 *	0.4	77	4.4	0.3
11-13 years	234	4.8	0.3	121	4.0 *	0.4	16	› 6.2 *	0.9	84	›› 5.3	0.2
14-16 years	167	3.5	0.3	90	3.5 *	0.4	20	4.4 *	0.6	50	3.2 *	0.4
Total, age adjusted	613	4.2	0.2	312	4.1	0.2	59	4.6 *	0.4	211	4.3	0.2

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94: Examination file; youth ages 8-16 only. The 'All Children' column includes children with missing income.

Table D-82—Percent of 8-16-year-old children with vigorous physical activity at least three times per week

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
Both sexes												
8-10 years	1,550	77.8	1.6	763	79.8	2.1	178	77.8	4.2	521	76.7	3.0
11-13 years	1,365	84.7	1.3	670	78.4	3.0	159	87.0	3.8	457	› 87.8	1.9
14-16 years	1,106	76.6	2.4	507	72.4	4.2	137	78.7	3.6	398	78.1	3.5
Total, age adjusted	4,021	79.7	1.1	1,940	76.9	1.6	474	81.1	2.6	1,376	80.8	1.9
Male												
8-10 years	801	78.5	2.6	389	83.8	2.4	88	84.8 *	6.7	273	› 73.7	4.3
11-13 years	655	87.8	2.4	320	84.4	3.7	82	86.9 *	5.6	220	89.5	3.1
14-16 years	531	85.6	2.9	252	84.9	4.5	66	84.4 *	4.7	176	86.4	4.3
Total, age adjusted	1,987	83.9	2.0	961	84.4	2.4	236	85.4	3.1	669	83.1	2.8
Female												
8-10 years	749	77.2	2.0	374	75.5	3.9	90	72.8	5.5	248	80.1	3.2
11-13 years	710	81.4	2.5	350	72.5	4.6	77	›› 87.2 *	4.6	237	›› 85.8	2.7
14-16 years	575	67.3	3.1	255	59.8	5.7	71	72.6	6.2	222	70.4	4.0
Total, age adjusted	2,034	75.3	1.1	979	69.4	2.4	238	77.5	3.6	707	›› 78.8	1.8

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94: Examination file; youth ages 8-16 only. The 'All Children' column includes children with missing income.

Table D-83—Percent of healthy weight and overweight 8-16-year-old children with vigorous physical activity at least three times per week

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
Healthy weight children												
Both sexes												
8-10 years	1,100	76.0	1.8	553	77.4	2.6	126	80.9	3.9	364	73.1	3.1
11-13 years	913	84.1	1.5	444	78.9	3.7	115	› 87.9	3.5	304	86.1	2.1
14-16 years	785	78.2	2.6	336	71.9	5.4	106	77.9	5.6	294	81.0	3.4
Total, age adjusted	2,798	79.4	1.2	1,333	76.1	2.2	347	82.2	2.8	962	79.9	1.8
Male												
8-10 years	570	74.6	3.2	285	80.7	3.2	59	89.2 *	5.1	194	› 67.0	5.0
11-13 years	445	87.4	2.7	218	84.5	3.8	55	89.5 *	4.1	155	88.1	3.7
14-16 years	394	87.2	3.2	181	85.1 *	5.6	55	84.2 *	7.6	128	89.4 *	4.6
Total, age adjusted	1,409	82.9	2.0	684	83.4	2.6	169	87.7	2.4	477	81.3	2.9
Female												
8-10 years	530	77.5	2.2	268	74.3	4.9	67	75.7	5.2	170	80.0	2.6
11-13 years	468	80.5	3.0	226	73.2	5.6	60	› 86.1 *	5.5	149	83.8	3.3
14-16 years	391	68.9	3.1	155	58.7	6.6	51	69.8	9.1	166	› 73.5	3.6
Total, age adjusted	1,389	75.7	1.3	649	68.8	3.0	178	77.2	4.5	485	›› 79.1	1.7
Children who are overweight or at risk of overweight												
Both sexes												
8-10 years	439	83.0	3.6	202	88.4 *	3.1	52	› 65.7 *	11.9	156	85.8 *	5.0
11-13 years	434	86.5	2.8	218	77.4	5.6	43	84.5 *	11.4	145	›› 94.6 *	2.6
14-16 years	297	71.0	4.4	155	71.6	6.1	31	80.8 *	8.7	97	66.4	8.3
Total, age adjusted	1,170	80.2	2.1	575	79.3	3.2	126	76.8	6.4	398	82.3	3.2
Male												
8-10 years	227	88.8 *	3.7	101	92.4 *	3.0	29	72.6 *	19.7	79	91.4 *	4.5
11-13 years	200	88.2 *	4.1	97	84.0 *	7.4	27	81.0 *	14.8	61	94.2 *	3.8
14-16 years	130	81.1 *	5.4	65	83.8 *	7.5	11	85.0 *	13.2	47	76.8 *	9.7
Total, age adjusted	557	86.1	3.4	263	86.8	4.8	67	79.4 *	8.1	187	87.5	4.3
Female												
8-10 years	212	75.9	5.5	101	82.2 *	5.6	23	57.3 *	16.8	77	79.6 *	8.5
11-13 years	234	84.6	3.8	121	71.1	8.3	16	› 91.5 *	5.7	84	›› 95.1 *	1.9
14-16 years	167	60.3	6.9	90	58.6 *	9.3	20	78.0 *	8.7	50	53.9 *	13.1
Total, age adjusted	613	73.7	2.8	312	70.8	4.4	59	75.3 *	7.4	211	76.2	4.4

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94: Examination file; youth ages 8-16 only. The 'All Children' column includes children with missing income.

Table D-84—Percent of 8-16-year-old children participating in organized exercise program or sports team in past year

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
Both sexes												
8-10 years	1,550	58.7	2.70	762	45.9	3.99	179	58.6	6.40	521	›››66.9	3.72
11-13 years	1,367	69.7	1.81	671	58.2	2.91	159	66.5	5.82	457	›››76.8	2.78
14-16 years	1,104	58.7	2.23	506	46.9	3.35	137	› 60.9	6.26	397	›››65.0	3.61
Total, age adjusted	4,021	62.3	1.25	1,939	50.3	2.24	475	› 61.9	3.91	1,375	›››69.5	1.82
Male												
8-10 years	796	66.7	2.87	383	58.5	4.76	89	65.1	6.76	273	72.4	4.78
11-13 years	658	74.0	2.52	322	64.7	4.95	82	74.6	5.85	220	77.9	4.29
14-16 years	531	61.1	3.28	252	54.2	5.13	66	68.6 *	7.25	176	64.3	5.62
Total, age adjusted	1,985	67.3	1.69	957	59.1	3.38	237	› 69.4	3.61	669	›› 71.6	2.49
Female												
8-10 years	754	50.2	3.55	379	32.3	5.08	90	› 53.7	8.16	248	›››60.8	4.80
11-13 years	709	64.9	2.83	349	51.8	3.73	77	56.0 *	9.39	237	›››75.5	4.03
14-16 years	573	56.3	2.76	254	39.5	6.40	71	52.6 *	9.85	221	›› 65.7	3.89
Total, age adjusted	2,036	57.0	1.46	982	41.0	2.53	238	54.1	5.80	706	›››67.2	2.41

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94: Examination file; youth ages 8-16 only. The 'All Children' column includes children with missing income.

Table D-85—Percent of healthy weight and overweight 8-16-year-old children participating in organized exercise program or sports team in past year

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
	Healthy weight children											
Both sexes												
8-10 years	1,098	58.4	2.9	551	46.2	4.8	126	57.7	7.5	364	›››67.5	4.1
11-13 years	913	73.4	2.6	444	64.8	2.7	115	72.2	6.4	304	›› 78.3	3.7
14-16 years	784	64.8	2.5	335	57.2	4.2	106	60.8	7.0	294	› 69.4	3.5
Total, age adjusted	2,795	65.4	1.5	1,330	55.9	2.4	347	63.5	4.2	962	›››71.6	2.2
Male												
8-10 years	565	67.6	3.7	280	63.7	5.6	59	64.9 *	9.4	194	71.0	5.5
11-13 years	445	79.2	3.1	218	71.1	4.6	55	› 85.4 *	4.2	155	81.2	5.1
14-16 years	394	65.8	3.8	181	66.6	6.0	55	67.2 *	8.8	128	66.4	6.1
Total, age adjusted	1,404	70.8	2.1	679	67.1	3.0	169	72.4	5.0	477	72.8	3.2
Female												
8-10 years	533	49.4	4.2	271	28.9	5.7	67	› 53.1 *	10.5	170	›››63.5	5.7
11-13 years	468	67.2	3.8	226	58.6	4.4	60	57.2 *	8.4	149	›› 75.0	5.0
14-16 years	390	63.6	3.3	154	47.8	8.0	51	52.7 *	12.3	166	› 72.0	4.0
Total, age adjusted	1,391	59.9	2.0	651	44.8	3.1	178	54.3	6.2	485	›››70.0	3.1
	Children who are overweight or at risk of overweight											
Both sexes												
8-10 years	1,098	59.4	4.6	551	45.7	6.1	126	61.9 *	9.8	364	›› 64.9	5.7
11-13 years	913	59.9	4.2	444	45.9	6.5	115	50.4 *	12.3	304	›››72.2	5.3
14-16 years	784	41.6	4.9	335	28.3	6.7	106	› 61.0 *	13.6	294	47.7	7.6
Total, age adjusted	2,795	53.7	2.4	1,330	40.1	3.9	347	› 57.8	7.2	962	›››61.7	3.2
Male												
8-10 years	565	64.9	7.4	280	44.9 *	8.5	59	65.4 *	16.4	194	›› 76.2	8.1
11-13 years	445	61.2	7.0	218	52.7 *	11.2	55	49.7 *	13.5	155	67.6 *	9.6
14-16 years	394	49.8	7.3	181	37.2 *	10.6	55	73.7 *	16.8	128	57.2 *	11.8
Total, age adjusted	1,404	58.7	3.7	679	44.9	6.1	169	63.0 *	9.3	477	›› 67.1	5.1
Female												
8-10 years	533	52.5	6.3	271	47.0 *	8.6	67	56.9 *	16.8	170	52.4	8.9
11-13 years	468	58.5	4.9	226	39.5	6.8	60	51.9 *	21.6	149	›››77.2	5.7
14-16 years	390	32.9	5.7	154	19.0 *	6.9	51	52.4 *	16.7	166	36.3 *	9.9
Total, age adjusted	1,391	48.1	3.4	651	35.4	4.7	178	53.8 *	10.6	485	›› 55.3	4.8

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94: Examination file; youth ages 8-16 only. The 'All Children' column includes children with missing income.

Table D-86—Mean hours of television watched by 5-16-year-old children

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Mean	Std error	Sample size	Mean	Std error	Sample size	Mean	Std error	Sample size	Mean	Std error
Both sexes												
5-10 years	3,637	2.0	0.06	1,794	2.3	0.08	434	›› 2.0	0.13	1,188	››› 1.9	0.08
11-13 years	1,493	2.2	0.07	720	2.5	0.09	172	2.2	0.17	506	›› 2.1	0.09
14-16 years	1,238	2.0	0.06	556	2.1	0.12	149	1.9	0.15	449	2.0	0.10
Total, age adjusted	6,368	2.1	0.04	3,070	2.3	0.06	755	›› 2.0	0.10	2,143	››› 2.0	0.05
Male												
5-10 years	1,848	2.2	0.08	881	2.3	0.09	213	2.1	0.17	634	› 2.1	0.10
11-13 years	713	2.2	0.07	341	2.4	0.14	89	2.5	0.22	240	2.2	0.10
14-16 years	573	2.1	0.09	262	2.1	0.15	71	2.0	0.22	196	2.2	0.15
Total, age adjusted	3,134	2.2	0.05	1,484	2.3	0.08	373	2.2	0.11	1,070	2.1	0.07
Female												
5-10 years	1,789	1.9	0.07	913	2.3	0.11	221	›› 1.8	0.14	554	››› 1.6	0.11
11-13 years	780	2.2	0.11	379	2.6	0.13	83	› 2.0	0.25	266	››› 2.0	0.15
14-16 years	665	1.9	0.10	294	2.1	0.16	78	1.8	0.21	253	1.9	0.13
Total, age adjusted	3,234	2.0	0.05	1,586	2.3	0.09	382	›››1.8	0.11	1,073	››› 1.8	0.08

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94: Youth interview file; ages 5-16 only. The 'All Children' column includes children with missing income.

Table D-87—Percent of 5-16-year-old children who watch 2 hours or less of television daily

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Std error	Sample size	Percent	Std error	Sample size	Percent	Std error	Sample size	Percent	Std error
Both sexes												
5-10 years	3,637	66.2	1.9	1,794	57.1	2.9	434	›› 71.7	4.1	1,188	››› 70.2	2.3
11-13 years	1,493	59.8	2.4	720	52.3	3.6	172	57.8	6.5	506	› 63.0	3.4
14-16 years	1,238	67.4	1.9	556	64.2	3.7	149	71.8	5.1	449	68.0	3.0
Total, age adjusted	6,368	64.9	1.4	3,070	57.7	2.4	755	›› 68.3	3.0	2,143	››› 67.8	1.7
Male												
5-10 years	1,848	63.3	2.4	881	55.4	3.9	213	67.3	5.2	634	› 66.6	3.0
11-13 years	713	59.0	3.1	341	50.5	6.7	89	54.1	7.3	240	62.6	3.9
14-16 years	573	66.5	2.8	262	67.7	5.0	71	64.2	7.0	196	66.6	4.4
Total, age adjusted	3,134	63.0	2.0	1,484	57.2	3.9	373	63.2	3.4	1,070	› 65.6	2.2
Female												
5-10 years	1,789	69.4	2.0	913	58.7	3.6	221	›› 75.7	4.7	554	›› 74.7	3.5
11-13 years	780	60.6	3.3	379	54.0	3.9	83	62.3	8.6	266	63.4	4.6
14-16 years	665	68.2	2.4	294	61.0	4.8	78	› 80.3 *	6.0	253	69.1	3.6
Total, age adjusted	3,234	66.9	1.5	1,586	58.1	2.7	382	››› 73.5	3.6	1,073	›› 70.6	2.5

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94: Youth interview file; ages 5-16 only. The 'All Children' column includes children with missing income.

Table D-88—Mean hours television watched by healthy weight and overweight 5-16-year-old children

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Mean	Std error	Sample size	Mean	Std error	Sample size	Mean	Std error	Sample size	Mean	Std error
Healthy weight children												
Both sexes												
5-10 years	2,557	2.0	0.06	1,300	2.2	0.08	317	› 1.9	0.13	818	››› 1.8	0.09
11-13 years	942	2.0	0.08	459	2.3	0.13	118	2.1	0.18	314	› 1.9	0.11
14-16 years	811	2.0	0.09	352	2.0	0.17	109	1.8	0.16	298	2.0	0.13
Total, age adjusted	4,310	2.0	0.04	2,111	2.2	0.07	544	› 2.0	0.10	1,430	››› 1.8	0.06
Male												
5-10 years	1,288	2.1	0.08	641	2.3	0.09	152	2.2	0.18	434	› 2.0	0.12
11-13 years	455	2.1	0.10	224	2.1	0.19	56	2.4 *	0.23	159	2.0	0.12
14-16 years	404	2.2	0.12	186	2.1	0.17	56	1.8 *	0.24	130	2.3	0.20
Total, age adjusted	2,147	2.1	0.06	1,051	2.2	0.07	264	2.2	0.11	723	2.1	0.09
Female												
5-10 years	1,269	1.8	0.07	659	2.2	0.13	165	›› 1.6	0.15	384	››› 1.5	0.11
11-13 years	487	2.0	0.13	235	2.4	0.17	62	1.8	0.30	155	›› 1.8	0.18
14-16 years	407	1.8	0.09	166	2.0	0.22	53	1.8 *	0.24	168	1.7	0.13
Total, age adjusted	2,163	1.8	0.05	1,060	2.2	0.10	280	›› 1.7	0.14	707	››› 1.6	0.08
Children who are overweight or at risk of overweight												
Both sexes												
5-10 years	864	2.2	0.10	427	2.4	0.15	99	2.1 *	0.29	278	2.2	0.14
11-13 years	453	2.6	0.14	227	2.8	0.15	46	2.7 *	0.40	147	2.5	0.19
14-16 years	300	2.2	0.16	158	2.3	0.24	32	2.2 *	0.46	96	2.3	0.21
Total, age adjusted	1,617	2.3	0.08	812	2.5	0.11	177	2.3	0.23	521	2.3	0.10
Male												
5-10 years	436	2.2	0.17	207	2.4	0.24	51	2.0 *	0.36	144	2.2	0.21
11-13 years	210	2.6	0.21	101	2.8 *	0.19	28	2.7 *	0.55	63	2.4	0.31
14-16 years	130	2.1	0.22	64	2.3 *	0.34	12	2.5 *	0.68	47	2.0 *	0.31
Total, age adjusted	776	2.3	0.13	372	2.5	0.19	91	2.3 *	0.31	254	2.2	0.15
Female												
5-10 years	428	2.2	0.11	220	2.4	0.14	48	2.3 *	0.34	134	2.1	0.21
11-13 years	243	2.7	0.18	126	2.8	0.23	18	2.5 *	0.22	84	2.7	0.25
14-16 years	170	2.4	0.23	94	2.2 *	0.28	20	2.1 *	0.46	49	2.8 *	0.31
Total, age adjusted	841	2.4	0.09	440	2.5	0.12	86	2.3 *	0.24	267	2.4	0.13

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94: Youth interview file contains television viewing questions. Sample for table is limited to children with height and weight measured during the MEC examination.

Table D-89—Percent of healthy weight and overweight 5-16-year-old children watching 2 hours or less of television daily

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Std error	Sample size	Percent	Std error	Sample size	Percent	Std error	Sample size	Percent	Std error
Healthy weight children												
Both sexes												
5-10 years	2,557	69.6	2.0	1,300	59.8	3.0	317	› 72.7	4.7	818	››› 74.8	2.8
11-13 years	942	65.0	3.0	459	60.5	4.6	118	60.3	6.5	314	67.7	3.9
14-16 years	811	69.3	2.6	352	67.6	5.4	109	76.8	6.3	298	68.6	3.7
Total, age adjusted	4,310	68.4	1.6	2,111	61.9	2.5	544	› 70.6	3.4	1,430	›› 71.5	2.2
Male												
5-10 years	1,288	66.4	2.6	641	59.2	3.9	152	65.8	6.6	434	› 70.1	3.6
11-13 years	455	63.5	3.9	224	60.5	7.4	56	54.1 *	9.1	159	66.6	5.0
14-16 years	404	65.7	3.5	186	68.7	5.1	56	74.6 *	8.8	130	62.8	5.5
Total, age adjusted	2,147	65.5	2.3	1,051	61.9	3.6	264	65.1	4.2	723	67.4	2.9
Female												
5-10 years	1,269	73.1	2.2	659	60.2	4.1	165	›› 78.8	5.2	384	››› 80.8	3.2
11-13 years	487	66.5	3.8	235	60.4	5.1	62	67.0 *	8.3	155	69.0	5.0
14-16 years	407	73.0	3.0	166	66.5	7.4	53	79.7 *	8.6	168	73.8	4.2
Total, age adjusted	2,163	71.4	1.6	1,060	61.8	3.0	280	›› 76.1	4.3	707	››› 76.1	2.4
Children who are overweight or at risk of overweight												
Both sexes												
5-10 years	864	56.2	3.3	427	48.9	4.6	99	63.2	8.0	278	57.8	4.3
11-13 years	453	47.0	5.1	227	38.8	6.6	46	49.6 *	13.8	147	49.7	6.4
14-16 years	300	59.8	4.7	158	58.5	6.6	32	57.7 *	14.0	96	60.7	7.3
Total, age adjusted	1,617	54.8	2.6	812	48.8	3.7	177	58.5	7.0	521	56.5	3.5
Male												
5-10 years	436	57.1	5.2	207	47.3	7.3	51	67.5 *	9.2	144	59.0	6.4
11-13 years	210	48.9	7.1	101	33.7 *	11.1	28	51.6 *	13.5	63	55.2 *	9.4
14-16 years	130	63.5	6.9	64	64.9 *	10.6	12	27.8 *	18.8	47	71.4 *	8.8
Total, age adjusted	776	56.6	4.2	372	48.3	6.7	91	53.8	7.7	254	61.2	4.7
Female												
5-10 years	428	55.3	4.3	220	50.5	4.8	48	58.5 *	11.0	134	56.2	7.1
11-13 years	243	44.7	5.8	126	43.8	7.6	18	46.0 *	18.9	84	43.1	7.8
14-16 years	170	56.1	6.4	94	52.8 *	7.6	20	›› 81.6 *	7.8	49	47.6 *	11.0
Total, age adjusted	841	52.9	3.2	440	49.4	4.3	86	61.1 *	8.4	267	50.9	4.6

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94: Youth interview file contains television viewing questions. Sample for table is limited to children with height and weight measured during the MEC examination.

Table D-90—Percent of 12-18-year-old children consuming at least 12 alcoholic beverages in their lifetime

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
Both sexes												
12-13 years	821	8.9	1.5	400	9.9	2.7	93	11.8 *	5.1	278	7.0 *	2.1
14-18 years	1,501	39.6	2.5	701	37.9	3.1	185	40.0	4.9	513	40.9	3.7
Total, age adjusted ...	2,322	28.1	1.8	1,101	27.4	2.4	278	29.4	3.8	791	28.2	2.7
Male												
12-13 years	390	8.7 *	2.0	195	8.5 *	3.1	48	17.5 *	7.7	127	5.1 *	2.4
14-18 years	718	43.6	4.2	334	43.1	4.5	87	48.7	8.0	238	43.8	6.5
Total, age adjusted ...	1,108	30.5	3.0	529	30.2	3.3	135	37.0	6.0	365	29.3	4.4
Female												
12-13 years	431	9.1	2.1	205	11.7 *	4.0	45	›› 0.8 *	0.8	151	9.3 *	3.2
14-18 years	783	35.5	3.2	367	33.3	4.0	98	31.4	6.4	275	37.9	4.6
Total, age adjusted ...	1,214	25.6	2.3	572	25.2	2.8	143	20.0	4.0	426	27.2	3.5

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94: Examination file. The 'All Children' column includes children with missing income.

Table D-91—Percent of 12-18-year-old children consuming at least 12 alcoholic beverages in past year

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
Both sexes												
12-13 years	821	1.4 *	0.6	400	1.2 *	0.6	93	0.4 *	0.4	278	1.7 *	1.1
14-18 years	1,501	21.8	2.0	701	19.3	2.7	185	14.6	3.8	513	24.6	3.1
Total, age adjusted ...	2,322	14.2	1.2	1,101	12.5	1.7	278	9.3	2.4	791	16.1	2.0
Male												
12-13 years	390	2.1 *	1.1	195	1.5 *	0.9	48	0.6 *	0.6	127	3.0 *	1.9
14-18 years	718	25.8	3.3	334	25.3	3.8	87	23.4 *	6.4	238	26.4	5.2
Total, age adjusted ...	1,108	17.0	2.1	529	16.4	2.4	135	14.8 *	4.0	365	17.6	3.4
Female												
12-13 years	431	0.4 *	0.2	205	0.8 *	0.6	45	0.0 *	0.0	151	0.2 *	0.1
14-18 years	783	17.7	2.1	367	13.9	3.0	98	6.1 *	3.5	275	› 22.8	3.3
Total, age adjusted ...	1,214	11.2	1.3	572	9.0	1.9	143	3.8 *	2.2	426	› 14.4	2.0

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94: Examination file. The 'All Children' column includes children with missing income.

Table D-92—Smoking behaviors among 14-18-year-old children[1]

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Estimate	Standard error	Sample size	Estimate	Standard error	Sample size	Estimate	Standard error	Sample size	Estimate	Standard error
Both sexes												
Percent ever smoked[2]	1,513	13.0	1.6	705	14.4	2.6	187	11.4 *	3.5	517	12.8	2.2
Percent smoked cigarettes in past 5 days	1,475	15.8	1.6	692	18.6	3.1	181	13.3 *	4.1	502	15.2	2.1
Percent smoke pipes, cigars or chewed tobacco in past 5 days	1,501	2.2	0.6	700	1.9 *	0.9	185	0.4 *	0.4	514	2.9 *	1.0
Among smokers												
Mean number cigarettes smoked, past 5 days	192	32.9	3.6	94	33.8 *	7.6	21	32.0 *	8.0	65	29.9	3.9
Mean age became regular smoker	127	13.3	0.3	52	13.5 *	0.3	16	›› 11.9 *	0.5	53	13.4 *	0.5
Percent who quit	132	6.9 *	3.3	53	7.8 *	4.3	16	0.0 *	0.0	56	8.5 *	5.8
Male												
Percent ever smoked[2]	726	11.5	1.9	339	10.7	2.9	89	6.4 *	3.9	238	13.1	2.8
Percent smoked cigarettes in past 5 days	705	14.0	2.1	329	18.8	4.6	86	› 7.3 *	3.6	232	13.3	2.9
Percent smoke pipes, cigars or chewed tobacco in past 5 days	718	4.2	1.2	334	3.9 *	1.9	87	0.7 *	0.7	238	5.8 *	2.1
Among smokers												
Mean number cigarettes smoked, past 5 days	103	40.2	6.3	56	31.6 *	10.3	11	35.6 *	11.6	29	40.8 *	6.7
Mean age became regular smoker	66	13.6	0.6	31	14.1 *	0.4	6	›› 12.9 *	0.3	25	13.1 *	0.9
Percent who quit	69	8.1 *	5.1	31	1.0 *	1.0	6	0.0 *	0.0	27	13.1 *	8.5
Female												
Percent ever smoked[2]	787	14.4	2.5	366	17.6	3.5	98	16.3 *	6.3	279	12.4	3.3
Percent smoked cigarettes in past 5 days	770	17.6	2.4	363	18.4	3.1	95	19.3 *	7.4	270	17.1	3.4
Percent smoke pipes, cigars or chewed tobacco in past 5 days	783	0.1 *	>0	366	0.2 *	0.1	98	0.0	0.0	276	0.0	0.0
Among smokers												
Mean number cigarettes smoked, past 5 days	89	27.1	4.2	38	35.8 *	10.6	10	30.7 *	10.2	36	21.6 *	3.7
Mean age became regular smoker	61	13.1	0.3	21	13.1 *	0.5	10	›› 11.6 *	0.6	28	13.8 *	0.2
Percent who quit	63	5.9 *	3.1	22	11.5 *	6.8	10	0.0 *	0.0	29	3.6 *	3.5

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).
1 Children under age 14 are not shown because estimates of smoking prevalence are very low and statistically unreliable. Prevalence of ever smoking among children age 8-10 is 0%; prevalence of ever smoking among children age 11-13 is 1.4%.
2 Persons are identified as "ever smoking" if they report smoking at least 100 cigarettes during their entire life.
>0 Value to small to display.

Source: NHANES-III, 1988-94: Adult Interview file and Examination file. Sample for table contains persons completing an MEC exam. The 'All Children' column includes children with missing income.

Table D-93—Percent of nonsmoking school-age children exposed to second hand smoke at home[1]

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
Both sexes												
5-10 years	3,401	40.0	2.2	1,725	50.1	4.0	411	47.1	4.3	1,080	›››31.6	2.4
11-13 years	1,332	36.8	2.5	651	46.3	4.2	157	41.4	6.2	446	›››29.8	3.1
14-18 years	1,266	36.8	2.4	591	45.2	4.1	160	36.2	5.4	430	› 31.9	3.7
Total, age adjusted	5,999	38.2	1.6	2,967	47.6	3.1	728	42.0	3.3	1,956	›››31.4	2.1
Male												
5-10 years	1,709	38.2	2.3	846	49.0	4.3	198	50.5	3.9	568	›› 29.0	3.4
11-13 years	640	32.6	3.3	312	42.9	6.7	80	39.6 *	8.0	214	›› 24.1	4.4
14-18 years	587	37.6	3.5	267	43.0	5.2	75	40.0 *	7.3	196	34.2	5.6
Total, age adjusted	2,936	36.8	2.0	1,425	45.6	4.1	353	44.5	3.6	978	›› 29.8	2.6
Female												
5-10 years	1,692	41.9	2.9	879	51.2	5.0	213	44.1	6.9	512	›› 34.9	3.4
11-13 years	692	41.3	3.6	339	49.7	5.3	77	43.5 *	8.3	232	36.0	5.5
14-18 years	679	36.0	3.7	324	47.0	4.9	85	31.7 *	7.8	234	› 29.7	5.6
Total, age adjusted	3,063	39.7	2.1	1,542	49.4	3.2	375	39.6	4.8	978	›››33.3	2.9

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).
1 Children under age 8 are identified as nonsmokers. Persons age 8 and older are identified as nonsmokers if they answered no to all four types of nicotine exposure in past 5 days: cigarettes, cigars or pipes, chewing tobacco or snuff, and nicotine gum.

Source: NHANES-III, 1988-94: Examination sample. Smokers are identified from the MEC file; exposure is determined from the adult and youth interview files. Total includes persons with missing food stamp participation or income.

Table D-94—Mean number cigarettes smoked per day in households where nonsmoking school-age children reside with smokers[1,2]

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Mean # Cigarettes	Standard Error	Sample size	Mean # Cigarettes	Standard Error	Sample size	Mean # Cigarettes	Standard Error	Sample size	Mean # Cigarettes	Standard Error
Both sexes												
5-10 years	1,327	17.0	0.9	765	19.9	1.2	159	16.3	1.6	342	›››14.6	1.2
11-13 years	508	17.1	1.2	289	20.3	1.7	56	21.1 *	4.6	132	›› 13.6	1.2
14-18 years	490	15.8	1.2	250	16.5	1.9	61	13.3 *	1.4	142	16.3	1.7
Total, age adjusted	2,325	16.6	0.8	1,304	18.8	1.2	276	16.3	1.4	616	›››15.0	1.0
Male												
5-10 years	638	17.0	1.0	358	19.2	1.3	79	16.2 *	1.5	166	› 15.5	1.5
11-13 years	232	19.5	1.5	131	23.1	2.8	32	20.7 *	4.7	56	› 16.5 *	1.7
14-18 years	233	16.5	1.3	113	21.6	2.1	33	›› 14.1 *	1.9	67	›› 14.6	1.6
Total, age adjusted	1,103	17.4	0.7	602	20.9	1.1	144	› 16.4	1.5	289	›››15.4	1.0
Female												
5-10 years	689	17.0	1.0	407	20.5	1.6	80	16.4 *	2.2	176	›››13.6	1.3
11-13 years	276	15.0	1.4	158	17.9	2.4	24	21.5 *	5.0	76	› 11.5	1.5
14-18 years	257	15.0	2.0	137	12.6	2.2	28	12.2 *	1.3	75	› 18.2	3.0
Total, age adjusted	1,222	15.9	1.1	702	17.2	1.5	132	16.0	1.3	327	14.8	1.4

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

1 Children under age 8 are identified as nonsmokers. Persons age 8 and older are identified as nonsmokers if they answered no to all four types of nicotine exposure in past 5 days: cigarettes, cigars or pipes, chewing tobacco or snuff, and nicotine gum.

2 Persons are identified as smokers if they are over age 7 and reported smoking cigarettes in the past 5 days.

Source: NHANES-III, 1988-94: Examination sample. Smokers are identified from the MEC file; exposure is determined from the adult and youth interview files. Total includes persons with missing food stamp participation or income.

Table D-95—Percent of nonsmoking school-age children with high serum cotinine levels [1,2]

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
Both sexes												
5-10 years	2,613	67.4	2.3	1,356	80.5	2.9	302	76.8	3.7	820	›››56.3	3.6
11-13 years	1,173	65.0	2.4	592	73.0	3.6	136	› 83.8	3.4	384	›››55.7	3.2
14-18 years	1,146	69.0	2.9	539	78.4	3.7	141	› 61.1	6.7	387	›› 63.7	3.7
Total, age adjusted	4,932	67.5	1.8	2,487	78.2	2.6	579	72.7	3.7	1,591	›››58.8	2.4
Male												
5-10 years	1,327	66.0	3.0	669	81.2	3.8	145	77.2	5.4	441	›››54.3	4.5
11-13 years	569	64.9	2.6	285	72.9	5.0	67	86.3 *	5.3	190	›› 55.9	4.1
14-18 years	525	68.2	3.7	236	79.4	5.4	65	63.8 *	11.6	175	›› 60.9	4.4
Total, age adjusted	2,421	66.6	2.3	1,190	78.8	3.3	277	74.4	5.2	806	›››57.0	3.0
Female												
5-10 years	1,286	68.9	2.6	687	79.9	3.9	157	76.4	5.3	379	›››58.8	4.0
11-13 years	604	65.2	4.4	307	73.2	6.1	69	80.9 *	4.7	194	› 55.6	5.9
14-18 years	621	69.8	3.1	303	77.6	4.2	76	› 58.1	7.5	212	66.6	5.0
Total, age adjusted	2,511	68.4	2.0	1,297	77.7	2.8	302	70.8	4.4	785	›››60.8	2.9

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

1 Children under age 8 are identified as nonsmokers. Persons age 8 and older are identified as nonsmokers if they answered no to all four types of nicotine exposure in past 5 days: cigarettes, cigars or pipes, chewing tobacco or snuff, and nicotine gum.

2 High serum cotinine level is defined as > 0.10 ng/dL. Source: *Healthy People 2010* (CDC, 2000).

Source: NHANES-III, 1988-94: Examination sample. Smokers are identified from the MEC file; exposure is determined from the adult and youth interview files. Total includes persons with missing food stamp participation or income.

Table D-96—Percent of school-age children with caregiver- or self-reported general health status of very good or excellent

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
Both sexes												
5-10 years	3,670	76.0	1.6	1,817	63.7	2.7	436	›› 75.0	3.5	1,194	››› 84.7	1.8
11-13 years	1,503	77.6	1.9	724	60.5	4.3	172	68.4	4.3	510	››› 88.4	1.7
14-18 years	1,650	67.8	2.0	750	47.0	3.7	198	››› 68.9	4.6	579	››› 80.0	2.2
Total, age adjusted	6,823	73.4	1.3	3,291	57.1	2.2	806	››› 71.4	2.3	2,283	››› 83.8	1.2
Male												
5-10 years	1,867	76.9	1.6	896	64.2	2.8	213	66.3	4.6	637	››› 87.0	1.6
11-13 years	718	76.9	2.6	344	57.1	6.6	89	59.3	7.1	241	››› 89.8	2.5
14-18 years	784	71.0	3.0	356	50.2	4.5	94	›› 75.8	7.4	265	››› 81.6	3.6
Total, age adjusted	3,369	74.8	1.6	1,596	57.8	2.9	396	› 68.2	3.8	1,143	››› 85.7	1.5
Female												
5-10 years	1,803	74.9	2.0	921	63.2	3.4	223	››› 82.8	3.4	557	››› 81.6	2.9
11-13 years	785	78.2	2.0	380	63.7	4.3	83	› 79.3 *	4.6	269	››› 86.9	2.6
14-18 years	866	64.7	2.6	394	44.2	4.3	104	› 61.9	8.0	314	››› 78.5	3.0
Total, age adjusted	3,454	72.0	1.2	1,695	56.6	2.2	410	››› 74.6	2.9	1,140	››› 81.6	1.6

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94: Adult and youth interview files. The 'All Children' column includes children with missing income.

Table D-97—Percent of school-age children with caregiver- or self-reported general health status of fair or poor

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
Both sexes												
5-10 years	3,670	4.1	0.6	1,817	8.0	1.2	436	›› 3.5 *	1.2	1,194	››› 1.5	0.5
11-13 years	1,503	4.1	0.6	724	7.9	1.1	172	4.4 *	2.1	510	››› 1.9 *	0.6
14-18 years	1,650	6.8	1.0	750	13.2	2.2	198	› 5.9 *	2.7	579	››› 3.2	0.8
Total, age adjusted	6,823	5.0	0.5	3,291	9.8	1.0	806	››› 4.5	1.1	2,283	››› 2.2	0.3
Male												
5-10 years	1,867	3.6	0.5	896	6.7	1.0	213	5.5 *	2.4	637	››› 1.2 *	0.4
11-13 years	718	4.2	0.7	344	9.1	1.9	89	5.2 *	3.2	241	››› 1.6 *	1.0
14-18 years	784	5.0	1.0	356	13.5	3.0	94	››› 1.8 *	0.8	265	››› 1.7 *	1.0
Total, age adjusted	3,369	4.2	0.5	1,596	9.6	1.2	396	››› 4.1 *	1.3	1,143	››› 1.5	0.4
Female												
5-10 years	1,803	4.7	1.0	921	9.2	1.9	223	››› 1.7 *	0.7	557	››› 2.0 *	1.1
11-13 years	785	4.0	0.8	380	6.9	1.6	83	3.5 *	2.7	269	› 2.1 *	1.1
14-18 years	866	8.5	1.3	394	13.0	2.2	104	10.1 *	5.2	314	››› 4.6 *	1.1
Total, age adjusted	3,454	5.9	0.7	1,695	10.0	1.2	410	› 5.1	1.9	1,140	››› 2.9	0.6

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94: Adult and youth interview files. The 'All Children' column includes children with missing income.

Table D-98—Percent of school-age children with physician-reported general health status of very good or excellent

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
Both sexes												
5-10 years	3,370	87.3	2.8	1,699	87.6	2.3	408	82.6	5.4	1,076	88.6	3.1
11-13 years	1,348	88.5 *	3.2	663	88.5	2.2	157	78.8 *	9.3	449	90.9 *	3.2
14-18 years	1,472	86.0	4.0	682	83.9	3.2	184	85.1 *	7.3	508	88.0 *	4.3
Total, age adjusted	6,190	87.1	3.1	3,044	86.5	2.2	749	82.7	6.6	2,033	88.8	3.2
Male												
5-10 years	1,694	87.7	2.8	833	88.7	2.1	199	80.8 *	5.6	564	88.4 *	3.6
11-13 years	642	88.5 *	3.4	316	88.9 *	3.0	78	80.5 *	8.8	215	90.7 *	3.7
14-18 years	708	85.4 *	4.4	328	84.8 *	4.4	88	87.4 *	8.4	235	86.4 *	4.8
Total, age adjusted	3,044	87.0	3.2	1,477	87.4	2.3	365	83.1	6.5	1,014	88.2	3.5
Female												
5-10 years	1,676	87.0	3.1	866	86.6	3.0	209	84.3 *	6.2	512	88.8 *	3.0
11-13 years	706	88.6 *	3.3	347	88.0 *	2.3	79	76.8 *	11.2	234	91.0 *	3.3
14-18 years	764	86.6 *	3.7	354	83.0 *	3.0	96	82.9 *	7.2	273	89.5 *	4.4
Total, age adjusted	3,146	87.2	3.1	1,567	85.6	2.4	384	82.2	6.9	1,019	89.5	3.2

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94: Examination file. The 'All Children' column includes children with missing income.

Table D-99—Percent of school-age children with physician-reported general health status of fair or poor

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
Both sexes												
5-10 years	3,370	1.2	0.4	1,699	1.5	0.7	408	0.3 *	0.2	1,076	1.2 *	0.5
11-13 years	1,348	0.8 *	0.3	663	0.6 *	0.3	157	1.4 *	1.4	449	0.4 *	0.2
14-18 years	1,472	1.6 *	0.7	682	1.2 *	0.5	184	1.6 *	1.2	508	1.4 *	1.2
Total, age adjusted ...	6,190	1.2	0.4	3,044	1.2	0.4	749	1.0 *	0.5	2,033	1.1	0.6
Male												
5-10 years	1,694	0.9 *	0.4	833	1.4 *	0.8	199	0.7 *	0.5	564	0.6 *	0.5
11-13 years	642	0.9 *	0.5	316	0.9 *	0.6	78	0.0	0.0	215	0.1 *	0.1
14-18 years	708	2.3 *	1.4	328	0.6 *	0.3	88	2.7 *	2.5	235	2.4 *	2.3
Total, age adjusted ...	3,044	1.4	0.6	1,477	1.0 *	0.4	365	1.2 *	0.9	1,014	1.2 *	0.9
Female												
5-10 years	1,676	1.4 *	0.5	866	1.6 *	0.7	209	› 0.0	0.0	512	1.8 *	0.9
11-13 years	706	0.7 *	0.4	347	0.2 *	0.2	79	3.1 *	3.0	234	0.6 *	0.4
14-18 years	764	0.9 *	0.4	354	1.8 *	0.9	96	0.5 *	0.5	273	0.4 *	0.4
Total, age adjusted ...	3,146	1.1	0.3	1,567	1.4 *	0.4	384	0.8 *	0.7	1,019	1.1 *	0.4

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94: Examination file. The 'All Children' column includes children with missing income.

Table D-100—Birth characteristics of 5-10-year-old children

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Estimate	Standard error	Sample size	Estimate	Standard error	Sample size	Estimate	Standard error	Sample size	Estimate	Standard error
Both sexes												
Maternal characteristics												
Mean age of mother at birth	3,616	25.6	0.2	1,794	23.9	0.3	426	23.9	0.4	1,175	›››27.1	0.3
Percent of children born to adolescent mothers	3,616	13.7	1.2	1,794	23.1	2.5	426	19.9	3.5	1,175	›››6.3	1.3
Percent of children born to mothers over age 35	3,616	4.4	0.7	1,794	3.4	0.7	426	2.3 *	1.0	1,175	5.5	1.2
Percent of mothers who smoked during pregnancy	3,616	23.8	1.5	1,794	27.8	2.2	428	27.5	4.2	1,171	› 20.9	1.8
Birth characteristics												
Mean birth weight	3,346	3,380	22	1,631	3,214	37	401	›› 3,368	50	1,129	›››3,479	23
Percent of children born low birth weight	3,481	6.8	0.8	1,702	11.1	1.5	418	› 6.5	2.0	1,162	›››4.1	0.7
Percent of children born very low birth weight	3,346	1.5	0.4	1,631	3.0	1.0	401	1.9 *	1.1	1,129	› 0.4 *	0.3
Percent of children receiving neonatal intensive care	3,654	11.4	1.1	1,809	14.6	1.6	432	11.8	2.7	1,189	› 9.7	1.6
Male												
Maternal characteristics												
Mean age of mother at birth	1,838	25.8	0.2	886	24.0	0.3	206	23.8	0.5	625	›››27.1	0.3
Percent of children born to adolescent mothers	1,838	13.1	1.3	886	23.5	2.7	206	19.3	4.9	625	›››6.0	1.4
Percent of children born to mothers over age 35	1,838	4.7	0.9	886	4.7	1.2	206	›› 0.9 *	0.7	625	5.5	1.5
Percent of mothers who smoked during pregnancy	1,841	24.8	2.1	884	29.1	2.8	207	37.2	5.9	628	› 21.1	2.9
Birth characteristics												
Mean birth weight	1,710	3,439	23	805	3,278	48	194	3,360	79	602	›››3,530	24
Percent of children born low birth weight	1,777	6.5	0.9	840	10.3	1.7	202	9.8 *	3.3	620	›› 4.1	1.1
Percent of children born very low birth weight	1,710	0.9 *	0.4	805	2.1 *	1.0	194	2.1 *	1.2	602	› 0.1 *	>0
Percent of children receiving neonatal intensive care	1,858	12.8	1.8	893	14.1	2.6	210	13.9 *	4.5	633	12.3	2.6
Female												
Maternal characteristics												
Mean age of mother at birth	1,778	25.5	0.2	908	23.8	0.4	220	24.0	0.5	550	›››27.1	0.3
Percent of children born to adolescent mothers	1,778	14.4	1.4	908	22.7	3.1	220	20.3	4.5	550	›››6.6	1.6
Percent of children born to mothers over age 35	1,778	4.1	0.9	908	2.2 *	0.6	220	3.5 *	1.8	550	5.5	1.6
Percent of mothers who smoked during pregnancy	1,775	22.6	1.9	910	26.7	3.3	221	18.7	5.4	543	20.6	2.2
Birth characteristics												
Mean birth weight	1,636	3,316	33	826	3,156	50	207	›› 3,375	68	527	›››3,413	42
Percent of children born low birth weight	1,704	7.0	1.0	862	11.9	2.2	216	›››3.5 *	1.5	542	›› 4.2	1.2
Percent of children born very low birth weight	1,636	2.1	0.7	826	3.8	1.7	207	1.8 *	1.3	527	0.8 *	0.6
Percent of children receiving neonatal intensive care	1,796	10.0	1.0	916	15.0	2.4	222	9.8 *	2.7	556	›› 6.4	1.4

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).
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Source: NHANES-III, 1988-94: Youth interview file. The 'All Children' column includes children with missing income.

Table D-101—Percent of 5-16-year-old children with any hospital stays since birth

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
Both sexes												
5-10 years	3,657	26.0	1.2	1,809	29.0	2.3	435	27.0	3.5	1,190	24.6	2.1
11-13 years	1,500	30.2	1.7	724	38.4	3.5	172	28.4	5.6	507	›› 26.3	1.9
14-16 years	1,244	36.4	1.9	559	34.9	3.4	148	30.2	4.6	454	37.1	3.0
Total, age adjusted	6,401	30.6	1.1	3,092	33.1	1.9	755	28.4	3.0	2,151	29.4	1.7
Male												
5-10 years	1,858	28.2	1.4	891	32.0	2.6	212	32.8	5.1	634	26.2	2.2
11-13 years	716	33.9	2.9	344	47.0	5.3	89	29.6 *	9.9	239	›› 28.1	3.2
14-16 years	576	39.2	3.1	264	40.6	5.1	71	28.8 *	6.8	197	38.2	5.1
Total, age adjusted	3,150	33.3	1.4	1,499	38.2	2.7	372	30.7	4.1	1,070	› 30.9	2.2
Female												
5-10 years	1,799	23.6	1.9	918	26.3	3.0	223	21.7	4.6	556	22.6	3.3
11-13 years	784	26.3	2.4	380	30.4	4.2	83	26.9	6.6	268	24.3	3.1
14-16 years	668	33.8	2.2	295	29.8	4.4	77	31.8	7.2	257	36.2	3.2
Total, age adjusted	3,251	27.8	1.4	1,593	28.4	2.4	383	26.4	3.9	1,081	27.8	2.1

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94: Youth interview file. The 'All Children' column includes children with missing income.

Table D-102—Percent of 5-16-year-old children with accident, injury, or poisoning requiring medical attention in past 12 months

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
Both sexes												
5-10 years	3,671	14.7	1.5	1,817	9.5	1.3	436	15.3	3.3	1,194	›››17.9	2.2
11-13 years	1,502	13.8	1.5	724	11.4	2.9	172	12.8	4.1	509	15.4	2.6
14-16 years	1,249	17.0	1.8	560	10.6	2.1	149	15.6	4.4	456	›› 21.8	3.0
Total, age adjusted	6,422	15.3	1.0	3,101	10.3	1.3	757	14.9	2.4	2,159	›››18.8	1.5
Male												
5-10 years	1,868	16.1	1.8	896	12.0	2.2	213	17.6	4.4	637	17.7	2.6
11-13 years	718	15.5	2.3	344	17.0	5.4	89	15.9 *	4.9	241	15.1	3.3
14-16 years	579	20.8	2.5	265	11.4	3.0	71	20.2 *	6.8	199	›› 28.2	4.4
Total, age adjusted	3,165	17.6	1.4	1,505	12.9	1.9	373	18.2	3.3	1,077	›››20.9	2.1
Female												
5-10 years	1,803	13.1	1.8	921	7.1	1.6	223	13.2	3.8	557	›› 18.1	3.0
11-13 years	784	12.1	2.0	380	6.1 *	2.1	83	9.1 *	6.1	268	› 15.8	3.5
14-16 years	670	13.4	2.0	295	9.9	2.9	78	10.6 *	5.1	257	16.2	3.2
Total, age adjusted	3,257	13.0	1.2	1,596	7.9	1.3	384	11.4	2.6	1,082	›››16.9	2.0

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94: Youth interview file. The 'All Children' column includes children with missing income.

Table D-103—Percent of 5-16-year-old children ever diagnosed by doctor to have asthma

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
Both sexes												
5-10 years	3,671	10.7	1.2	1,817	10.2	1.6	436	10.5	3.0	1,194	11.3	1.5
11-13 years	1,502	11.2	1.3	723	12.8	2.5	172	8.4 *	2.8	510	11.0	1.6
14-16 years	1,249	12.2	1.5	560	11.6	2.0	149	9.3 *	3.3	456	14.4	2.4
Total, age adjusted	6,422	11.4	0.9	3,100	11.2	1.2	757	9.6	1.8	2,160	12.3	1.2
Male												
5-10 years	1,868	12.0	1.1	896	10.2	2.1	213	12.9	3.9	637	12.8	1.3
11-13 years	717	14.0	2.3	343	16.3	3.5	89	9.6 *	3.9	241	14.6	3.3
14-16 years	579	13.0	2.5	265	11.8	3.5	71	12.4 *	5.9	199	15.3	3.9
Total, age adjusted	3,164	12.7	1.2	1,504	12.1	1.8	373	12.0	2.5	1,077	14.1	1.7
Female												
5-10 years	1,803	9.3	1.9	921	10.2	2.4	223	8.3	4.2	557	9.4	2.7
11-13 years	785	8.4	2.3	380	9.4	3.3	83	7.0 *	3.3	269	7.2	2.3
14-16 years	670	11.5	1.9	295	11.4	3.1	78	5.9 *	3.6	257	13.5	3.0
Total, age adjusted	3,258	9.9	1.2	1,596	10.5	1.8	384	7.1	2.0	1,083	10.4	1.7

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94: Youth interview file. The 'All Children' column includes children with missing income.

Table D-104—Percent of 5-16-year-old children ever diagnosed by doctor to have chronic bronchitis

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
Both sexes												
5-10 years	3,671	3.9	0.6	1,817	4.6	0.9	436	4.7 *	2.5	1,194	3.3	0.9
11-13 years	1,503	4.0	0.9	724	3.4	1.0	172	2.7 *	1.8	510	4.6	1.4
14-16 years	1,249	6.2	1.4	560	6.6	1.9	149	10.4 *	4.6	456	5.0	1.6
Total, age adjusted ...	6,423	4.7	0.7	3,101	5.0	0.7	757	6.3	1.9	2,160	4.2	1.0
Male												
5-10 years	1,868	3.3	0.8	896	3.9	0.8	213	› 1.7 *	0.8	637	3.4 *	1.4
11-13 years	718	4.3	1.3	344	2.6 *	0.7	89	4.2 *	3.2	241	5.6 *	2.0
14-16 years	579	6.8	1.7	265	5.9 *	3.2	71	18.0 *	7.5	199	4.8 *	2.0
Total, age adjusted ...	3,165	4.8	0.7	1,505	4.3	1.2	373	8.0	2.7	1,077	4.4	1.0
Female												
5-10 years	1,803	4.5	0.9	921	5.2	1.5	223	7.3 *	4.6	557	3.3 *	0.9
11-13 years	785	3.8	1.3	380	4.0 *	1.6	83	1.0 *	0.7	269	3.6 *	2.1
14-16 years	670	5.6	1.9	295	7.3	2.4	78	2.1 *	1.2	257	5.2 *	2.3
Total, age adjusted ...	3,258	4.7	1.0	1,596	5.7	1.0	384	4.1 *	2.0	1,083	4.0	1.3

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94: Youth interview file. The 'All Children' column includes children with missing income.

Table D-105—Percent of 5-16-year-old children ever diagnosed by doctor to have hay fever

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
Both sexes												
5-10 years	3,671	6.0	0.8	1,817	3.2	0.8	436	5.7 *	2.4	1,194	›› 7.7	1.3
11-13 years	1,503	8.4	1.3	724	8.5	2.6	172	4.1 *	1.8	510	9.3	1.8
14-16 years	1,249	12.4	1.6	560	7.4	2.0	149	13.2 *	6.5	456	››› 15.8	2.1
Total, age adjusted	6,423	8.8	0.8	3,101	5.8	1.1	757	8.0	3.0	2,160	››› 10.9	1.0
Male												
5-10 years	1,868	5.5	0.9	896	3.3 *	1.2	213	5.6 *	2.7	637	6.3	1.2
11-13 years	718	12.0	2.5	344	15.0	4.8	89	6.7 *	3.3	241	11.7	3.3
14-16 years	579	12.5	2.5	265	3.0 *	1.0	71	20.0 *	10.8	199	››› 17.2	3.3
Total, age adjusted	3,165	9.4	1.2	1,505	5.7	1.2	373	11.0	5.0	1,077	›› 11.3	1.4
Female												
5-10 years	1,803	6.6	1.1	921	3.1 *	1.1	223	5.8 *	2.8	557	› 9.5	2.2
11-13 years	785	4.6	1.3	380	2.3 *	0.8	83	0.9 *	0.7	269	6.8	2.3
14-16 years	670	12.2	2.0	295	11.4	3.8	78	5.6 *	4.5	257	14.4	2.7
Total, age adjusted	3,258	8.2	0.9	1,596	5.9	1.6	384	4.7 *	1.8	1,083	› 10.7	1.4

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94: Youth interview file. The 'All Children' column includes children with missing income.

Table D-106—Percent of 5-16-year-old children tested for lead poisoning

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
Both sexes												
5-10 years	3,568	9.1	1.3	1,771	15.1	1.9	426	›› 8.4	2.6	1,153	›››5.5	0.9
11-13 years	1,466	8.2	1.7	715	15.6	3.5	167	› 6.9 *	2.1	492	›› 4.9 *	1.8
14-16 years	1,216	7.8	1.3	556	12.2	2.9	144	11.0 *	3.6	438	› 4.6 *	1.2
Total, age adjusted	6,250	8.4	1.1	3,042	14.2	1.8	737	›› 9.0	2.1	2,083	›››5.1	0.9
Male												
5-10 years	1,810	8.4	1.4	871	14.4	2.2	208	›› 7.9 *	2.4	614	›››5.4	1.0
11-13 years	702	8.7	2.4	340	19.0	5.7	88	› 6.2 *	2.0	231	› 4.6 *	2.4
14-16 years	558	8.6 *	1.5	263	14.9 *	3.5	68	10.3 *	5.8	188	›› 4.6 *	1.7
Total, age adjusted	3,070	8.5	1.3	1,474	15.5	2.6	364	8.4	2.6	1,033	›››4.9	1.1
Female												
5-10 years	1,758	9.8	1.8	900	15.8	3.3	218	8.7 *	3.2	539	›››5.8	1.2
11-13 years	764	7.6 *	1.5	375	12.3	2.3	79	7.9 *	3.3	261	›› 5.2 *	2.0
14-16 years	658	7.1 *	1.6	293	9.6 *	2.9	76	11.8 *	5.5	250	4.6 *	1.7
Total, age adjusted	3,180	8.4	1.1	1,568	12.9	1.8	373	9.6	2.9	1,050	›››5.2	1.1

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94: Youth interview file. The 'All Children' column includes children with missing income.

Table D-107—Percent of 5-16-year-old children with reported high lead levels or lead poisoning[1]

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
Both sexes												
5-10 years	3,561	0.38 *	0.14	1,770	0.94 *	0.40	425	0.15 *	0.15	1,149	› 0.04 *	0.03
11-13 years	1,464	0.35 *	0.15	714	1.01 *	0.45	167	› 0.00	0.00	492	› 0.07 *	0.08
14-16 years	1,216	0.70 *	0.40	556	2.26 *	1.32	144	0.28 *	0.27	438	0.00	0.00
Total, age adjusted	6,241	0.49	0.16	3,040	1.42	0.51	736	› 0.16 *	0.12	2,079	›› 0.03 *	0.03
Male												
5-10 years	1,808	0.48 *	0.23	871	1.25 *	0.71	208	0.32 *	0.32	612	0.05 *	0.05
11-13 years	701	0.51 *	0.26	339	1.51 *	0.79	88	0.00	0.00	231	0.14 *	0.15
14-16 years	558	1.15 *	0.82	263	3.91 *	2.70	68	0.00	0.00	188	0.00	0.00
Total, age adjusted	3,067	0.72	0.31	1,473	2.25	1.03	364	› 0.14 *	0.14	1,031	› 0.05 *	0.05
Female												
5-10 years	1,753	0.28 *	0.10	899	0.66 *	0.26	217	› 0.00	0.00	537	› 0.03 *	0.03
11-13 years	763	0.18 *	0.13	375	0.55 *	0.43	79	0.00	0.00	261	0.00	0.00
14-16 years	658	0.29 *	0.17	293	0.73 *	0.40	76	0.57 *	0.57	250	0.00	0.00
Total, age adjusted	3,174	0.26 *	0.08	1,567	0.66 *	0.21	372	0.20 *	0.20	1,048	›› 0.01 *	0.01

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).
1 Percent is calculated over all children, including those not tested for lead poisoning.

Source: NHANES-III, 1988-94: Youth interview file. The 'All Children' column includes children with missing income.

Table D-108—Percent of 5-16-year-old children with high blood lead levels[1]

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
Both sexes												
5-10	3,042	3.23	0.55	1,580	7.32	1.27	365	›› 2.40 *	0.98	944	››› 0.59 *	0.25
12-13 years	1,305	1.33 *	0.43	661	3.90 *	1.28	155	›› 0.18 *	0.18	419	›› 0.23 *	0.13
14-16 years	1,782	0.81 *	0.30	832	1.13 *	0.53	222	1.86 *	1.26	599	0.39 *	0.39
Total, age-adjusted	6,129	1.97	0.30	3,073	4.40	0.76	742	› 1.74 *	0.83	1,962	››› 0.44 *	0.20
Male												
5-10	1,542	4.20	0.90	781	10.37	2.01	179	› 3.83 *	1.99	501	››› 0.49 *	0.26
12-13 years	630	1.45 *	0.43	318	4.05 *	1.26	78	›› 0.32 *	0.32	204	›› 0.42 *	0.25
14-16 years	874	1.51 *	0.60	402	2.37 *	1.16	107	3.83 *	2.68	285	0.76 *	0.76
Total, age-adjusted	3,046	2.66	0.53	1,501	6.20	1.18	364	3.08 *	1.75	990	››› 0.57 *	0.31
Female												
5-10	1,500	2.18	0.47	799	4.41 *	1.01	186	›› 1.13 *	0.54	443	››› 0.71 *	0.45
12-13 years	675	1.20 *	0.78	343	3.75 *	2.31	77	0.00	0.00	215	0.00	0.00
14-16 years	908	0.07 *	0.05	430	0.09 *	0.09	115	0.00	0.00	314	0.00	0.00
Total, age-adjusted	3,083	1.23	0.33	1,572	2.74	0.84	378	›› 0.49 *	0.23	972	›› 0.31 *	0.20

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).
[1] Medically acceptable values for lead are ug/dL 0-9.9 [1-5 yrs], 0-14.9 [6+ yrs]. (NHANES-III, POM.)

Source: NHANES-III, 1988-94: Examination file. The 'All Children' column includes children with missing income. Table excludes pregnant females.

Table D-109—Percent of 5-16-year-old children with high blood lead levels, NHANES-III Phase I (1988-1991)[1]

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
5-10	1,632	4.4	1.0	790	10.6	2.6	210	› 3.7 *	1.5	532	››› 0.8 *	0.4
12-13 years	599	1.4 *	0.5	281	3.9 *	1.4	81	›› 0.0 *	0.0	197	› 0.4 *	0.2
14-16 years	819	1.3 *	0.4	317	3.2 *	1.3	120	2.9 *	1.9	304	› 0.0	0.0
Total, age-adjusted	3,050	2.7	0.6	1,388	6.6	1.5	411	› 2.6 *	1.3	1,033	››› 0.4 *	0.2

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).
1 High lead is identified as ≥ 10.0 mcg/dL. Source: CDC Report on Blood Levels in the U.S.: 1991-94. (CDC, 1997)

Source: NHANES-III, 1988-94: Examination file. The 'All Children' column includes children with missing income.

Table D-110—Percent of 5-16-year-old children with high blood lead levels, NHANES-III Phase II (1991-1994)[1]

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
5-10	1,410	2.1	0.6	790	4.8	1.5	155	› 0.9 *	0.4	412	›› 0.3 *	0.2
12-13 years	706	1.3 *	0.6	380	3.9 *	2.0	74	0.4 *	0.4	222	0.1 *	0.1
14-16 years	963	0.5 *	0.4	515	0.1 *	0.1	102	0.4 *	0.4	295	0.8 *	0.8
Total, age-adjusted	3,079	1.4	0.4	1,685	3.0	1.0	331	› 0.6 *	0.3	929	› 0.4 *	0.3

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).
1 High lead is identified as ≥ 10.0 mcg/dL. Source: CDC Report on Blood Levels in the U.S.: 1991-94. (CDC, 1997)

Source: NHANES-III, 1988-94: Examination file. The 'All Children' column includes children with missing income.

Table D-111—Mean number of decayed, missing, and filled teeth for school-age children[1]

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Mean	Standard Error	Sample size	Mean	Standard Error	Sample size	Mean	Standard Error	Sample size	Mean	Standard Error
Both sexes												
5-10 years	3,428	2.1	0.1	1,737	2.7	0.1	414	2.4	0.2	1,088	›››1.6	0.1
11-13 years	1,394	2.0	0.1	684	2.2	0.2	163	2.1	0.3	465	1.8	0.2
14-18 years	1,522	3.4	0.2	712	3.7	0.3	190	3.5	0.4	515	3.3	0.2
Total, age adjusted	6,344	2.5	0.1	3,133	2.9	0.1	767	2.7	0.2	2,068	›››2.3	0.1
Male												
5-10 years	1,723	2.1	0.1	853	2.6	0.2	200	2.4	0.4	572	›››1.7	0.2
11-13 years	666	2.0	0.2	326	2.2	0.3	83	1.7	0.3	223	1.9	0.2
14-18 years	728	3.2	0.3	339	3.2	0.3	90	2.8	0.6	238	3.5	0.3
Total, age adjusted	3,117	2.5	0.1	1,518	2.7	0.2	373	2.4	0.3	1,033	› 2.4	0.2
Female												
5-10 years	1,705	2.1	0.1	884	2.8	0.2	214	2.4	0.3	516	›››1.5	0.2
11-13 years	728	1.9	0.1	358	2.2	0.2	80	2.5	0.3	242	› 1.7	0.2
14-18 years	794	3.6	0.2	373	4.1	0.4	100	4.2	0.4	277	3.2	0.3
Total, age adjusted	3,227	2.6	0.1	1,615	3.1	0.2	394	3.1	0.2	1,035	›››2.1	0.1

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

1 For adults, table shows the sum of decayed, missing, and filled primary teeth due to any cause. For children, count includes the number of decayed and filled deciduous (baby) and primary teeth.

Source: NHANES-III, 1988-94: Examination file. The dental exam was administered in the Mobile Exam Center; 2.8 percent of MEC respondents did not have a dental exam. Total includes persons with missing food stamp participation or income.

Table D-112—Percent of school-age children who ever visited a dentist or dental hygienist

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
Both sexes												
5-10 years	3,644	87.4	1.2	1,803	80.5	2.7	435	83.3	3.1	1,186	›››93.6	1.0
11-13 years	1,489	94.8	0.7	718	88.0	1.7	170	›› 95.6 *	2.2	505	›››98.3 *	0.8
14-18 years	1,627	94.9	0.9	740	89.3	1.5	198	95.1 *	2.7	570	›››98.0 *	1.3
Total, age adjusted	6,760	91.6	0.7	3,261	85.2	1.5	803	› 90.1	1.8	2,261	›››96.1	0.6
Male												
5-10 years	1,857	86.2	1.8	891	77.8	3.8	212	80.4	5.0	633	›››92.5	1.5
11-13 years	707	93.7	1.3	340	85.2	3.3	87	› 95.5 *	3.1	237	›››97.4 *	1.4
14-18 years	770	95.3	0.8	349	85.8	2.3	94	› 95.9 *	3.8	261	›››100.0 *	>0
Total, age adjusted	3,334	91.0	0.9	1,580	82.2	2.3	393	› 89.1	2.6	1,131	›››96.2	0.6
Female												
5-10 years	1,787	88.6	1.3	912	83.1	2.4	223	85.9	3.2	553	›››94.9	1.4
11-13 years	782	96.0	0.6	378	90.5	2.0	83	95.6 *	2.5	268	›››99.2 *	0.4
14-18 years	857	94.5	1.5	391	92.3 *	1.3	104	94.3 *	3.3	309	96.0 *	2.5
Total, age adjusted	3,426	92.2	0.8	1,681	87.9	1.3	410	90.9	2.1	1,130	›››96.2	1.1

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).
>0 Value to small to display.

Source: NHANES-III, 1988-94: Adult and youth interview files. The 'All Children' column includes children with missing income.

Table D-113—Percent of school-age children who visited a dentist or dental hygienist within the past year

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
Both sexes												
5-10 years	3,644	75.5	1.7	1,803	61.1	3.1	435	70.7	4.2	1,186	›››86.1	1.8
11-13 years	1,489	78.4	1.5	718	63.4	3.1	170	64.0	6.3	505	›››89.3	2.1
14-18 years	1,627	77.5	1.4	740	58.2	3.0	198	›› 72.1	3.9	570	›››89.2	2.2
Total, age adjusted	6,760	76.8	1.1	3,261	60.6	2.0	803	›› 69.8	3.0	2,261	›››87.9	1.0
Male												
5-10 years	1,857	75.0	2.3	891	61.0	4.1	212	66.1	5.6	633	›››84.6	2.7
11-13 years	707	78.0	2.0	340	66.1	5.6	87	65.6	8.8	237	›› 86.5	3.0
14-18 years	770	76.3	2.0	349	53.2	3.9	94	›› 74.1	6.3	261	›››88.6	2.6
Total, age adjusted	3,334	76.1	1.2	1,580	59.3	2.5	393	› 68.8	3.8	1,131	›››86.4	1.2
Female												
5-10 years	1,787	75.9	1.8	912	61.2	3.4	223	›› 74.8	4.3	553	›››88.0	2.2
11-13 years	782	78.8	1.9	378	60.9	3.4	83	62.1	6.2	268	›››92.3	2.4
14-18 years	857	78.7	1.9	391	62.4	3.7	104	70.1	5.5	309	›››89.8	3.3
Total, age adjusted	3,426	77.5	1.3	1,681	61.6	2.3	410	› 70.4	3.2	1,130	›››89.6	1.5

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94: Adult and youth interview files. The 'All Children' column includes children with missing income.

Table D-114—Percent of school-age children with any health insurance[1]

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard error	Sample size	Percent	Standard error	Sample size	Percent	Standard error	Sample size	Percent	Standard error
Both sexes												
5-10 years	3,381	90.2	1.1	1,623	80.6	2.4	409	›››90.3	1.9	1,171	›››96.1	1.3
11-13 years	1,428	88.0	1.5	680	75.6	3.6	160	88.0 *	8.3	504	›››96.4 *	1.2
14-18 years	1,590	86.6	1.5	717	73.4	3.2	185	81.8	5.5	572	›››94.8	1.4
Total, age adjusted	6,399	88.4	1.1	3,020	77.0	2.4	754	› 86.8	3.3	2,247	›››95.7	1.0
Male												
5-10 years	1,738	90.3	1.3	815	79.5	2.8	200	›› 90.2 *	3.0	626	›››96.1	1.6
11-13 years	682	87.5	2.0	320	76.5	6.1	83	89.0 *	8.8	239	›› 94.2 *	2.1
14-18 years	762	87.8	1.7	343	74.7	3.6	89	84.2 *	5.9	264	›››95.7 *	1.8
Total, age adjusted	3,182	88.8	1.1	1,478	77.2	2.8	372	› 87.8	3.6	1,129	›››95.6	1.1
Female												
5-10 years	1,643	90.1	1.4	808	81.7	3.1	209	›› 90.4 *	2.1	545	›››96.1 *	1.6
11-13 years	746	88.6	1.9	360	74.7	4.1	77	86.7 *	8.3	265	›››98.7 *	0.8
14-18 years	828	85.3	2.3	374	72.2	4.8	96	79.0 *	8.6	308	›››93.8 *	2.1
Total, age adjusted	3,217	88.1	1.4	1,542	76.8	3.2	382	85.6	4.3	1,118	›››95.8	1.0

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).
1 Health insurance includes any of Medicare, Medicaid, CHAMPUS/CHAMPVA/VA/military, or private health insurance.

Source: NHANES-III, 1988-94: Adult and youth interview files. The 'All Children' column includes children with missing income.
Percents may sum to more than 100 because some persons have multiple sources of health insurance. Sample size varies slightly by source.

Table D-115—Percent of school-age children with private health insurance

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard error	Sample size	Percent	Standard error	Sample size	Percent	Standard error	Sample size	Percent	Standard error
Both sexes												
5-10 years	3,228	75.2	2.4	1,475	39.5	3.5	404	›››82.9	3.1	1,168	›››93.2	1.9
11-13 years	1,402	75.3	2.1	650	37.4	3.4	161	›››82.3	8.7	505	›››94.2 *	1.9
14-18 years	1,568	73.3	2.5	693	35.6	4.5	187	›››74.9	5.6	573	›››91.4	1.9
Total, age adjusted	6,198	74.6	2.0	2,818	37.7	2.6	752	›››79.9	3.8	2,246	›››92.8	1.6
Male												
5-10 years	1,660	75.9	2.4	742	39.8	3.4	196	›››79.8	5.1	625	›››92.7	2.4
11-13 years	662	74.7	2.2	302	37.3	4.7	82	›››83.9 *	9.2	238	›››91.7 *	2.6
14-18 years	754	75.5	2.8	332	37.0	5.8	91	›››81.6 *	6.0	265	›››92.4 *	2.4
Total, age adjusted	3,076	75.5	1.9	1,376	38.3	3.1	369	›››81.3	4.2	1,128	›››92.4	1.8
Female												
5-10 years	1,568	74.5	3.1	733	39.2	4.8	208	›››85.6	2.8	543	›››94.0 *	2.1
11-13 years	740	76.0	2.9	348	37.5	4.9	79	›››80.4 *	9.1	267	›››96.8 *	1.6
14-18 years	814	71.1	3.6	361	34.3	5.0	96	›››66.9 *	8.8	308	›››90.5 *	2.8
Total, age adjusted	3,122	73.6	2.6	1,442	37.1	3.2	383	›››77.9	4.7	1,118	›››93.3	1.6

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94: Adult and youth interview files. The 'All Children' column includes children with missing income.

Table D-116—Percent of school-age children with Medicaid

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard error	Sample size	Percent	Standard error	Sample size	Percent	Standard error	Sample size	Percent	Standard error
Both sexes												
5-10 years	2,770	20.8	1.6	1,520	51.6	3.1	297	›››6.0	1.8	807	›››1.0 *	0.3
11-13 years	1,260	15.9	1.5	653	46.4	3.7	135	›››4.0 *	1.6	396	›››0.6 *	0.3
14-18 years	1,461	16.2	1.7	705	45.5	4.6	161	›››6.9 *	2.6	488	›››2.1 *	0.9
Total, age adjusted	5,491	18.1	1.1	2,878	48.4	2.8	593	›››5.9	1.3	1,691	›››1.3	0.4
Male												
5-10 years	1,412	20.6	1.8	755	54.1	3.4	145	›››8.5 *	3.5	430	›››1.4 *	0.5
11-13 years	602	15.4	2.2	308	45.0	4.8	71	›››5.6 *	2.3	185	›››1.0 *	0.5
14-18 years	721	14.3	2.3	341	45.8	5.7	83	›››4.6 *	2.4	235	›››0.7 *	0.5
Total, age adjusted	2,735	17.3	1.5	1,404	49.2	2.7	299	›››6.5	2.0	850	›››1.0 *	0.3
Female												
5-10 years	1,358	20.9	1.8	765	49.3	4.0	152	›››3.9 *	1.1	377	›››0.5 *	0.2
11-13 years	658	16.4	1.9	345	47.8	5.0	64	›››1.9 *	1.3	211	›››0.1 *	0.1
14-18 years	740	18.4	2.4	364	45.3	6.1	78	›››10.2 *	4.9	253	›››3.7 *	1.7
Total, age adjusted	2,756	19.0	1.3	1,474	47.6	3.4	294	›››5.7	1.8	841	›››1.5	0.6

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94: Adult and youth interview files. The 'All Children' column includes children with missing income.

Table D-117—Percent of school-age children with a regular source of health care

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
Both sexes												
5-10 years	3,671	91.4	0.9	1,817	86.5	1.8	436	90.7	2.0	1,194	›››94.9	1.1
11-13 years	1,503	91.2	1.0	724	85.1	2.0	172	81.6	5.5	510	›››96.6	1.0
14-18 years	1,650	85.2	1.4	750	78.6	3.2	198	80.0	4.6	579	›› 89.7	1.5
Total, age adjusted	6,824	89.2	0.8	3,291	83.4	1.7	806	85.0	2.2	2,283	›››93.4	0.8
Male												
5-10 years	1,868	92.2	1.1	896	88.5	1.9	213	89.4	3.6	637	›› 95.3	1.4
11-13 years	718	91.7	1.3	344	85.4	2.9	89	79.6 *	7.9	241	›››97.1 *	0.8
14-18 years	784	82.5	2.0	356	79.5	3.6	94	75.9	7.2	265	85.0	2.3
Total, age adjusted	3,370	88.7	1.0	1,596	84.6	1.8	396	82.5	3.6	1,143	›››92.0	1.1
Female												
5-10 years	1,803	90.5	1.2	921	84.6	2.7	223	› 91.8 *	2.3	557	›››94.4	1.2
11-13 years	785	90.6	1.3	380	84.8	2.7	83	84.0 *	5.3	269	›› 96.0 *	1.9
14-18 years	866	87.9	1.8	394	77.9	4.4	104	84.2 *	4.9	314	›››94.4	1.6
Total, age adjusted	3,454	89.6	1.0	1,695	82.3	2.5	410	87.4	2.3	1,140	›››94.7	0.8

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94: Adult and youth interview files. The 'All Children' column includes children with missing income.

Table D-118—Percent of school-age children who see a particular doctor

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
Both sexes												
5-10 years	3,670	74.7	1.9	1,816	64.9	3.0	436	69.6	3.8	1,194	›››82.0	2.3
11-13 years	1,503	74.6	2.7	724	64.4	3.3	172	60.1	5.4	510	›››84.6	3.5
14-18 years	1,650	69.4	1.7	750	61.8	3.5	198	59.8	5.0	579	›› 76.1	2.3
Total, age adjusted	6,823	72.8	1.7	3,290	63.7	2.4	806	64.1	3.5	2,283	›››80.4	1.9
Male												
5-10 years	1,868	75.6	2.1	896	69.1	3.0	213	68.6	4.9	637	›› 80.8	2.9
11-13 years	718	73.5	3.4	344	65.2	5.0	89	60.9	7.6	241	›› 81.8	4.7
14-18 years	784	67.6	2.8	356	60.1	4.9	94	61.6	7.8	265	› 73.2	4.1
Total, age adjusted	3,370	72.4	1.8	1,596	65.1	3.0	396	64.5	4.7	1,143	›››78.3	2.3
Female												
5-10 years	1,802	73.7	2.3	920	61.0	4.7	223	70.5	6.0	557	›››83.5	2.9
11-13 years	785	75.7	2.9	380	63.7	4.0	83	59.1 *	11.0	269	›››87.5	3.4
14-18 years	866	71.1	2.1	394	63.2	4.5	104	57.9	6.9	314	›› 78.9	2.3
Total, age adjusted	3,453	73.2	1.9	1,694	62.4	3.1	410	63.6	5.3	1,140	›››82.7	1.9

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94: Adult and youth interview files. The 'All Children' column includes children with missing income.

Table D-119—Percent of school-age children who saw a doctor within the past year

	All children			Lowest income: ≤ 130% poverty			Low-income: 131-185% poverty			Higher-income: > 185% poverty		
	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error	Sample size	Percent	Standard Error
Both sexes												
5-10 years	3,663	78.8	1.4	1,811	73.4	1.9	435	72.0	3.5	1,194	›››83.8	2.0
11-13 years	1,500	69.5	2.1	722	68.3	3.3	172	55.5	5.8	509	73.4	2.7
14-18 years	1,641	70.2	2.0	744	66.9	3.2	197	57.6	5.2	578	› 75.7	2.4
Total, age adjusted	6,804	73.7	1.1	3,277	70.0	1.8	804	› 63.4	2.4	2,281	›››78.7	1.3
Male												
5-10 years	1,863	79.2	2.0	892	75.1	3.0	213	67.4	4.8	637	83.3	2.7
11-13 years	716	68.9	3.2	343	70.2	4.1	89	›› 49.0	6.7	240	72.9	4.0
14-18 years	778	64.4	2.5	352	58.6	5.4	93	51.1	5.9	264	70.8	3.5
Total, age adjusted	3,357	71.8	1.4	1,587	68.2	2.7	395	›› 57.7	2.7	1,141	› 76.6	1.9
Female												
5-10 years	1,800	78.3	1.7	919	71.9	2.5	222	76.2	4.5	557	›››84.3	2.0
11-13 years	784	70.1	3.0	379	66.5	4.2	83	63.3	8.9	269	74.1	5.0
14-18 years	863	75.9	2.3	392	74.1	4.4	104	64.2	8.6	314	80.5	2.7
Total, age adjusted	3,447	75.7	1.2	1,690	71.5	2.2	409	69.2	3.8	1,140	›››80.8	1.5

Notes: * Denotes individual estimates not meeting the standards of reliability or precision due to inadequate cell size or large coefficient of variation.
Significant differences in means and proportions are noted by › (.05 level), ›› (.01 level), or ››› (.001 level). Differences are tested in comparison to lowest income group (Income ≤ 130% poverty).

Source: NHANES-III, 1988-94: Adult and youth interview files. The 'All Children' column includes children with missing income.