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Adult Eating and Health Patterns: Evidence From the 2014-16 Eating & Health Module of the American Time Use Survey

Eliana Zeballos and Brandon Restrepo





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Eliana Zeballos and Brandon Restrepo

Abstract

This report uses data from the 2014-16 Eating & Health Module (EHM) of the American Time Use Survey to present national statistics on eating and health patterns for the adult population as a whole and a wide variety of demographic subgroups. It also examines whether and how select behaviors have changed over time using data from the 2006-08 EHM. On an average day over 2014-16, Americans age 18 and older spent about 65 minutes eating and drinking as a primary activity, down 5 percent relative to an average day over 2006-08. The report finds significant differences across demographic subgroups in eating and health patterns, such as in prepared food purchases and physical activity, which may contribute to variation in nutrition and diet-related health outcomes across different segments of the U.S. population.

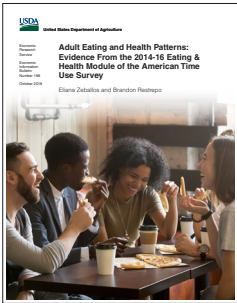
Keywords: eating, health, grocery shopping, meal preparation, time use, food assistance, nutrition assistance, body mass index.

Acknowledgments

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Adult Eating and Health Patterns: Evidence From the 2014-16 Eating & Health Module of the American Time Use Survey

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What Is the Issue?

Understanding how individuals and households allocate time to food-related activities can provide insight into behaviors associated with nutrition and diet-related health. Coupling an analysis of the overall eating patterns of the American population with an analysis of the eating patterns of specific subpopulations can explain why nutrition and diet-related health outcomes vary over time and across demographic subgroups. These analyses can also inform programs and policies targeted at improving nutrition and reducing the prevalence of obesity and other diet-related diseases.

To gather information on Americans' eating and health patterns, ERS developed—along with USDA's Food and Nutrition Service and the National Cancer Institute—the Eating & Health Module (EHM) supplement to the Bureau of Labor Statistics American Time Use Survey (ATUS). This report presents statistics from the EHM for an average day over 2014-16 for the adult population as a whole and for a wide variety of demographic subgroups and examines whether and how select behaviors have changed since 2006-08.

What Did the Study Find?

- Americans age 18 and older spent about 65 minutes per day eating and drinking as a primary activity and 17 minutes eating as a secondary activity.
 - Time spent in primary eating and drinking for adults decreased by 5 percent from 2006-08 to 2014-16; however, time spent in secondary eating did not significantly change.
 - Seniors (age 65 and older) spent 20 percent more time eating and drinking as a primary activity than younger individuals but 23 percent less time eating as a secondary activity.
 - Adults with more than a bachelor's degree spent 18 percent more time eating and drinking as a primary activity and 18 percent more time eating as a secondary activity.

ERS is a primary source of economic research and analysis from the U.S. Department of Agriculture, providing timely information on economic and policy issues related to agriculture, food, the environment, and rural America.

- Nearly 6 in 10 adults reported purchasing prepared food from a deli, carry-out, delivery food, or fast food at some point during the week before their interview.
 - Of individuals in households that received USDA's Supplemental Nutrition Assistance Program (SNAP) benefits in the past month, about 43 percent purchased prepared food during the previous week, significantly fewer than the 50 percent of those in low-income households that did not receive SNAP benefits.

How Was the Study Conducted?

The EHM was fielded over two 3-year periods, 2006-08 and 2014-16. This report analyzes data from both the pooled 2006-08 and pooled 2014-16 EHM data. The 2006-08 (2014-16) EHM survey effort resulted in approximately 36,000 (31,000) completed interviews of individuals age 18 and older. All information was self-reported by respondents. EHM survey sampling weights were used in all analyses to produce nationally representative estimates. Differences between variables that are discussed in this report are significant at the 90-percent level of confidence.

Adult Eating and Health Patterns: Evidence From the 2014-16 Eating & Health Module of the American Time Use Survey

Introduction

Understanding how individuals and households allocate time to food-related activities can provide insight into behaviors associated with nutrition and diet-related health. To gather information on Americans' eating and health patterns, ERS developed—along with funding partner USDA, Food and Nutrition Service and technical-assistance partner the National Cancer Institute—a supplementary module to the nationally representative American Time Use Survey (ATUS). That supplement—the Eating & Health Module (EHM)—was fielded over 2006-08 and 2014-16.

Data collection and research into eating patterns, grocery shopping, meal preparation, body mass index (BMI), and participation in food and nutrition assistance programs all contribute to the goal of improving nutrition and diet-related health. Particularly, knowing whether participants in food and nutrition assistance programs face different time constraints than nonparticipants, which can translate into different food-related patterns, can inform the design of food assistance and nutrition policies and programs.

This report builds on two ERS reports (Hamrick et al., 2011, and Hamrick and McClelland, 2016) by presenting national statistics on eating patterns and food- and health-related activities for the adult population as a whole and for a wide variety of demographic subgroups using the 2014-16 EHM data. It also examines whether and how select behaviors have changed over time using the 2006-08 EHM data. Because eating patterns are a strong predictor of weight and health, the report focuses on two eating patterns that may help explain changes in obesity rates: (1) time spent in eating and drinking as a “primary” activity and eating as a “secondary” activity—that is, eating while engaged in another activity considered primary by the individual—and (2) prepared food purchase frequency during a typical week. Then, it looks at three food- and health-related activities that may also help explain healthy habits and decisions about what individuals consume: (1) grocery shopping, (2) meal preparation, and (3) exercise frequency.

The report examines how eating patterns and food- and health-related activities vary by gender, age, household type, education level, BMI, self-assessed general health status, food hardship, and USDA food and nutrition assistance program participation. By analyzing two sets of pooled 3-year data, we are able to present national statistics for a wide variety of demographic subgroups of the U.S. population and have adequate power to detect (sometimes small) statistically significant differences in the variables mentioned above between demographic subgroups and over time.

Data, Measurements, and Methods

The Bureau of Labor Statistics American Time Use Survey (ATUS) has been conducted annually since 2003 and is ongoing. One individual who is at least 15 years old from each sampled household is interviewed by a U.S. Census Bureau representative to obtain detailed information about his or her activities the day before the interview. ATUS respondents are asked to identify their primary activity (if they were engaged in more than one activity at a time) from 4 a.m. the day before the interview to 4 a.m. of the interview day, where they were when they performed the activity, and who else was present when the activity was performed. All ATUS respondents are included in the Bureau of Labor Statistics Current Population Survey (CPS).¹ The ATUS data include a time diary, individual demographic characteristics, labor force participation, and household information.

ERS developed the Eating & Health Module (EHM) as a supplement to the ATUS. The EHM was fielded over 2006-08 and again over 2014-16. Most of the analysis in this report uses the pooled 2014-16 data, but we also use pooled 2006-08 data to develop comparisons in selected variables over time. Comparisons of variables over time are performed when they are measured in a sufficiently similar fashion in 2006-08 and 2014-16.² We pool 3 years of consecutive data to provide more precise estimates for a wide variety of demographic subgroups of the U.S. population, as well as to increase the power to determine whether differences (sometimes small) in variables between subgroups or over time are statistically significant. Since data are pooled, the analysis of the 2006-08 (2014-16) data provides estimates for an average day over 2006-08 (2014-16). Unless otherwise indicated, all differences we discuss in the text between subgroups of Americans or over time are significant at the 90-percent level of confidence.³ In all charts, we place a \pm symbol next to the mean of a particular subgroup if it is statistically significantly different from the mean of all the other subgroups pooled together (e.g., individuals age 65 and older versus all other age groups). In cases with only two subgroups (e.g., men versus women) and comparisons over time, we place a \pm symbol between the two means if they are statistically significantly different from each other.

In appendix tables 1A and 2A, we provide summary statistics for all the variables used in the 2006-08 and 2014-16 analyses, respectively. The EHM survey sampling weights are designed to produce nationally representative estimates. For the sake of completeness, however, in tables 1A and 2A, we present both unweighted and weighted summary statistics. For all analyses, with the

¹Specifically, for the ATUS, individuals are randomly selected from a subset of households that have completed their 8th and final month of interviews for the CPS (BLS, 2017a).

²A question matrix of the two waves of the EHM shows which questions are common across the two 3-year waves and can be found on the USDA, ERS website under Data Products, Eating and Health Module (ATUS).

³All analyses in this report were guided by BLS standards. BLS analyses are generally conducted at the 90-percent level of confidence (BLS, 2017b), so we also follow this convention in our analyses. Also, BLS determined that 77 observations was the minimum number of respondents who could support an ATUS cell estimate (Hamrick, 2016). Thus, all statistics presented in this report are based on at least 77 respondents and 10 or more people who reported doing the activity. We present participation rates only in cases with fewer than 10 people who reported doing the activity, and we verified that the estimated standard error is less than 5 percent. For all other statistics with 10 or more people reported doing the activity, we verified that either the estimated standard error is less than 5 minutes or that the estimated coefficient of variation is less than 0.3.

exception of body mass index (BMI),^{4,5} we present estimates using data on adults age 18 and older. We apply EHM survey sampling weights in all subsequent analyses to obtain nationally representative estimates for an average day over either 2006-08 or 2014-16.⁶ In each section below, we discuss statistically significant differences between demographic subgroups that are most relevant to the EHM variable under consideration. For example, when we discuss the time Americans spend eating, we discuss differences by education level since the price of time (i.e., a person's wage rate)—and hence the time allotted to food consumption—is likely to vary depending on an individual's education level. A similar rationale is followed for every section below.⁷

⁴The BMI is appropriate only for adults age 20 and older, so BMI and body weight category estimates are presented using data on adults age 20 and older.

⁵In this report, we provide national statistics associated with the following body weight categories: underweight (BMI of less than 18.5), normal weight (BMI of 18.5-24.9), overweight but not obese (BMI of 25-29.9), low-risk obesity (BMI of 30-34.9, or Class I obesity), and higher risk obesity (BMI of 35 and above, or Class II and III obesity).

⁶The CPS has both a stratified and clustered sampling procedure and thus is nonrandom; the ATUS follows a similar sampling procedure. Following Hamrick (2016), we performed the balanced repeated replication (BRR) method using the EHM final and replicate weights and a Fay coefficient of 0.5 to generate standard errors that are more precise than a method assuming a random sample. Please see Hamrick (2016, pp. 4-5) for additional information.

⁷It is important to note that all data used in our analysis are based on self-reports. Respondents may answer survey questions based on how they would like to be perceived rather than on how they actually behaved. Thus, the self-reported data used here may have been influenced by social desirability concerns.

Eating Patterns

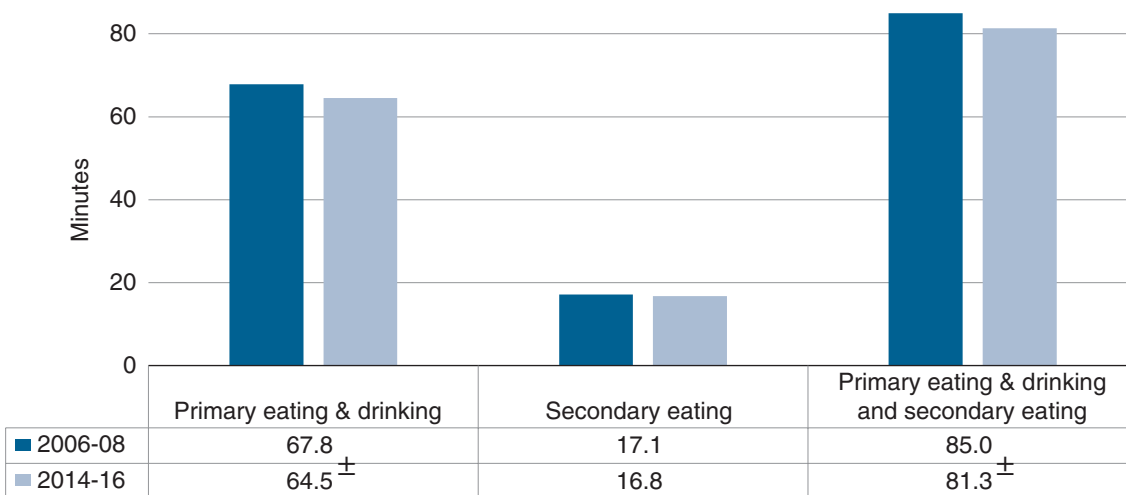
Time Spent in Primary Eating and Drinking and Secondary Eating, 2014-16

On an average day over 2014-16, Americans age 18 and older spent 64.5 minutes eating and drinking as a primary—or main—activity, and 16.8 minutes eating as a secondary activity—that is, eating while engaged in another activity considered primary by the individual, such as watching television or working.⁸

Time spent engaged in primary eating and drinking decreased by about 5 percent from 2006-08 to 2014-16 (67.8 versus 64.5 minutes); however, time spent in secondary eating did not significantly change over these two time periods (fig. 1). Recent research suggests that eating more slowly and mindfully may help to curb excess food consumption.⁹ It is possible that the decrease in time devoted to primary eating and drinking may help to explain the increase in overall obesity prevalence over time, but the relationship between time spent eating and weight gain is complex.

Figure 1

Time spent in primary eating and drinking and secondary eating on an average day in 2006-08 and 2014-16, age 18 and older



Note: ± denotes the means of these two time periods are statistically significantly different from each other.

Source: USDA, Economic Research Service using data from the Bureau of Labor Statistics 2006-08 and 2014-16 American Time Use Survey and Eating & Health Module (EHM). EHM survey sampling weights were used to compute nationally representative estimates.

⁸As part of the EHM, participants were asked if there were any other times they were eating any meals or snacks—for example, while doing something else. They were also asked during which activities and for how long they were eating while they were doing the other activity. The EHM did not ask participants about time spent in secondary drinking in 2014-16.

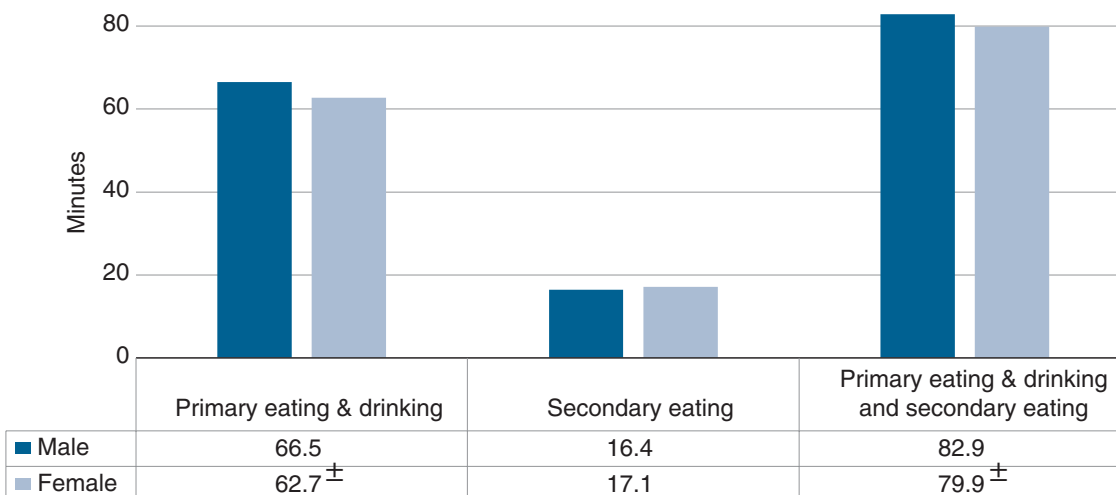
⁹Hurst and Fukuda (2018) found that eating slower inhibited the development of obesity and reduced BMI and waist circumference.

In general, secondary eating patterns were not remarkably different across demographic groups over 2014-16; there were more notable differences across these groups in primary eating and drinking patterns.

For instance, men spent about 6 percent more time eating and drinking as a primary activity than women (66.5 versus 62.7 minutes) on an average day over 2014-16 (fig. 2), and this difference does not seem to have changed over time.

Figure 2

Time spent in primary eating and drinking and secondary eating on an average day in 2014-16, age 18 and older by sex



Note: ± denotes the means of these two subpopulations are statistically significantly different from each other.

Source: USDA, Economic Research Service using data from the Bureau of Labor Statistics 2014-16 American Time Use Survey and Eating & Health Module (EHM). EHM survey sampling weights were used to compute nationally representative estimates.

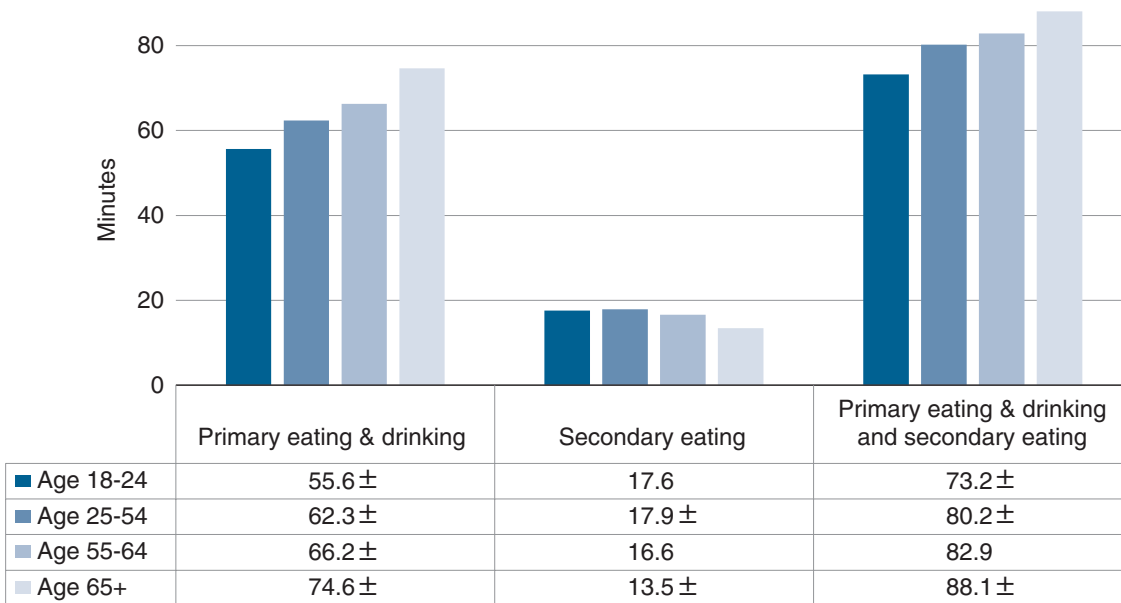
Individuals age 65 and older spent about 20 percent more time eating and drinking as a primary activity relative to younger age groups (74.6 versus 62.1 minutes) (fig. 3). However, this age group spent about 23 percent less time than younger age groups eating as a secondary activity (13.5 versus 17.6 minutes). This may be the result of less time pressure faced by individuals age 65 and older. This age group, on an average day in 2014-16, spent significantly less time at work relative to younger age groups (50.2 versus 244.5 minutes), and they are less likely to have children at home than younger age groups (0.8 versus 51.7 percent), according to the ATUS activity diary.

When compared with other age groups, individuals age 25 to 54 spent about 7 percent less time eating and drinking as a primary activity (62.3 versus 66.9 minutes) and about 15 percent more time eating as a secondary activity (17.9 versus 15.6 minutes).

Households consisting of a childless couple spent the most time engaged in primary eating and drinking—about 17 percent more time than other household types (72.2 versus 61.8 minutes) (fig. 4). Single-parent households spent the least amount of time engaged in primary eating—about 21 percent less time than other types of households (51.8 versus 65.2 minutes).

Figure 3

Time spent in primary eating and drinking and secondary eating on an average day in 2014-16, age 18 and older by age group

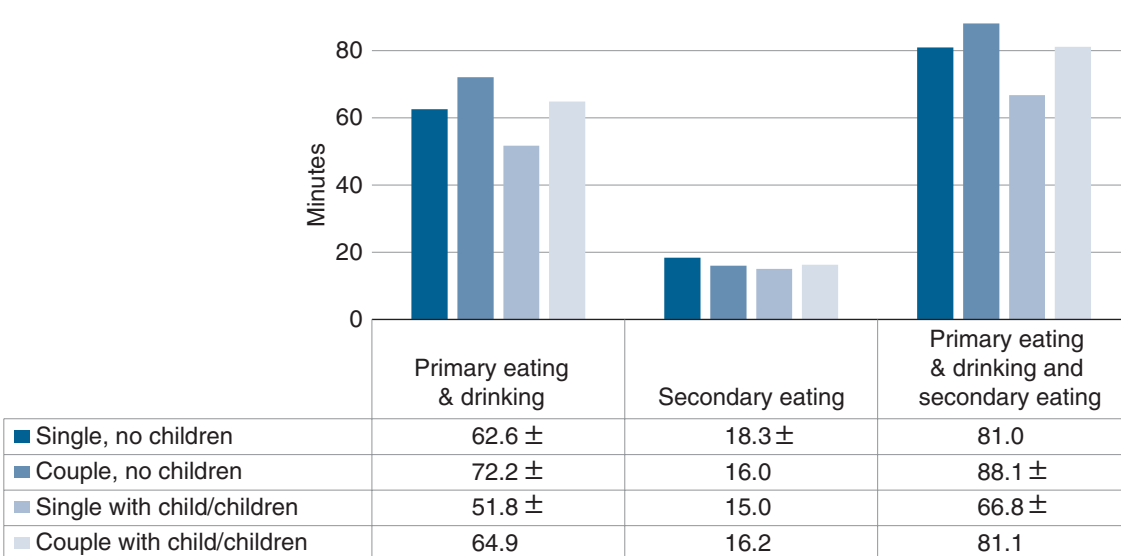


Note: ± denotes the mean of this subpopulation is statistically significantly different from the mean of the other subpopulations pooled together.

Source: USDA, Economic Research Service using data from the Bureau of Labor Statistics 2014-16 American Time Use Survey and Eating & Health Module (EHM). EHM survey sampling weights were used to compute nationally representative estimates.

Figure 4

Time spent in primary eating and drinking and secondary eating on an average day in 2014-16, age 18 and older by household type



Note: ± denotes the mean of this subpopulation is statistically significantly different from the mean of the other subpopulations pooled together. Household with child/children refers to a household with at least one person age 17 and younger.

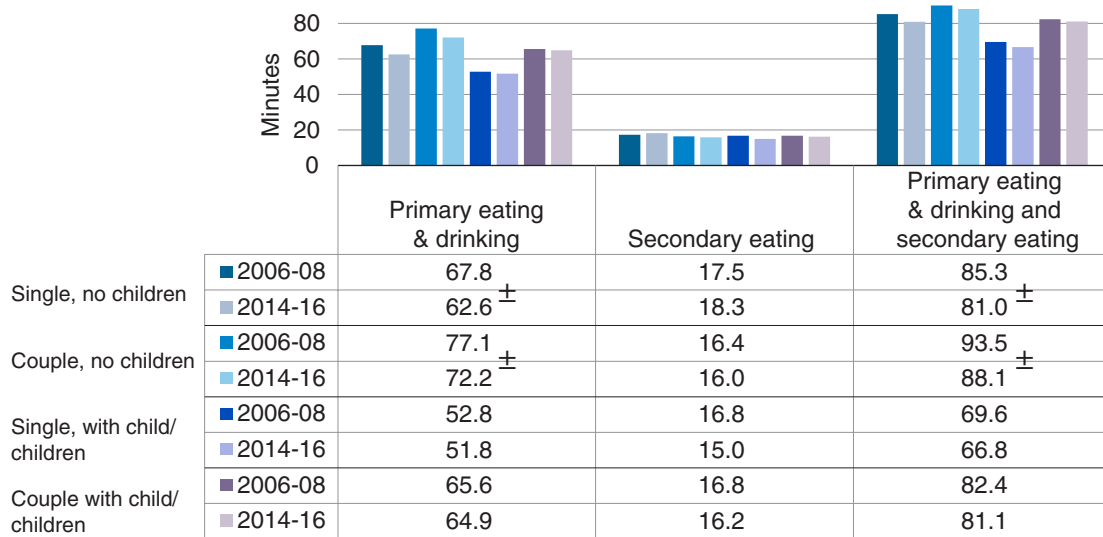
Source: USDA, Economic Research Service using data from the Bureau of Labor Statistics 2014-16 American Time Use Survey and Eating & Health Module (EHM). EHM survey sampling weights were used to compute nationally representative estimates.

Interestingly, a childless, single-person household spent 4 percent less time than other types of households engaged in primary eating (62.6 versus 64.9 minutes) but spent 11 percent more time than other types of households engaged in secondary eating (18.3 versus 16.5 minutes).

The 5-percent decrease in the time spent engaged in primary eating and drinking from 2006-08 to 2014-16 is mostly driven by households without children age 17 and younger. A childless single individual spent 8 percent less time engaged in primary eating and drinking from 2006-08 to 2014-16 (67.8 versus 62.6 minutes), and a household with a childless couple spent about 6 percent less time engaged in primary eating and drinking from 2006-08 to 2014-16 (77.1 versus 72.2 minutes) (fig. 5). We do not find statistically significant differences over time among households with children.

Figure 5

Time spent in primary eating and drinking and secondary eating on an average day in 2006-08 and 2014-16, age 18 and older by household type



Note: ± denotes the means of these two time periods are statistically significantly different from each other. Household with child/children refers to a household with at least one person age 17 and younger.

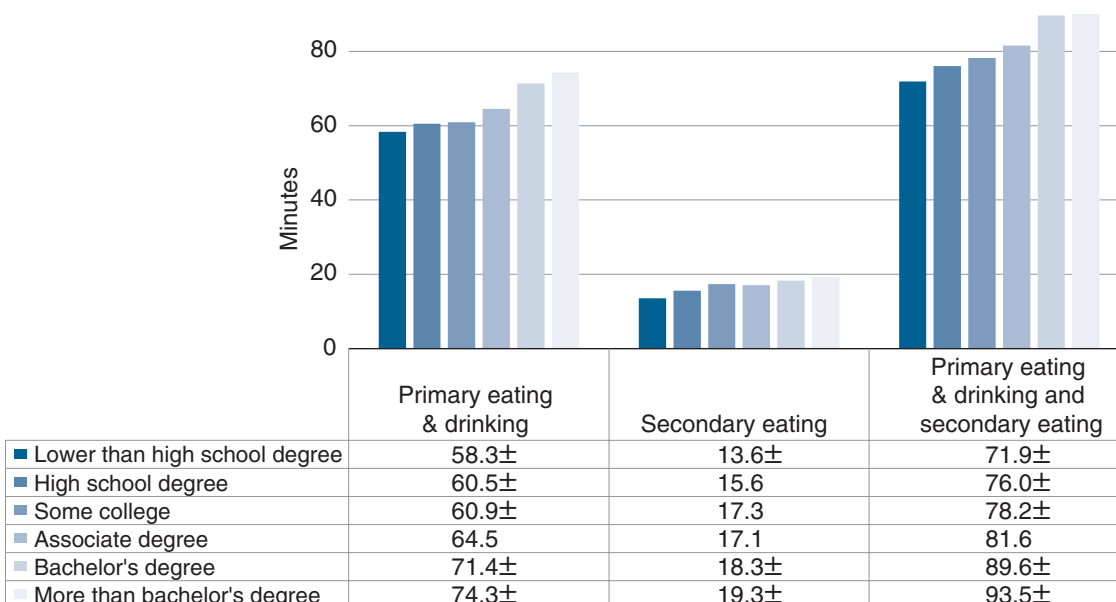
Source: USDA, Economic Research Service using data from the Bureau of Labor Statistics 2006-08 and 2014-16 American Time Use Survey and Eating & Health Module (EHM). EHM survey sampling weights were used to compute nationally representative estimates.

Individuals with more than a bachelor’s degree (i.e., a master’s degree, professional school degree, or doctoral degree) spent about 18 percent more time than lesser educated individuals eating and drinking as a primary activity (74.3 versus 63.2 minutes) (fig. 6). These highly educated individuals also spent about 18 percent more time than individuals with less education eating as a secondary activity (19.3 versus 16.4 minutes). Using the ATUS diary for primary eating and drinking and the location where the activity took place, we find that these highly educated individuals also eat out at “restaurants or bars” more than less educated individuals (8.5 versus 7.5 percent). This result may be a reason why highly educated individuals spent more time eating and drinking as a primary activity.

Individuals with less than a high school degree spent the least amount of time engaged in primary eating and drinking and secondary eating—about 11 and 21 percent less time than higher educated individuals, respectively (58.3 versus 65.3 minutes and 13.6 versus 17.2 minutes, respectively).

Figure 6

Time spent in primary eating and drinking and secondary eating on an average day in 2014-16, age 18 and older by education level



Note: ± denotes the mean of this subpopulation is statistically significantly different from the mean of the other subpopulations pooled together.

Source: USDA, Economic Research Service using data from the Bureau of Labor Statistics 2014-16 American Time Use Survey and Eating & Health Module (EHM). EHM survey sampling weights were used to compute nationally representative estimates.

We investigate the relationship between time spent eating and food assistance program participation by examining two groups of individuals: (1) those living in households that received benefits under USDA’s Supplemental Nutrition Assistance Program (SNAP) in the past month (“SNAP participants”) and (2) those living in households that received benefits under USDA’s Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) in the past month (“WIC participants”). We compare SNAP participants to individuals with household income that was 185 percent of the Federal poverty level (FPL) or below who had not received SNAP benefits in the past month (“low-income, non-SNAP participants”).¹⁰ Similarly, we also compared WIC participants to “low-income, non-WIC participants.”^{11,12}

¹⁰A mean comparison analysis of important demographic characteristics between SNAP participants and low-income, non-SNAP participants shows that the fraction of male SNAP participants is lower than low-income, non-SNAP participants, and that SNAP participants are younger and have lower education attainment than low-income, non-SNAP participants. Finally, a lower fraction of households that received SNAP benefits are households with a childless couple, and a higher fraction are single-person households with children.

¹¹Similarly, a mean comparison analysis of important demographic characteristics between WIC participants and low-income, non-WIC participants shows that WIC participants are younger and have lower education attainment than low-income, non-WIC participants. Also, as expected, a higher fraction of households that received WIC benefits are single-person and couples with children.

¹²Eligibility for WIC and SNAP participation is based on several aspects including income (which is a necessary condition but not a sufficient condition). We compare SNAP (WIC) participants to low-income, non-SNAP (non-WIC) participants because these two populations are more comparable than richer households (that may have different time constraints).

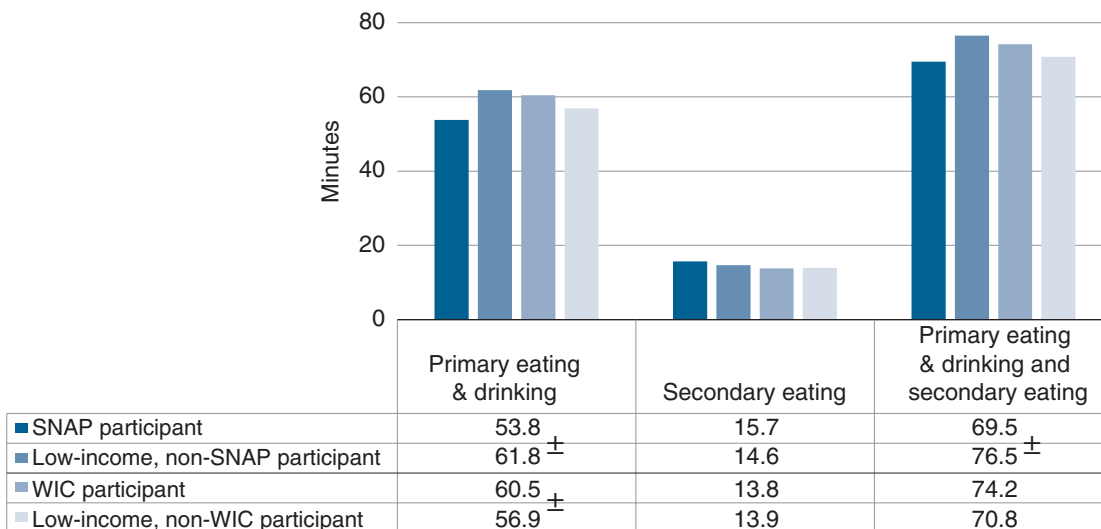
On an average day over 2014-16, about 9.9 percent of Americans age 18 and older reported that they or another member in their household received SNAP benefits in the past 30 days.¹³ About 7.2 percent of Americans age 18 and older reported that they or another member in their household received WIC benefits in the past 30 days.

SNAP participants spent about 13 percent less time eating and drinking as a primary activity relative to low-income, non-SNAP participants (53.8 versus 61.8 minutes) (fig. 7). By contrast, WIC participants spent about 6 percent more time eating and drinking as a primary activity than low-income, non-WIC participants (60.5 versus 56.9 minutes).

Next, we examine whether time spent eating varied depending on whether individuals reported that they either (1) had enough food in the household (“enough food to eat”) or (2) sometimes or often did not have enough food (“not enough food to eat”) in the past 30 days.

Figure 7

Time spent in primary eating and drinking and secondary eating on an average day in 2014-16, age 18 and older by SNAP and WIC participation



Note: SNAP participants: individuals living in households that received benefits under USDA’s Supplemental Nutrition Assistance Program (SNAP) in the past month. Low-income, non-SNAP participants: individuals with household income that was 185 percent of the Federal poverty level or below who had not received SNAP benefits in the past month. WIC participants: individuals living in households that received benefits under USDA’s Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) in the past month. Low-income, non-WIC participants: individuals with household income that was 185 percent of the Federal poverty level or below who had not received WIC benefits in the past month. ± denotes the means of these two subpopulations are statistically significantly different from each other. Source: USDA, Economic Research Service using data from the Bureau of Labor Statistics 2014-16 American Time Use Survey and Eating & Health Module (EHM). EHM survey sampling weights were used to compute nationally representative estimates.

¹³Lauffer (2017) estimated that an average of about 44.2 million people living in 21.8 million U.S. households participated in SNAP every month in fiscal year 2016.

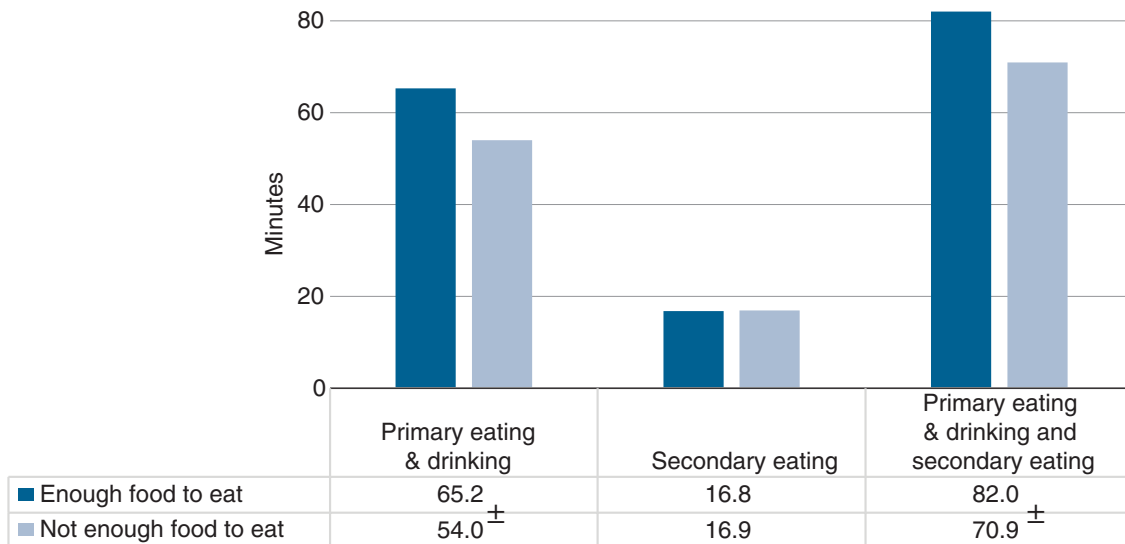
On an average day over 2014-16, about 94.5 percent of Americans age 18 and older reported that their household members had enough food to eat in the last 30 days.¹⁴ Of the remainder, 4.7 percent reported that their household sometimes did not have enough food to eat, and 0.9 percent reported that their household often did not have enough food to eat.

Individuals who had enough food to eat spent about 21 percent more time eating and drinking as a primary activity compared with those who did not have enough food (65.2 versus 54.0 minutes) (fig. 8).

According to the body mass index (BMI) calculated using self-reported height and weight, a small proportion (1.4 percent) of Americans age 20 and older were underweight (BMI of less than 18.5) over 2014-16. About a third (32.3 percent) of Americans were of normal weight (BMI of 18.5-24.9), and almost two-thirds were either overweight or obese. About 35.7 percent were overweight (but not obese) (BMI of 25-29.9), 18.6 percent had low-risk obesity (BMI of 30-34.9), and 11.9 percent had higher risk obesity (BMI of 35 and above). Taken together, the EHM data indicate that obesity prevalence was 30.5 percent over 2014-16. The Centers for Disease Control and Prevention (CDC) used self-reported information from the Behavioral Risk Factor Surveillance System to estimate the proportion of American adults who had obesity in 2016 (CDC, 2017). CDC analysts found that obesity prevalence varied across States, ranging from 22.3 percent in Colorado to 37.7 percent in West Virginia.

Figure 8

Time spent in primary eating and drinking and secondary eating on an average day in 2014-16, age 18 and older by food hardship



Note: ± denotes the means of these two subpopulations are statistically significantly different from each other.

Source: USDA, Economic Research Service using data from the Bureau of Labor Statistics 2014-16 American Time Use Survey and Eating & Health Module (EHM). EHM survey sampling weights were used to compute nationally representative estimates.

¹⁴ERS researchers used data from the Current Population Survey Food Security Supplement to estimate the fraction of U.S. households that were “food secure” (Coleman-Jensen et al., 2017). These are households that had access, at all times, to enough food for an active, healthy life for all household members. They estimated that 87.7 percent of U.S. households were food secure throughout 2016. The remainder (12.3 percent) were “food insecure” at some time during 2016, meaning that these households were uncertain of having, or unable to acquire, enough food to meet the needs of all their members because they had insufficient money or other resources for food.

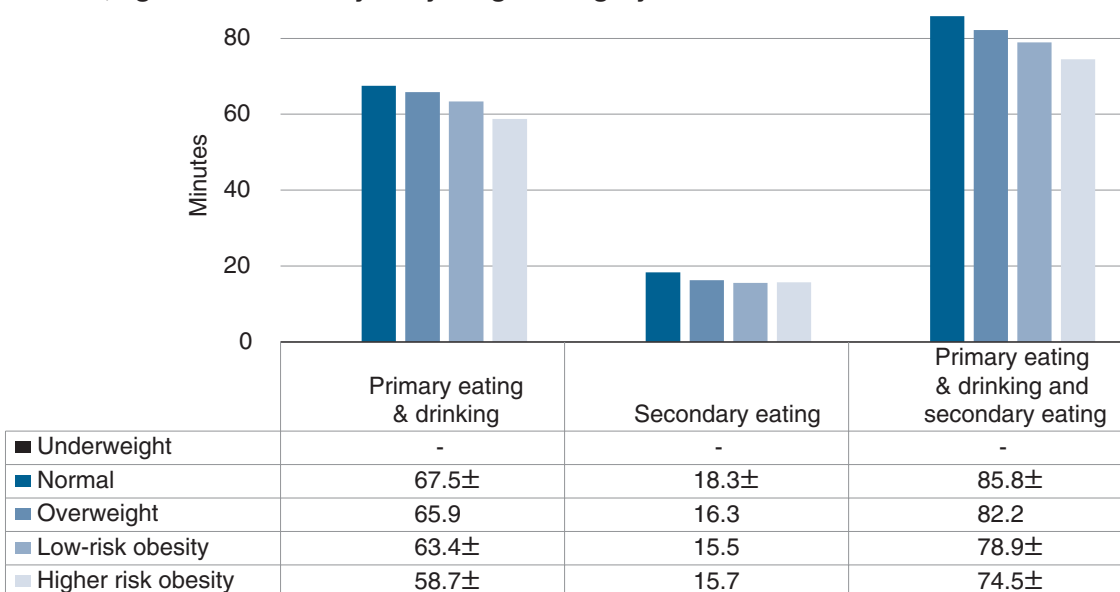
On an average day in 2014-16, normal-weight individuals age 20 and older spent about 7 percent more time eating than did others (85.8 versus 79.9 minutes) (fig. 9). Total time spent eating includes both time spent eating and drinking as a primary or main activity (primary eating) and time spent eating while doing something else (secondary eating). The differences in total time spent eating were driven by differences in primary, not secondary eating. Normal-weight individuals spent 6 percent more time than others engaged in primary eating and drinking (67.5 versus 63.8 minutes) and about 14 percent more time than others eating as a secondary activity (18.3 versus 16.1 minutes).

By contrast, obese individuals spent less time than others engaged in primary eating and drinking (3 percent for low-risk obesity; 11 percent for higher risk obesity).

On an average day over 2014-16, about 18.0 percent of Americans age 18 and older rated their health as “excellent,” 33.8 percent as “very good,” 32.0 percent as “good,” 12.3 percent as “fair,” and 3.9 percent as “poor.”

Figure 9

Time spent in primary eating and drinking and secondary eating on an average day in 2014-16, age 20 and older by body weight category



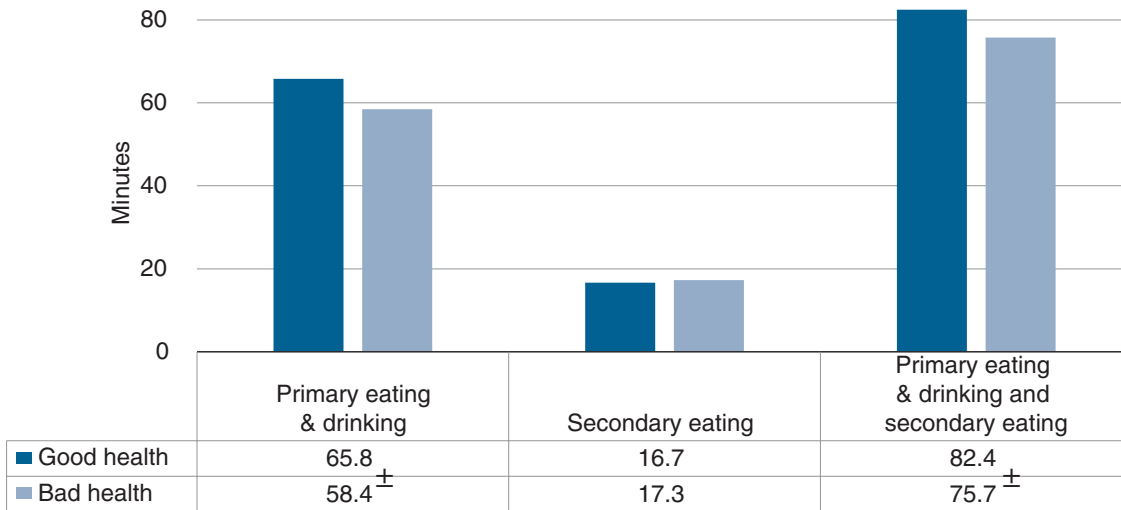
Note: The body mass index (BMI) values associated with the body weight categories are: underweight, BMI of less than 18.5; normal weight, BMI of 18.5-24.9; overweight but not obese, BMI of 25-29.9; low-risk obesity, BMI of 30-34.9; and higher risk obesity, BMI of 35 and above. - = suppressed due to small cell size. ± denotes the mean of this subpopulation is statistically significantly different from the mean of the other subpopulations pooled together.

Source: USDA, Economic Research Service using data from the Bureau of Labor Statistics 2014-16 American Time Use Survey and Eating & Health Module (EHM). EHM survey sampling weights were used to compute nationally representative estimates.

Individuals who self-reported their general health status to be poor or fair (“bad health”) spent about 58.4 minutes eating and drinking as a primary activity (fig. 10). By contrast, individuals who self-reported their general health status to be good, very good, or excellent (“good health”) spent about 65.8 minutes or 13 percent more time than those in bad health engaged in primary eating and drinking.

Figure 10

Time spent in primary eating and drinking and secondary eating on an average day in 2014-16, age 18 and older by self-assessed health status



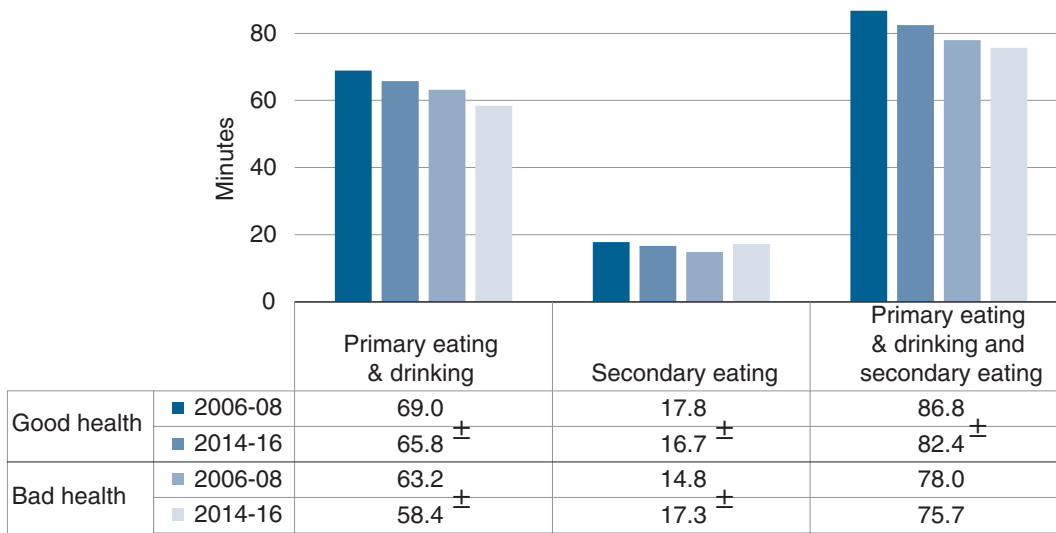
Note: Good health: individuals who reported their general health status to be good, very good, or excellent; bad health: individuals who reported their general health status to be poor or fair. ± denotes the means of these two subpopulations are statistically significantly different from each other.

Source: USDA, Economic Research Service using data from the Bureau of Labor Statistics 2014-16 American Time Use Survey and Eating & Health Module (EHM). EHM survey sampling weights were used to compute nationally representative estimates.

When looking at differences over time, total time spent eating (i.e., primary eating and drinking and secondary eating) decreased by 4 percent from 2006-08 to 2014-16 (85 versus 81.3 minutes); however, the patterns varied according to a person’s self-reported health status. Individuals who self-reported their general health to be good, very good, or excellent (“good health”) spent 5 percent less time engaged in primary eating and drinking from 2006-08 to 2014-16 (69.0 versus 65.8 minutes) and 6 percent less time engaged in secondary eating (17.8 versus 16.7 minutes) (fig. 11). By contrast, individuals who self-reported their general health to be poor or fair (“bad health”) spent 8 percent less time in primary eating and drinking from 2006-08 to 2014-16 (63.2 versus 58.4 minutes) but 17 percent more time in secondary eating (14.8 versus 17.3 minutes).

Figure 11

Time spent in primary eating and drinking and secondary eating on an average day in 2006-08 and 2014-16, age 18 and older by self-assessed health status



Note: Good health: individuals who reported their general health status to be good, very good, or excellent; bad health: individuals who reported their general health status to be poor or fair. ± denotes the means of these two subpopulations are statistically significantly different from each other.

Source: USDA, Economic Research Service using data from the Bureau of Labor Statistics 2006-08 and 2014-16 American Time Use Survey and Eating & Health Module (EHM). EHM survey sampling weights were used to compute nationally representative estimates.

Prepared Food Purchases, 2014-16

On an average day over 2014-16, about 58.2 percent of Americans age 18 and older had purchased prepared food from a deli, carry-out, delivery food, or fast food in the last 7 days (fig. 12).¹⁵ For brevity, we refer to these purchases collectively as “prepared food purchases.” On average, those who purchased prepared food in the last 7 days did so 2.8 times.¹⁶

The share of men who purchased prepared food in the last 7 days was about 5 percent higher than the corresponding share of women (59.6 versus 56.9 percent). Among those making such a purchase, men did so about 24 percent more times than women (3.1 versus 2.5 times).

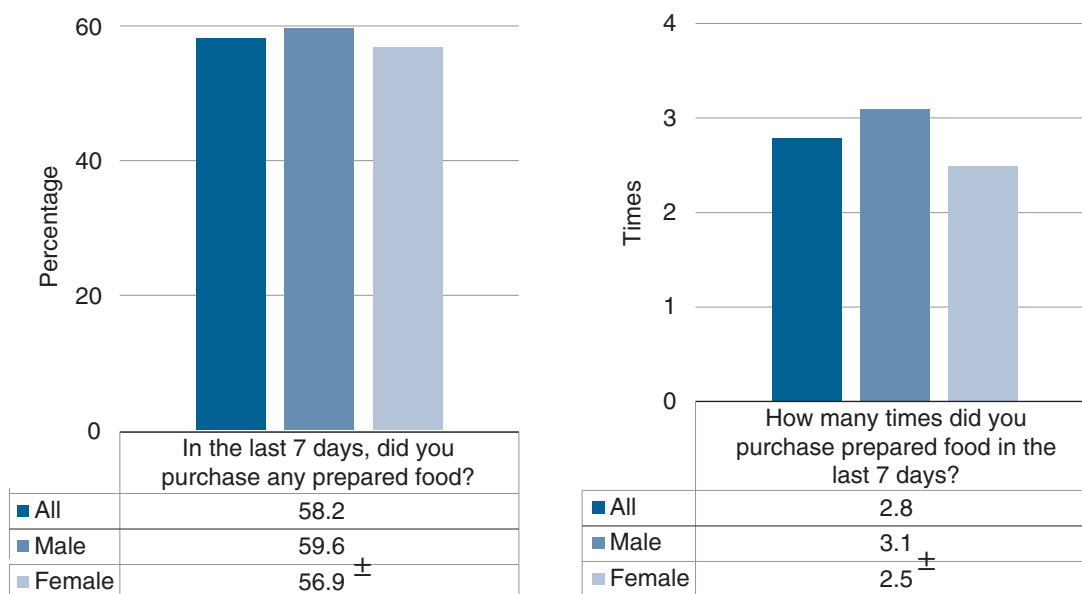
The share of young Americans who purchased prepared food in the last 7 days tended to be much higher than the corresponding share of older Americans. Among those making such a purchase, young individuals also purchased prepared food more more regularly than older individuals.

¹⁵The EHM asked if the participant purchased any prepared food from a deli, carry-out, delivery food, or fast food over the last 7 days. Note that carry-out or delivery food could refer to food from sit-down or full-service restaurants. Moreover, foods can range from healthy to unhealthy, but the question does not allow us to examine further.

¹⁶ERS researchers used the Flexible Consumer Behavior Survey of the National Health and Nutrition Examination Survey to calculate how often Americans purchase or acquire meals prepared away from home in places such as restaurants, fast-food places, food stands, grocery stores, and vending machines (ERS, 2017). In 2013-14, adults age 20 and older reported that they had purchased or acquired an average of 3.6 away-from-home meals in the past 7 days.

Figure 12

Prepared food purchases in an average week in 2014-16, age 18 and older by sex



Note: ± denotes the means of these two subpopulations are statistically significantly different from each other.
 Source: USDA, Economic Research Service using data from the Bureau of Labor Statistics 2014-16 American Time Use Survey and Eating & Health Module (EHM). EHM survey sampling weights were used to compute nationally representative estimates.

About 68.0 percent of Americans age 18-24 purchased prepared food in the last 7 days, and those who made such a purchase did so an average 3.1 times (fig. 13). By contrast, only 42.1 percent of those age 65 and older purchased prepared food in the last 7 days, and those who did, did so an average 2.2 times.

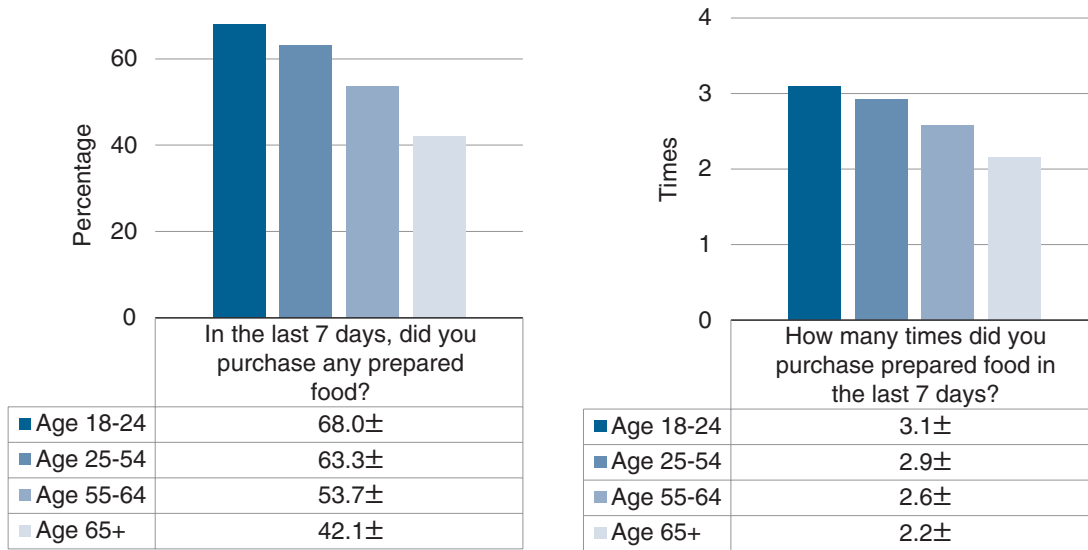
A higher share of households with a couple and children purchased prepared food in the last 7 days than did other household types (64.2 versus 56.2 percent); however, conditional on making such a purchase, households with a couple and children made about 4 percent fewer prepared food purchases than did others (2.7 versus 2.8 times) (fig. 14).

By contrast, the share of childless, single-person households that bought prepared food in the past week was about 12 percent lower relative to other household types (52.1 versus 59.3 percent). However, among those who did purchase prepared food in the last 7 days, childless, single-person households made about 11 percent more prepared food purchases than did other household types (3.0 versus 2.7 times).

A higher fraction of individuals with a bachelor's degree purchased prepared food in the last 7 days than did other individuals (65.7 versus 56.3 percent) (fig. 15). By contrast, the share of individuals with less than a high school degree who bought prepared food in the past week was about 36 percent lower relative to higher educated individuals (38.6 versus 60.6 percent), and conditional on making such a purchase, individuals with less than a high school degree made about 14 percent fewer prepared food purchases than did others (2.4 versus 2.8 times).

Figure 13

Prepared food purchases in an average week in 2014-16, age 18 and older by age group

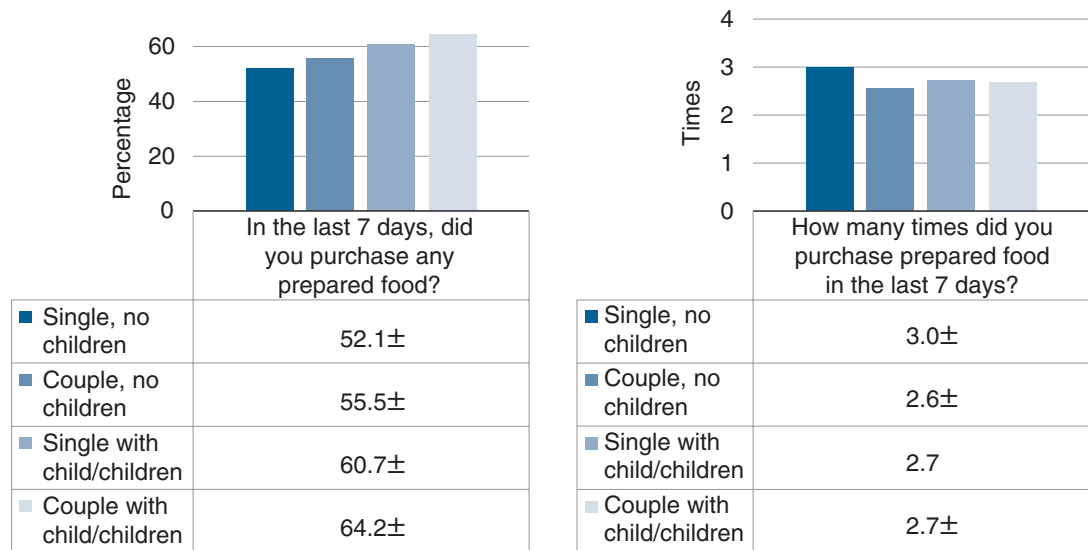


Note: ± denotes the mean of this subpopulation is statistically significantly different from the mean of the other subpopulations pooled together.

Source: USDA, Economic Research Service using data from the Bureau of Labor Statistics 2014-16 American Time Use Survey and Eating & Health Module (EHM). EHM survey sampling weights were used to compute nationally representative estimates.

Figure 14

Prepared food purchases in an average week in 2014-16, age 18 and older by household type

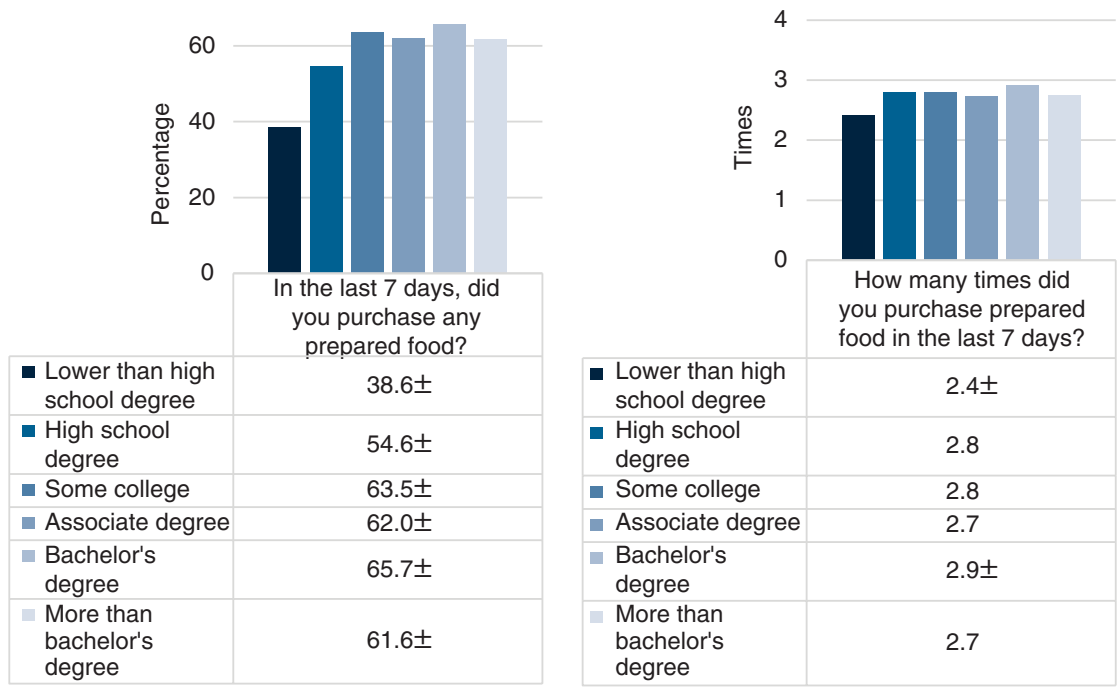


Note: ± denotes the mean of this subpopulation is statistically significantly different from the mean of the other subpopulations pooled together. Household with child/children refers to a household with at least one person age 17 and younger.

Source: USDA, Economic Research Service using data from the Bureau of Labor Statistics 2014-16 American Time Use Survey and Eating & Health Module (EHM). EHM survey sampling weights were used to compute nationally representative estimates.

Figure 15

Prepared food purchases in an average week in 2014-16, age 18 and older by education level



Note: ± denotes the mean of this subpopulation is statistically significantly different from the mean of the other subpopulations pooled together.

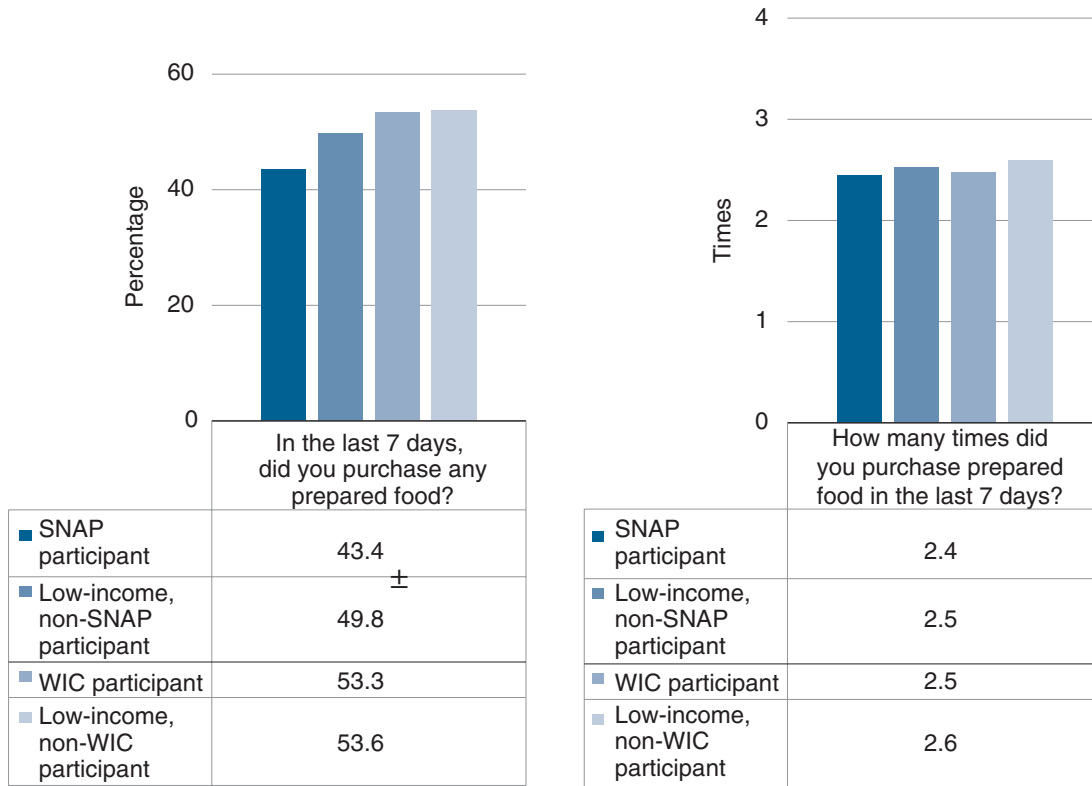
Source: USDA, Economic Research Service using data from the Bureau of Labor Statistics 2014-16 American Time Use Survey and Eating & Health Module (EHM). EHM survey sampling weights were used to compute nationally representative estimates.

The share of SNAP participants who purchased prepared food in the last 7 days was about 13 percent lower than the corresponding share of low-income, non-SNAP participants (43.4 percent versus 49.8 percent) (fig. 16).

By contrast, there was no significant difference in the fraction of WIC participants who purchased prepared food in the last 7 days (53.3 percent) and the fraction of low-income, non-WIC participants who purchased prepared food in the last 7 days (53.6 percent).

Figure 16

Prepared food purchases in an average week in 2014-16, age 18 and older by SNAP and WIC participation



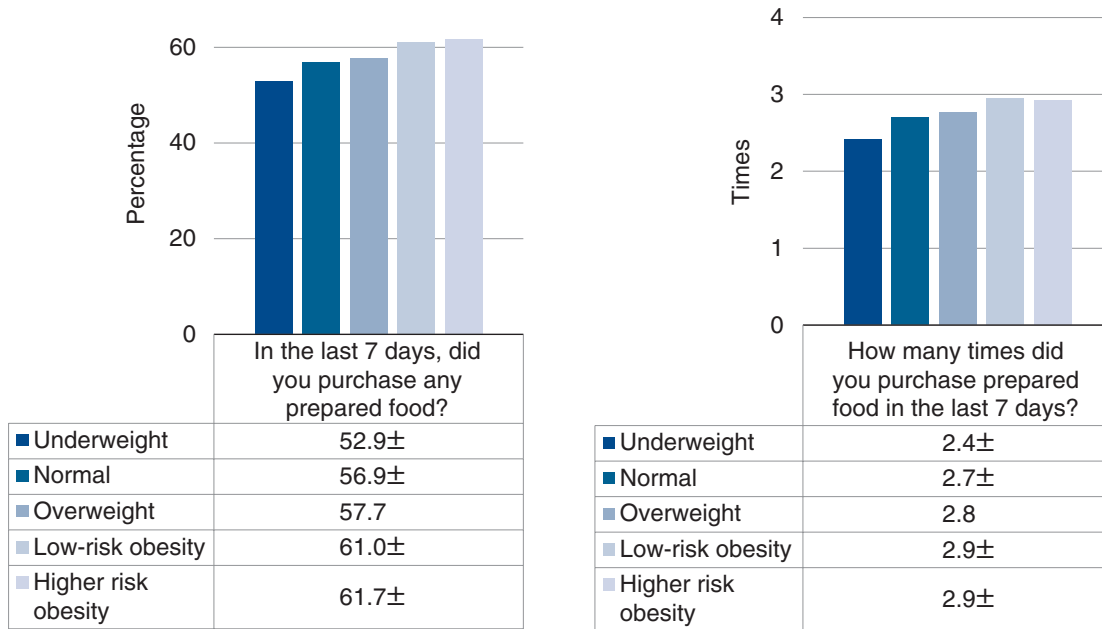
Note: SNAP participants: individuals living in households that received benefits under USDA’s Supplemental Nutrition Assistance Program (SNAP) in the past month. Low-income, non-SNAP participants: individuals with household income that was 185 percent of the Federal poverty level or below who had not received SNAP benefits in the past month. WIC participants: individuals living in households that received benefits under USDA’s Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) in the past month. Low-income, non-WIC participants: individuals with household income that was 185 percent of the Federal poverty level or below who had not received WIC benefits in the past month. ± denotes the means of these two subpopulations are statistically significantly different from each other. Source: USDA, Economic Research Service using data from the Bureau of Labor Statistics 2014-16 American Time Use Survey and Eating & Health Module (EHM). EHM survey sampling weights were used to compute nationally representative estimates.

The share of normal-weight individuals who purchased prepared food in the last 7 days was about 4 percent lower than that of other individuals (56.9 versus 59.2 percent), and, conditional on making such a purchase, normal-weight individuals did so 4 percent fewer times (2.7 versus 2.8 times) (fig. 17).

By contrast, the share of individuals with low-risk obesity who purchased prepared food in the last 7 days was about 5 percent higher than that of other individuals (61.0 versus 57.9 percent), and conditional on making such a purchase, individuals with low-risk obesity purchased prepared food 4 percent more times (2.9 versus 2.8 times).

Figure 17

Prepared food purchases in an average week in 2014-16, age 20 and older by body weight category



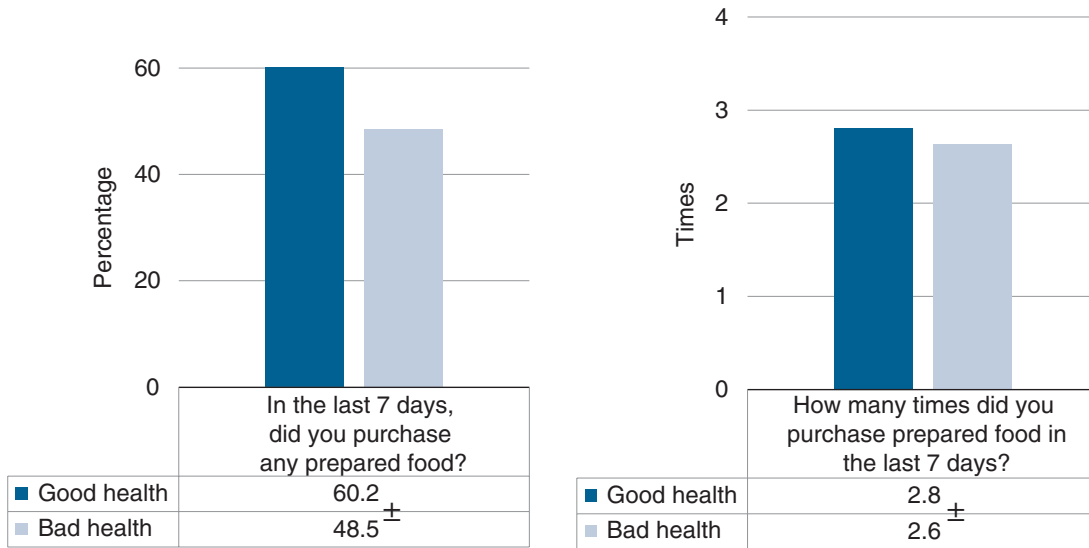
Note: The body mass index (BMI) values associated with the body weight categories are: underweight, BMI of less than 18.5; normal weight, BMI of 18.5-24.9; overweight but not obese, BMI of 25-29.9; low-risk obesity, BMI of 30-34.9; and higher risk obesity, BMI of 35 and above. ± denotes the mean of this subpopulation is statistically significantly different from the mean of the other subpopulations pooled together.

Source: USDA, Economic Research Service using data from the Bureau of Labor Statistics 2014-16 American Time Use Survey and Eating & Health Module (EHM). EHM survey sampling weights were used to compute nationally representative estimates.

The share of individuals who self-reported their general health status to be good, very good, or excellent (“good health”) and purchased prepared food in the last 7 days was 24 percent higher than individuals who self-reported their general health status to be poor or fair (“bad health”) (60.2 versus 48.5 percent) (fig. 18). Conditional on making such a purchase, individuals who self-reported to be in “good health” purchased prepared food 8 percent more times than individuals who self-reported to be in “bad health” (2.8 versus 2.6 times).

Figure 18

Prepared food purchases in an average week in 2014-16, age 18 and older by self-assessed health status



Note: Good health: individuals who reported their general health status to be good, very good, or excellent; bad health: individuals who reported their general health status to be poor or fair. ± denotes the means of these two subpopulations are statistically significantly different from each other.

Source: USDA, Economic Research Service using data from the Bureau of Labor Statistics 2014-16 American Time Use Survey and Eating & Health Module (EHM). EHM survey sampling weights were used to compute nationally representative estimates.

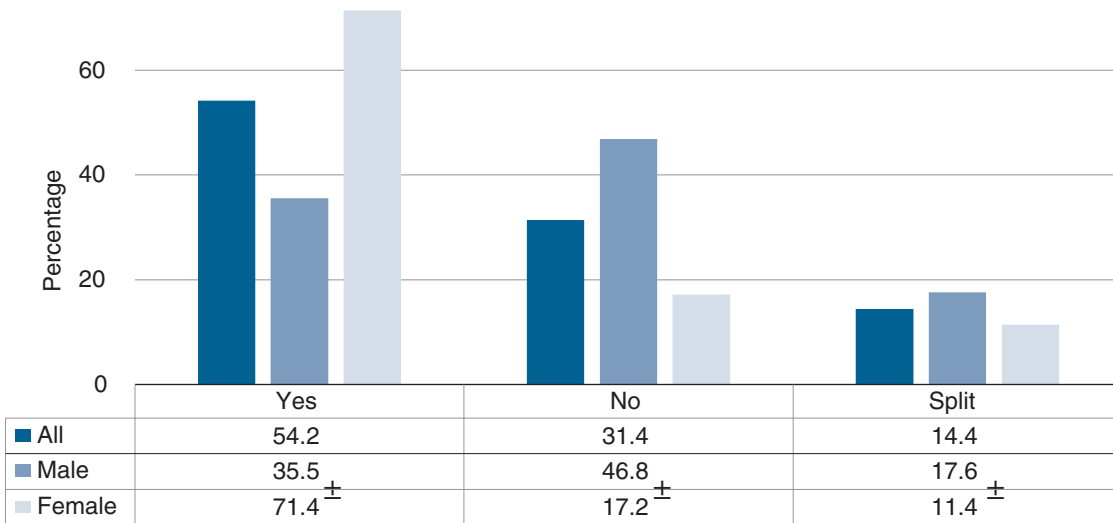
Food- and Health-Related Activities

Grocery Shopping, 2014-16

On an average day over 2014-16, about 54.2 percent of Americans age 18 and older reported being the one who usually did the grocery shopping in their household, and 14.4 percent reported that this responsibility was equally split with other household members (fig. 19). For brevity, we refer to these individuals as “usual grocery shoppers.”

The share of men who report that they usually did the grocery shopping in their household was about 50 percent lower than the corresponding share of women (35.5 versus 71.4 percent); however, a larger share of men reported that this responsibility was equally split with other household members (17.6 versus 11.4 percent).¹⁷

Figure 19
Usual grocery shopper in the household in 2014-16, age 18 and older by sex

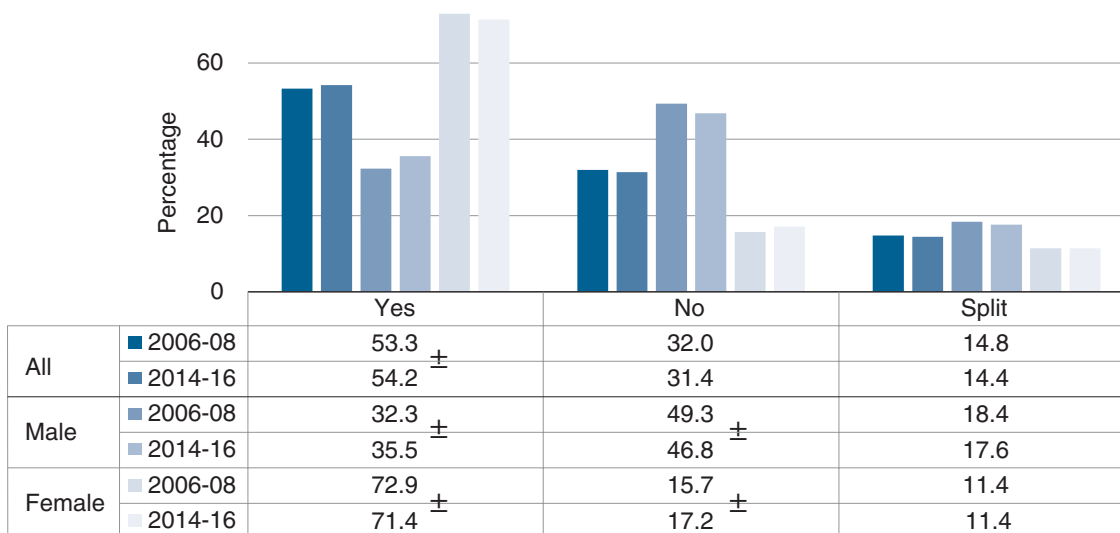


Note: ± denotes the means of these two subpopulations are statistically significantly different from each other.
Source: USDA, Economic Research Service using data from the Bureau of Labor Statistics 2014-16 American Time Use Survey and Eating & Health Module (EHM). EHM survey sampling weights were used to compute nationally representative estimates.

¹⁷Blanck et al. (2011) present similar results using the National Cancer Institute Food Attitudes and Behaviors Survey. Their sample, which included only those respondents who identified themselves as their household’s primary grocery shopper, was 72 percent female.

The share of individuals who reported being the one who usually did the grocery shopping in their households significantly increased by 2 percent from 2006-08 to 2014-16 (53.3 versus 54.2 percent) (fig. 20); however, using the ATUS diary for grocery shopping, we find that the percentage of Americans engaged in grocery shopping on an average day during these two periods stayed the same, at about 14 percent. This observed increase is mostly driven by men. The share of men who reported that they usually did the grocery shopping in their household was about 10 percent higher from 2006-08 to 2014-16 (32.3 versus 35.5 percent). On the contrary, the share of women who reported that they usually did the grocery shopping in their household was 2 percent lower from 2006-08 to 2014-16 (72.9 versus 71.4 percent).

Figure 20
Usual grocery shopper in the household in 2006-08 and 2014-16, age 18 and older by sex

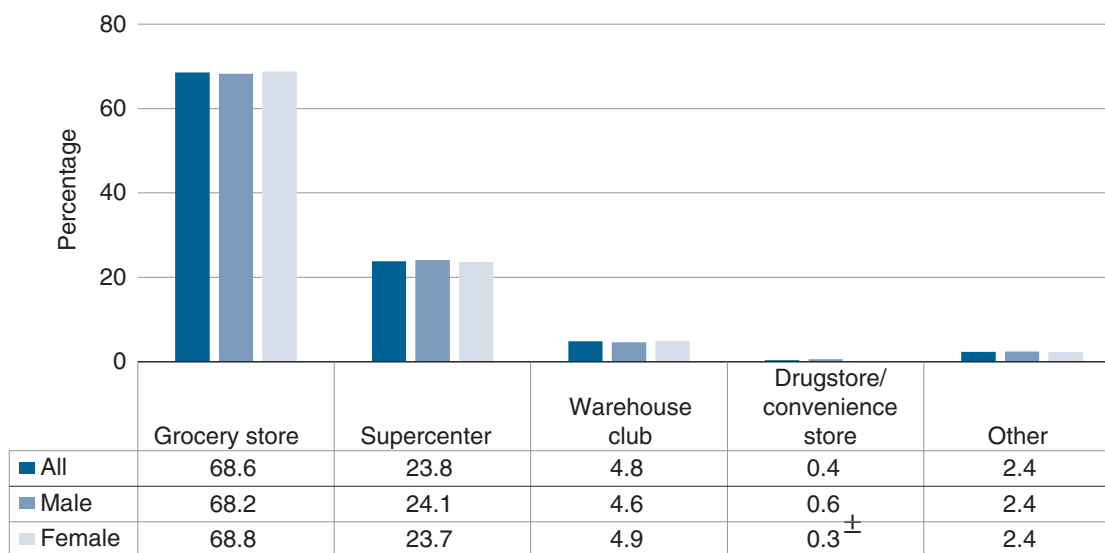


Note: ± denotes the means of these two subpopulations are statistically significantly different from each other.
 Source: USDA, Economic Research Service using data from the Bureau of Labor Statistics 2006-08 and 2014-16 American Time Use Survey and Eating & Health Module (EHM). EHM survey sampling weights were used to compute nationally representative estimates.

More than two-thirds of main grocery shoppers reported that the majority of groceries were obtained from a grocery store (68.6 percent), and almost a quarter of them reported that the majority of groceries were obtained from a supercenter (23.8) (fig. 21). Todd and Scharadin (2016), using USDA's National Household Food Acquisition and Purchase Survey (FoodAPS), find that 87 percent of households acquired food from large grocery stores or supermarkets in a typical week. Preferences related to where to get groceries appear to be similar for men and women.

Figure 21

Preferred store where usual grocery shoppers get groceries in 2014-16, age 18 and older by sex

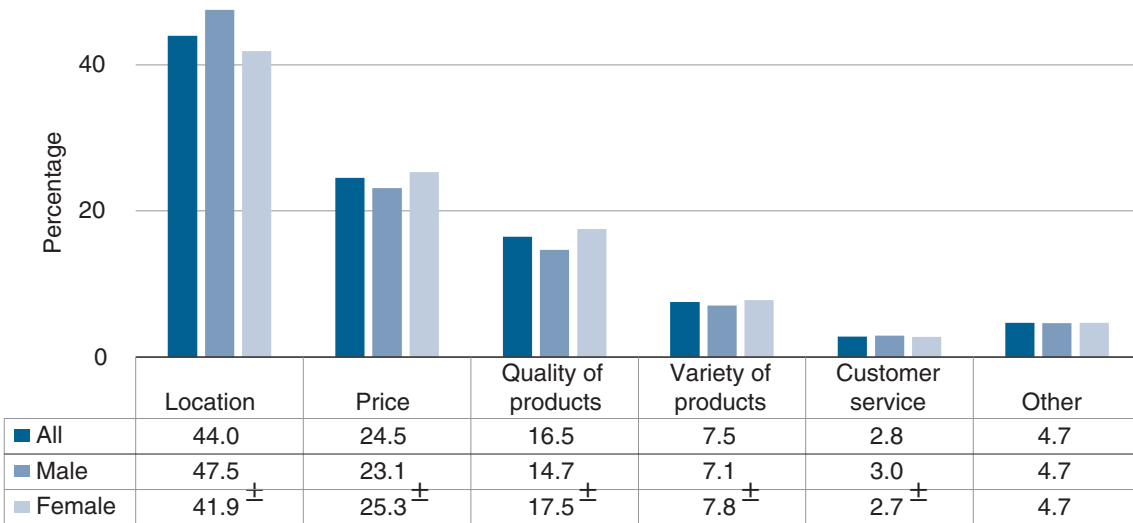


Note: These calculations include only those who usually did the grocery shopping in their household or split the responsibility with others in the household. ± denotes the means of these two subpopulations are statistically significantly different from each other.

Source: USDA, Economic Research Service using data from the Bureau of Labor Statistics 2014-16 American Time Use Survey and Eating & Health Module (EHM). EHM survey sampling weights were used to compute nationally representative estimates.

Among these individuals, the top three reasons they shopped at a grocery store for the majority of their groceries was location (44.0 percent), price (24.5 percent), and quality of products (16.5 percent) (fig. 22). A higher share of women than men prefer to shop in a grocery store because of its price and quality of products (25.3 versus 23.1 percent and 17.5 versus 14.7 percent, respectively), whereas more men than women prefer to shop in a grocery store because of its location (47.5 versus 41.9 percent).

Figure 22
Primary reason to shop in a grocery store in 2014-16, age 18 and older by sex



Note: These calculations include only those who usually did the grocery shopping in their household or split the responsibility with others in the household. ± denotes the means of these two subpopulations are statistically significantly different from each other.

Source: USDA, Economic Research Service using data from the Bureau of Labor Statistics 2014-16 American Time Use Survey and Eating & Health Module (EHM). EHM survey sampling weights were used to compute nationally representative estimates.

Meal Preparation, 2014-16

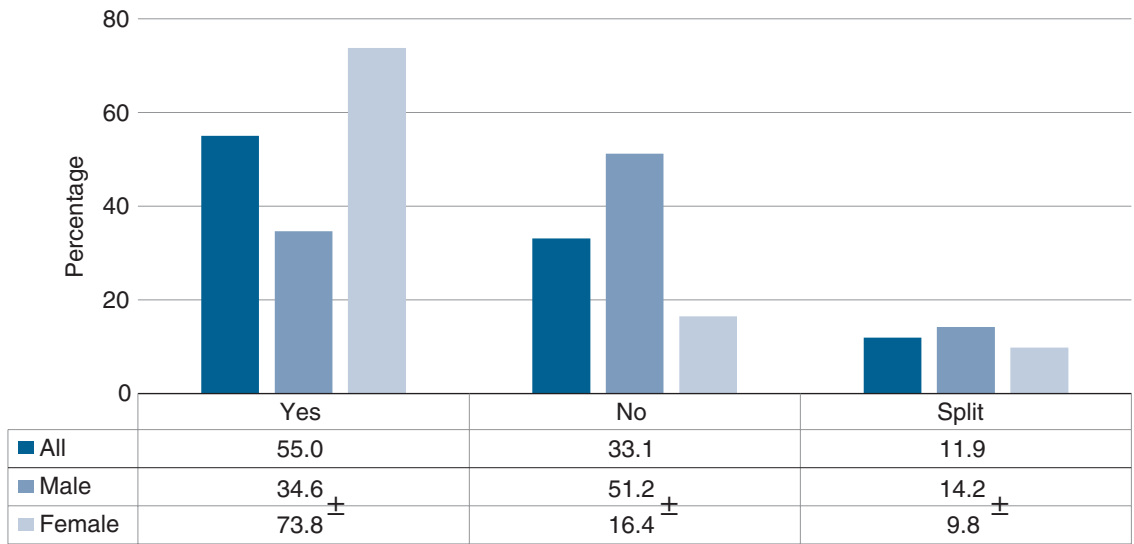
On an average day over 2014-16, about 55.0 percent of Americans age 18 and older reported being the one who usually prepares meals in their household, and 11.9 percent reported that this responsibility was equally split with other household members.¹⁸

The share of men who reported that they are the usual meal preparer in their household was about 53 percent lower than the corresponding share of women (34.6 versus 73.8 percent); however, a larger share of men than women reported that this responsibility was equally split with other household members (14.2 versus 9.8 percent) (fig. 23).

¹⁸EHM survey respondents who reported being the household's usual meal preparer or that they split meal preparation equally with other household members were also asked: (1) whether they prepared any meals with meat in the last 7 days and, if so, whether they used a food or meat thermometer when preparing any of those meals, and (2) whether they had drunk or served unpasteurized or raw milk in the last 7 days. We do not examine the data resulting from these questions because they are comprehensively explored in another ERS report.

Figure 23

Usual meal preparer in the household in 2014-16, age 18 and older by sex

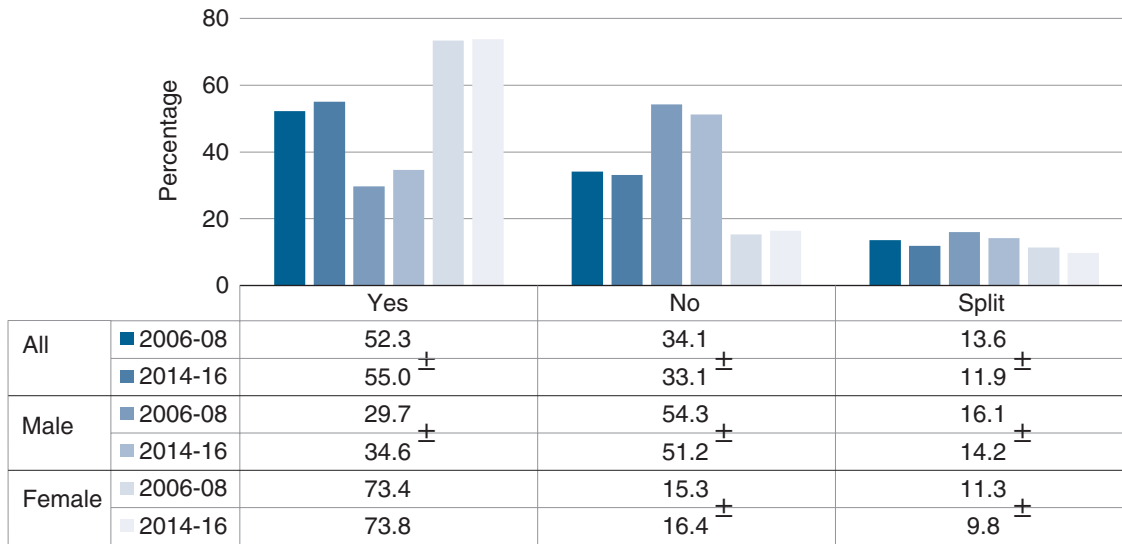


Note: ± denotes the means of these two subpopulations are statistically significantly different from each other.
 Source: USDA, Economic Research Service using data from the Bureau of Labor Statistics 2006-08 and 2014-16 American Time Use Survey and Eating & Health Module (EHM). EHM survey sampling weights were used to compute nationally representative estimates.

The share of individuals who reported being the usual meal preparer in the household increased by 5 percent from 2006-08 to 2014-16 (52.3 versus 55.5 percent) (fig. 24). This result is also supported by the fact that the percentage of Americans engaged in meal preparation on an average day significantly increased from 49.9 percent to 55.3 percent from 2006-08 to 2014-16 (ATUS diary). This observed increase is also mostly driven by men. The share of men who reported being the usual meal preparer in their household was about 16 percent higher from 2006-08 to 2014-16 (29.7 versus 34.6 percent). We do not find a significant increase in the share of women who report being the usual meal preparer.

Figure 24

Usual meal preparer in the household in 2006-08 and 2014-16, age 18 and older by sex



Note: ± denotes the means of these two subpopulations are statistically significantly different from each other.
 Source: USDA, Economic Research Service using data from the Bureau of Labor Statistics 2006-08 and 2014-16 American Time Use Survey and Eating & Health Module (EHM). EHM survey sampling weights were used to compute nationally representative estimates.

Physical Activity, 2014-16

Food intake and an active lifestyle are both important for maintaining a healthy weight. We now move from exploring food intake patterns to identifying patterns in physical activity.¹⁹

On an average day over 2014-16, about 62.6 percent of Americans age 18 and older had exercised during the last 7 days,²⁰ and those who exercised did so an average of 4.2 times (fig. 25).

The share of men who reported that they exercised in the last 7 days was about 3 percent higher than the corresponding share of women (63.5 versus 61.8).

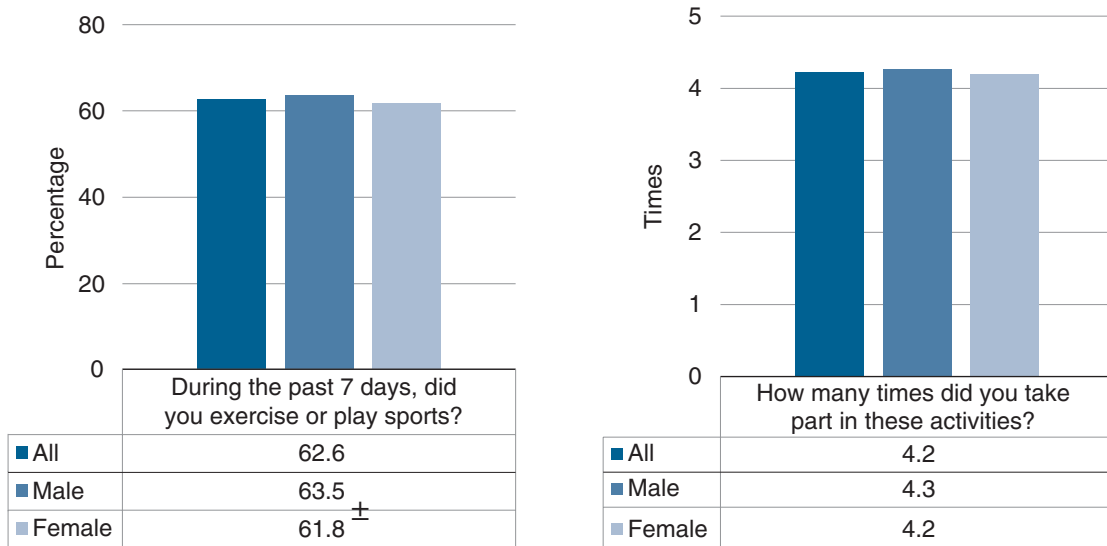
The share of individuals age 18 to 24 who reported having gotten some form of exercise in the last 7 days was about 15 percent higher than the corresponding share of older individuals (70.9 versus 61.5 percent) (fig. 26). Although the share of individuals age 65 or older who reported having gotten some form of exercise in the last 7 days is the smallest of the group (57.2 versus 63.9 percent), these individuals exercised or played sports 20 percent more times than younger individuals.

¹⁹The EHM asked if during the past 7 days the participant took part in any physical activity or exercises for fitness and health such as running, bicycling, working out in a gym, walking for exercise, or playing sports. If they did, they were asked how many times they participated in these activities in the past 7 days.

²⁰Clarke et al. (2017) used National Health Interview Survey data to estimate the level of physical activity among Americans. They found that about 51.7 percent of adults age 18 and older met the U.S. Department of Health and Human Services' Physical Activity Guidelines for aerobic physical activity in 2016.

Figure 25

Physical activity in an average week in 2014-16, age 18 and older by sex

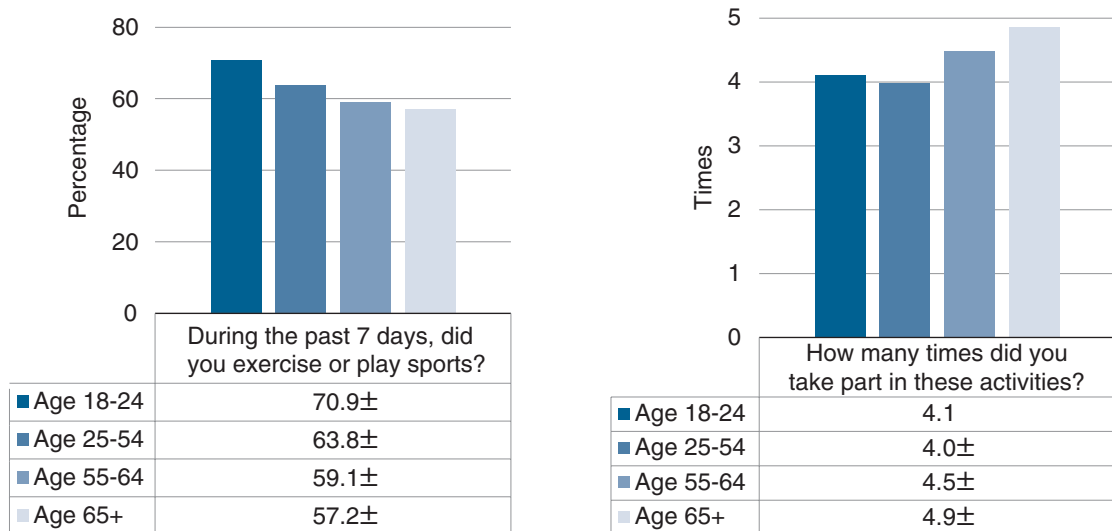


Note: ± denotes the means of these two subpopulations are statistically significantly different from each other.

Source: USDA, Economic Research Service using data from the Bureau of Labor Statistics 2014-16 American Time Use Survey and Eating & Health Module (EHM). EHM survey sampling weights were used to compute nationally representative estimates.

Figure 26

Physical activity in an average week in 2014-16, age 18 and older by age group



Note: ± denotes the mean of this subpopulation is statistically significantly different from the mean of the other subpopulations pooled together.

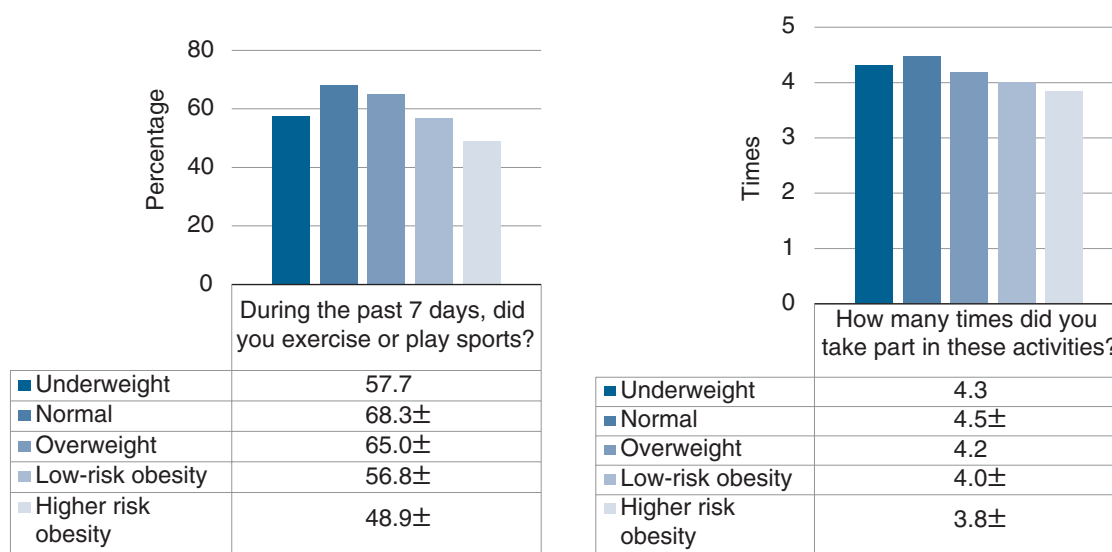
Source: USDA, Economic Research Service using data from the Bureau of Labor Statistics 2014-16 American Time Use Survey and Eating & Health Module (EHM). EHM survey sampling weights were used to compute nationally representative estimates.

The share of adults age 20 and older who were of normal weight and exercised in the last 7 days was about 14 percent higher than the corresponding share of other individuals (68.3 versus 59.7 percent), and, among those who exercised, normal-weight individuals did so 10 percent more times (4.5 versus 4.1 times) (fig. 27). The share of obese adults who reported getting some form of exercise in the past week was lower than that of others. For example, the share of individuals with higher risk obesity who exercised in the last 7 days was about 24 percent lower than that of others (48.9 versus 64.4 percent), and, among those who exercised, individuals with higher risk obesity did so about 12 percent fewer times (3.8 versus 4.3 percent).

The share of those in “good health” who got some form of exercise in the last 7 days was about 58 percent higher than the corresponding share of those in “bad health” (66.6 versus 42.2 percent) (fig. 28).

Figure 27

Physical activity in an average week in 2014-16, age 20 and older by body weight category

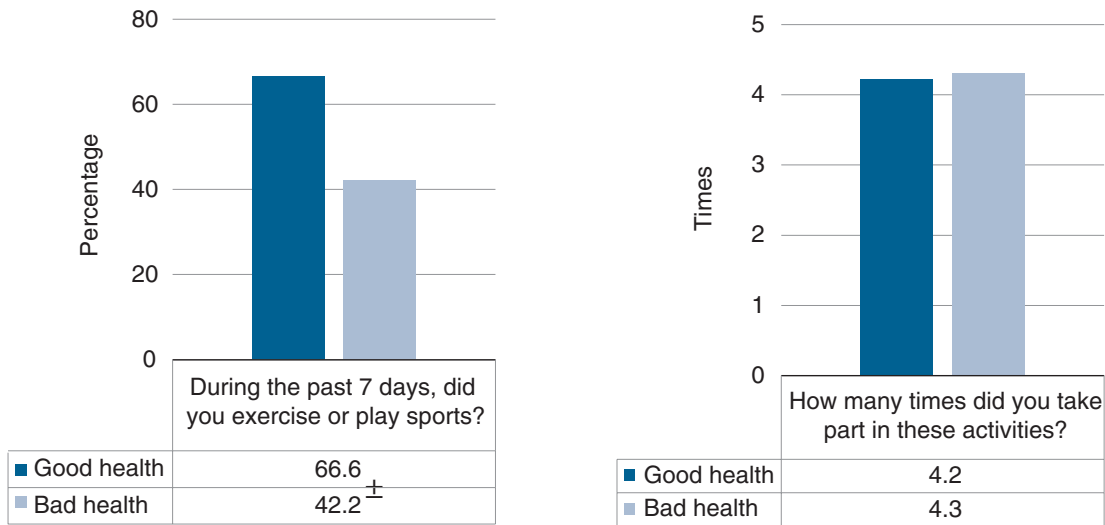


Note: The body mass index (BMI) values associated with the body weight categories are: underweight, BMI of less than 18.5; normal weight, BMI of 18.5-24.9; overweight but not obese, BMI of 25-29.9; low-risk obesity, BMI of 30-34.9; and higher risk obesity, BMI of 35 and above. ± denotes the mean of this subpopulation is statistically significantly different from the mean of the other subpopulations pooled together.

Source: USDA, Economic Research Service using data from the Bureau of Labor Statistics 2014-16 American Time Use Survey and Eating & Health Module (EHM). EHM survey sampling weights were used to compute nationally representative estimates.

Figure 28

Physical activity in an average week in 2014-16, age 18 and older by self-assessed health status



Note: ± denotes the means of these two subpopulations are statistically significantly different from each other.
 Source: USDA, Economic Research Service using data from the Bureau of Labor Statistics 2014-16 American Time Use Survey and Eating & Health Module (EHM). EHM survey sampling weights were used to compute nationally representative estimates.

Discussion and Implications for Future Research

As this report finds, there were many significant and sometimes large differences in eating and health patterns by demographic subgroup in 2014-16. In addition, there were significant and sometimes large changes in eating and health patterns from 2006-08 to 2014-16. The national statistics in this report may be useful in shaping future food policy. It is important to note that we present only descriptive statistics. Future researchers may consider further investigating these patterns in a multi-factor analysis. Below, we discuss two potentially policy-relevant findings that might be areas for additional research.

First, we find that an average American age 18 and older spent about 64.5 minutes engaged in primary eating and drinking, and this has decreased over time. The time spent in primary eating and drinking decreased by about 5 percent from 2006-08 to 2014-16 (67.8 versus 64.5 minutes). Individuals spent 16.8 minutes in secondary eating on an average day in 2014-16, and this did not significantly change over these two time periods. The decrease in time devoted to primary eating and drinking may help to explain the increase in obesity prevalence as recent research suggests that eating more slowly and mindfully may help to curb excess food consumption; however, the relationship between time spent eating and weight gain is complex, and further research is needed to gain a better understanding of the underlying mechanisms. In addition, future researchers might consider investigating whether economic factors associated with the Great Recession (December 2007 to June 2009) played a role in these different-signed and different-sized changes over time.

Second, the average amount of time spent in primary eating and drinking conceals considerable differences across individuals with different educational attainment. The time spent in both primary eating and drinking and secondary eating generally increased with education level. While those with more than a bachelor's degree spent 74.3 minutes engaged in primary eating and drinking, those with less than a high school degree spent less than an hour on this activity (58.3 minutes).

Our analysis provides further support to the notion that the amount of time people spend eating may play a role in the risk of becoming obese: while those who are classified as normal weight spent more time than others engaged in primary eating and drinking (6 percent more), American adults with higher risk obesity spent less time than others engaged in primary eating and drinking (11 percent less). Future researchers might consider investigating whether slower eating behavior has a causal, non-negligible impact on the risk of obesity, and whether more education increases eating times.

References

- Blanck, Heidi M., Linda Nebeling, Amy L. Yaroch, and Olivia M. Thompson. 2011. “Improving Fruit and Vegetable Consumption: Use of Farm-to-Consumer Venues Among U.S. Adults,” *Preventing Chronic Disease* 8(2).
- Bureau of Labor Statistics (BLS). 2017a. *American Time Use Survey (ATUS) User’s Guide: Understanding ATUS 2003 to 2016*, U.S. Department of Labor, Bureau of Labor Statistics, June.
- Bureau of Labor Statistics (BLS). 2017b. “*American Time Use Survey—2016 Results*,” *News Release*, U.S. Department of Labor, Bureau of Labor Statistics, June.
- Centers for Disease Control and Prevention (CDC). 2017. “New CDC Data Shows US Adults Still Struggling with Obesity,” *Newsroom Release*, August.
- Clarke, Tainya C., Tina Norris, and Jeannine S. Schiller. 2017. “Early Release of Selected Estimates Based on Data From the 2016 National Health Interview Survey,” *National Center for Health Statistics*, May.
- Coleman-Jensen, Alisha, Matthew P. Rabbitt, Christian A. Gregory, and Anita Singh. 2017. *Household Food Security in the United States in 2016*, ERR-237, U.S. Department of Agriculture, Economic Research Service, September.
- Hamrick, Karen S. 2016. *2014-16 Eating & Health Module User’s Guide*, AP-070, U.S. Department of Agriculture, Economic Research Service, May.
- Hamrick, Karen S., Margaret Andrews, Joanne Guthrie, David Hopkins, and Ket McClelland. 2011. *How Much Time Do Americans Spend on Food?* EIB-86, U.S. Department of Agriculture, Economic Research Service, November.
- Hamrick, Karen S., and Ket McClelland. 2016. *Americans’ Eating Patterns and Time Spent on Food: The 2014 Eating & Health Module Data*, EIB-158, U.S. Department of Agriculture, Economic Research Service, July.
- Hurst, Yumi, and Haruhisa Fukuda. 2018. “Effects of changes in eating speed on obesity in patients with diabetes: a secondary analysis of longitudinal health check-up data,” *BMJ Open* 8(1): e019589.
- Lauffer, Sarah. 2017. *Characteristics of Supplemental Nutrition Assistance Program Households: Fiscal Year 2016*. Prepared by Mathematica Policy Research for the USDA Food and Nutrition Service, November.
- Todd, Jessica, and Benjamin Scharadin. 2016. *Where Households Get Food in a Typical Week: Findings from USDA’s FoodAPS*, EIB-156, U.S. Department of Agriculture, Economic Research Service, July.
- U.S. Department of Agriculture, Economic Research Service (ERS). 2017. “Charts of Note: *Survey Data Point to Americans Eating Out Less Often in 2013-14 Compared With 2007-08*,” October.

Appendix tables

Appendix table 1A

Summary statistics in 2006-08, age 18 and older

		Without survey weights			With survey weights	
		Number of observations	Mean	Standard deviation	Mean	Standard error
Primary eating	Minutes	35,837	68.4	50.27	67.8	0.31
Secondary eating	Minutes	35,837	23.6	90.61	17.1	0.41
Primary and secondary eating	Minutes	35,837	91.9	101.07	85.0	0.48
Are you the person who usually does the grocery shopping in your household?	Yes	35,446	63.0	48.30	53.3	0.35
	No	35,446	25.0	43.30	32.0	0.33
	Split	35,446	12.0	32.50	14.8	0.26
Are you the person who usually prepares the meals in your household?	Yes	35,436	62.1	48.50	52.3	0.35
	No	35,436	26.4	44.10	34.1	0.33
	Split	35,436	11.5	31.80	13.6	0.28
In the past 30 days, did you or any member of this household receive SNAP, or food stamp benefits?	Yes	35,379	7.1	25.70	6.4	0.19
	Excellent	35,374	18.6	38.90	18.6	0.28
	Very good	35,374	34.0	47.40	34.2	0.34
	Good	35,374	30.0	45.80	30.5	0.38
	Fair	35,374	12.8	33.40	12.6	0.23
	Poor	35,374	4.6	21.00	4.2	0.13
BMI	Number *	33,758	27.5	5.80	27.5	0.05
Underweight	Percentage *	33,758	1.4	11.60	1.4	0.10
Normal	Percentage *	33,758	34.8	47.60	34.4	0.35
Overweight	Percentage *	33,758	36.2	48.10	36.7	0.35
Low-risk obesity	Percentage *	33,758	17.6	38.20	17.8	0.26
Higher risk obesity	Percentage *	33,758	10.0	30.00	9.7	0.24

SNAP = USDA's Supplemental Nutrition Assistance Program (formerly the Food Stamp Program). * For participants age 20 and older. BMI = body mass index.

Source: USDA, Economic Research Service using data from the Bureau of Labor Statistics 2006-08 American Time Use Survey and Eating & Health Module. Survey weights were used to compute nationally representative estimates.

Appendix table 2A

Summary statistics in 2014-16, age 18 and older

		Without survey weights			With survey weights	
		Number of observations	Mean	Standard deviation	Mean	Standard error
Primary eating	Minutes	30,949	65.8	49.38	64.5	0.34
Secondary eating	Minutes	30,949	17.2	51.54	16.8	0.43
Primary and secondary eating	Minutes	30,949	83.0	67.85	81.3	0.52
Thinking back over the last 7 days, did you purchase any: prepared food from a deli, carry-out, delivery food, or fast food?	Yes	30,839	57.7	49.40	58.2	0.36
How many times in the last 7 days did you purchase: prepared food from a deli, carry-out, delivery food, or fast food?	Number	17,698	2.8	2.30	2.8	0.03
Are you the person who usually does the grocery shopping in your household?	Yes	30,938	64.4	47.90	54.2	0.40
	No	30,938	23.7	42.50	31.4	0.34
	Split	30,938	11.9	32.40	14.4	0.27
Where do you get the majority of your groceries? Do you get them at the:	Grocery store	23,322	68.8	46.30	68.6	0.40
	Supercenter	23,322	23.9	42.60	23.8	0.36
	Warehouse club	23,322	4.3	20.40	4.8	0.17
	Drugstore or convenience store	23,322	0.4	6.40	0.4	0.06
	Other	23,322	2.6	15.80	2.4	0.14
What is the primary reason you shop there? Is it because of:	Price	22,894	30.9	46.20	31.2	0.40
	Location	22,894	38.2	48.60	38.3	0.37
	Quality of products	22,894	13.9	34.60	14.0	0.28
	Variety of products	22,894	9.2	28.90	9.2	0.26
	Customer service	22,894	2.3	15.10	2.3	0.12
	Other	22,894	5.4	22.60	5.0	0.19
Are you the person who usually prepares the meals in your household?	Yes	30,878	64.9	47.70	55.0	0.34
	No	30,878	25.3	43.50	33.1	0.32
	Split	30,878	9.8	29.80	11.9	0.22

Continued—

Summary statistics in 2014-16, age 18 and older—continued

		Without survey weights			With survey weights	
		Number of observations	Mean	Standard deviation	Mean	Standard error
Which of the following statements best describes the amount of food eaten in your household in the last 30 days?	Enough food to eat	30,785	94.2	23.50	94.5	0.16
	Sometimes not enough to eat	30,785	4.8	21.40	4.7	0.15
	Often not enough to eat	30,785	1.0	10.20	0.9	0.07
In the past 30 days, did you or any member of this household receive SNAP, or food stamp benefits?	Yes	30,761	10.7	30.90	9.9	0.22
In the past 30 days, did you or any member of this household receive benefits from the WIC program?	Yes	15,402	7.1	25.70	7.2	0.25
In general, would you say that your health is:	Excellent	30,659	17.6	38.10	18.0	0.33
	Very good	30,659	33.6	47.20	33.8	0.36
	Good	30,659	31.9	46.60	32.0	0.33
	Fair	30,659	12.7	33.30	12.3	0.24
	Poor	30,659	4.2	20.10	3.9	0.13
During the past 7 days, did you participate in any physical activity or exercise for fitness and health?	Yes	30,770	62.6	48.40	62.6	0.37
How many times over the past 7 days did you take part in these activities?	Number	19,198	4.3	2.87	4.2	0.02
BMI	Number*	28,873	28.0	6.12	28.0	0.04
Underweight	Percentage*	28,873	1.4	11.60	1.4	0.09
Normal	Percentage*	28,873	32.0	46.70	32.3	0.34
Overweight	Percentage*	28,873	35.8	48.00	35.7	0.36
Low-risk obesity	Percentage*	28,873	18.8	39.10	18.6	0.30
Higher risk obesity	Percentage*	28,873	12.0	32.50	11.9	0.24

SNAP = USDA's Supplemental Nutrition Assistance Program (formerly the Food Stamp Program). WIC = USDA's Special Supplemental Nutrition Program for Women, Infants, and Children. BMI = body mass index. * For participants age 20 and older. BMI = body mass index.

Source: USDA, Economic Research Service using data from the Bureau of Labor Statistics 2014-16 American Time Use Survey and Eating & Health Module. Survey weights were used to compute nationally representative estimates.

Appendix table 3A

Time spent in primary eating and drinking and secondary eating on an average day in 2014-16, age 18 and older

		Primary eating & drinking	Secondary eating	Primary eating & drinking and secondary eating
		Minutes	Minutes	Minutes
All		64.5 (0.34)	16.8 (0.43)	81.3 (0.52)
Gender	Male	66.5 (0.54)	16.4 (0.75)	82.9 (0.87)
	Female	62.7 (0.47)	17.1 (0.52)	79.9 (0.65)
Age	Age 18-24	55.6 (1.08)	17.6 (2.25)	73.2 (2.40)
	Age 25-54	62.3 (0.43)	17.9 (0.54)	80.2 (0.67)
	Age 55-64	66.2 (0.75)	16.6 (0.82)	82.9 (1.11)
	Age 65+	74.6 (0.75)	13.5 (0.50)	88.1 (0.87)
Household type	Single, no children	62.6 (0.71)	18.3 (0.68)	81.0 (0.93)
	Couple, no children	72.2 (0.70)	16.0 (0.80)	88.1 (0.98)
	Single with child/children	51.8 (1.21)	15.0 (1.15)	66.8 (1.52)
	Couple with child/children	64.9 (0.56)	16.2 (0.56)	81.1 (0.75)
Education level	Lower than high school degree	58.3 (0.93)	13.6 (0.88)	71.9 (1.17)
	High school degree	60.5 (0.64)	15.6 (1.16)	76.0 (1.29)
	Some college	60.9 (0.83)	17.3 (0.89)	78.2 (1.17)
	Associate degree	64.5 (1.17)	17.1 (1.28)	81.6 (1.66)
	Bachelor's degree	71.4 (0.81)	18.3 (0.71)	89.6 (1.01)
	More than bachelor's degree	74.3 (0.88)	19.3 (1.00)	93.5 (1.26)

Continued—

Appendix table 3A

Time spent in primary eating and drinking and secondary eating on an average day in 2014-16, age 18 and older—continued

		Primary eating & drinking	Secondary eating	Primary eating & drinking and secondary eating
		Minutes	Minutes	Minutes
All		64.5 (0.34)	16.8 (0.43)	81.3 (0.52)
SNAP participation	SNAP participant	53.8 (0.88)	15.7 (1.24)	69.5 (1.42)
	Non-SNAP participant	65.8 (0.36)	16.9 (0.48)	82.8 (0.58)
	Low-income, non-SNAP participant	61.8 (0.65)	14.6 (1.14)	76.5 (1.30)
WIC participation	WIC participant	60.5 (1.50)	13.8 (1.90)	74.2 (2.36)
	Non-WIC participant	62.4 (0.47)	17.5 (0.57)	79.9 (0.69)
	Low-income, non-WIC participant	56.9 (0.79)	13.9 (0.78)	70.8 (1.01)
Food hardship	Enough food to eat	65.2 (0.35)	16.8 (0.46)	82.0 (0.55)
	Not enough food to eat	54.0 (1.36)	16.9 (1.89)	70.9 (2.26)
Body weight category*	Underweight	-- --	-- --	-- --
	Normal	67.5 (0.67)	18.3 (1.09)	85.8 (1.19)
	Overweight	65.9 (0.66)	16.3 (0.70)	82.2 (0.96)
	Low-risk obesity	63.4 (0.85)	15.5 (0.89)	78.9 (1.06)
	Higher risk obesity	58.7 (1.01)	15.7 (1.08)	74.5 (1.44)
Self-assessed health status	Good health	65.8 (0.39)	16.7 (0.49)	82.4 (0.59)
	Bad health	58.4 (0.77)	17.3 (1.16)	75.7 (1.36)

SNAP participants: individuals living in households that received benefits under USDA's Supplemental Nutrition Assistance Program (SNAP) in the past month. Low-income, non-SNAP participants: individuals with household income that was 185 percent of the Federal poverty level or below who had not received SNAP benefits in the past month. WIC participants: individuals living in households that received benefits under USDA's Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) in the past month. Low-income, non-WIC participants: individuals with household income that was 185 percent of the Federal poverty level or below who had not received WIC benefits in the past month. Household with child/children refers to a household with at least one person age 17 and younger. * For participants age 20 and older. — = suppressed due to small cell size.

Source: USDA, Economic Research Service using data from the Bureau of Labor Statistics 2014-16 American Time Use Survey and Eating & Health Module. Survey weights were used to compute nationally representative estimates. Standard errors in parentheses.

Appendix table 4A

Time spent in primary eating and drinking and secondary eating on an average day in 2006-08, age 18 and older

		Primary eating & drinking	Secondary eating	Primary eating & drinking and secondary eating
		Minutes	Minutes	Minutes
All		64.5 (0.34)	64.5 (0.34)	64.5 (0.34)
Gender	Male	69.8 (0.49)	17.1 (0.67)	86.9 (0.79)
	Female	66.1 (0.45)	17.1 (0.45)	83.2 (0.61)
Age	Age 18-24	60.1 (1.31)	20.0 (1.72)	80.1 (2.11)
	Age 25-54	64.4 (0.37)	17.8 (0.53)	82.2 (0.63)
	Age 55-64	72.2 (0.91)	16.0 (0.95)	88.2 (1.32)
	Age 65+	81.5 (0.79)	13.8 (0.64)	95.3 (1.00)
Household type	Single, no children	67.8 (0.71)	17.5 (0.73)	85.3 (1.02)
	Couple, no children	77.1 (0.76)	16.4 (0.82)	93.5 (1.03)
	Single with child/children	52.8 (1.04)	16.8 (1.39)	69.6 (1.69)
	Couple with child/children	65.6 (0.47)	16.8 (0.56)	82.4 (0.72)
Education level	Lower than high school degree	60.2 (0.72)	13.5 (1.14)	73.6 (1.36)
	High school degree	64.2 (0.58)	15.8 (0.67)	80.0 (0.87)
	Some college	67.1 (0.88)	18.9 (1.14)	85.9 (1.28)
	Associate degree	69.4 (1.18)	17.7 (1.35)	87.1 (1.84)
	Bachelor's degree	73.7 (0.79)	19.7 (0.87)	93.5 (1.04)
	More than bachelor's degree	79.7 (1.21)	18.1 (0.94)	97.8 (1.37)

Continued—

Appendix table 4A

Time spent in primary eating and drinking and secondary eating on an average day in 2006-08, age 18 and older—continued

		Primary eating & drinking	Secondary eating	Primary eating & drinking and secondary eating
		Minutes	Minutes	Minutes
All		67.8 (0.31)	17.1 (0.41)	85.0 (0.48)
SNAP participation	SNAP participant	54.3 (1.29)	14.7 (1.01)	69.1 (1.50)
	Non-SNAP participant	68.9 (0.33)	17.5 (0.44)	86.4 (0.50)
	Low-income, non-SNAP participant	63.3 (0.70)	14.6 (0.85)	78.0 (1.02)
Body weight category*	Underweight	65.8 (3.11)	20.0 (2.96)	85.8 (4.05)
	Normal	71.1 (0.70)	18.7 (0.71)	89.8 (0.87)
	Overweight	68.9 (0.58)	17.5 (0.79)	86.4 (0.98)
	Low-risk obesity	66.2 (0.74)	15.2 (0.75)	81.3 (1.03)
	Higher risk obesity	63.4 (1.31)	15.7 (1.13)	79.1 (1.60)
Self-assessed health status	Good health	69.0 (0.36)	17.8 (0.46)	86.8 (0.55)
	Bad health	63.2 (0.73)	14.8 (0.81)	78.0 (1.01)

SNAP participants: individuals living in households that received benefits under USDA's Supplemental Nutrition Assistance Program in the past month; low-income, non-SNAP participants: individuals with household income that was 185 percent of the Federal poverty level or below who had not received SNAP benefits in the past month. Household with child/children refers to a household with at least one person age 17 and younger.* For participants age 20 and older.

Source: USDA, Economic Research Service using data from the Bureau of Labor Statistics 2006-08 American Time Use Survey and Eating & Health Module. Survey weights were used to compute nationally representative estimates. Standard errors in parentheses.

Appendix table 5A

Prepared food purchases in an average week in 2014-16, age 18 and older

		Thinking back over the last 7 days, did you purchase any prepared food from a deli, carry-out, delivery food, or fast food?	How many times in the last 7 days did you purchase prepared food from a deli, carry-out, delivery food, or fast food?
		Percentage	Number
All		58.2 (0.36)	2.8 (0.03)
Gender	Male	59.6 (0.54)	3.1 (0.05)
	Female	56.9 (0.48)	2.5 (0.03)
Age	Age 18-24	68.0 (1.33)	3.1 (0.10)
	Age 25-54	63.3 (0.49)	2.9 (0.03)
	Age 55-64	53.7 (0.94)	2.6 (0.05)
	Age 65+	42.1 (0.80)	2.2 (0.04)
Household type	Single, no children	52.1 (0.70)	3.0 (0.05)
	Couple, no children	55.5 (0.81)	2.6 (0.05)
	Single with child/children	60.7 (1.52)	2.7 (0.09)
	Couple with child/children	64.2 (0.68)	2.7 (0.03)
Education level	Lower than high school degree	38.6 (1.10)	2.4 (0.09)
	High school degree	54.6 (0.68)	2.8 (0.07)
	Some college	63.5 (0.89)	2.8 (0.05)
	Associate degree	62.0 (1.05)	2.7 (0.06)
	Bachelor's degree	65.7 (0.88)	2.9 (0.05)
	More than bachelor's degree	61.6 (0.88)	2.7 (0.05)

Continued—

Prepared food purchases in an average week in 2014-16, age 18 and older—continued

		Thinking back over the last 7 days, did you purchase any: prepared food from a deli, carry-out, delivery food, or fast food?	How many times in the last 7 days did you purchase: prepared food from a deli, carry-out, delivery food, or fast food?
		Percentage	Number
All		58.2 (0.36)	2.8 (0.03)
SNAP participation	SNAP participant	43.4 (1.15)	2.4 (0.09)
	Non-SNAP participant	59.9 (0.38)	2.8 (0.03)
	Low-income, non-SNAP participant	49.8 (0.76)	2.5 (0.05)
WIC participation	WIC participant	53.3 (1.76)	2.5 (0.14)
	Non-WIC participant	64.0 (0.51)	2.8 (0.04)
	Low-income, non-WIC participant	53.6 (1.03)	2.6 (0.07)
Food hardship	Enough food to eat	58.6 (0.38)	2.8 (0.03)
	Not enough food to eat	51.8 (1.50)	3.2 (0.25)
Body weight category*	Underweight	52.9 (3.42)	2.4 (0.19)
	Normal	56.9 (0.63)	2.7 (0.04)
	Overweight	57.7 (0.65)	2.8 (0.06)
	Low-risk obesity	61.0 (0.83)	2.9 (0.07)
	Higher risk obesity	61.7 (1.09)	2.9 (0.07)
Self-assessed health status	Good health	60.2 (0.41)	2.8 (0.03)
	Bad health	48.5 (0.94)	2.6 (0.06)

SNAP participants: individuals living in households that received benefits under USDA's Supplemental Nutrition Assistance Program (SNAP) in the past month. Low-income, non-SNAP participants: individuals with household income that was 185 percent of the Federal poverty level or below who had not received SNAP benefits in the past month. WIC participants: individuals living in households that received benefits under USDA's Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) in the past month. Low-income, non-WIC participants: individuals with household income that was 185 percent of the Federal poverty level or below who had not received WIC benefits in the past month. Household with child/children refers to a household with at least one person age 17 and younger. * For participants age 20 and older.

Source: USDA, Economic Research Service using data from the Bureau of Labor Statistics 2014-16 American Time Use Survey and Eating & Health Module. Survey weights were used to compute nationally representative estimates. Standard errors in parentheses.

Appendix table 6A

Usual grocery shopper in the household in 2014-16, age 18 and older

		Are you the person who usually does the grocery shopping in your household?		
		Yes	No	Split
		Percentage		
All		54.2 (0.40)	31.4 (0.34)	14.4 (0.27)
Gender	Male	35.5 (0.58)	46.8 (0.54)	17.6 (0.42)
	Female	71.4 (0.52)	17.2 (0.43)	11.4 (0.35)
Age	Age 18-24	29.4 (1.33)	61.7 (1.36)	9.0 (0.83)
	Age 25-54	57.6 (0.48)	27.2 (0.42)	15.2 (0.37)
	Age 55-64	57.4 (0.81)	27.1 (0.71)	15.5 (0.62)
	Age 65+	57.7 (0.78)	27.4 (0.68)	14.9 (0.57)
Household type	Single, no children	94.3 (0.30)	5.7 (0.30)	0.0 0.00
	Couple, no children	45.7 (0.77)	31.4 (0.64)	22.9 (0.55)
	Single with child/children	84.0 (1.30)	10.5 (1.10)	5.5 (0.82)
	Couple with child/children	50.4 (0.64)	32.1 (0.53)	17.6 (0.51)
Education level	Lower than high school degree	45.0 (1.16)	42.4 (1.26)	12.7 (0.80)
	High school degree	54.0 (0.74)	32.7 (0.72)	13.3 (0.47)
	Some college	51.5 (0.94)	34.7 (0.94)	13.8 (0.63)
	Associate degree	59.9 (1.07)	24.6 (0.98)	15.5 (0.84)
	Bachelor's degree	57.8 (0.75)	26.6 (0.73)	15.6 (0.62)
	More than bachelor's degree	56.7 (0.92)	26.5 (0.88)	16.9 (0.81)

Continued—

Usual grocery shopper in the household in 2014-16, age 18 and older—continued

		Are you the person who usually does the grocery shopping in your household?		
		Yes	No	Split
		Percentage		
All		54.2 (0.40)	31.4 (0.34)	14.4 (0.27)
SNAP participation	SNAP participant	62.8 (1.26)	26.5 (1.09)	10.7 (0.88)
	Non-SNAP participant	53.4 (0.44)	31.8 (0.39)	14.8 (0.28)
	Low-income, non-SNAP participant	56.5 (0.78)	29.7 (0.71)	13.8 (0.55)
WIC participation	WIC participant	57.6 (1.77)	27.9 (1.74)	14.5 (1.44)
	Non-WIC participant	49.0 (0.58)	35.3 (0.53)	15.7 (0.40)
	Low-income, non-WIC participant	53.4 (0.97)	32.0 (0.94)	14.5 (0.70)
Food hardship	Enough food to eat	53.7 (0.42)	31.9 (0.37)	14.5 (0.27)
	Not enough food to eat	63.9 (1.74)	24.1 (1.47)	12.1 (1.03)
Body weight category*	Underweight	57.2 (3.31)	29.9 (3.31)	12.9 (2.06)
	Normal	58.3 (0.74)	27.8 (0.71)	13.9 (0.50)
	Overweight	52.4 (0.66)	31.7 (0.65)	15.9 (0.49)
	Low-risk obesity	52.7 (0.92)	32.4 (0.89)	15.0 (0.59)
	Higher risk obesity	58.1 (1.15)	28.0 (1.13)	13.8 (0.83)
Self-assessed health status	Good health	54.3 (0.43)	31.2 (0.38)	14.6 (0.29)
	Bad health	54.3 (1.07)	32.6 (1.02)	13.1 (0.71)

SNAP participants: individuals living in households that received benefits under USDA's Supplemental Nutrition Assistance Program (SNAP) in the past month. Low-income, non-SNAP participants: individuals with household income that was 185 percent of the Federal poverty level or below who had not received SNAP benefits in the past month. WIC participants: individuals living in households that received benefits under USDA's Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) in the past month. Low-income, non-WIC participants: individuals with household income that was 185 percent of the Federal poverty level or below who had not received WIC benefits in the past month. Household with child/children refers to a household with at least one person age 17 and younger. * For participants age 20 and older.

Source: USDA, Economic Research Service using data from the Bureau of Labor Statistics 2014-16 American Time Use Survey and Eating & Health Module. Survey weights were used to compute nationally representative estimates. Standard errors in parentheses.

Appendix table 7A

Preferred store usual grocery shoppers get groceries in 2014-16, age 18 and older

		Where do you get the majority of your groceries? Do you get them at the:				
		Grocery store	Supercenter	Warehouse club	Drugstore/ convenience store	Other
		Percentage				
All		68.6 (0.40)	23.8 (0.36)	4.8 (0.17)	0.4 (0.06)	2.4 (0.14)
Gender	Male	68.2 (0.65)	24.1 (0.59)	4.6 (0.30)	0.6 (0.13)	2.4 (0.22)
	Female	68.8 (0.52)	23.7 (0.48)	4.9 (0.23)	0.3 (0.05)	2.4 (0.18)
Age	Age 18-24	60.7 (2.06)	33.2 (2.05)	3.6 (0.78)	0.6 (0.29)	1.9 (0.52)
	Age 25-54	67.7 (0.55)	24.3 (0.48)	5.3 (0.24)	0.4 (0.08)	2.3 (0.19)
	Age 55-64	70.4 (0.84)	21.0 (0.78)	5.3 (0.45)	0.4 (0.12)	2.9 (0.30)
	Age 65+	71.8 (0.74)	21.8 (0.66)	3.6 (0.33)	0.4 (0.09)	2.4 (0.26)
Household type	Single, no children	72.1 (0.66)	22.2 (0.55)	1.8 (0.18)	0.9 (0.14)	3.0 (0.23)
	Couple, no children	70.9 (0.80)	21.7 (0.75)	4.8 (0.35)	0.2 (0.12)	2.5 (0.35)
	Single with child/children	61.0 (1.51)	30.4 (1.35)	6.4 (0.77)	0.2 (0.15)	1.9 (0.36)
	Couple with child/children	64.3 (0.75)	26.2 (0.68)	7.3 (0.44)	0.3 (0.11)	1.9 (0.21)
Education level	Lower than high school degree	60.2 (1.25)	31.1 (1.29)	5.5 (0.64)	0.9 (0.23)	2.3 (0.43)
	High school degree	65.0 (0.75)	27.9 (0.74)	4.5 (0.38)	0.6 (0.16)	1.9 (0.22)
	Some college	66.0 (0.96)	26.2 (0.91)	4.9 (0.41)	0.2 (0.09)	2.7 (0.33)
	Associate degree	69.4 (1.13)	23.1 (1.00)	4.6 (0.49)	0.2 (0.11)	2.7 (0.41)
	Bachelor's degree	73.9 (0.79)	18.3 (0.66)	5.1 (0.38)	0.2 (0.08)	2.5 (0.31)
	More than bachelor's degree	76.4 (0.86)	16.0 (0.75)	4.7 (0.42)	0.1 (0.06)	2.8 (0.32)

Continued—

Preferred store usual grocery shoppers get groceries in 2014-16, age 18 and older—continued

		Where do you get the majority of your groceries? Do you get them at the:				
		Grocery store	Supercenter	Warehouse club	Drugstore/ convenience store	Other
		Percentage				
	All	68.6 (0.40)	23.8 (0.36)	4.8 (0.17)	0.4 (0.06)	2.4 (0.14)
SNAP participation	SNAP participant	63.1 (1.34)	29.2 (1.18)	5.0 (0.57)	0.8 (0.32)	1.9 (0.33)
	Non-SNAP participant	69.2 (0.45)	23.2 (0.40)	4.8 (0.18)	0.3 (0.05)	2.4 (0.16)
	Low-income, non-SNAP participant	64.1 (0.76)	27.9 (0.74)	4.8 (0.35)	0.7 (0.12)	2.5 (0.28)
WIC participation	WIC participant	58.4 (2.22)	32.6 (2.21)	6.6 (1.14)	0.2 (0.11)	2.3 (0.73)
	Non-WIC participant	67.1 (0.65)	24.5 (0.58)	5.8 (0.29)	0.3 (0.10)	2.4 (0.20)
	Low-income, non-WIC participant	60.8 (1.09)	29.9 (1.05)	6.5 (0.50)	0.4 (0.15)	2.3 (0.36)
Food hardship	Enough food to eat	68.9 (0.42)	23.5 (0.38)	4.9 (0.18)	0.3 (0.06)	2.3 (0.15)
	Not enough food to eat	63.0 (1.57)	28.8 (1.48)	3.3 (0.61)	1.2 (0.40)	3.6 (0.66)
Body weight category*	Underweight	71.8 (3.20)	16.8 (2.35)	5.7 (1.74)	0.4 (0.18)	5.3 (1.98)
	Normal	70.9 (0.67)	21.3 (0.64)	4.7 (0.33)	0.4 (0.11)	2.8 (0.25)
	Overweight	68.7 (0.65)	23.5 (0.62)	5.1 (0.32)	0.3 (0.08)	2.3 (0.24)
	Low-risk obesity	66.7 (1.04)	26.0 (0.91)	4.7 (0.44)	0.5 (0.13)	2.1 (0.27)
	Higher risk obesity	65.0 (1.28)	28.4 (1.26)	4.6 (0.61)	0.5 (0.18)	1.6 (0.28)
Self-assessed health status	Good health	69.4 (0.46)	23.1 (0.42)	5.0 (0.19)	0.4 (0.06)	2.2 (0.14)
	Bad health	64.4 (1.15)	27.7 (1.04)	4.2 (0.48)	0.6 (0.14)	3.1 (0.40)

SNAP participants: individuals living in households that received benefits under USDA's Supplemental Nutrition Assistance Program (SNAP) in the past month. Low-income, non-SNAP participants: individuals with household income that was 185 percent of the Federal poverty level or below who had not received SNAP benefits in the past month. WIC participants: individuals living in households that received benefits under USDA's Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) in the past month. Low-income, non-WIC participants: individuals with household income that was 185 percent of the Federal poverty level or below who had not received WIC benefits in the past month. Household with child/children refers to a household with at least one person age 17 and younger. * For participants age 20 and older.

Source: USDA, Economic Research Service using data from the Bureau of Labor Statistics 2014-16 American Time Use Survey and Eating & Health Module. Survey weights were used to compute nationally representative estimates. Standard errors in parentheses.

Appendix table 8A

Primary reason usual grocery shoppers get groceries at their preferred store in 2014-16, age 18 and older

		What is the primary reason you shop there? Is it because of:					
		Price	Location	Quality of products	Variety of products	Customer service	Other
		Percentage					
All		31.2 (0.40)	38.3 (0.37)	14.0 (0.28)	9.2 (0.26)	2.3 (0.12)	5.0 (0.19)
Gender	Male	29.4 (0.68)	41.9 (0.77)	12.7 (0.48)	8.6 (0.43)	2.6 (0.25)	4.8 (0.30)
	Female	32.2 (0.50)	36.1 (0.48)	14.8 (0.38)	9.5 (0.31)	2.2 (0.16)	5.1 (0.23)
Age	Age 18-24	30.5 (2.15)	44.8 (2.39)	11.6 (1.42)	7.3 (1.28)	2.7 (0.82)	3.1 (0.66)
	Age 25-54	32.1 (0.61)	37.1 (0.57)	14.9 (0.42)	10.0 (0.35)	1.8 (0.15)	4.0 (0.22)
	Age 55-64	31.8 (0.91)	38.1 (0.89)	13.4 (0.63)	8.4 (0.54)	2.8 (0.32)	5.6 (0.43)
	Age 65+	28.2 (0.75)	39.6 (0.80)	12.9 (0.49)	8.3 (0.44)	3.2 (0.30)	7.9 (0.46)
Household type	Single, no children	26.9 (0.61)	43.6 (0.71)	12.1 (0.44)	8.8 (0.40)	2.5 (0.22)	6.0 (0.33)
	Couple, no children	27.9 (0.83)	39.5 (0.80)	15.4 (0.60)	8.7 (0.46)	2.6 (0.25)	6.0 (0.39)
	Single with child/children	39.5 (1.38)	32.1 (1.19)	13.2 (1.18)	8.9 (0.83)	1.5 (0.35)	4.8 (0.64)
	Couple with child/children	35.5 (0.84)	33.2 (0.68)	15.1 (0.56)	10.6 (0.47)	1.8 (0.21)	3.9 (0.30)
Education level	Lower than high school degree	41.5 (1.40)	30.8 (1.30)	10.7 (0.79)	9.1 (0.89)	3.0 (0.47)	4.8 (0.59)
	High school degree	34.9 (0.86)	37.0 (0.90)	10.9 (0.49)	8.7 (0.49)	2.5 (0.27)	6.0 (0.37)
	Some college	33.7 (1.04)	38.2 (0.97)	11.3 (0.56)	9.0 (0.64)	2.4 (0.27)	5.5 (0.46)
	Associate degree	31.6 (1.10)	38.3 (1.22)	14.3 (0.89)	7.9 (0.62)	3.3 (0.49)	4.8 (0.48)
	Bachelor's degree	25.7 (0.82)	41.1 (0.86)	17.5 (0.66)	9.6 (0.52)	1.9 (0.25)	4.2 (0.36)
	More than bachelor's degree	20.8 (0.84)	42.2 (1.16)	20.9 (0.99)	10.7 (0.68)	1.6 (0.29)	3.7 (0.42)

Continued—

Appendix table 10A

Usual meal preparer in the household in 2014-16, age 18 and older

		Are you the person who usually prepares the meals in your household?		
		Yes	No	Split
		Percentage		
All		55.0 (0.34)	33.1 (0.32)	11.9 (0.22)
Gender	Male	34.6 (0.54)	51.2 (0.55)	14.2 (0.38)
	Female	73.8 (0.47)	16.4 (0.43)	9.8 (0.30)
Age	Age 18-24	30.8 (1.46)	59.1 (1.46)	10.1 (0.93)
	Age 25-54	57.2 (0.44)	29.6 (0.41)	13.2 (0.33)
	Age 55-64	57.4 (0.74)	30.1 (0.74)	12.5 (0.61)
	Age 65+	62.1 (0.65)	28.8 (0.68)	9.1 (0.42)
Household type	Single, no children	95.1 (0.27)	4.9 (0.27)	0.0 0.00
	Couple, no children	48.1 (0.68)	35.8 (0.75)	16.1 (0.53)
	Single with child/children	81.4 (1.31)	12.9 (1.22)	5.7 (0.71)
	Couple with child/children	49.5 (0.58)	35.6 (0.58)	14.9 (0.45)
Education level	Lower than high school degree	49.4 (1.14)	41.7 (1.16)	8.9 (0.72)
	High school degree	55.0 (0.67)	34.3 (0.66)	10.7 (0.44)
	Some college	52.6 (0.94)	35.7 (0.93)	11.7 (0.57)
	Associate degree	59.6 (1.09)	26.0 (0.99)	14.4 (0.82)
	Bachelor's degree	57.6 (0.74)	29.2 (0.73)	13.2 (0.52)
	More than bachelor's degree	55.9 (0.95)	30.1 (0.89)	13.9 (0.68)

Continued—

Usual meal preparer in the household in 2006-08, age 18 and older—continued

		Are you the person who usually prepares the meals in your household?		
		Yes	No	Split
		Percentage		
All		52.3 (0.35)	34.1 (0.33)	13.6 (0.28)
SNAP participation	SNAP participant	63.0 (1.38)	24.2 (1.23)	12.8 (1.02)
	Non-SNAP participant	51.6 (0.37)	34.7 (0.33)	13.7 (0.29)
	Low-income, non-SNAP participant	57.4 (0.72)	30.6 (0.62)	12.0 (0.53)
Body weight category*	Underweight	55.0 (3.20)	30.0 (3.22)	15.0 (2.76)
	Normal	58.4 (0.69)	29.4 (0.63)	12.1 (0.46)
	Overweight	49.0 (0.62)	37.0 (0.62)	14.0 (0.46)
	Low-risk obesity	49.9 (0.80)	35.0 (0.77)	15.1 (0.58)
	Higher risk obesity	52.8 (1.07)	32.1 (1.13)	15.2 (0.89)
Self-assessed health status	Good health	51.9 (0.39)	34.0 (0.36)	14.1 (0.31)
	Bad health	53.9 (0.83)	35.0 (0.82)	11.1 (0.55)

SNAP participants: individuals living in households that received benefits under USDA's Supplemental Nutrition Assistance Program in the past month; low-income, non-SNAP participants: individuals with household income that was 185 percent of the Federal poverty level or below who had not received SNAP benefits in the past month. Household with child/children refers to a household with at least one person age 17 and younger.

* For participants age 20 and older.

Source: USDA, Economic Research Service using data from the Bureau of Labor Statistics 2006-08 American Time Use Survey and Eating & Health Module. Survey weights were used to compute nationally representative estimates. Standard errors in parentheses.

Appendix table 12A

Physical activity in an average week in 2014-16, age 18 and older

		During the past 7 days, did you participate in any physical activity or exercise for fitness and health?	How many times over the past 7 days did you take part in these activities?
		Percentage	Number
	All	62.6 (0.37)	4.2 (0.02)
Gender	Male	63.5 (0.51)	4.3 (0.03)
	Female	61.8 (0.48)	4.2 (0.03)
Age	Age 18-24	70.9 (1.32)	4.1 (0.09)
	Age 25-54	63.8 (0.49)	4.0 (0.03)
	Age 55-64	59.1 (0.79)	4.5 (0.06)
	Age 65+	57.2 (0.69)	4.9 (0.05)
Household type	Single, no children	61.6 (0.62)	4.6 (0.06)
	Couple, no children	64.4 (0.73)	4.4 (0.05)
	Single with child/children	57.0 (1.45)	3.9 (0.09)
	Couple with child/children	64.2 (0.61)	3.9 (0.04)
Education level	Lower than high school degree	51.1 (1.22)	4.4 (0.09)
	High school degree	52.4 (0.68)	4.3 (0.06)
	Some college	63.2 (0.85)	4.2 (0.06)
	Associate degree	62.4 (1.10)	4.0 (0.06)
	Bachelor's degree	73.9 (0.66)	4.2 (0.05)
	More than bachelor's degree	78.6 (0.84)	4.3 (0.05)

Continued—

Physical activity in an average week in 2014-16, age 18 and older—continued

		During the past 7 days, did you participate in any physical activity or exercise for fitness and health?	How many times over the past 7 days did you take part in these activities?
		Percentage	Number
	All	62.6 (0.37)	4.2 (0.02)
SNAP participation	SNAP participant	51.4 (1.06)	4.3 (0.11)
	Non-SNAP participant	63.8 (0.38)	4.2 (0.02)
	Low-income, non-SNAP participant	53.8 (0.71)	4.2 (0.06)
WIC participation	WIC participant	54.5 (1.85)	3.8 (0.16)
	Non-WIC participant	65.7 (0.54)	4.0 (0.04)
	Low-income, non-WIC participant	56.3 (1.03)	4.1 (0.09)
Food hardship	Enough food to eat	63.3 (0.38)	4.2 (0.02)
	Not enough food to eat	50.8 (1.51)	4.2 (0.15)
Body weight category*	Underweight	57.7 (3.26)	4.3 (0.20)
	Normal	68.3 (0.60)	4.5 (0.05)
	Overweight	65.0 (0.64)	4.2 (0.04)
	Low-risk obesity	56.8 (0.77)	4.0 (0.06)
	Higher risk obesity	61.7 (1.09)	3.8 (0.09)
Self-assessed health status	Good health	66.6 (0.41)	4.2 (0.02)
	Bad health	42.2 (0.95)	4.3 (0.10)

SNAP participants: individuals living in households that received benefits under USDA's Supplemental Nutrition Assistance Program (SNAP) in the past month. Low-income, non-SNAP participants: individuals with household income that was 185 percent of the Federal poverty level or below who had not received SNAP benefits in the past month. WIC participants: individuals living in households that received benefits under USDA's Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) in the past month. Low-income, non-WIC participants: individuals with household income that was 185 percent of the Federal poverty level or below who had not received WIC benefits in the past month. Household with child/children refers to a household with at least one person age 17 and younger. * For participants age 20 and older.

Source: USDA, Economic Research Service using data from the Bureau of Labor Statistics 2014-16 American Time Use Survey and Eating & Health Module. Survey weights were used to compute nationally representative estimates. Standard errors in parentheses.