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America's Eating Habits: Food Away From Home

By Michelle J. Saksena, Abigail M. Okrent, Tobenna D. Anekwe, Clare Cho, Christopher Dicken, Anne Effland, Howard Elitzak, Joanne Guthrie, Karen S. Hamrick, Jeffrey Hyman, Young Jo, Biing-Hwan Lin, Lisa Mancino, Patrick W. McLaughlin, Ilya Rahkovsky, Katherine Ralston, Travis A. Smith, Hayden Stewart, Jessica Todd, and Charlotte Tuttle

Edited by Michelle J. Saksena, Abigail M. Okrent, and Karen S. Hamrick

What Is the Issue?

Over the past several decades, Americans have grown to rely on the convenience of foods prepared outside of the home. Unfortunately, food away from home (FAFH) often contains fewer fruits and vegetables and have more calories, fat, and sodium than food prepared at home (FAH), and consuming FAFH is associated with obesity. Recently passed labeling legislation aims to help consumers make healthier FAFH choices and to encourage FAFH suppliers to produce more healthful options. To explore Americans' eating away from home behavior, this report presents research on three broad FAFH topics: (1) food choices and availability; (2) nutrition and diet quality; and (3) food policies, including menu labeling and food assistance programs.

What Did the Study Find?

Food choices and availability of FAFH. Over the past 30 years, FAFH's share of U.S. households' food budgets and total food spending grew steadily. FAFH options also became more widely available as growing numbers and types of businesses—including grocery stores—served prepared foods. Apart from the Great Recession (2007-09), these trends continued uninterrupted from 1987 to 2017, but the changes were not uniform across socioeconomic groups or business types.

- Spending on FAFH surpassed spending on FAH for the first time in 2010, increasing its share of total food spending from 44 percent (30 years prior) in 1987 to 50.2 percent in 2010.
- Higher income households spent more on FAFH and bought it more frequently than lower income households. Households with incomes greater than 300 percent of the Federal poverty guidelines obtained FAFH on 5.5 occasions per week, while households whose incomes were less than or equal to Federal poverty guidelines obtained FAFH on 4.2 occasions per week.
- For households with an elderly individual (over 64 years old), the share of household food spending on FAFH was 8 percent lower than for other households. Also, Americans who were 35–44 years old consumed FAFH more often than other Americans.

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.

- In 2000–15, quick-service restaurants (QSRs), also referred to as fast-food and limited-service restaurants, drove the industry’s growth both in sales and number of outlets. The fastest-growing segment of the QSRs was fast casuals—e.g., Chipotle Mexican Grill and Panera Bread—which combines counter service with the perceived ambiance and product quality of full-service restaurants (FSRs).
- Much of the growth in foodservice establishments occurred in urban U.S. counties, consistent with patterns of urban and rural migration. As rural populations declined, FSRs in rural areas were particularly hard hit, leaving QSRs to dominate.
- Spending on FAFH declined during the Great Recession, by \$47 billion (18 percent) in real dollars from 2006 to 2010, and rebounded thereafter.
- During the Great Recession, households replaced spending at FSRs with unprepared foods purchased at retail stores (like grocery stores), but households’ share of spending for QSRs stayed constant. In 2014, household expenditures on FAFH had yet to rebound to pre-Recession levels.
- Despite the downturn in household spending on FAFH during the Great Recession, the number of chain QSRs grew, and consumers spent a greater share of their FAFH dollars at these restaurants.

Nutritional composition and diet quality. The nutritional composition of FAFH across all income levels and all FAFH types (except school foods) was consistently lower quality and more caloric than that of FAH. Though FAFH is known to have lower diet quality, access to FAFH did not seem to affect FAFH consumption and did not correlate with diminished overall diet quality.

- FAFH’s share of total average daily energy intake increased from 17 percent in 1977–78 to 34 percent in 2011–12, and consumption of QSR foods was the largest source of this growth.
- On the whole, FAFH contained more saturated fats and sodium, and less calcium, iron, and fiber than FAH—however, the nutritional composition of FAFH varied across outlet types. For example, in 2009–12, the fat content of school lunches (a type of FAFH) was almost identical to that of FAH (33 percent) while the fat content of QSR foods averaged 39 percent.
- Although frequent QSR customers purchased less vegetables, fish, and nuts, their overall diet quality was no worse than that of QSR nonconsumers.

Policies that affect FAFH. FAFH consumption is influenced by public policy mainly on two fronts. First, current food assistance programs with in-kind food benefits affect food choices and diet quality of participating low-income households. For example, new requirements that improve nutrition of school meals directly affect children’s diet quality. Second, new menu labeling regulations may help consumers make more informed food choices at restaurants.

- The average household Healthy Eating Index (HEI-2010) for FAFH was lower than for FAH, regardless of SNAP participation or income.
- School meals provided by the National School Lunch Program and School Breakfast Program contained higher levels of calcium than both FAH and other sources of FAFH and adhered better to USDA’s *Dietary Guidelines for Americans* than other sources of FAFH.

How Was the Study Conducted?

This report uses a variety of data sources and techniques to examine FAFH trends. The analysis was done primarily using descriptive statistics (e.g., means, differences, and correlations) and literature review. The main data sources were the National Health and Nutrition Examination Survey (NHANES), USDA ERS’s Food Expenditure Series, the National Household Food Acquisition and Purchase Survey (FoodAPS), the Consumer Expenditure Survey, U.S. Census Bureau’s Monthly Retail Trade and Foodservices series, NPD ReCount, and Euromonitor Passport. These data sources include self-reported information and measurable individual characteristics collected by household survey, establishment information, and proprietary industry data.

Chapter 5: Demographics of Food-Away-From-Home Frequency

Michelle J. Saksena

This chapter focuses on the frequency of FAFH acquisitions per week. It uses data from the National Household Food Acquisition and Purchase Survey (FoodAPS) to examine whether the observed increases in expenditure shares on FAFH are driven by increases in FAFH acquisitions and variation in acquisitions by demographic group. Findings indicate a positive correlation between socioeconomic status and the number of FAFH acquisitions per week.

While the household budget share for FAFH has increased (chapter 3) with variation across socioeconomic groups (chapter 4), it is unclear whether these changes are related to increases in FAFH prices (chapter 1) or increases in quantities of FAFH purchased. Studying quantities gives additional information about the purchase behavior of households. This chapter examines whether the observed increase in expenditures on FAFH is a result of more frequent trips to FAFH outlets. Otherwise, expenditure increases may reflect larger purchases per FAFH event.³⁵ It also compares the average weekly frequency of FAFH acquisitions by demographic groups using data from USDA's National Household Food Acquisition Survey (FoodAPS) (see box "FoodAPS and Food Away From Home"). This analysis complements the analysis in chapter 8, which delves into the relationship between proximity to food outlets and diet quality by demographic group.

Data

Using FoodAPS data, frequencies of FAFH acquisitions were calculated per week per capita by counting the number of FAFH events, identified by a unique code, divided by the number of household members. No distinctions were made by where the FAFH was acquired. Thus, visits to fast-food and full-service restaurants were treated as commensurate events. To get average frequencies, weekly frequencies were grouped by the relevant demographic characteristic of the household head. Each adult group was split into 10-year age cohorts since evidence suggests that FAFH purchases vary across age groups (Kuhns and Saksena, 2017).

Appendix 5.1 shows the average number of times an adult purchased FAFH by 10-year age cohorts and corresponding demographic variables. Because of small sample sizes, households were top-coded at 75 years old and above for the household head. Similarly, appendix table 5.2 provides statistics for households with children, defined as individuals under the age of 19, grouped by the ages that correspond to grade, middle, and high school attendance. The data are disaggregated by age to highlight any age effects that may be driving FAFH acquisition frequency. As noted by Kuhns and Saksena (2017), food purchase behavior can vary by the age of the shopper. Although conducting the analysis at the individual level admittedly adds noise to the statistics reported here because the acquisition data are reported at the household level, this method allows the number of FAFH acquisitions of children to be analyzed.

³⁵While chapter 3 analyzes food expenditures over time, this chapter's analysis is cross-sectional due to the data limitations of FoodAPS, which currently has only one round of data. This chapter highlights frequency of FAFH acquisitions, rather than the quantity purchased (e.g., grams or pounds) at each FAFH acquisition with an awareness that food expenditures have been increasing for the past 30 years.

FoodAPS and Food Away From Home

The National Household Food Acquisition and Purchase Survey (FoodAPS) is a dataset jointly sponsored by USDA's Economic Research Service and Food and Nutrition Service. The data contain comprehensive information on household food acquisitions for both food-at-home (FAH) and food-away-from-home (FAFH) consumption, collected between April 2012 and January 2013, for 4,826 sample households, with sampling weights to generalize to the U.S. population. Data collected include information about individual and household characteristics, food assistance participation, purchase prices, and nutritional content. As defined by the survey, the youngest adults in the survey were 19 years old, and the oldest were over 90. Children were defined as 18 years of age and younger.

In FoodAPS, FAFH and FAH are defined by where the food is acquired. FAFH include food acquisitions from restaurants (e.g., bakery/bagel/donut shops; buffet restaurants; burger/hot dog restaurants; cafés and bakery-cafes; chicken restaurants; coffee shops and teahouses; dairy dessert shops; drinking places; miscellaneous specialty shops such as candy, cheese, juice, pretzel, or popcorn; pizza restaurants; American restaurants; Asian restaurants; European restaurants; Mexican/Tex-Mex/Latin American restaurants; seafood restaurants; steak house restaurants; other restaurants; sandwich/deli/salad shops); travel places; vending machines and food trucks; recreational places (e.g., gyms; bowling alleys; casinos; colleges; country clubs; fairs, concerts, and amusement parks); fraternal organizations; hospitals; institutions; movie theaters; municipal offices; nonfood retailers; parks and community centers; multiple places; and unknown. Food that is acquired from a restaurant and brought home for consumption is also considered FAFH. For example, delivery pizza is considered FAFH, while an apple, which is also ready to eat but does not require preparation for it to be consumed, is considered FAH. FoodAPS considers food assistance programs that feed individuals outside the home as FAFH. Such programs include the National School Lunch Program.

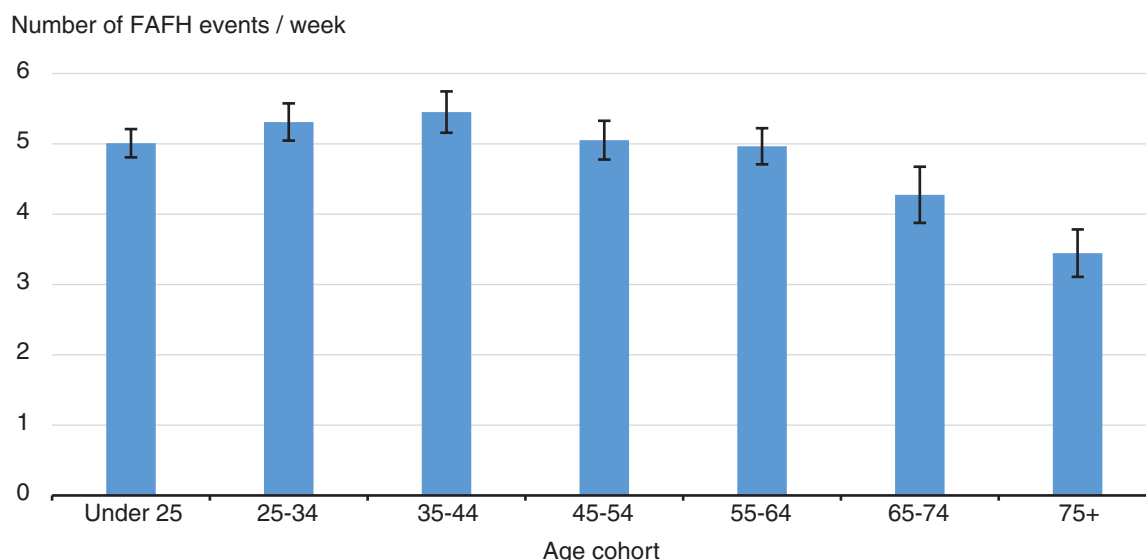
To get nationally representative results, FoodAPS provides replicate weights created by using a jackknife resampling technique. Jackknife resampling samples without replacement, dropping one observation for each permutation and is used to search for overly influential observations.

Age

Frequency of adult FAFH acquisitions is higher among younger cohorts, usually peaking with 35-44-year-olds and steadily decreasing with older cohorts (fig. 5.1). According to the U.S. Census Bureau, 25-34-year-olds have the highest labor force participation, while 45-54-year-olds have the highest average monthly earnings; 35-44-year-olds are between these two age groups in both categories. This hump-shaped pattern is consistent with lifecycle expenditure patterns of goods that are associated with labor participation (Aguiar and Hurst, 2013). Peak FAFH acquisitions among younger adults may also be attributable to more active social networks typical of this age (Bhattacharya et al., 2016), which might encourage eating out more frequently (Higgs and Thomas, 2016). Furst et al. (1996) note that convenience and social influences are important factors in making food choices. This finding is consistent with previous research that also indicates that younger adults eat out more often (Dave et al., 2009; Anderson et al., 2011; Van der Horst et al., 2011; Bezzerra et al., 2013).

Figure 5.1

Weekly frequency of FAFH by adults by age group



Note: FAFH = food away from home. Vertical error bars represent the standard error of the mean at the 95th percentile and the spread of data for each statistic.

Source: USDA, Economic Research Service using data from USDA's National Household Food Acquisition and Purchase Survey.

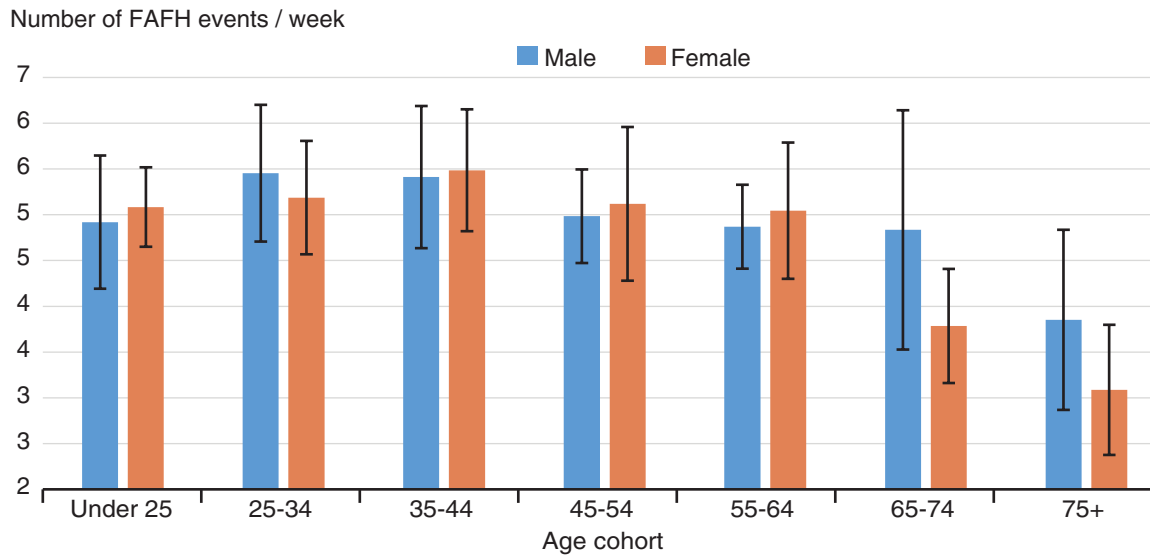
Race and Gender

Both men and women on average make five FAFH acquisitions per week. There do not seem to be statistical differences between men and women in terms of frequency of FAFH acquisitions within each age group, (fig. 5.2), a result confirmed by t-tests.³⁶ This is contrary to previous research that similarly compares FAFH by gender and finds that men are more frequent consumers of FAFH (Dave et al., 2009; Anderson et al., 2011; Van der Horst et al., 2011; Bezzerra et al., 2013; Seguin et al., 2016). Similarly, across all age groups, non-Hispanic Whites eat FAFH the most often, though the differences by race are small and were found not to be statistically significant (fig.5.3). It appears that the driving factor for frequency of FAFH acquisitions is age.

³⁶Two-sample t-tests were performed when comparing means of demographic groups. A t-test is a statistical hypothesis test used to determine if the means of two groups, in this case frequency of FAFH acquisitions by demographic group, are equal.

Figure 5.2

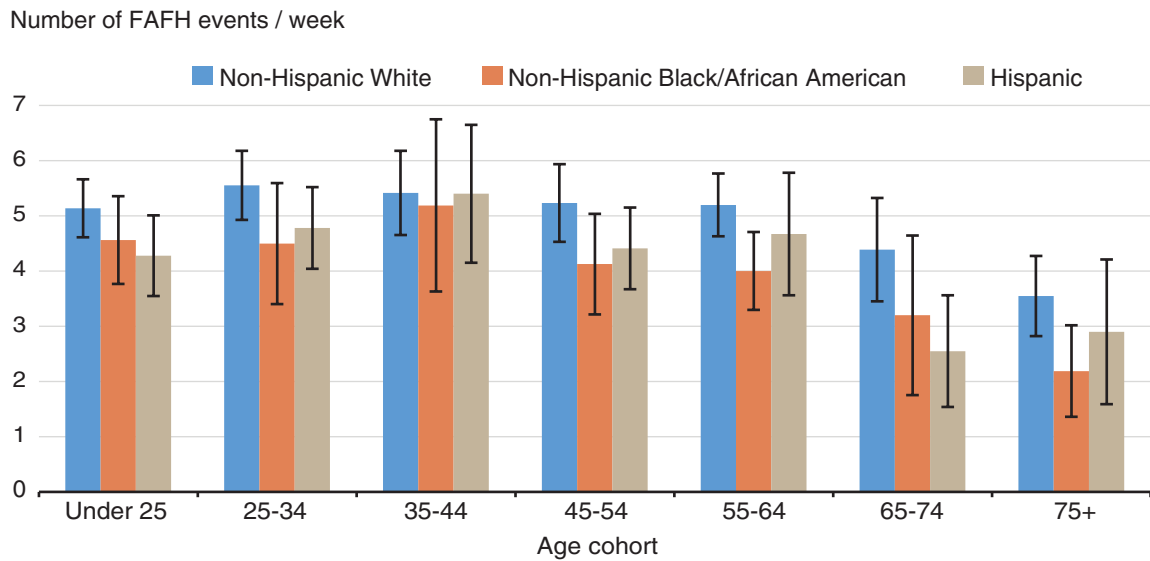
Weekly frequency of FAFH by adults by gender



Note: FAFH = food away from home. Vertical error bars represent the standard error of the mean at the 95th percentile and the spread of data for each statistic.
 Source: USDA, Economic Research Service using data from USDA’s National Household Food Acquisition and Purchase Survey.

Figure 5.3

Weekly frequency of FAFH by adults by race



Note: FAFH = food away from home. Vertical error bars represent the standard error of the mean at the 95th percentile and the spread of data for each statistic.
 Source: USDA, Economic Research Service using data from USDA’s National Household Food Acquisition and Purchase Survey.

Socioeconomic Status: Income, Education, Employment, and Food Assistance Receipt

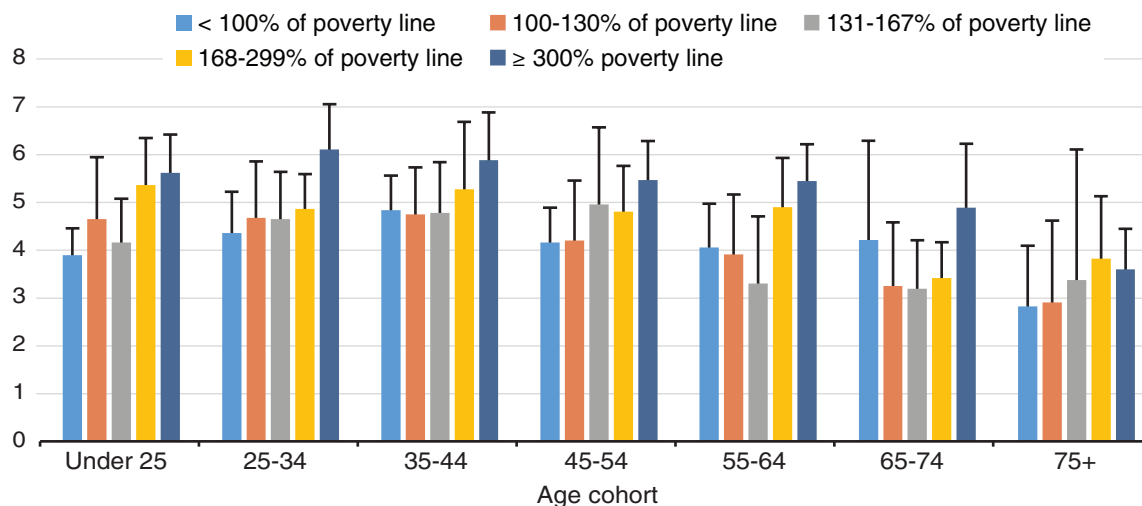
Frequency of FAFH acquisitions appears to be positively correlated with income within all age groups (fig. 5.4). Individuals whose incomes were less than 100 percent of the Federal poverty line acquired food from FAFH places much less frequently than those whose incomes were equal to or greater than 300 percent above the poverty line for the under 25, 25-34, 45-54, and 55-64 age groups. The general upward income trend (though not always statistically different across age groups) is consistent with other findings in this report, particularly that SNAP participants purchase FAFH less frequently (chapter 4) and that lower income individuals obtain an increasing number of calories from FAFH, but to a lesser extent than their higher income peers (chapter 7). In the FoodAPS survey, individuals with household income equal to or greater than 300 percent of the poverty line showed the highest number of FAFH acquisitions.³⁷

Chapter 8 further delves into the frequency and nutritional content of households' food purchases by FAFH outlet type, finding that among household groups delineated by outlet-type patronage, "occasional fast food" households purchased the fewest number of calories on a weekly basis. In fact, "nonconsumers" of fast food purchased more calories. Along with the results in this chapter, this suggests that the increase in FAFH expenditures may not necessarily be the result of more frequent trips to FAFH outlets, but that individuals, especially those in households that do not patronize fast-food restaurants, may be purchasing larger quantities at each FAFH event.

Figure 5.4

Weekly frequency of FAFH by adults by percentage of poverty level

Number of FAFH events / week



Note: FAFH = food away from home. Vertical error bars represent the standard error of the mean at the 95th percentile and the spread of data for each statistic.

Source: USDA, Economic Research Service using data from USDA's National Household Food Acquisition and Purchase Survey.

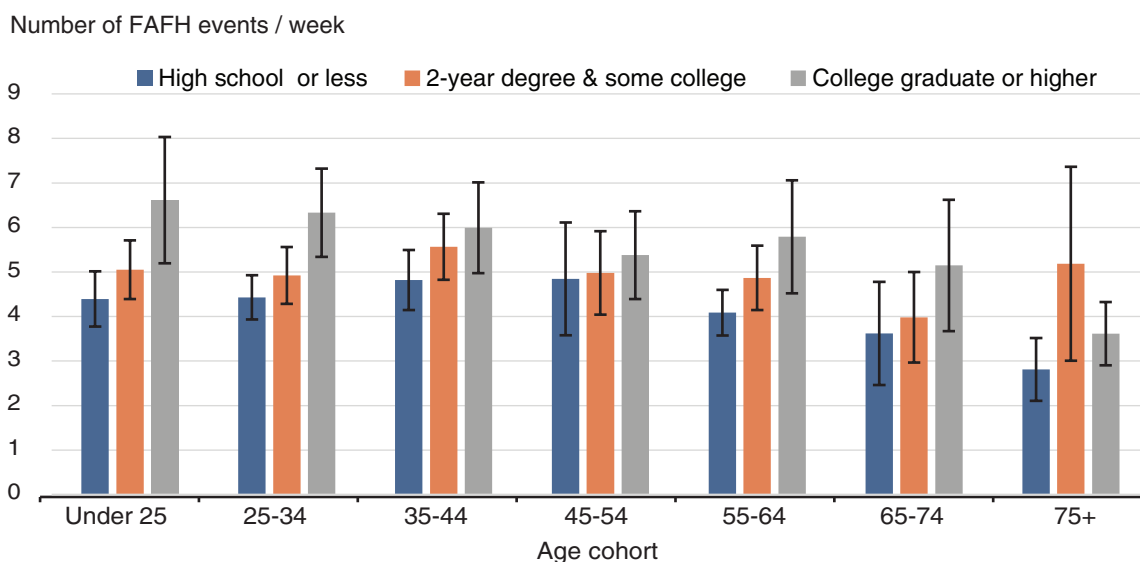
³⁷Poverty thresholds are determined by the U. S. Census Bureau (2017).

Education is another indicator of socioeconomic status (SES). Highly educated individuals are more likely to have higher earnings and thus more discretionary income to spend on FAFH, possibly leading to more FAFH consumption (BLS, 2017). There is a consistent upward trend in the frequency of FAFH acquisitions from the least educated adults to the most, across all age groups except the 75+ group (fig. 5.5). The difference in acquisition rates between adults with a high school education or less and adults who are college graduates or higher is statistically significant for all but the 45-54 and 75+ age groups. A similar upward trend is found for employed versus unemployed adults (fig. 5.6). T-tests³ determined the differences were statistically significant for all age groups except 65-74 and 75+.

Finally, when comparing adult participants in the Supplemental Nutrition Assistance Program (SNAP) with nonparticipants, SNAP participants acquire FAFH with far less frequency across all age groups (fig. 5.7). This result is consistent with the findings for education level and employment status that also indicate that adults with lower SES eat FAFH less frequently. The differences between SNAP participants and nonparticipants were statistically significant for all but the under 25 and 65-74 age cohorts.

Figure 5.5

Weekly frequency of FAFH by adults by education

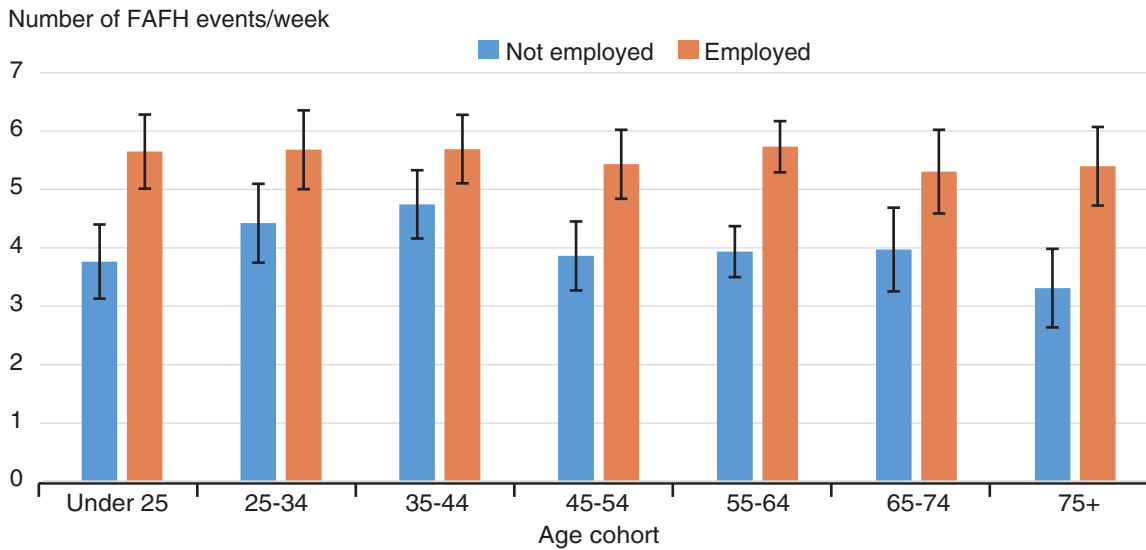


Note: FAFH = food away from home. Education levels are based on the individual's response to his or her highest attained level of education. Vertical error bars represent the standard error of the mean at the 95th percentile and the spread of data for each statistic.

Source: USDA, Economic Research Service using data from USDA's National Household Food Acquisition and Purchase Survey.

Figure 5.6

Weekly frequency of FAFH by adults by employment status

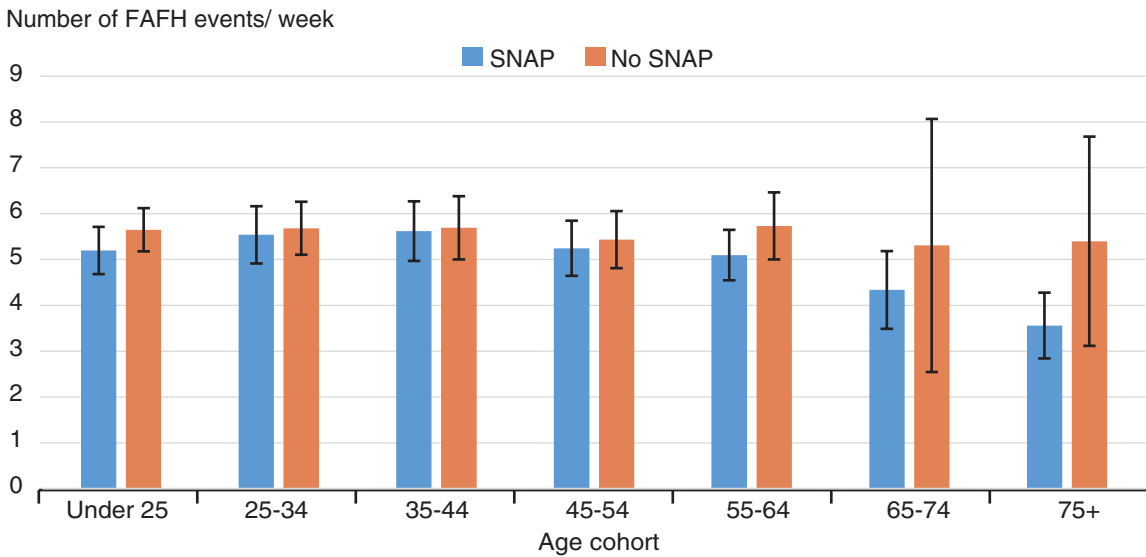


Note: FAFH = food away from home. Employment status is determined for the primary responder and corresponds to individual-level employment status, not household-level. Vertical error bars represent the standard error of the mean at the 95th percentile and the spread of data for each statistic.

Source: USDA, Economic Research Service using data from USDA’s National Household Food Acquisition and Purchase Survey.

Figure 5.7

Weekly frequency of FAFH by adults by SNAP participation



Note: FAFH = food away from home. SNAP = Supplemental Nutrition Assistance Program. Vertical error bars represent the standard error of the mean at the 95th percentile and the spread of data for each statistic.

Source: USDA, Economic Research Service using data from USDA’s National Household Food Acquisition and Purchase Survey.

Marital and Parental Status

Single adults age 44 and younger acquire FAFH with more frequency than their married/partnered counterparts, but this reverses beginning with the 45-54 age group (fig. 5.8). This analysis shows that adults with children in their household acquired FAFH less frequently than those without children cross all age groups (fig. 5.8). However, after testing for statistically significant differences, first between married and single adults and then between adults with and without children, no statistically significant differences between them within age groups are found.

Differences in FAFH Frequency for Households with Children 0-18 Years Old Across Demographic Groups

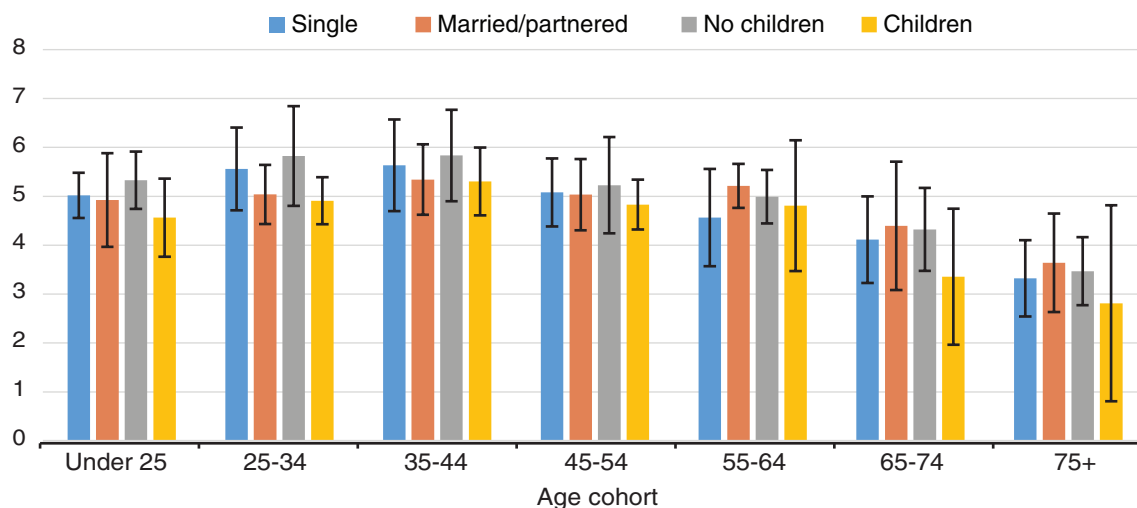
Instead of 10-year age cohorts, households with children are clustered according to the age of the children in the household: child (0-10 years of age), youth (11-13), and teen (14-18). At first glance, a general trend can be seen across the three age subgroups, showing that households with youths appear to acquire FAFH with the most frequency (figs. 5.9-5.11).³⁸

Much like the adults, there was little variation in the frequency of FAFH acquisitions when disaggregating households with children by race. African-American and Hispanic youth and teens acquire FAFH with greater frequency than non-Hispanic White youth and teens, but these differences were found to be statistically insignificant.

Figure 5.8

Weekly frequency of FAFH by adults by household characteristics

Number of FAFH events / week



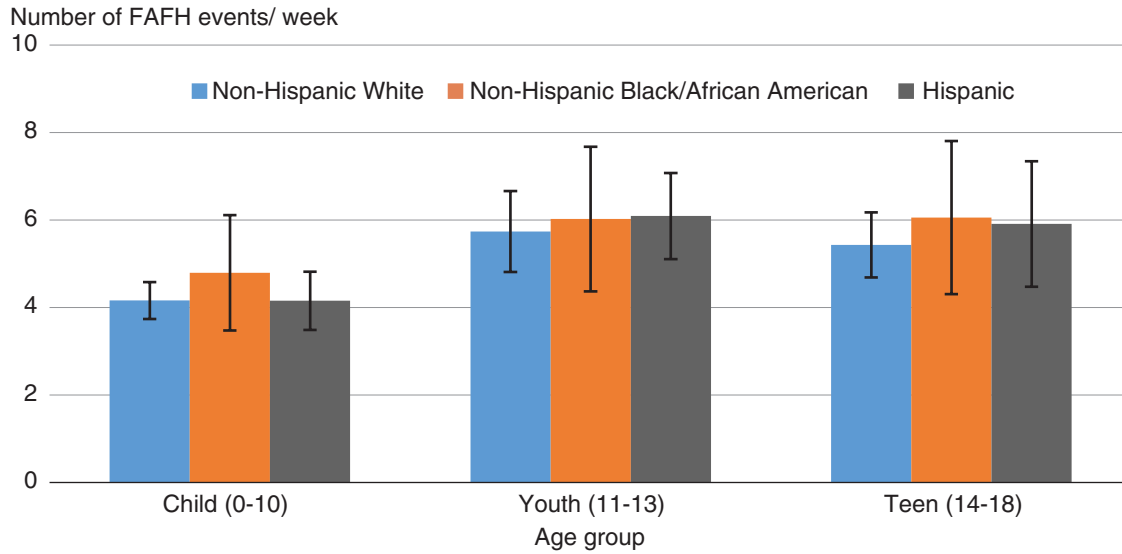
Note: FAFH = food away from home. Vertical error bars represent the standard error of the mean at the 95th percentile and the spread of data for each statistic.

Source: USDA, Economic Research Service using data from USDA's National Household Food Acquisition and Purchase Survey.

³⁸Since children below 4 years of age are generally not yet attending school, we were asked for a separate designation for children not of school age.

Figure 5.9

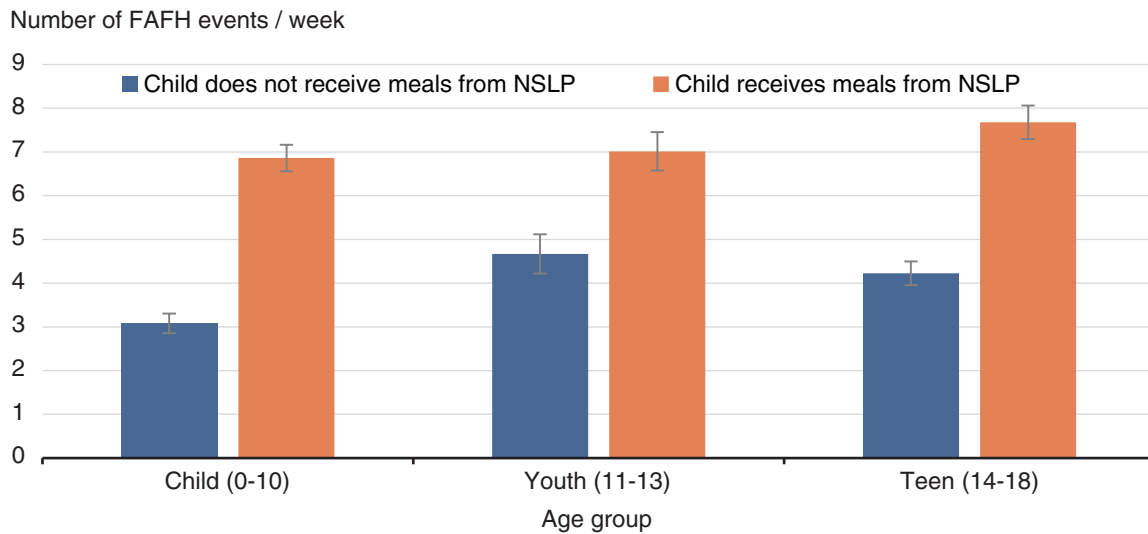
Weekly frequency of FAFH by children by race/ethnicity



Note: FAFH = food away from home. Vertical error bars represent the standard error of the mean at the 95th percentile and the spread of data for each statistic.
 Source: USDA, Economic Research Service using data from USDA’s National Household Food Acquisition and Purchase Survey .

Figure 5.10a

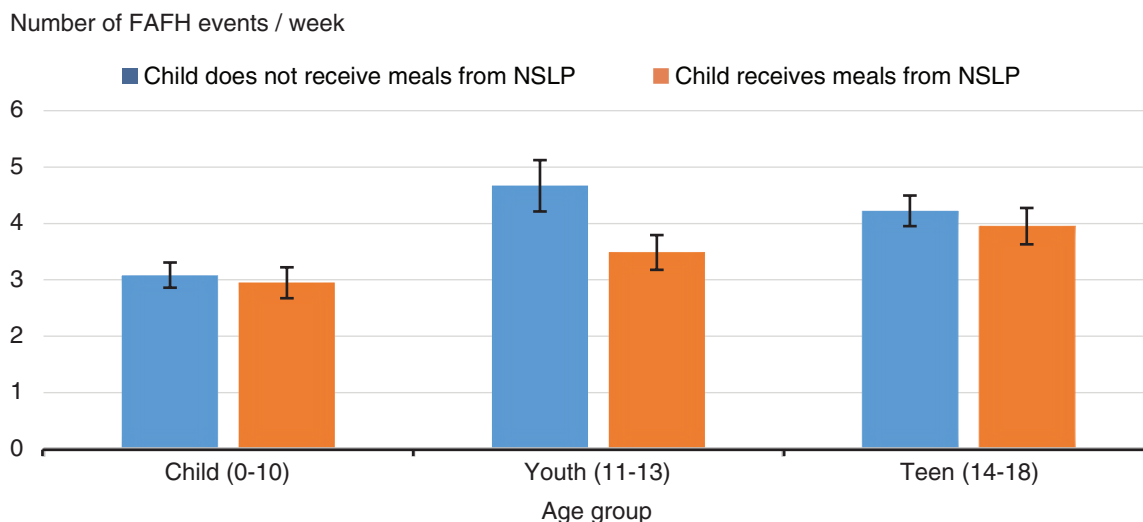
Weekly frequency of FAFH by children participating in the National School Lunch Program (NSLP), including NSLP meals



Note: FAFH = food away from home. Vertical error bars represent the standard error of the mean at the 95th percentile and the spread of data for each statistic.
 Source: USDA, Economic Research Service using data from USDA’s National Household Food Acquisition and Purchase Survey.

Figure 5.10b

Weekly frequency of FAFH by children participating in the National School Lunch Program (NSLP), including NSLP meals



Note: FAFH = food away from home. Vertical error bars represent the standard error of the mean at the 95th percentile and the spread of data for each statistic.
 Source: USDA, Economic Research Service using data from USDA’s National Household Food Acquisition and Purchase Survey.

National School Lunch Program

Previous research has analyzed the effect of Federal food assistance programs on shopping behaviors. Tuttle (2016) found that participation in the Supplemental Nutrition Assistance Program (SNAP) reduces expenditures on FAFH. Using the FoodAPS data, ERS researchers examine the correlation between FAFH acquisitions and participation in another Federal food assistance program, the National School Lunch Program (NSLP), among households with children.

Because school lunches must adhere to certain nutritional standards, they may not necessarily be considered typical FAFH fare. To control for this variation, frequency of FAFH acquisitions is calculated for households with children that do and do not receive lunches from the NSLP. Children who receive school lunches from NSLP acquire FAFH much more frequently than children who do not receive lunches from NSLP (fig. 5.11a). T-tests find the differences within each age group statistically significant. However, when NSLP acquisitions are excluded, the differences are negated and, in fact, children who do not receive lunches from NSLP acquire FAFH slightly more frequently, though the differences were statistically significant only for youth (fig. 5.11b). Nonetheless, the results are consistent with the findings of Tuttle (2016) and chapter 4 that households that participate in SNAP allocate a smaller share of their budget to FAFH and consume FAFH less frequently than nonparticipants. The parents of children who do not participate in NSLP are likely to be wealthier and able to afford to consume FAFH on a more regular basis. And since SNAP benefits cannot be used to purchase FAFH, and NSLP offers free or reduced-price lunches, participating households have less incentive than nonparticipants to consume FAFH.

Discussion

Americans are spending more on FAFH than ever before; however, the relationship between increased expenditures and food purchasing behavior is still unclear. Using FoodAPS data, this chapter explores whether and how observed increases in expenditure share (see chapter 3) on FAFH translate into differences in the frequency of FAFH acquisitions among various demographic groups within age cohorts. This analysis shows that 35-44-year-olds acquire FAFH with greater frequency than other adult age cohorts. However, after performing t-tests, these differences were found to be largely statistically insignificant. In addition, there were virtually no differences in frequency of FAFH acquisitions between men and women across all 10-year adult age groups, as well as when disaggregating the data by race, marital, and parental status. Similar insignificance was observed when analyzing FAFH frequency for households with children; there do not seem to be statistically significant differences when dividing the data by race.

The most compelling results were frequency differences by various measures of socioeconomic status (SES). When disaggregating the data by household income as a percentage of the poverty level, education level, employment status, and SNAP participation, adults with measurably higher SES acquired FAFH more frequently compared to their lower SES counterparts. A similar result was found with households with children. After controlling for NSLP meals, households with children who did not receive NSLP meals displayed more frequent FAFH acquisitions, though these differences were statistically insignificant except within the youth age group.

References

- Aguiar, M., and E. Hurst. 2013. "Deconstructing Life Cycle Expenditure," *Journal of Political Economy*, 121(3): 437-92.
- Anderson, B., S. Lyon-Callo, C. Fussman, G. Imes, and A.P. Rafferty. 2011. "Fast-Food Consumption and Obesity Among Michigan Adults," *Preventing Chronic Disease* 8(4).
- Bhattacharya, K., A. Ghosh, D. Monsivais, R.I.M. Dunbar, and K. Kaski. 2016. "Sex Differences in Social Focus Across the Life Cycle in Humans," *Royal Society Open Science* 3(4): 160097.
- Dave, J.M., L.C. An, R.W. Jeffery, and J.S. Ahluwalia. 2009. "Relationship of Attitudes Toward Fast Food and Frequency of Fastfood Intake in Adults," *Obesity* 17(6): 1164-70.
- Furst, T., M. Connors, C.A. Bisogni, J. Sobal, and L.W. Falk. 1996. "Food Choice: a Conceptual Model of the Process," *Appetite* 26(3): 247- 65.
- Higgs, S., and J. Thomas. 2016. "Social Influences on Eating," *Current Opinion in Behavioral Sciences* 9: 1-6.
- Kuhns, A., and M. Saksena. 2017. *Food Purchase Decisions of Millennial Households Compared to Other Generations*, EIB-186, U.S. Department of Agriculture, Economic Research Service.
- Seguin, R.A., A. Aggarwal, F. Vermeulen, and A. Drewnowski. 2016. "Consumption Frequency of Foods Away from Home Linked with Higher Body Mass Index and Lower Fruit and Vegetable Intake among Adults: A Cross-Sectional Study," *Journal of Environmental and Public Health*.

- Tuttle, C. 2016. *The Stimulus Act of 2009 and Its Effect on Food-At-Home Spending by SNAP Participants*, ERR-213, U.S. Department of Agriculture, Economic Research Service.
- U.S. Bureau of Labor Statistics. April 20, 2017. "EP News Releases."
- U.S. Census Bureau. 2017. "Poverty Thresholds."
- U.S. Census Bureau. September 13, 2016. "Table H-10. Age of Head of Household by Median and Mean Income."
- U.S. Department of Health and Human Services and U.S. Department of Agriculture. 2015. *2015-2020 Dietary Guidelines for Americans*. 8th Edition.
- Van der Horst, K., T.A. Brunner, and M. Siegrist. 2011. "Ready-Meal Consumption: Associations With Weight Status and Cooking Skills," *Public Health Nutrition* 14(2): 239-45.

Appendix: Tables

Appendix table 5.1

Frequency of food-away-from-home (FAFH) events for adults, by age and demographic group

Cohort group by age	Under 25	95% CI		25-34	95% CI		35-44	95% CI		45-54	95% CI		55-64	95% CI	
Number of Individuals	1,093			1,716			1,419			1,396			1,049		
Demographic variables															
Age	5.01	4.60	5.41	5.31	4.78	5.84	5.45	4.86	6.04	5.05	4.50	5.60	4.96	4.45	5.48
Race															
Non-Hispanic White	5.14	4.61	5.64	5.55	4.92	6.23	5.42	4.66	6.20	5.23	4.53	5.87	5.20	4.63	5.77
Non-Hispanic Black/African American	4.56	3.77	5.36	4.50	3.40	5.69	5.19	3.63	6.70	4.13	3.22	5.13	4.00	3.29	4.68
American Indian or Alaska Native	7.63	3.70	9.29	7.05	1.10	11.35	7.76	2.91	8.61	4.82	2.15	6.89	3.63	2.37	7.38
Asian	4.83	3.48	6.26	4.32	3.22	5.42	5.67	3.18	7.95	5.70	3.57	8.66	2.63	1.82	3.45
Hispanic	4.28	3.55	5.00	4.78	4.04	5.52	5.40	4.15	6.66	4.41	3.67	5.14	4.67	3.56	5.79
Sex															
Male	4.92	4.19	5.65	5.45	4.71	6.20	5.41	4.64	6.19	4.98	4.47	5.49	4.87	4.41	5.33
Female	5.08	4.65	5.52	5.19	4.57	5.81	5.49	4.82	6.15	5.12	4.28	5.96	5.04	4.30	5.79
Race-sex															
White, male	5.11	4.06	6.16	5.77	4.86	6.68	5.35	4.42	6.28	5.04	4.38	5.70	4.96	4.30	5.61
Black, male	4.24	3.06	5.43	4.33	2.55	6.11	4.54	3.14	5.94	4.45	2.91	6.00	3.91	2.95	4.86
White, female	5.17	4.27	6.07	5.35	4.57	6.14	5.48	4.66	6.30	5.42	4.42	6.41	5.40	4.53	6.27
Black, female	4.80	3.75	5.85	4.63	3.44	5.82	5.64	3.75	7.53	3.86	2.82	4.90	4.08	2.91	5.25
Body weight classification															
Not overweight	4.91	4.23	5.59	5.45	4.57	6.34	5.64	4.60	6.69	5.37	4.12	6.61	4.94	3.66	6.22
Overweight	5.11	4.44	5.77	4.99	4.19	5.78	5.10	4.36	5.84	5.11	4.51	5.71	5.05	4.11	6.00
Obese	5.32	4.12	6.53	5.51	4.54	6.48	5.73	4.90	6.55	4.78	4.01	5.54	4.91	4.35	5.46
Socioeconomic variables															
Income (All races and genders)															
< 100% of poverty line	3.90	3.34	4.46	4.36	3.50	5.23	4.84	4.12	5.56	4.17	3.44	4.89	4.06	3.14	4.98
100-130% of poverty line	4.65	3.36	5.95	4.68	3.50	5.86	4.75	3.77	5.73	4.21	2.96	5.46	3.91	2.66	5.17
131-167% of poverty line	4.17	3.25	5.08	4.65	3.66	5.64	4.78	3.72	5.84	4.96	3.35	6.57	3.31	1.90	4.71
168-299% of poverty line	5.36	4.38	6.35	4.86	4.13	5.59	5.28	3.87	6.68	4.81	3.85	5.77	4.90	3.87	5.93
≥ 300% of poverty line	5.62	4.82	6.42	6.11	5.16	7.06	5.89	4.89	6.88	5.47	4.65	6.29	5.45	4.68	6.22
Income by race and gender															
< 100% of poverty line	3.33	2.22	4.43	4.68	2.96	6.39	4.62	3.07	6.16	3.71	2.63	4.79	4.23	2.26	6.20
White, male	2.97	1.72	4.22	3.89	1.32	6.47	4.62	1.80	7.43	3.64	2.36	4.93	4.29	1.52	7.06
Black, male	4.80	3.18	6.43	4.19	3.00	5.38	4.85	3.21	6.49	4.79	3.93	5.65	3.89	2.57	5.20
White, female	3.78	2.44	5.13	4.22	3.30	5.13	6.10	3.84	8.36	4.10	2.60	5.60	3.92	1.15	6.69
Black, female															
100-130% of poverty line															
White, male	4.39	2.51	6.26	3.20	2.22	4.18	4.47	2.22	6.72	3.46	1.51	5.41	3.12	2.15	4.09
Black, male	3.64	1.15	6.12	4.91	-0.05	9.87	5.49	0.22	10.76	6.90	4.72	9.07	4.51	0.52	8.49
White, female	4.59	2.26	6.92	4.07	2.31	5.83	4.63	2.99	6.28	3.76	2.10	5.42	4.72	2.44	7.00
Black, female	5.71	3.32	8.09	6.52	4.00	9.04	5.88	2.90	8.86	2.72	1.25	4.18	3.88	2.70	5.05
131-167% of poverty line															
White, male	4.25	2.91	5.59	4.61	3.34	5.88	4.41	2.09	6.73	4.85	2.08	7.62	2.85	0.77	4.92
Black, male	4.08	2.35	5.80	6.38	0.84	11.91	3.46	1.81	5.11	5.81	1.69	9.92	1.41	-0.38	3.19
White, female	4.62	3.04	6.21	4.64	3.28	6.00	4.99	3.62	6.35	4.57	2.81	6.32	3.87	1.60	6.14
Black, female	3.82	0.05	7.58	5.64	1.34	9.95	6.16	3.10	9.22	4.24	-1.88	10.36	3.74	0.74	6.74

Continued—

Cohort group by age	Under 25	95% CI		25-34	95% CI		35-44	95% CI		45-54	95% CI		55-64	95% CI	
168-299% of poverty line															
White, male	5.60	4.26	6.94	5.35	4.20	6.49	5.17	3.28	7.05	5.19	3.32	7.07	4.64	2.60	6.67
Black, male	5.07	2.41	7.72	3.52	0.50	6.54	3.88	2.24	5.52	4.64	1.15	8.13	4.52	-0.05	9.09
White, female	5.01	3.17	6.86	4.65	3.73	5.57	5.07	3.27	6.86	5.20	3.99	6.42	4.95	3.76	6.14
Black, female	6.17	3.62	8.71	3.46	0.61	6.32	4.78	2.00	7.55	3.97	1.60	6.34	6.53	1.03	12.03
≥ 300% of poverty line															
White, male	5.76	3.74	7.78	6.69	5.23	8.15	5.78	4.24	7.31	5.40	4.65	6.16	5.44	4.61	6.27
Black, male	4.54	3.39	5.70	4.14	2.12	6.16	4.70	0.72	8.68	4.64	1.84	7.44	3.19	1.55	4.82
White, female	5.61	3.63	7.60	6.50	5.04	7.96	6.08	4.72	7.44	5.78	4.33	7.23	6.06	4.68	7.44
Black, female	4.67	1.29	8.04	4.94	1.65	8.22	5.47	1.35	9.60	3.83	1.79	5.87	3.68	2.32	5.03
Not employed	3.76	3.13	4.40	4.42	3.75	5.10	4.74	4.16	5.33	3.86	3.27	4.45	3.93	3.50	4.37
Employed	5.65	5.18	6.12	5.68	5.10	6.26	5.69	5.00	6.38	5.43	4.81	6.06	5.73	5.00	6.46
No SNAP	5.19	4.68	5.71	5.54	4.91	6.16	5.62	4.97	6.27	5.24	4.64	5.85	5.10	4.55	5.65
SNAP	4.14	3.25	5.03	4.25	3.72	4.78	4.27	3.48	5.07	3.56	3.06	4.07	3.69	2.82	4.56
Education															
High school or less	4.39	3.77	5.01	4.43	3.93	4.93	4.82	4.15	5.50	4.85	3.58	6.11	4.09	3.57	4.60
2-year degree and some college	5.05	4.39	5.71	4.92	4.28	5.56	5.57	4.83	6.31	4.98	4.04	5.92	4.87	4.15	5.59
College graduate or higher	6.62	5.20	8.03	6.33	5.34	7.32	6.00	4.98	7.01	5.38	4.39	6.37	5.79	4.52	7.06
Household characteristics															
Single	5.02	4.56	5.48	5.56	4.71	6.41	5.63	4.70	6.57	5.08	4.39	5.77	4.57	3.57	5.56
Married/partnered	4.92	3.97	5.88	5.04	4.43	5.64	5.34	4.62	6.06	5.03	4.31	5.76	5.21	4.76	5.66
No children	5.33	4.74	5.91	5.82	4.81	6.84	5.83	4.90	6.77	5.23	4.24	6.21	4.99	4.44	5.54
Children	4.56	3.77	5.36	4.91	4.43	5.39	5.30	4.61	6.00	4.83	4.32	5.34	4.81	3.47	6.15
Lifestyle variables															
< Median commuter time (15 minutes)	5.61	5.14	6.08	5.66	5.05	6.26	5.77	5.09	6.46	5.43	4.80	6.07	5.64	4.88	6.40
≥ Median commuter time (15 minutes)	3.76	3.13	4.39	4.21	3.49	4.92	4.39	3.86	4.93	3.78	3.28	4.29	3.96	3.47	4.45
Not vegetarian	5.03	4.65	5.41	5.31	4.78	5.83	5.42	4.86	5.97	5.04	4.47	5.61	5.04	4.57	5.51
Vegetarian	4.44	1.52	7.35	5.44	2.16	8.73	7.00	2.28	11.71	5.74	0.96	10.53	2.42	1.11	3.73
Not dieting	5.08	4.55	5.61	5.25	4.74	5.77	5.38	4.72	6.03	5.20	4.50	5.90	4.86	4.35	5.37
Dieting	4.43	2.69	6.17	5.70	3.88	7.51	5.76	4.87	6.65	4.55	3.49	5.60	5.19	3.91	6.47
Health status															
Excellent	4.81	3.44	6.18	5.88	4.00	7.76	5.40	4.12	6.68	4.84	3.88	5.80	4.75	3.58	5.93
Fair	4.84	3.53	6.15	5.80	3.88	7.72	5.53	4.63	6.44	5.08	4.14	6.01	4.05	3.40	4.70
Nonsmoker	5.10	4.68	5.52	5.27	4.72	5.83	5.47	4.79	6.15	5.18	4.62	5.75	5.15	4.53	5.77
Smoker	4.73	3.83	5.63	5.42	4.44	6.40	5.39	4.25	6.53	4.59	3.80	5.37	4.09	3.20	4.97
Census region															
Northeast (CT, ME, MA, NH, RI, VT, NJ, NY, PA)	5.07	4.15	5.98	4.79	3.54	6.04	4.74	3.71	5.77	4.74	4.12	5.35	5.06	3.75	6.37
Midwest (IL, IN, MI, OH, WI, IA, KS, MN, MO, NE, ND, SD)	5.11	4.17	6.04	5.40	4.31	6.49	5.36	4.15	6.57	5.69	4.87	6.51	4.63	4.13	5.12
South (DE, DC, FL, GA, MD, NC, SC, VA, WV, AL, KY, MS, TN, AK, LA, OK, TX)	5.17	4.34	6.00	5.64	4.68	6.60	6.02	5.35	6.70	4.58	3.62	5.55	5.50	4.29	6.71
West (AZ, CO, ID, MT, NV, NM, UT, WY, AK, CA, HI, OR, WA)	4.53	3.78	5.29	5.05	4.60	5.50	5.28	4.02	6.55	5.06	3.53	6.58	4.35	3.39	5.32

Continued—

Cohort group by age	65-74	95% CI		75+	95% CI		N	95% CI	
Number of individuals	629			337			6,673		
Demographic variables									
Age	4.28	3.48	5.08	3.44	2.77	4.12	4.96	4.72	5.20
Race									
Non-Hispanic White	4.39	3.45	5.32	3.55	2.82	4.29	5.07	4.78	5.36
Non-Hispanic Black/African American	3.20	1.75	4.57	2.19	1.36	2.93	4.36	3.79	4.92
American Indian or Alaska Native	4.00	0.89	9.83	1.00	-1.71	9.05	6.37	4.39	8.36
Asian	3.09	0.00	6.17	2.79	-2.00	7.59	4.47	3.61	5.33
Hispanic	2.55	1.54	3.56	2.90	1.59	4.22	4.56	4.17	4.94
Sex	4.83	3.53	6.14	3.85	2.87	4.84	5.03	4.71	5.36
Male	3.78	3.16	4.41	3.09	2.38	3.80	4.90	4.64	5.16
Female									
Race-sex									
White, male	5.07	3.57	6.57	3.97	2.93	5.01	5.13	4.71	5.55
Black, male	3.54	1.29	5.78	2.40	1.26	3.55	4.23	3.62	4.85
White, female	3.78	3.10	4.45	3.17	2.39	3.95	5.01	4.75	5.28
Black, female	2.82	1.08	4.56	2.10	1.14	3.06	4.45	3.72	5.18
Weight classification									
Not overweight	4.87	3.11	6.63	3.55	2.71	4.38	5.12	4.68	5.56
Overweight	4.07	3.11	5.02	3.06	2.37	3.75	4.81	4.44	5.19
Obese	4.01	3.13	4.89	3.91	2.25	5.57	4.98	4.72	5.25
Socioeconomic variables									
Income (all races and genders)									
< 100% of poverty line	4.22	2.14	6.29	2.83	1.56	4.10	4.16	3.75	4.58
100-130% of poverty line	3.25	1.92	4.58	2.91	1.20	4.62	4.16	3.58	4.75
131-167% of poverty line	3.20	2.18	4.21	3.38	0.65	6.11	4.21	3.61	4.82
168-299% of poverty line	3.42	2.67	4.17	3.82	2.52	5.13	4.76	4.30	5.23
≥ 300% of poverty line	4.89	3.55	6.23	3.60	2.76	4.45	5.50	5.11	5.89
Income by race and gender									
< 100% of poverty line	7.37	1.77	12.96	2.76	0.98	4.53	4.31	3.49	5.12
White, male	3.19	0.92	5.47	2.77	-2.73	8.27	4.05	3.06	4.72
Black, male	2.87	1.84	3.90	2.96	1.26	4.66	4.32	3.61	4.52
White, female	2.02	0.08	3.95	1.46	0.20	2.72	3.89	3.33	5.24
Black, female									
100-130% of poverty line									
White, male	3.66	1.14	6.19	3.43	-1.68	8.54	4.75	2.65	4.58
Black, male	1.00	-0.99	2.99				4.10	2.80	7.50
White, female	3.16	1.87	4.46	3.03	1.74	4.31	3.61	3.42	4.68
Black, female	1.05	-0.84	2.94	2.17	-1.87	6.21	5.13	2.82	6.27
131-167% of poverty line									
White, male	2.64	1.80	3.47	3.17	-0.71	7.06	4.56	2.99	4.97
Black, male	3.08	-1.17	7.33	1.00	-0.99	2.99	4.27	1.91	6.91
White, female	3.41	2.40	4.42	3.65	0.02	7.28	3.99	3.64	4.94
Black, female	3.16	-0.15	6.46	1.00	1.00	1.00	4.44	2.42	6.58
168-299% of poverty line									
White, male	3.87	2.42	5.32	4.39	2.06	6.72	4.56	4.33	5.52
Black, male	4.31	0.99	7.63	2.29	-0.76	5.33	4.64	2.88	5.63
White, female	3.07	2.64	3.51	3.13	2.45	3.82	4.94	3.96	5.21
Black, female	2.96	-1.36	7.29	4.18	0.30	8.06	4.19	3.56	5.54
≥ 300% of poverty line									
White, male	5.51	3.07	7.95	4.11	3.09	5.14	5.63	4.95	6.30
Black, male	4.45	-3.60	12.50	2.88	-0.13	5.89	4.28	3.03	5.52
White, female	4.47	3.34	5.60	3.21	1.93	4.49	5.69	5.29	6.09
Black, female	6.38	3.26	9.49	1.91	0.09	3.73	4.51	2.66	6.36
Not employed	3.97	3.25	4.69	3.31	2.64	3.98	4.00	3.76	4.24
Employed	5.31	2.54	8.07	5.40	3.11	7.68	5.60	5.26	5.94
No SNAP	4.34	3.49	5.18	3.56	2.84	4.27	5.11	4.84	5.38
SNAP	3.44	2.65	4.22	2.12	1.02	3.21	3.91	3.57	4.25

Continued—

Cohort group by age	65-74	95% CI		75+	95% CI		N	95% CI	
Education									
High school or less	3.62	2.46	4.78	2.81	2.11	3.52	4.29	3.91	4.67
2-year degree and some college	3.98	2.97	5.00	5.19	3.01	7.37	4.96	4.58	5.33
College graduate or higher	5.15	3.67	6.62	3.61	2.90	4.33	7.00	5.18	6.21
Household characteristics									
Single	4.11	3.23	5.00	3.32	2.54	4.10	4.92	4.66	5.19
Married/partnered	4.40	3.08	5.71	3.64	2.63	4.65	5.00	4.65	5.36
No children	4.32	3.47	5.17	3.47	2.77	4.16	4.98	4.63	5.32
Children	3.36	1.97	4.75	2.81	0.81	4.82	4.94	4.69	5.20
Lifestyle variables									
< Median commuter time (15 minutes)	5.34	2.46	8.22	5.40	3.11	7.68	5.59	5.25	5.94
≥ Median commuter time (15 minutes)	3.90	3.17	4.63	3.31	2.64	3.98	3.90	3.65	4.15
Not vegetarian	4.26	3.46	5.06	3.50	2.79	4.22	4.98	4.73	5.22
Vegetarian	4.82	-3.18	12.82	2.20	0.83	3.57	4.57	3.46	5.69
Not dieting	4.50	3.56	5.43	3.29	2.69	3.90	5.01	4.71	5.30
Dieting	3.82	2.85	4.79	3.74	2.37	5.11	4.82	4.35	5.28
Health status									
Excellent	6.13	2.68	9.58	2.84	1.60	4.08	5.12	4.35	5.90
Fair	3.12	2.42	3.82	3.39	0.70	6.08	4.76	4.35	5.17
Nonsmoker	4.20	3.38	5.02	3.39	2.68	4.11	4.99	4.74	5.25
Smoker	4.79	2.52	7.05	3.86	2.54	5.17	4.86	4.37	5.34
Census region									
Northeast (CT, ME, MA, NH, RI, VT, NJ, NY, PA)	4.62	3.27	5.97	3.23	1.96	4.50	4.74	4.39	5.10
Midwest (IL, IN, MI, OH, WI, IA, KS, MN, MO, NE, ND, SD)	4.44	2.94	5.94	3.83	2.60	5.07	5.07	4.73	5.41
South (DE, DC, FL, GA, MD, NC, SC, VA, WV, AL, KY, MS, TN, AK, LA, OK, TX)	4.05	2.27	5.83	3.48	2.28	4.68	5.11	4.48	5.75
West (AZ, CO, ID, MT, NV, NM, UT, WY, AK, CA, HI, OR, WA)	4.00	2.85	5.16	2.63	1.33	3.93	4.73	4.26	5.19

Note: SNAP = Supplemental Nutrition Assistance Program.

Source: USDA, Economic Research Service using data from the National Household Food Acquisition and Purchase Survey (FoodAPS).

Weekly frequency of food-away-from-home events for children, by age and demographic group

Cohort group by age	Child (0-10)	95% CI		Youth (11-13)	95% CI		Teen (14-18)	95% CI		All Individuals	95% CI	
	Number of Individuals									3,589		
Demographic variables												
Race												
Non-Hispanic White	4.16	3.74	4.58	5.74	4.81	6.66	5.43	4.69	6.18	4.80	4.34	5.25
Non-Hispanic Black/African American	4.80	3.48	6.11	6.02	4.37	7.67	6.06	4.30	7.81	5.43	4.68	6.18
American Indian or Alaska Native	6.14	4.54	7.75	7.47	4.17	10.78	6.56	2.19	10.93	6.60	4.62	8.57
Asian	4.76	2.03	7.50	5.10	0.77	9.44	5.20	-0.39	10.79	4.91	1.75	8.08
Sex												
Boys	4.28	3.77	4.80	5.73	4.51	6.96	5.63	4.71	6.55	4.93	4.41	5.44
Girls	4.34	3.91	4.77	5.95	5.09	6.80	5.65	4.94	6.37	4.98	4.63	5.32
Race-sex												
White, male	3.99	3.44	4.53	5.87	4.12	7.62	5.67	4.56	6.77	4.83	4.21	5.46
Black, male	5.04	3.16	6.93	5.72	3.37	8.08	5.58	3.84	7.32	5.35	4.21	6.49
White, female	4.30	3.80	4.81	5.62	4.34	6.90	5.18	4.59	5.78	4.76	4.25	5.27
Black, female	4.51	3.25	5.78	6.52	3.91	9.13	6.55	4.60	8.50	5.52	4.75	6.29
Body weight classification												
Not overweight	4.41	3.74	5.08	5.72	4.94	6.51	5.51	4.74	6.27	5.06	4.56	5.55
Overweight	3.84	2.94	4.74	5.84	4.54	7.14	6.22	4.86	7.58	5.11	4.30	5.92
Obese	4.39	3.74	5.05	6.85	4.98	8.72	5.45	4.26	6.64	4.95	4.40	5.49
Body weight classification, male												
Not overweight	4.38	3.38	5.38	5.64	4.40	6.88	5.57	4.50	6.64	5.05	4.37	5.73
Overweight	3.99	2.58	5.39	6.25	3.88	8.61	5.74	3.78	7.69	5.10	3.82	6.39
Obese	4.40	3.53	5.27	6.56	3.93	9.19	5.56	3.62	7.49	5.00	4.17	5.82
Body weight classification, female												
Not overweight	4.44	3.79	5.09	5.79	4.69	6.89	5.45	4.71	6.18	5.06	4.58	5.54
Overweight	3.70	2.66	4.74	5.51	4.31	6.70	6.80	5.01	8.59	5.13	4.24	6.01
Obese	4.39	3.43	5.35	7.47	3.40	11.54	5.28	4.14	6.42	4.87	3.96	5.79
Socioeconomic variables												
Income by race and gender												
< 100% of poverty line												
White, male	3.79	2.81	4.76	4.92	3.90	5.95	4.91	3.39	6.43	4.34	3.65	5.04
Black, male	3.91	2.43	5.39	7.00	5.00	9.00	5.31	3.98	6.64	5.01	3.73	6.30
White, female	4.32	3.22	5.42	5.09	3.57	6.60	4.23	3.12	5.34	4.47	3.63	5.30
Black, female	5.06	2.93	7.20	5.66	0.53	10.78	4.61	2.09	7.13	5.01	3.67	6.35
100-130% of poverty line												
White, male	4.15	2.78	5.51	4.42	2.24	6.61	6.86	4.88	8.84	4.69	3.54	5.85
Black, male	5.11	3.39	6.83	7.03	-0.91	14.96	7.24	3.22	11.25	6.00	3.09	8.90
White, female	4.57	1.61	7.54	6.11	3.26	8.96	6.49	3.79	9.20	5.37	3.65	7.10
Black, female	5.22	2.51	7.93	9.01	1.69	16.33	8.92	6.47	11.38	7.00	4.82	9.17
131-167% of poverty line												
White, male	3.86	3.04	4.69	5.88	3.72	8.04	5.47	3.22	7.72	4.73	3.72	5.74
Black, male	4.63	1.55	7.72	6.59	2.15	11.03	6.53	3.30	9.77	5.31	2.62	8.01
White, female	3.88	2.11	5.65	3.71	1.39	6.04	6.61	3.75	9.46	4.66	3.45	5.87
Black, female	4.31	1.05	7.57	6.66	3.28	10.04	7.24	1.64	12.83	5.43	3.43	7.44
168-299% of poverty line												
White, male	3.85	3.12	4.58	5.72	2.31	9.12	5.48	3.17	7.79	4.60	3.32	5.87
Black, male	9.34	2.96	15.73	4.20	0.09	8.31	7.40	5.50	9.30	8.09	3.57	12.61
White, female	4.25	3.37	5.14	6.39	4.18	8.60	5.38	3.79	6.97	4.93	4.00	5.85
Black, female	3.82	1.03	6.61	5.73	4.54	6.91	7.14	3.79	10.49	4.76	2.88	6.65

Continued—

Cohort group by age	Child	95% CI		Youth	95% CI		Teen	95% CI		All	95% CI	
	(0-10)			(11-13)			(14-18)			Indi-viduals		
≥ 300% of poverty line												
White, male	4.23	2.64	5.83	6.93	3.91	9.94	6.06	4.59	7.53	5.33	4.25	6.40
Black, male	2.99	0.61	5.38	3.84	-1.89	9.57	5.08	1.55	8.61	4.20	2.34	6.06
White, female	4.37	3.28	5.45	5.66	3.50	7.82	4.91	3.97	5.85	4.69	3.71	5.67
Black, female	3.09	2.35	3.83	7.08	1.29	12.88	7.04	2.03	12.05	6.08	3.42	8.74
No SNAP	4.34	3.95	4.73	5.83	4.90	6.76	5.72	4.90	6.55	5.01	4.61	5.41
SNAP	4.23	3.65	4.80	5.89	4.78	7.01	5.23	4.40	6.06	4.73	4.31	5.15
Schooling												
Grade school or less										4.31	3.95	4.67
Middle school										5.84	5.15	6.53
High school										5.64	4.92	6.36
NSLP events included in FAFH tally												
Child does not receive meals from NSLP	3.08	2.63	3.53	4.67	3.76	5.58	4.22	3.68	4.76	3.61	3.30	3.92
Child receives meals from NSLP	6.86	6.25	7.47	7.01	6.13	7.89	7.68	6.91	8.44	7.14	6.75	7.54
NSLP events not included in FAFH tally												
Child does not receive meals from NSLP	3.08	2.63	3.53	4.67	3.76	5.58	4.22	3.68	4.76	3.61	3.30	3.92
Child receives meals from NSLP	2.95	2.40	3.50	3.49	2.87	4.11	3.95	3.30	4.60	3.42	3.10	3.73
Lifestyle variables												
Not vegetarian	4.31	3.95	4.68	5.89	5.18	6.60	5.64	4.90	6.38	4.96	4.61	5.30
Vegetarian	4.25	2.17	6.34	3.52	0.28	6.76	5.60	2.65	8.55	4.70	3.48	5.91
Not dieting	4.30	3.93	4.67	5.89	5.20	6.59	5.65	4.91	6.39	4.95	4.59	5.31
Dieting	4.77	3.06	6.48	4.64	1.94	7.34	5.43	3.50	7.36	4.97	3.89	6.06
Census region												
Northeast (CT, ME, MA, NH, RI, VT, NJ, NY, PA)	4.57	3.52	5.62	4.79	3.46	6.12	5.51	4.75	6.26	4.89	4.39	5.40
Midwest (IL, IN, MI, OH, WI, IA, KS, MN, MO, NE, ND, SD)	4.46	3.75	5.16	5.94	4.78	7.10	5.16	4.13	6.19	4.90	4.27	5.52
South (DE, DC, FL, GA, MD, NC, SC, VA, WV, AL, KY, MS, TN, AK, LA, OK, TX)	4.17	3.62	4.72	6.20	5.04	7.37	6.26	4.75	7.76	5.12	4.35	5.88
West (AZ, CO, ID, MT, NV, NM, UT, WY, AK, CA, HI, OR, WA)	4.12	3.35	4.89	6.06	4.77	7.36	5.38	4.56	6.21	4.79	4.43	5.16

Note: SNAP = Supplemental Nutrition Assistance Program; NSLP = National School Lunch Program.

Source: USDA, Economic Research Service using data from the National Household Food Acquisition and Purchase Survey (FoodAPS).