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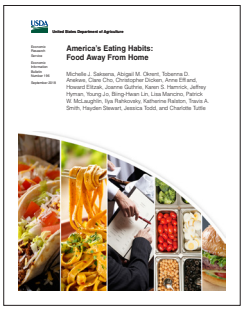

America's Eating Habits: Food Away From Home

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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.

- 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 9: What Role Does Food Away From Home Play in the Diets of Food Assistance Recipients?

Charlotte Tuttle, Katherine Ralston, and Lisa Mancino

Using data from the National Household Food Acquisition and Purchase Survey (FoodAPS), this chapter examines the diet quality of food away from home (FAFH) consumed by food assistance recipients. The average 2010 Healthy Eating Index (HEI-2010) score for FAFH was lower than for food at home (FAH) for all households by income and participation in the Supplemental Nutrition Assistance Program (SNAP).

Several policies have been proposed to help consumers opt for healthier food choices. Food assistance is intended to increase food security and support healthy diet quality for the low-income elderly, individuals with disabilities, and children. USDA's Supplemental Nutrition Assistance Program (SNAP) is a Federal program designed to increase the food purchasing power of low-income participants. Households qualify for the program if their income is below 130 percent of the Federal poverty threshold;[69] households are also able to categorically qualify for the program if they participate in other Federal assistance programs. As of June 2017, 41 million individuals participated in SNAP, which is a decrease from a high of 47 million in the aftermath of the Great Recession.

The role of food away from home (FAFH) in the diets of SNAP recipient households is of concern, as previous studies have found that FAFH reduces diet quality[70] (Todd et al., 2010), and overall diet quality is lower for SNAP recipient households than for nonrecipients (Condon et al., 2015). While SNAP benefits cannot be used directly to purchase FAFH in most circumstances, SNAP recipient households do purchase FAFH with other resources. Yet little is known about the relationship between FAFH, dietary quality, and SNAP participation.

Chapter 8 discusses the associations between purchase frequency of FAFH and diet quality. This chapter focuses on the importance of FAFH in the diets of a subset of individuals who participate in food assistance programs, using the Healthy Eating Index -2010 (HEI-2010). The HEI-2010 was developed to measure how well individuals meet the *2010 Dietary Guidelines for Americans*; it can also be used to measure the nutritional quality of the food supply, foods available in a grocery store, or two different market baskets (Strasser et al., 2015). The National Household Food Acquisition and Purchase Survey (FoodAPS) collects data on all foods purchased or otherwise acquired for all household members, so the HEI can be used to measure how closely the reported household-level acquisitions over a week match dietary recommendations.

FoodAPS is used to calculate Healthy Eating Index (HEI-2010) scores for SNAP recipient households, as well as for low-income and higher income nonparticipants (see data box in chapter 5

[69]The U.S. Census Bureau calculates the poverty threshold annually based on a minimum income level for a given number of household members in order to provide an income measure of poverty for the current year. Household income can then be reported relative to the threshold, i.e., 130 percent of the threshold, 180 percent of the threshold, etc. The poverty threshold for a family of 4 in 2016 was $24,300.

[70]The literature on food away from home varies somewhat in what is included. Todd's study of adults counted a meal as FAFH if the majority of calories were obtained from fast food, table-service restaurants, cafeterias, or taverns. This study includes the following categories in FAFH: eating places (restaurants, fast-food outlet, carry out, coffee shop, vending machine, etc.); schools; noncommercial places (family, friends, parties, and places of worship); work (any event reported at work); and food banks and Meals on Wheels. The nutritional quality of these sources would be expected to differ, but in the FoodAPS survey all FAFH sources have lower HEI-2010 scores than FAH, and diet quality for food from family, friends, parties and places of worship was similar to that of food from restaurants and other eating places (Mancino et al., 2018a).

for details on FoodAPS). Diet quality of FAFH for SNAP recipient households is compared to nonparticipants at different income levels, as well as potential factors that could affect this outcome. Because diet quality of children is a concern and because households with children may receive food assistance through school meals, adult-only households are analyzed separately from those with children. This chapter addresses the following questions:

1. How does diet quality for FAFH compare to diet quality for FAH among SNAP recipient households and nonparticipant households at different income levels?
2. How does diet quality for FAFH among SNAP recipient households with adults only compare to other segments of the population?
3. How does diet quality for FAFH among SNAP recipient households with children compare to other segments of the population?
4. Do SNAP recipient households with working members obtain higher diet quality from FAFH?
5. Do SNAP recipient households with a higher level of nutrition knowledge acquire FAFH with higher diet quality?
6. How does the diet quality of school meals compare to other FAFH acquired by households with children?

Previous Related Research

Per capita FAFH expenditures are significantly less for SNAP recipient households than for eligible nonparticipant households and considerably less than for households above 185 percent of the Federal poverty threshold. Tiehen and colleagues (2017) found that weekly expenditures on restaurants and other eating places for SNAP recipient households were about $11 per adult-male equivalent[71] (AME) compared to $21 per AME for eligible nonparticipant households and $30 per AME for households above 185 percent of the Federal poverty threshold.

On a nutrient basis, however, the differences are much narrower and reveal the importance of FAFH in the diets of individuals across the income spectrum. Other studies using FoodAPS found that FAFH accounted for 31 percent of calories in SNAP recipient households' acquisitions, only slightly less than the 34-percent share for households above 185 percent of the poverty threshold (Mancino et al., 2018).[72] The greater similarity in share of calories than in total expenditures suggests that SNAP households likely choose lower cost FAFH options. Average daily calories per person in SNAP households (in FoodAPS) totaled 3,055 kcal per AME, almost as many as for households above

[71]An AME is a normalized consumption unit requiring 2,200 calories per day, similar to the standard adult equivalent requiring 2,000 calories per day, discussed in Chapter 8. To compare households of different sizes and age compositions, the number of normalized units is calculated by weighting household members by their daily calorie requirements as a fraction of the standard.

[72]These calorie shares are lower than overall share of calories from FAFH reported by Lin and Guthrie (2012) based on the 2005-08 National Health and Nutrition Examination Survey (NHANES) (32 percent), and calorie totals are higher than the average daily per capita calorie intake from NHANES (2,002). The difference in results may reflect the fact that NHANES measures food consumption using two nonconsecutive 24-hour dietary recalls, while FoodAPS measures food acquisition rather than consumption. If the gap between acquisition and consumption is smaller for FAFH than for FAH, that could partially account for the higher share of calories from FAFH estimated from NHANES. Note also that the calories from FAH are based on food acquired that may not be consumed in the same week, while calories from FAFH are based on food purchases that are likely consumed immediately.

185 percent of poverty (3,209), and more than for nonparticipant households at 100-185 percent of poverty (2,800).[73]

Davis (2014) examined why FAFH accounts for a substantial portion of food intake by SNAP recipient households even though their incomes are low and benefits cannot be used for FAFH directly. Using a theoretical model of household decisions, Davis explained that households' decisions about how much FAH and FAFH used in meeting food needs are influenced by the opportunity cost of time, the share of time cost in the total cost of meeting household food needs, and the elasticity of substitution between time and goods in meeting household food needs. Davis reviewed the available literature on these factors to show that the cost of time in food acquisition and preparation is high and that the elasticity of substitution between time and goods in meeting household food needs is low. These conditions, Davis argued, help explain the use of FAFH for a substantial portion of food needs on a calorie basis in households facing time pressure, with SNAP benefits freeing up resources for use in purchasing FAFH, even when the benefits cannot be used directly.

You and colleagues (2009) showed that including moderate FAFH spending in the Thrifty Food Plan (TFP) calculation can result in nutrient consumption similar to the original TFP, while allowing for convenience and practicality in feeding a family. Still, FAFH has been found to degrade diet quality, on average. Todd and colleagues (2010) found that every meal eaten away from home in 2003-04 lowered intake of fruit, dark green/orange vegetables, and whole grains, while increasing consumption of saturated fat. Lin and Guthrie (2012) examined data from 2005 to 2008 and found that FAFH was higher in sodium and lower in fiber than food prepared at home. Guthrie, Lin, and Smith (Chapter 7) similarly found FAH is typically nutritionally superior to FAFH—richer in underconsumed nutrients and less dense in overconsumed nutrients. Foods obtained at school, however, were found to be more calcium-rich than FAH and more nutritionally similar to FAH. Mancino and colleagues (2010) also found FAFH to degrade children's diets.

Todd (2014) recently found the nutritional profile of FAFH chosen by consumers has improved, with lower levels of cholesterol and sodium per 1,000 calories, and higher levels of fiber in 2009-10 compared to 2005-06. Todd also found that FAFH consumption declined over 2005-10 due to the 2007-09 Great Recession, but concluded that the recession itself did not cause a change in the nutrients consumed. Todd documented improvements in nutrition awareness over the same period, and cited these improvements as a likely explanation for the change in foods chosen. Increasing nutrition awareness may also prompt vendors to offer more healthy alternatives.

Improvements in diet quality for FAFH would benefit all consumers, but especially SNAP recipient households whose diet quality is inferior to SNAP nonparticipants. Using data from the National Health and Nutrition Examination Survey (NHANES) 2007-10, Condon and colleagues (2015) found that—compared to both income-eligible nonparticipants and higher income nonparticipants—adult SNAP participants consumed less whole fruit, total vegetables, dark green vegetables, orange vegetables, and legumes; and more empty calories (solid fats added sugars, and alcohol).[74] Similarly, consumption of dark green/orange vegetables and legumes was lower for children in SNAP households than for income-eligible and higher income nonparticipants.

[73]Calorie intake at different income levels may also reflect differences in job-related energy expenditures for workers involved in heavy manual labor.

[74]Condon's analysis was based on the 2005 Healthy Eating Index, an earlier version of the measure used in this report.

Data and Methodology

Data from FoodAPS collected in 2012 and 2013 (see data box in chapter 5 for more details on FoodAPS) are used in this analysis. FoodAPS oversampled SNAP recipient households and other low-income households, providing improved information on food acquisitions for this group. FoodAPS is the first survey to provide detailed information on food obtained from all sources for all members of the household, providing a clearer picture of diet quality at the household level for SNAP recipient households. Further, because SNAP reporting status in FoodAPS was confirmed through matching with program administrative data in 22 out of the 27 States covered in the survey, FoodAPS allows for greater accuracy in comparing diet quality of SNAP recipient households and nonrecipient households, as other surveys that include dietary intake are thought to underreport SNAP participation (Kreider et al., 2012).

FoodAPS converts all foods acquired to equivalent amounts of food groups targeted by the *2010 Dietary Guidelines for Americans*, making it possible to assess the diet quality of FAFH using the 2010 Healthy Eating Index (HEI-2010), a scoring system that indicates relative adherence to the Guidelines. The total HEI-2010 score is calculated as the sum of subscores based on adherence to nine targets for foods encouraged by the Guidelines (total vegetables, green vegetables and legumes, total fruit, whole fruit, dairy, whole grains, total protein, seafood and plant protein, and fatty acids as a share of calories) and three targets for moderation (empty calories, or calories from solid fats, added sugars and alcohol; refined grains; and sodium). (See box in chapter 8 for more information about HEI.)

There remain some limitations in using the HEI-2010, versus food intake data, to measure diet quality from food acquisition data. First, the HEI-2010 calculated here is based on food acquisitions over a week but does not take into account food stored by a household before the observation week or foods acquired and reported during the data collection week that may be stored for later use. While this could introduce some variance into a measure of diet quality for an individual, this variance may be diminished for an HEI-2010 score averaged over a population group. Second, the HEI-2010 measure from FoodAPS counts food acquired even if it is not consumed. This is a more serious limitation, since food waste is not evenly distributed across the diet, but rather is higher for fruits and vegetables that are underconsumed. Overall, however, Mancino and colleagues (2018b) found that the HEI-2010 scores and component densities from FoodAPS were similar to HEI-2010 scores based on dietary recall data from the NHANES for 2011-12.

FoodAPS uses detailed data collected on income together with household size to construct an estimate of the household's income as a percent of the Federal poverty line. FoodAPS also collected responses on nutrition knowledge and attitudes from a primary respondent in each sampled household. This analysis investigates the healthfulness of FAFH purchases by SNAP and non-SNAP households by income group (less than 130 percent of the poverty threshold, which is the cutoff for SNAP eligibility; 130-185 percent of the poverty threshold, since 185 percent confers income eligibility in other food assistance programs; and above 185 percent of the poverty threshold); by household type (with and without children); and by employment status. Differences in HEI-2010 for FAFH between households with higher levels of nutrition awareness and those with less awareness are also explored. To adjust for the stratified sample design of FoodAPS, jackknife weights were used (USDA/ERS, 2016) to calculate average estimates and variance; estimates that are statistically significant at 1, 5, or 10 percent are discussed.

2010 Healthy Eating Index Scores for Food Away From Home Versus Food at Home

Looking at HEI-2010 scores for all households, the average HEI-2010 score for FAFH is significantly lower than for FAH in all non-SNAP income categories, but not for SNAP recipient households (fig. 9.1). The difference between scores for FAFH and FAH increased with income, as the spread across income and SNAP participation groups was smaller for FAFH than for FAH. While HEI-2010 scores for FAH ranged from 46 to 54 across income and SNAP participation groups, scores for FAFH ranged from 42 to 45. Only households above 185 percent of the poverty level had significantly higher HEI scores than SNAP recipient households for FAFH, while all income groups had significantly higher FAH scores than SNAP households. The results suggest that food choices away from home are more similar across the income spectrum than food choices at home, which could reflect consumer preferences as well as the offerings made available by vendors in response to those preferences. `

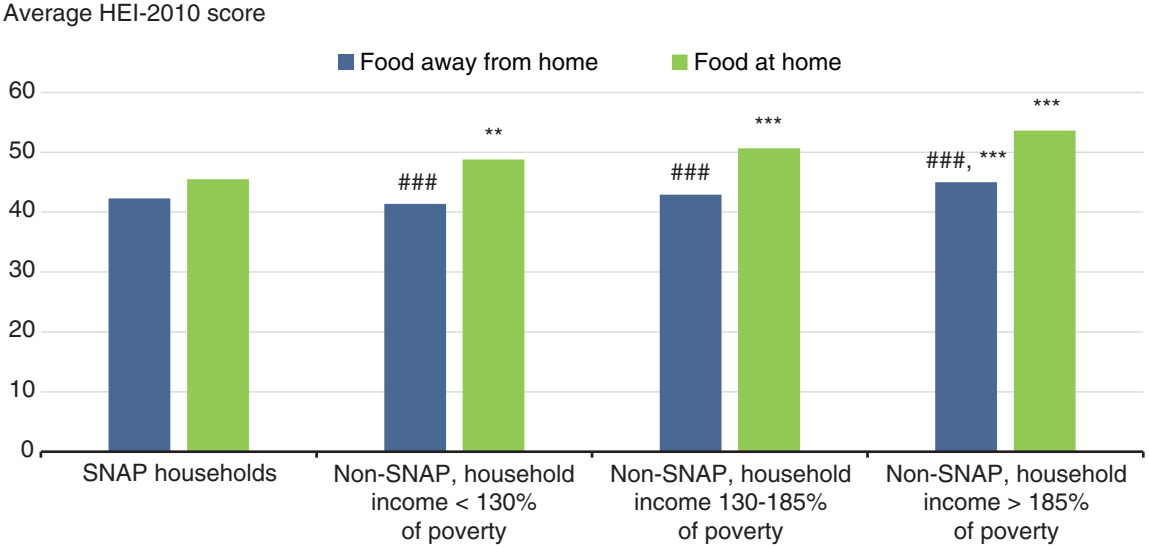
The FoodAPS data do not allow for attribution of food acquisition events to either adults or children, but they do allow for examination of the HEI-2010 score for FAFH acquired by households with only adults and for those with children. The results, then, are indicative of the nutritional quality of foods in households with different age ranges rather than a comparison of nutritional quality between adults and children.

Households Without Children

For households with adults only, average HEI-2010 scores for FAFH (HEI-FAFH) are also narrowly distributed across income and SNAP participation groups, ranging from 40 to 45 (fig. 9.2), suggesting low levels of adherence to the *2010 Dietary Guidelines* across the income distribution, similar to the results for all households. Differences in total HEI-FAFH scores compared to SNAP recipient households were statistically significant at the 10-percent level for households at 130-185 percent of the poverty line and statistically significant at the 1-percent level for households above 185 percent of the poverty level. The HEI-FAFH score for nonrecipient households below 130 percent of the poverty level was not statistically different from SNAP recipient households.

Figure 9.1

HEI-2010 scores for food at home and food away from home, by income and participation in USDA's Supplemental Nutrition Assistance Program (SNAP)

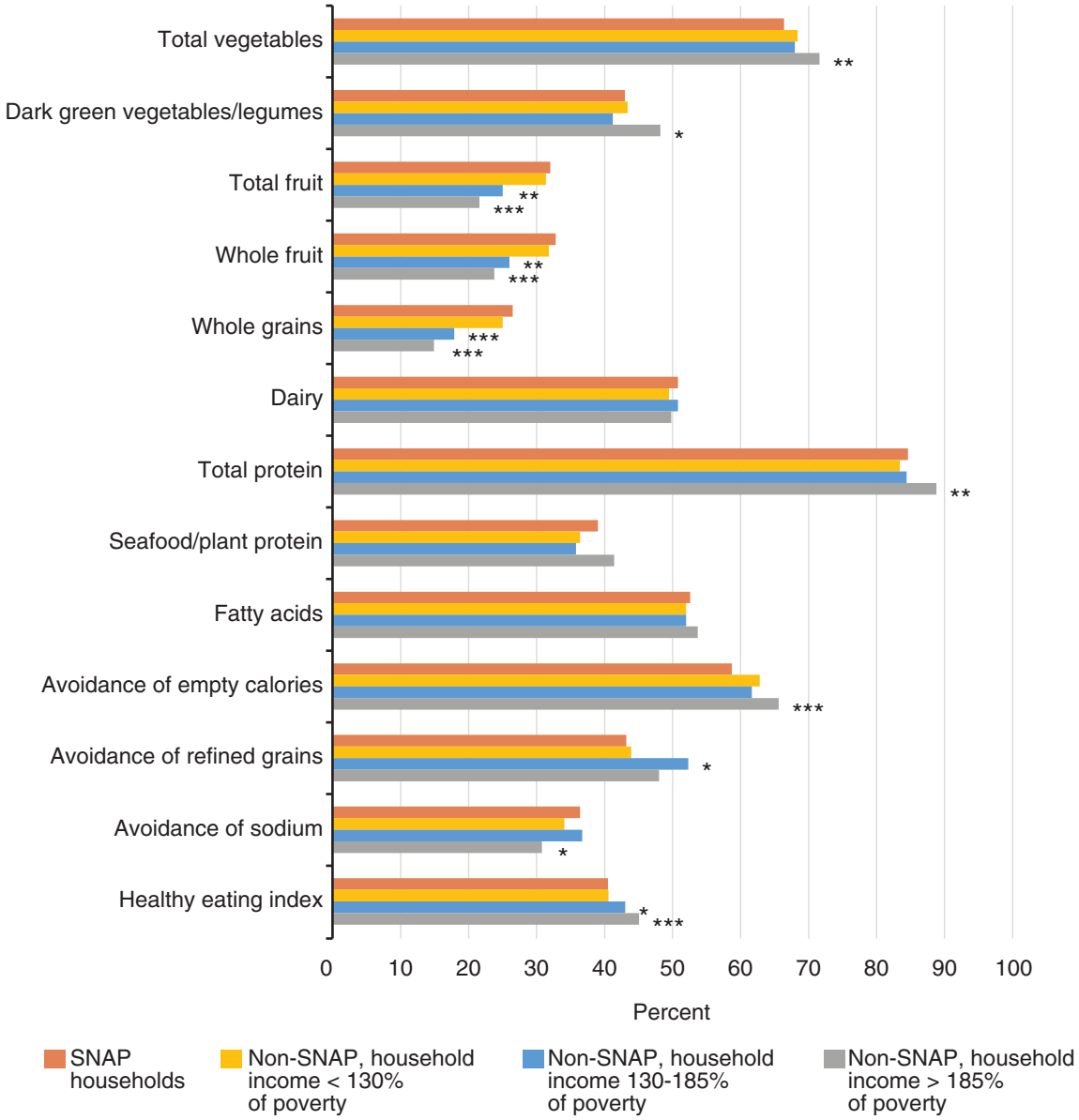


= Significantly different from food at home at the 1-percent level. ** = Significantly different from SNAP households at the 5-percent level, *** = Significantly different from SNAP households at the 1-percent level.
Note: 2010 Healthy Eating Index (HEI-2010) scores presented here provide a profile of foods, as purchased or acquired, relative to the 2010 Dietary Guidelines for Americans, without adjustment for what portion of foods acquired during the observation week were consumed during the week.
Source: USDA, Economic Research Service estimates using National Household Food Acquisition and Purchase Survey, collected 2012 and 2013.

HEI-FAFH subscores for each component, expressed as a percent of the maximum score for the component, were also not significantly different (from SNAP recipient households) in any category for nonrecipient adult households below 130 percent of the poverty level. The scores for total protein, as a percent of the target, were significantly higher for adult households above 185 percent of the poverty level than for adult SNAP recipient households, perhaps reflecting higher meat content in FAFH for higher income households. Scores for total vegetables and dark green vegetables/legumes were also significantly higher for households above 185 percent of the poverty level than for SNAP recipients. However, HEI-FAFH subcomponent scores for total fruit, whole fruit, and whole grains for adult SNAP recipient households were significantly higher than for adult households above 185 percent and 130-185 percent of the poverty level.

Figure 9.2

Food away from home: HEI-2010 score and subcomponents, as a percent of maximum, for households with adults only, by income and participation in USDA's Supplemental Nutrition Assistance Program (SNAP)



* = Significantly different from SNAP recipients at the 10-percent level. ** = Significantly different from SNAP recipients at the 5-percent level.*** = Significantly different from SNAP recipients at the 1-percent level.
Note: 2010 Healthy Eating Index (HEI-2010) scores presented here provide a profile of foods, as purchased or acquired, relative to the *2010 Dietary Guidelines for Americans*, without adjustment for what portion of foods acquired during the observation week were consumed during the week.
Source: USDA, Economic Research Service estimates using National Household Food Acquisition and Purchase Survey, collected in 2012 and 2013.

HEI-2010 for FAFH in Households With Children

Total HEI-FAFH scores in households with children are even more narrowly distributed, with values ranging from 43 to 45 (fig. 9.3) across income groups; total HEI-FAFH was not significantly different for any group. Compared to households above 185 percent of the poverty level, SNAP households have significantly higher HEI-FAFH subscores for whole fruit, but lower subscores for dark green vegetables/legumes and total vegetables.[75] Households at 130-185 percent of poverty have significantly lower scores for whole grains and (avoidance of) empty calories than SNAP households. Non-SNAP households below 130 percent of poverty have significantly lower scores for (avoidance of) refined grains but significantly higher scores for fatty acids and total vegetables.

Among SNAP recipient households, HEI-FAFH is significantly higher for households with children (44) than for adult households (41), but this is not the case for any other income or SNAP participation group.[76] The higher scores for households with children among lower income groups may reflect participation in school meals.

SNAP Households With Working Members

SNAP households with working members may be more reliant on FAFH to meet food needs under more binding time constraints, even though SNAP benefits cannot be used for FAFH. In FY 2012, when FoodAPS was conducted, this group accounted for 31 percent of SNAP households and 51 percent of SNAP households with children (Gray and Eslami, 2014), similar to the latest available figures for FY 2016—32 percent and 55 percent, respectively (Lauffer, 2018). Tiehen and colleagues (2017) found that SNAP recipient households with employed members spent significantly more on FAFH ($14 a week per adult male equivalent, or AME) than those with no employed members ($10 per AME).

The total HEI-FAFH score for SNAP recipient households with working members (43) is higher than for SNAP recipient households with no workers (42), though the difference is not statistically significant (fig. 9.4). The dairy subscore is significantly higher for working SNAP households than for nonworking SNAP households, but seafood, whole grain, whole fruit, dark green vegetable/legume, and total vegetable subscores were significantly lower for working SNAP households. Since SNAP households with working members may have other characteristics that differ from nonworking SNAP households, further research is needed to explore what factors explain observed differences in FAFH choices for these households under time pressure.

The Relationship Between Nutrition Awareness and Attitudes and HEI

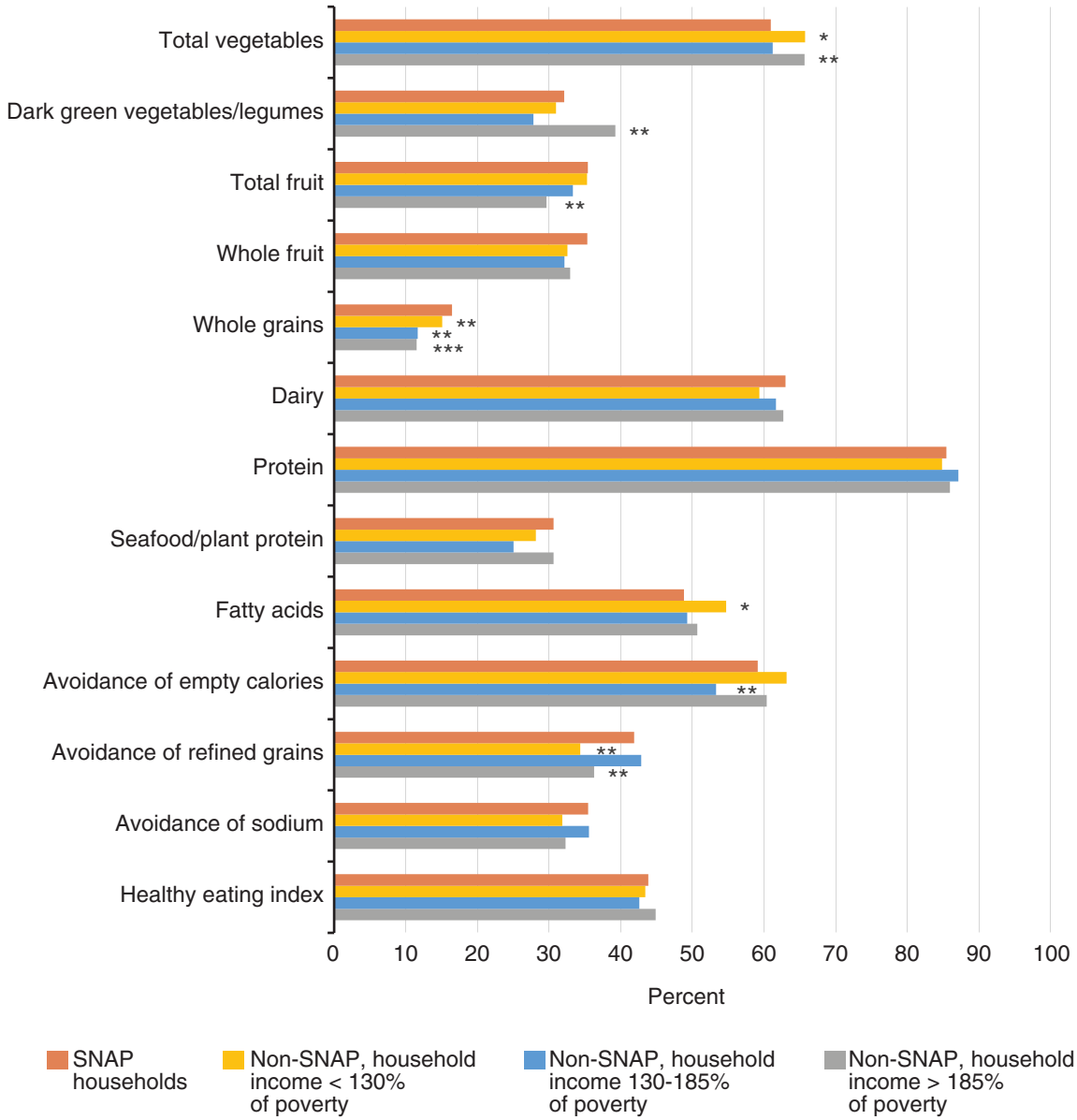
Mancino and Kinsey (2004) examined the relationship between nutrition knowledge and HEI total scores and found that respondents who indicated greater nutrition knowledge had higher HEI scores. This pattern does not appear to hold for FAFH among SNAP recipient households (based on the FoodAPS data), though it does hold for other groups.

[75]Changes in USDA school meal standards implemented in school year 2012-13 required more fruits and vegetables and more whole grains. FoodAPS was collected in the first year that changes in meal requirements were implemented.

[76]Significance test results were not shown in figure 3 for the comparison between HEI-FAFH for households with children and households without children. T-statistics were 0.61 for SNAP households, 1.15 for non-SNAP households below 130 percent of poverty, 1.03 for households at 131-185 percent of poverty, and 0.62 for households above 185 percent of poverty.

Figure 9.3

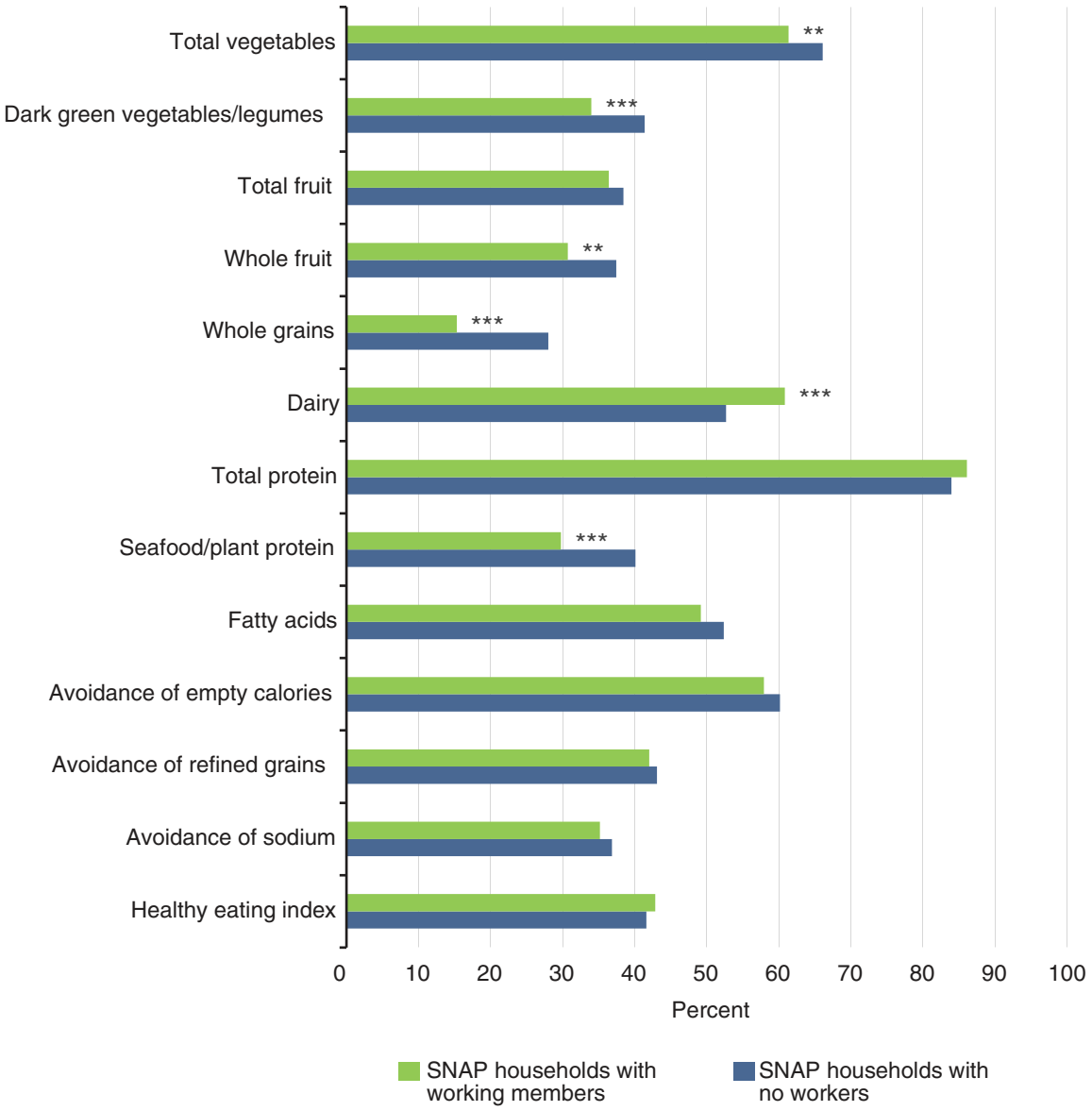
Food away from home: the HEI-2010 score and subcomponents, as a percent of maximum, for households with children by income and participation in USDA's Supplemental Nutrition Assistance Program (SNAP)



* = Significantly different from SNAP recipients at the 10-percent level. ** = Significantly different from SNAP recipients at the 5-percent level. *** = Significantly different from SNAP recipients at the 1-percent level.
Note: 2010 Healthy Eating Index (HEI-2010) scores presented here provide a profile of foods, as purchased or acquired, relative to the *2010 Dietary Guidelines for Americans*, without adjustment for what portion of foods acquired during the observation week were consumed during the week.
Source: USDA, Economic Research Service estimates using National Household Food Acquisition and Purchase Survey, collected 2012 and 2013.

Figure 9.4

Food away from home: HEI-2010 score and subcomponents, as a percent of maximum, by work status of households participating in USDA's Supplemental Nutrition Assistance Program (SNAP)



* = Significantly different from SNAP recipients at the 10-percent level. ** = Significantly different from SNAP recipients at the 5-percent level. *** = Significantly different from SNAP recipients at the 1-percent level.
Note: 2010 Healthy Eating Index (HEI-2010) scores presented here provide a profile of foods, as purchased or acquired, relative to the *2010 Dietary Guidelines for Americans*, without adjustment for what portion of foods acquired during the observation week were consumed during the week.
Source: USDA, Economic Research Service estimates using National Household Food Acquisition and Purchase Survey, collected 2012 and 2013.

To examine the role of nutrition awareness and attitudes in FAFH diet quality, HEI-FAFH scores are compared between respondents who indicated a higher priority placed on nutrition and those who indicated a lower priority, based on responses to questions about nutrition awareness (see box, "Measuring Nutrition Awareness and Attitudes in FoodAPS").

For each statement or question, the difference in average HEI-FAFH score is calculated between respondents whose answers indicated a higher priority placed on nutrition and those whose answers indicated a lower priority. A positive difference indicates that the average HEI-FAFH was higher for "higher nutrition priority" respondents compared to "lower nutrition priority" respondents. Differences are calculated for SNAP households and each nonrecipient cohort.[77]

Among SNAP recipient households, the difference in HEI-FAFH scores is significantly different from zero for only two statements dealing with MyPlate (fig. 9.5). SNAP recipient respondents who reported they had heard of MyPlate have higher HEI-FAFH scores (a difference of 2.3). However, SNAP recipient respondents who reported that they had tried to follow the MyPlate guidelines have significantly lower HEI-FAFH scores (a difference of -5.7). Further research is needed to interpret these findings.

Among non-SNAP households, higher HEI-FAFH scores are observed for a number of statements, especially for respondents with incomes above 185 percent of the poverty line. In that group, those who reported they had heard of MyPlate have HEI-FAFH scores 2 points higher than those in the same income group who had not heard of MyPlate, a statistically significant difference at the 5-percent level. Similar differences are observed for that income group who reported they use Nutrition Facts panels and those who think they should eat more fruits and vegetables. Those who disagreed that it costs too much to eat healthy food have HEI scores 1.9 points higher than those who agreed, and those who rated the healthfulness of their diets as fair, good, very good or excellent have HEI scores 2.6 points higher than those who rated their diets as poor. For respondents at 130-185 percent of the poverty level, HEI-FAFH is significantly different only for those who had tried to follow the MyPlate guidelines; that difference is large (8.3 points) but only weakly significant at the 10-percent level. For nonrecipient respondents below 130 percent of the poverty level, differences are weakly statistically significant at the 10-percent level for respondents who had heard of MyPlate (3.2 points) and for those who disagreed that healthy food tastes good (5.8 points).

These results suggest that while the priority placed on nutrition is associated with higher nutritional intake for some consumers, other factors are more important for food assistance households and low-income nonrecipient households. Further research is needed to explore the role of differences in the level of nutrition awareness across income and SNAP participation groups versus the binding constraint of income in choosing healthier food away from home.

[77]Significance tests indicate whether the difference in HEI-FAFH between "higher nutrition priority" respondents and "lower nutrition priority" respondents was significantly different from zero.

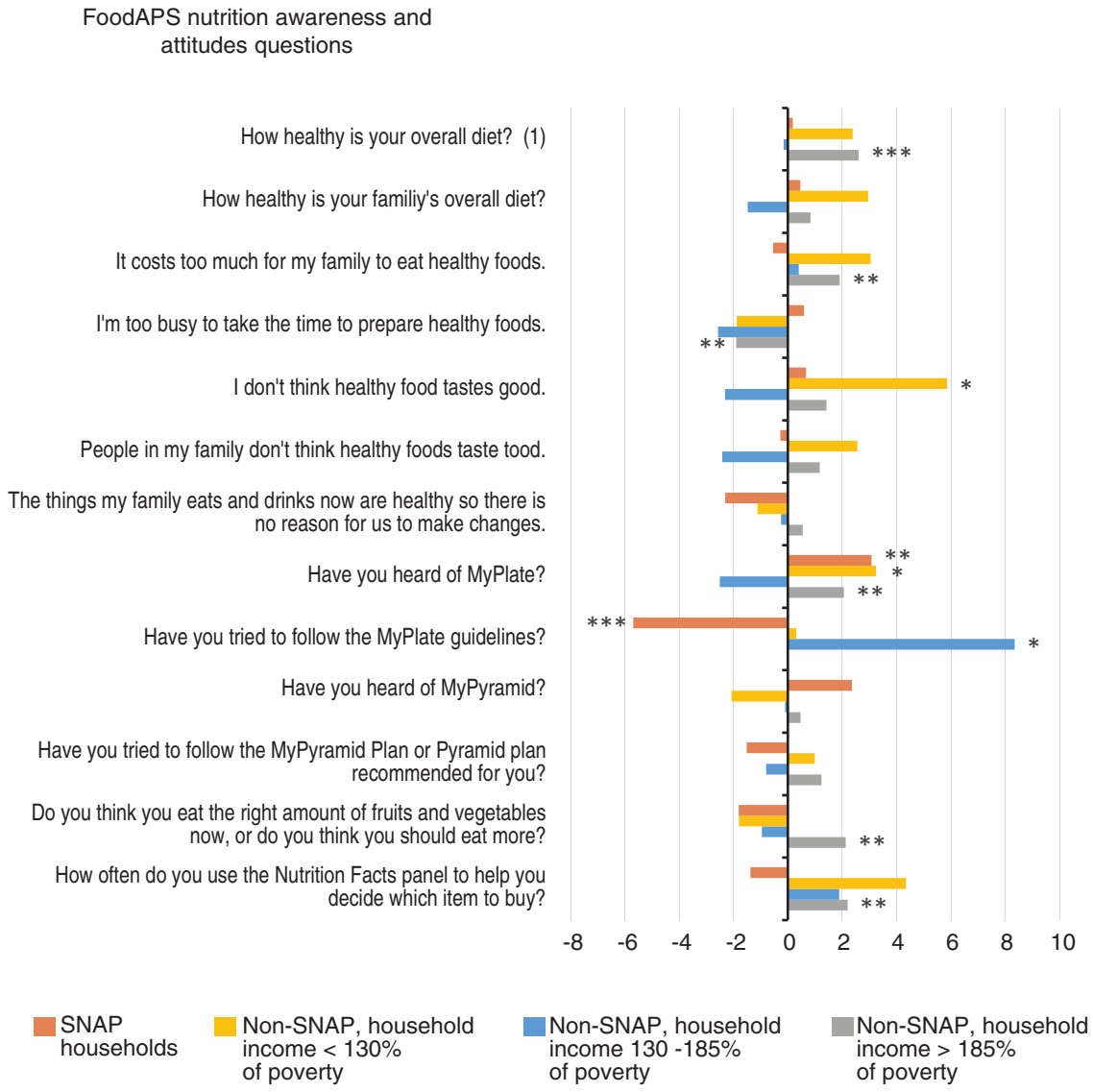
Measuring Nutrition Awareness and Attitudes in FoodAPS

FoodAPS includes several questions about respondents' attitudes toward healthy food and their awareness of the *Dietary Guidelines for Americans*, as represented by graphics developed to symbolize the structure of a healthy diet. The Food Guide Pyramid was introduced with the *1995 Dietary Guidelines*, depicting a triangle with grain products at the base to indicate the number of servings recommended for this group; fruits and vegetables at the next level up; followed by protein and dairy foods; and topped by fats, oils, and sweets, signifying that those should be used sparingly. The MyPyramid graphic developed as part of the *2005 Dietary Guidelines* depicted the number of recommended servings by vertical stripes and added a figure climbing stairs up the pyramid to signify the importance of adequate exercise. Most recently, the MyPlate graphic developed in 2011 by USDA depicts the recommendations as a plate split into areas representing healthy portions of each food group in a single meal. Because consumers have been exposed to multiple graphic representations of the *Dietary Guidelines*, FoodAPS included questions about each of the recent versions, along with other questions related to food preferences, time constraints, and cost concerns. The questions are listed below, with the answers counted as "higher nutrition priority" and "lower nutrition priority" indicated.

Question	Responses counted as lower nutrition priority	Responses counted as higher nutrition priority
Thinking only about yourself, in general, how healthy is your overall diet?	Poor	Fair, Good, Very Good, Excellent
In general, how healthy is your family's overall diet?	Poor	Fair, Good, Very Good, Excellent
It costs too much for (me/my family) to eat healthy foods.	Agree	Disagree
I'm too busy to take the time to prepare healthy foods.	Agree	Disagree
I don't think healthy foods taste good.	Agree	Disagree
People in my family don't think healthy foods taste good.	Agree	Disagree
The things that (I/my family) eat and drink now are healthy so there is no reason for (me/us) to make changes.	Disagree	Agree
Have you heard of MyPlate?	No	Yes
Have you heard of MyPyramid?	No	Yes
Have you tried to follow the MyPyramid Plan or Pyramid plan recommended for you?	No	Yes
Do you think you eat the right amount of fruits and vegetables now, or do you think you should eat more?	Right amount, eat less	Eat more
When choosing between different food items at the grocery store, how often do you use the Nutrition Facts panel to help you decide which item to buy?	Never seen	Sometimes, Always

Figure 9.5

Difference in average HEI-2010 scores for food away from home, higher nutrition priority responses versus lower nutrition priority responses, by SNAP participation status and income level



Note: Statistical tests are for whether the difference in HEI scores for "higher nutrition priority" and "lower nutrition priority" are different from zero, for each SNAP/income group. * = Significant at the 10-percent level. ** = Significant at the 5-percent level. *** = Significant at the 1-percent level. SNAP = USDA's Supplemental Nutrition Assistance Program. (1)Difference in average HEI-2010 for respondents who gave responses indicating "higher nutrition priority" versus "lower nutrition priority." See box, "Measuring Nutrition Awareness and Attitudes in FoodAPS," for classification of responses. 2010 Healthy Eating Index (HEI-2010) scores presented here provide a profile of foods, as purchased or acquired, relative to the *2010 Dietary Guidelines for Americans*, without adjustment for what portion of foods acquired during the observation week were consumed during the week.
Source: USDA, Economic Research Service estimates using National Household Food Acquisition and Purchase Survey, collected 2012 and 2013.

HEI-2010 for FAFH at School Versus Other FAFH

Food acquired at school had a significantly higher overall HEI-2010 score than did other FAFH (fig. 9.6). On average, total HEI-2010 is 49 for school-acquired food, compared to other food away from home, which is 46. This difference may be a conservative estimate, since the nutrient and food group databases used in FoodAPS may not completely capture special formulations for the school food market, such as whole-grain pizza crusts. Further, food acquired at school is most likely consumed by children, while other FAFH acquired by households with children could be consumed by adults or children.[78] Thus, the comparison cannot tell us how school food compares to other FAFH consumed by children, but it does shed light on other FAFH that children may be exposed to in households at each income level.

The higher HEI-2010 for school food is driven by significantly higher component scores for dairy, whole grains, whole fruit, and total fruit, which counterbalanced significantly lower scores for several other components (sodium, refined grains, fatty acids, seafood/plant protein, green vegetables/legumes, and total vegetables).[79] The findings in general are consistent with previous studies showing that participation in the NSLP (USDA's National School Lunch Program) increases participants' nutrient consumption and consumption of many, but not all, underconsumed foods (Gordon et al., 1995; Jaime and Lock, 2009). Mancino and colleagues (2018a) find that for SNAP households (but not for non-SNAP households), HEI scores for foods obtained at school are higher than for foods obtained at larger grocery stores.

Conclusion

Food away from home (FAFH) is of consistently lower nutritional quality than food at home (FAH) for households receiving SNAP—as well as for income-eligible nonparticipant households and higher income households. This suggests that the nutrition quality of food choices away from home are similar across the income spectrum, reflecting consumer preferences as well as the offerings made available by vendors in response to those preferences. HEI-2010 scores for FAFH are lower for SNAP recipient households, both with and without children, while the gap between nutritional quality of FAFH compared to FAH is lowest for SNAP recipient households, as nonparticipants had higher HEI-2010 scores for FAH. Also, school meals score contribute to a higher HEI for households with children than other types of FAFH, consistent with other studies finding participation in NSLP enhances participants' nutrient consumption.

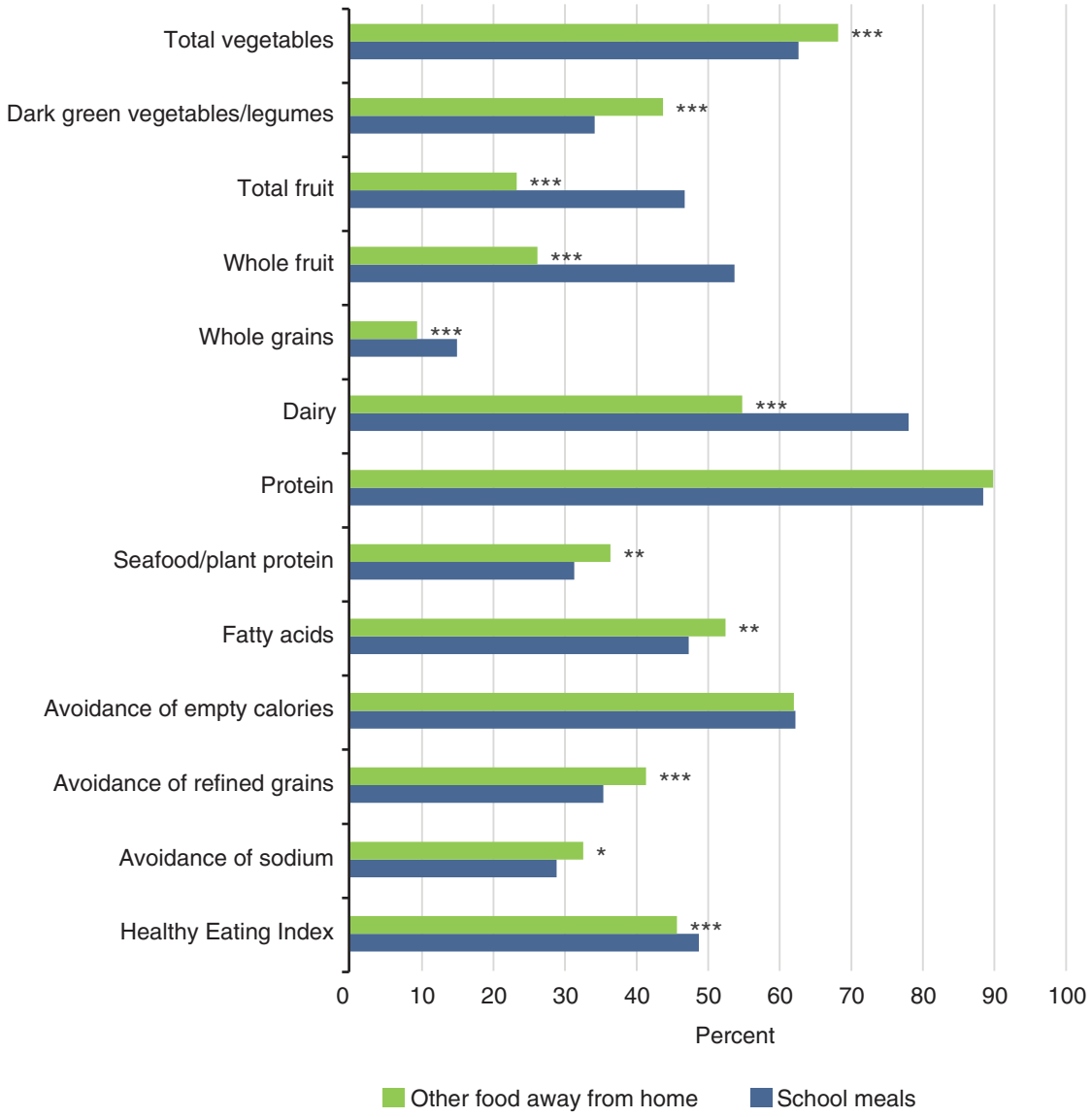
Some components of FAFH diet quality, such as saturated fat and fiber content, have improved over time, reflecting healthier choices by consumers and more nutritious options offered by vendors. Total fat content of FAFH decreased between 1977-78 and 2009-12 (see chapter 7). Menu labeling rules could be encouraging this trend as well (see chapter 10) as dining out is increasingly perceived as more of a staple for busy households instead of an occasional indulgence. The growth in higher quality FAFH options with the growth of fast-casual restaurants (see chapter 6) could improve the nutritional profiles of SNAP recipient households who do consume food away from home, even though they are unable to use SNAP benefits to do so.

[78]Food acquired at school includes all foods regardless of whether it was part of the school meal programs.

[79]Changes in school meal standards implemented in school year 2012-13, toward the latter part of FoodAPS data collection, stipulate low-fat or nonfat milk only, more fruits and vegetables, and more whole grains. HEI subcomponent scores for green vegetables/legumes and total vegetables would be expected to improve over time as student acceptance of healthier meals increases.

Figure 9.6

Food acquired at school and other food away from home: HEI-2010 and its subcomponents, as a percent of maximum, for households with children participating in USDA's Supplemental Nutrition Assistance Program (SNAP)



*= Significant at the 10 percent level. ** = Significant at the 5-percent level. *** = Significant at the 1-percent level.
Note: 2010 Healthy Eating Index (HEI-2010) scores presented here provide a profile of foods, as purchased or acquired, relative to the *2010 Dietary Guidelines for Americans*, without adjustment for what portion of foods acquired during the observation week were consumed during the week.
Source: USDA, Economic Research Service estimates using National Household Food Acquisition and Purchase Survey, collected 2012 and 2013.

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