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***Barriers That Constrain the Adequacy of
Supplemental Nutrition Assistance Program
(SNAP) Allotments: Survey Findings***

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Barriers That Constrain the Adequacy of Supplemental Nutrition Assistance Program (SNAP) Allotments: Survey Findings

Authors

Maeve Gearing
Sujata Dixit-Joshi
Laurie May

Submitted by:
Westat
An Employee-Owned Research Corporation®
1600 Research Boulevard
Rockville, Maryland 20850-3129
(301) 251-1500

Submitted to:
Office of Policy Support
Food and Nutrition Service
1320 Braddock Place
Alexandria, VA 22314

Project Director:
Maeve Gearing, Ph.D.

Project Officer:
Rosemarie Downer, Ph.D.

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Executive Summary

In 2012, the Food and Nutrition Service (FNS) sponsored a study to be conducted jointly by the Institute of Medicine (IOM) and the National Research Council (NRC) to examine the feasibility of establishing an objective, evidence-based means of defining the adequacy of the Supplemental Nutrition Assistance Program (SNAP) benefit. The committee conducted an extensive review of available evidence and concluded that the adequacy of SNAP allotments can be objectively defined; as a first step, the committee recommended that FNS assess the individual, household, and the environmental factors that limit the adequacy of the SNAP allotment.

This study builds on past research and the work of the IOM and the NRC, to bear on the critical question of the adequacy of the SNAP benefit. It includes both a nationally representative survey of SNAP participants and in-depth interviews with SNAP participants. This report presents the findings from the survey of SNAP participants. Between May and November 2018, over 5,000 SNAP households completed the SNAP participant survey which included questions about their grocery shopping habits, nutrition knowledge, food preparation practices, and barriers to shopping for foods that are part of a healthy diet as well as preparing meals that are part of a healthy diet at home. Participants were asked about whether they ate a healthy diet, defined in the survey as “eating a variety of food from all five food groups (fruits, vegetables, grains, dairy, and protein foods). It also means not eating too much saturated fat, salt, or sugar, and getting the right amount of calories for you.” The survey also gathered information about household finances and participation in community and government assistance programs. The study has five research objectives:

1. Determine the individual and household barriers faced by SNAP participants that prevent them from having access to a healthy diet throughout the month.
2. Determine the environmental barriers faced by SNAP participants that prevent them from having access to a healthy diet throughout the month.
3. Describe the interaction between individual, household, and environmental barriers.
4. Among the most frequently reported barriers, describe in more detail the nature of the barriers and what coping strategies are used by households to overcome the barriers.
5. Determine how, if at all, the individual, household, and environmental barriers can be accounted for in determining SNAP allotments.

Data analyses including descriptive statistics, cross-tabulations, factor analysis, and regressions were used to address the research objects, and results were examined within the context of current programs and interventions.

The survey finds that SNAP participants face a range of barriers to shopping for and preparing foods that are a part of a healthy diet. Such barriers include high cost of food, limited nutrition knowledge, and food preferences of household members. More than eight out of 10 SNAP households state that they are unable to shop for or prepare meals that are part of a healthy diet due to one or more reasons. However, many of these barriers are not significantly related to participants' food security status. Only two barriers are significantly related to food security: lack of kitchen equipment and the cost of foods that are part of a healthy diet. Food cost is the most prevalent barrier and has the largest adverse effect on the food security status of SNAP households.

Study Design

This study includes both a quantitative survey and qualitative in-depth interviews; results from the in-depth interviews are presented in a separate report. For the survey, a two-stage stratified sample design was used to select a nationally-representative probability sample of SNAP participants. In the first stage, 26 States were selected for participation based on number of SNAP participants within the State. States with more SNAP participants were more likely to be chosen for the sample. In the second stage, a sample of 13,584 SNAP participant households was selected from sample States based on household size, so that the distribution of household sizes in the sample reflected the distribution of household sizes across all SNAP participants. This sample size was selected to meet the target precision of +/- 5 percent at the national level.

The survey was fielded in three waves between May and November 2018. In each wave, participants were mailed a paper survey, with follow-ups by mail and by phone. In the first wave, an experiment was conducted to examine the effect of pre-incentives on participation; half of the sample in the first wave received \$2 with the survey as a pre-incentive to complete the survey and were sent \$20 in cash after completing the survey, while half of the first wave did not receive the pre-incentive but did receive the \$20 if they completed the survey. In the second and third waves, all of the sample received the pre-incentive and those who completed the survey received \$20. The invitation mailing included a letter in English and Spanish as well as the survey in English. Sampled participants could

request a copy of the survey in Spanish by following instructions given in this letter; 191 surveys were completed in Spanish. A total of 5,569 surveys were received, yielding a cooperation rate of 54 percent and a response rate of 40 percent.¹ Households who were not on SNAP at the time the household received the survey and had not been on SNAP within the past six months were excluded from the analyses, as were surveys with less than one-third of the survey completed. The final analytic dataset included 4,522 surveys. Data were weighted to provide nationally-representative household estimates and adjusted for nonresponse using the Chi-squared Automatic Interaction Detector software and with adjustments based on demographic and geographic characteristics available in the sampling frame.

Findings

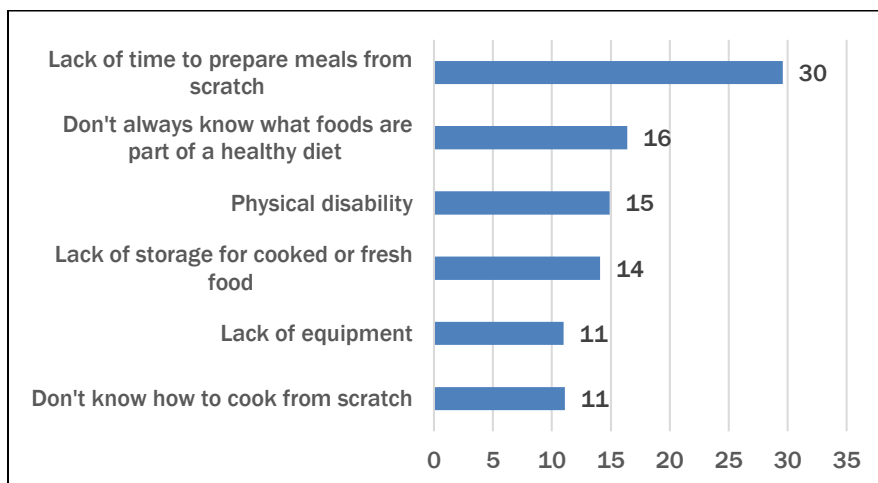
In this study, fewer than one-third of the SNAP households were food secure, with 38 percent reporting low food security and 35 percent reporting very low food security.² The majority of SNAP participants faced individual, household, and environmental barriers to shopping and preparing meals that are part of a healthy diet. Individual and household barriers are those that are internal to a person's circumstance. In accordance with previous literature, this study finds that SNAP households encounter five main individual/household barriers: lack of knowledge about healthy eating, lack of cooking skills, lack of kitchen equipment and facilities, lack of time for cooking, and lack of time to shop for foods that are part of a healthy diet. Of the individual barriers, lack of time to cook was most common, with 30 percent of SNAP participants saying that lack of time prevents them from preparing meals that are part of a healthy diet (Figure ES-1). Sixteen percent of participants reported that lack of knowledge about what foods are part of a healthy diet prevented them from preparing meals that are part of a healthy diet, fourteen percent cited lack of storage for fresh or cooked food, and eleven percent each reported lack of equipment to cook and lack of cooking skills. In addition to these barriers, 15 percent of participants reported that physical disability prevented them from cooking meals that are part of a healthy diet. Looking at barrier prevalence by location (Census region, urbanicity), education level, household composition, and

¹ The response rate represents the ratio of all completed surveys to all sampled households, while the cooperation rate represents the ratio of all completed surveys to all locatable, contactable, and non-deceased sampled households.

² In 2018, 11.1 percent of U.S. households were food insecure. Of the food insecure households, 6.8 percent had low food security and 4.3 percent had very low food security (Coleman-Jensen et al, 2019). About 46 percent of households with very low food security reported participating in SNAP in the 30 days before the survey.

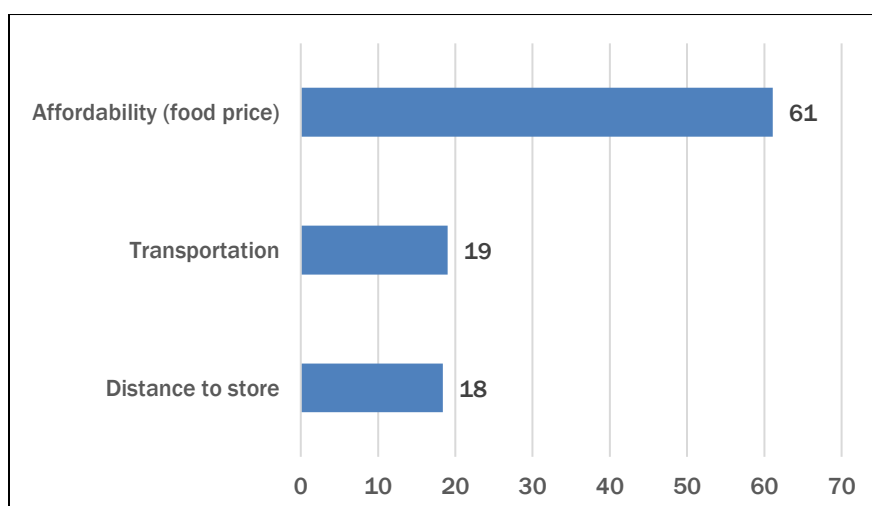
sources of income revealed no patterns across barriers (e.g., those relying solely on SNAP for income were more likely to face some barriers but not others). Instead, the group most affected by a given barrier tended to vary across barriers.

Figure ES-1. Reasons that kept the primary food preparer from preparing meals that are part of a healthy diet (%)



Environmental barriers, defined as those outside an individual's direct control, included the cost of foods that are part of a healthy diet, distance to the store, and transportation to the store. More than 60 percent of participants reported that affordability of foods that are part of a healthy diet was a barrier, representing the most prevalent barrier in the study (Figure ES-2.) Eighteen percent reported distance to the store as a barrier, and 19 percent reported transportation as a barrier.

Figure ES-2. Reasons that kept the primary food shopper from shopping for foods that are part of a healthy diet (%)



Overall, 88 percent of participants faced one or more barriers, either individual/household or environmental (Table ES-1).

Table ES-1. Percentage of SNAP participants facing barriers, by barrier type

Type of barrier	% not facing barrier	% facing at least 1 barrier	Weighted n	Unweighted n
Individual/household barriers	28.8 (0.8)	71.2 (0.8)	16,617,828	4,522
Environmental barriers	25.2 (0.9)	74.8 (0.9)	16,617,828	4,522
Either individual or environmental barrier	12.3 (0.6)	87.7 (0.6)	16,617,828	4,522

Exploratory factor analysis was used to examine the association between survey barrier questions. Based on the factor analysis, the 17 survey questions on barriers to shopping and preparing foods were reduced to five loaded variables: (1) shopping logistics (distance to store, lack of transportation, store hours, amount of time to shop, and safety concerns around the stores); (2) physical disability; (3) nutrition attitudes and habits (understanding the importance of eating a healthy diet, knowledge and use of MyPlate Graphic, and frequency of Nutrition Facts panel information use); (4) lack of kitchen equipment and lack of storage facilities; and (5) preferences and skills (including ability to prepare meals and households' preference for home-cooked meals). Three barriers were not strongly correlated with any other variable—lack of time to prepare meals, lack of knowledge about what foods are part of a healthy diet, or affordability.

Upon including the five loaded variables, plus lack of time to prepare meals, lack of knowledge about what foods are part of a healthy diet, and affordability, into a logistic regression, only two were statistically significantly associated with household food security: affordability and lack of kitchen equipment and lack of storage facilities (Table ES-2). Of these, affordability has the strongest impact on household food insecurity. The odds ratio can be interpreted to mean that those who report facing an affordability barrier are 2.31 times more likely to have low or very low food security than those who do not report facing an affordability barrier. Further investigation into the relationship between the affordability barrier and SNAP benefit exhaustion shows that those who face an affordability barrier for foods that are part of a healthy diet are also more likely to exhaust their benefits early (within the first two weeks of the month). These households are more likely to rely on assistance programs (including SNAP and others such as TANF and/or Social Security Disability income) as their sole source of income.

Table ES-2. Logistic regression model examining the association between sociodemographic characteristics, barriers, and household-level food security status

Shopping and cooking barriers	Odds ratio
Affordability	2.31*
Lack of equipment and lack of storage ^d	1.60*
Lack of time to cook meals that are part of a healthy diet	1.23
Shopping logistics ^a	1.22
Physical disability ^b	1.16
Lack of knowledge about what foods are part of a healthy diet as a barrier to preparing meals that are part of a healthy diet	1.09
Nutrition attitudes and habits ^c	1.04
Preferences and skills ^e	0.82

Source: Food and Your Household Survey, 2018

4,522 completed surveys were included in the analysis

The following control variables were included in the model: household size, single vs. multiple adults, presence of children (Y/N), presence of elderly adults (Y/N), Race/ethnicity (white, black, Hispanic, other), respondent completed high school education (Y/N), marital status of respondent (married, divorced, never married, separated, widowed), household source of income (assistance programs only, assistance programs and earnings, source not reported), currently have outstanding bills (Y/N), housing (rent, own, occupied without paying rent, in someone else's home, group care or board or care facility or shelter), urbanicity (rural, city, suburb, town), census region (Midwest, northeast, south, west).

^a Based on factor loading scores of >0.5, includes: distance, transportation, store hours, time to shop at the store, and safety concerns in and around the stores keeps from shopping. Score ranges from 0 to 5.

^b Based on factor loading scores of >0.5, includes: physical disability keeps from shopping and physical disability keeps from cooking meals that are part of a healthy diet. Scores range from 0 to 2.

^c Based on factor loading scores of >0.5, includes: frequency of Using Nutrition Facts Panel information, familiarity with MyPlate graphic, and understanding the importance of eating healthy. Scores range from 0 to 3.

^d Based on factor loading scores of >0.5, includes: lack of storage and lack of equipment keeps from preparing meals that are part of a healthy diet. Scores range from 0 to 2.

^e Based on factor loading scores of >0.5, includes: do not know how to prepare foods that are part of a healthy diet and household members do not like home cooked meals. Scores range from 0 to 2.

It is possible that participants are able to reduce the effects of barriers on food security through a variety of coping strategies. Three types of strategies are used by participants: stretching the food budget (both by shifting funds within the budget to increase the amount of money available to buy groceries and by maximizing the amount of food purchased through planning and sales); social support; and participation in community and government food assistance programs such as the Special Supplemental Nutrition Program for Women, Infants, and Children program (WIC) and the Meals on Wheels program.

Making a food budget (a strategy to maximize the amount of food purchased) is the most prevalent strategy over all, with about two-thirds of participants using a budget. Among households with children, participation in the National School Lunch Program is the most common strategy, with almost three-quarters of households with children enrolled. The least common strategy is sending household members to stay elsewhere. Examining coping strategies by type of barrier faced, those

who report physical disability are the most likely to use coping strategies, while those who do not like home-cooked meals are the least likely to use coping strategies.

Because addressing the affordability barrier by increasing SNAP allotments may not be viable, alternate policies or programs may be effective at targeting those who face affordability or equipment barriers.. Expanding the reach of SNAP-Ed, which provides classes focused on cooking with limited kitchen equipment or managing a food budget, could help mitigate the impacts of these barriers. To some extent, programs such as fruit and vegetable incentives programs (including Food Insecurity Nutrition Incentive Programs) which subsidize the purchase of fruits and vegetables, offer potential to make food more affordable for SNAP households.

Overall, the findings highlight the individual, household, and environmental barriers SNAP participants face in feeding themselves and their families a healthy diet.

1. Background and Understanding

1.1 Overview

The Supplemental Nutrition Assistance Program (SNAP) is the federal government's first line of defense in combating food insecurity in the United States. SNAP provides in-kind food assistance for low-income individuals and households. The program is administered and managed by the U.S. Department of Agriculture's (USDA's) Food and Nutrition Service (FNS) and is available to all individuals and households who meet the eligibility requirements set by their State.

In recent years, there has been debate about the adequacy of SNAP allotments. In addition, many researchers have studied barriers that impede purchasing and consuming a healthy diet among low-income populations (Buck-McFadyen, 2015; Chang and Chatterjee 2016; Darko, Eggett, and Richards, 2013; Dean and Sharkey, 2011). In 2012, FNS sponsored a study by the Institute of Medicine (IOM³) and the National Research Council (NRC) to examine the feasibility of establishing an objective, evidence-based means of defining SNAP benefit adequacy. The IOM and the NRC committee report (2013) concluded that the adequacy of SNAP allotments can be objectively defined and recommended that FNS assess the individual, household, and the environmental factors that limit the adequacy of the SNAP allotment to attain food security and access to a healthy diet.

This current study builds on the past research and the work of the IOM and the NRC, examining the critical question of the adequacy of SNAP benefits. The study collected and analyzed both qualitative and quantitative data to examine the barriers faced by households participating in SNAP in acquiring and preparing meals that are part of a healthy diet. This report presents the findings from the participant survey involving a nationally-representative sample of SNAP households. A separate report presents the qualitative findings from in-depth interviews with SNAP participants and kitchen ethnographies.

³ IOM is now known as the Health and Medical Division.

SNAP Overview

In FY 2018, about 40.3 million people living in 19 million households participated in SNAP, on average, per month. Of these people, about 41 percent were in households with children, and about 26 percent were in households with seniors. During the same year, the average monthly per person benefit was \$125.25 and the per household benefit was \$251.55, costing the federal government about \$65 billion (of which 93% went directly into benefits). The U.S. Census Bureau's The Supplemental Poverty: 2017 report shows that the added value of SNAP benefits moved 3.4 million people, including 1.5 million children, from below the poverty line to above the poverty line (Fox, 2018). However, the greatest effect occurred with the poorest households, for which SNAP benefits reduced the proportion of households with income below 50 percent of the poverty threshold from 15 percent to 10 percent.

To be eligible for SNAP, households must meet the following criteria: (1) gross monthly income must be at or below 130 percent of the poverty level; (2) net income must be equal to or less than the poverty level; and (3) assets must be below the limits set based on household composition. SNAP benefit levels are based on USDA's Thrifty Food Plan (TFP), a minimal cost food plan that reflects current nutrition standards and guidance, the nutrient content and cost of food, and consumption patterns of low-income households. The TFP value is the maximum allotment for a SNAP household of four people. The TFP is adjusted for households of different sizes (not composition) to reflect economies of scale in food purchasing. SNAP is designed to be a supplement to household food purchases from a household's own income. Most SNAP households have income and receive a benefit equal to the difference between the maximum allotment for their household size and 30 percent of their net income. Households with no net income, however, receive the maximum allotment.

Participating households receive monthly SNAP benefit allotments in the form of Electronic Benefit Transfer (EBT) cards, for purchase of food items to be prepared at home, including plants and seeds to produce food.⁴ SNAP benefits are redeemed at authorized food retailers nationwide,

⁴ SNAP benefits cannot be used to purchase beer, wine, liquor, cigarettes, tobacco, any nonfood items, vitamins and medicines, prepared foods fit for immediate consumption, and hot foods.

including supermarkets, grocery stores, convenience stores, farmers markets, and other specialty stores.

1.2 Research Objectives

The Assessment of the Barriers That Constrain the Adequacy of SNAP Allotments is designed to meet five research objectives:

1. Determine the individual and household barriers faced by SNAP participants that prevent them from having access to a healthy diet throughout the month.
2. Determine the environmental barriers faced by SNAP participants that prevent them from having access to a healthy diet throughout the month.
3. Describe the interaction between individual, household, and environmental barriers.
4. Among the most frequently reported barriers, describe in more detail the nature of the barriers and what coping strategies are used by households to overcome the barriers.
5. Determine how, if at all, the individual, household, and environmental barriers can be accounted for in determining SNAP allotments.

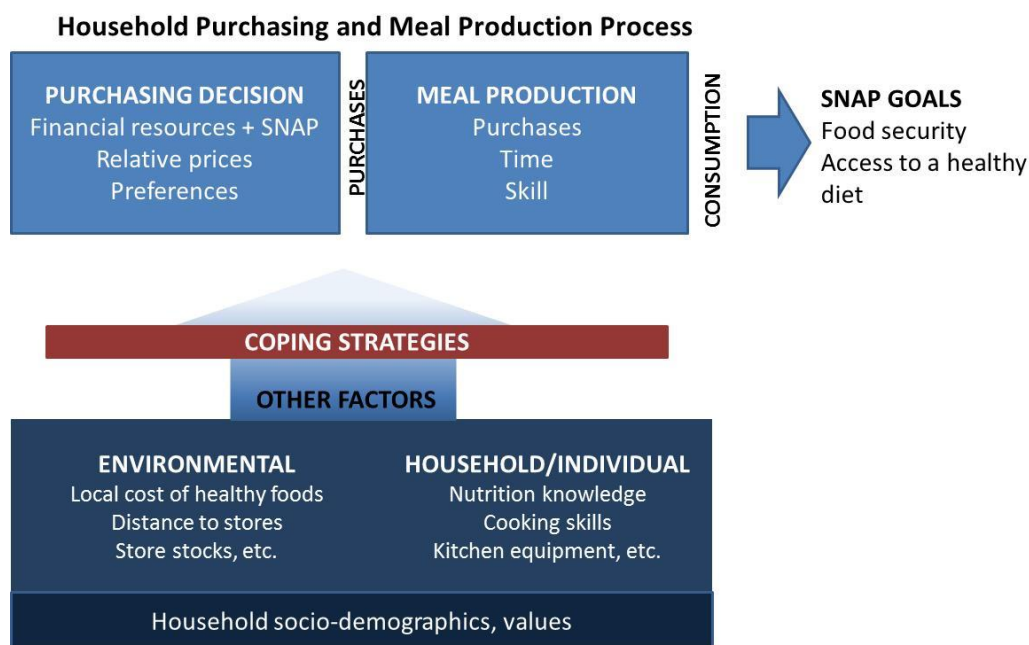
This report addresses all the objectives, but objective 4 (coping strategies) is addressed in greater depth in the report on in-depth interview findings.

1.3 Conceptual Framework

SNAP benefits are intended to supplement household food expenditures with the goals of increasing food security and improving nutrition. Figure 1-1 presents a conceptual model of household's purchasing and meal production process. The model indicates that along with demographics and values, several environmental and individual/household factors influence whether the SNAP allotment is adequate to purchase and prepare foods that are part of a healthy diet. Some of these factors may be barriers in that they impede a household's ability to purchase, prepare, and ultimately consume foods that are part of a healthy diet. As stated in the 2013 IOM and NRC report on the adequacy of the SNAP benefit, "Although SNAP allotments might be adequate in the absence of these factors, the evidence suggests that these factors can act as barriers to obtaining nutritious foods and preparing nutritious meals consistent with the assumptions of the TFP." The IOM report explains that some households develop coping strategies, such as relying on family and

friends for transport to the grocery store, to mitigate the negative impact of barriers. For instance, a family could live a long distance from a store (an environmental barrier), making it difficult for them to shop frequently. That family might mitigate this barrier by buying bulk foods, allowing them to be food secure despite less frequent access to food stores.

Figure 1-1. Conceptual model of household's purchasing and meal production process



1.4 Previous Literature

Household and Individual Factors

As Figure 1-1 shows, both household/individual and environmental factors affect the household's purchasing and meal production processes. Individual and household factors are those internal to a person's circumstances, and previous research shows several factors may affect the diets of SNAP participants (although they are not unique to SNAP participants). These factors include food production capabilities such as nutrition knowledge, cooking skills, and kitchen equipment or cooking facilities (Nicklaus et al., 2004; Wiig and Smith, 2009; Krolner et al., 2011; Mancino and Newman, 2007; Smith, Ng, and Popkin, 2013; Viradachalem et al., 2014).

Nutrition Knowledge

Knowledge of what constitutes a healthy diet encompasses the ability to “access, interpret, and use nutrition information” (Velardo, 2015). Several studies document associations between nutrition knowledge and better diets across several populations, including socioeconomically diverse urban residents, adolescents, and the elderly adults (Kuczmarski et al., 2016; Vaitkeviciute, Ball, and Harris, 2015; Wallace, Lo, and Devine, 2016; and Miller and Cassady, 2015). While these studies cannot establish causality, some experiments involving interventions have found that teaching greater nutrition knowledge is associated with healthier dietary choices among participants (Wallace, Lo, and Devine, 2016; Bowling et al., 2016). These results suggest that a lack of nutritional knowledge could act as a barrier for healthy eating.

Research further suggests differences in nutritional knowledge across populations. Morton and Guthrie (1997) found that, compared with higher income participants, low-income participants are less likely to understand the relationship between diet and disease and less likely to refer to the nutrition facts panel when selecting foods. These findings are confirmed by Dammann and Smith (2009). Similarly, Persoskie, Hennessy, and Nelson (2017) found a strong association with understanding nutrition labels and income, with lower-income participants demonstrating less understanding of nutrition labels than higher-income participants. Together, these studies point toward a greater lack of nutritional knowledge among lower-income populations.

Cooking Skills

Lack of cooking skills may also present a barrier to healthy eating. Researchers have found that more frequent cooking is associated with improved dietary intake across populations, including among those receiving SNAP (Fertig et al., 2019; Taillie and Poti, 2017; Wolfson and Bleich, 2015). Although multiple factors may impede cooking, studies (mostly focused on European populations) have found an association between self-reported lack of cooking skills and less frequent cooking (Lavelle et al., 2016; Van der Horst, Brunner, and Siegrist, 2011). Whether lack of cooking skills is a particular barrier for low-income households is less clear. Winkler (2008) looked at a nationally representative sample of Australians and found that lower-income participants were less confident in their cooking skills than higher-income participants. However, Buck-McFadyen (2015) found high levels of cooking skills among low-income rural Canadian households, as these households used “scratch” cooking at home as a way to mitigate food insecurity.

Kitchen Facilities

Lack of kitchen facilities represents a clear barrier to healthy eating. Without at least minimal cooking facilities, it quickly becomes impossible to prepare and have food at home. However, prior research suggests that the percentage of the U.S. population without access to some cooking facilities is relatively small; according to the American Housing Survey in 2010, about 7 percent of low-income households had “moderate physical [infrastructure] problems,” including a lack of a full kitchen. Additional barriers to home cooking may include pest infestation or lack of adequate storage. Studies of low-income housing have found high rates of pest infestation, particularly in kitchens, that could reduce cooking rates (Wang, El-Nour, and Bennett, 2008). Low-income populations are also more likely to live in facilities, such as homeless shelters or group homes, that lack kitchen facilities (Wiecha et al., 1993). Thus, although a lack of kitchen facilities may not be a barrier for most SNAP households, it may be a particularly severe barrier for some.

Time

Time available for cooking may be highly constrained in some SNAP households, while the TFP does not consider the labor cost of food preparation (Davis and You, 2010). Overall, 59 percent of SNAP households with working age nondisabled adults, and 65 percent of households with children, have at least one household member who works (Keith-Jennings and Chaudhry 2018). Fifty-two percent of SNAP recipients who work worked full-time. Of those not working, 10 percent report caring for children or other household members. Krolner et al. (2010) noted that shopping and preparing vegetables takes more time than pre-packaged meals. Those who eat out (including both dine-in at restaurants and carry-out) are more likely to make less healthful food choices, creating a direct barrier between lack of time and healthy eating (Jabs and Devine, 2006).

Environmental Factors

Environmental factors are external to the household and include issues such as availability and affordability of foods that are part of a healthy diet, and transportation to acquire such foods.

Availability of Foods that are Part of a Healthy Diet

Previous research suggests that living in areas with better access to supermarkets and limited access to convenience stores contributes to healthier diets. Lower-income and minority households, as well as rural households, are less likely to have such access (Larson, Story, and Nelson, 2009). However, initiatives to increase access to supermarkets have had mixed findings, with some initial evaluations finding no effect on the introduction of a supermarket on resident fruit or vegetable intake or body mass index (BMI) (Cummins, Flint, and Matthews, 2014). Some research suggests that supermarkets on their own may not be a good measure of the accessibility of foods that are part of a healthy diet. For example, while the presence of superstores may provide access to fresh foods, their presence is associated with the purchase of more shelf-stable, high-calorie items (Gustafson, 2017). Similarly, Mabli (2014) found that despite close proximity, less than 1 percent of households purchased groceries from local convenience stores.

Transportation

Research shows that transportation is also a barrier for some individuals. Specifically, public transit or the lack thereof is an environmental barrier for low-income populations. Prior research has found that car ownership facilitates grocery shopping at preferred venues (Tach and Amorim, 2015). Those without cars must rely on rides from their social networks or public transit to reach supermarkets in many areas (LeDoux and Vojnovic, 2013). Low-income households are less likely to own cars and are more likely to have difficulties conducting their shopping (Hillier et al., 2011). Similarly, rural households are also less likely to be able to rely on rides from social networks and thus may have more difficulty with grocery shopping if they do not own their own vehicles (Smith and Morton, 2009).

Affordability

Research also suggests that cost, particularly of foods that are part of a healthy diet, is a barrier for low-income households. In 2016, a series of studies from a competitive grants program commissioned by the USDA Economic Research Service (ERS) and FNS used data from the National Food Acquisition and Purchase Survey (FoodAPS) to determine the effect of local food environment and food prices on food security. Overall, data indicate that local prices have a greater impact on food security than proximity to food retailers. One study found that the presence of

supermarkets with higher average food prices is linked to food insecurity, with 13 percent of food insecure households living in high-poverty areas with higher than average supermarket prices (Downing and Laraia, 2016). These findings suggest that foods that are part of a healthy diet tend to be more expensive in low-income neighborhoods but not in suburban locations (Monsivais and Drewnowski, 2007; Monsivais and Drewnowski, 2009; Drewnowski, 2010). However, these findings are not universal and may depend on how prices for different foods are measured (Carlson & Frazao 2012).

SNAP participants often contend with more than one type of barrier to healthy eating. For instance, accessibility to full-service grocery stores and affordability of products both influence the purchase of foods that are part of a healthy diet (Lin, Ver Ploeg, Kasteridis, and Yen, 2014). The report details the multiple and overlapping individual/household and environmental barriers that participants commonly face.

1.5 Report Organization

This chapter (Chapter 1) provides a summary of the literature on some of the individual, household,

Report Chapters

1. Background and Understanding
2. Methodology and Survey Participant Characteristics
3. Individual and Household Barriers to Healthy Eating
4. Environmental Barriers to Healthy Eating
5. Barrier Associations and Relationship to Food Security
6. Coping Strategies
7. Conclusion

and environmental barriers that may prevent participants from realizing the full benefits that SNAP provides. Chapter 2 details the survey instrument development process and data collection procedures. Chapter 3 discusses individual and household barriers, and Chapter 4 presents environmental barriers. Chapter 5 explores the associations between different types of barriers and between barriers and food security. Chapter 6 reviews coping strategies used by

individuals facing these barriers. Chapter 7 offers a summary of the findings and examines the implications of these findings for SNAP.

2. Methodology

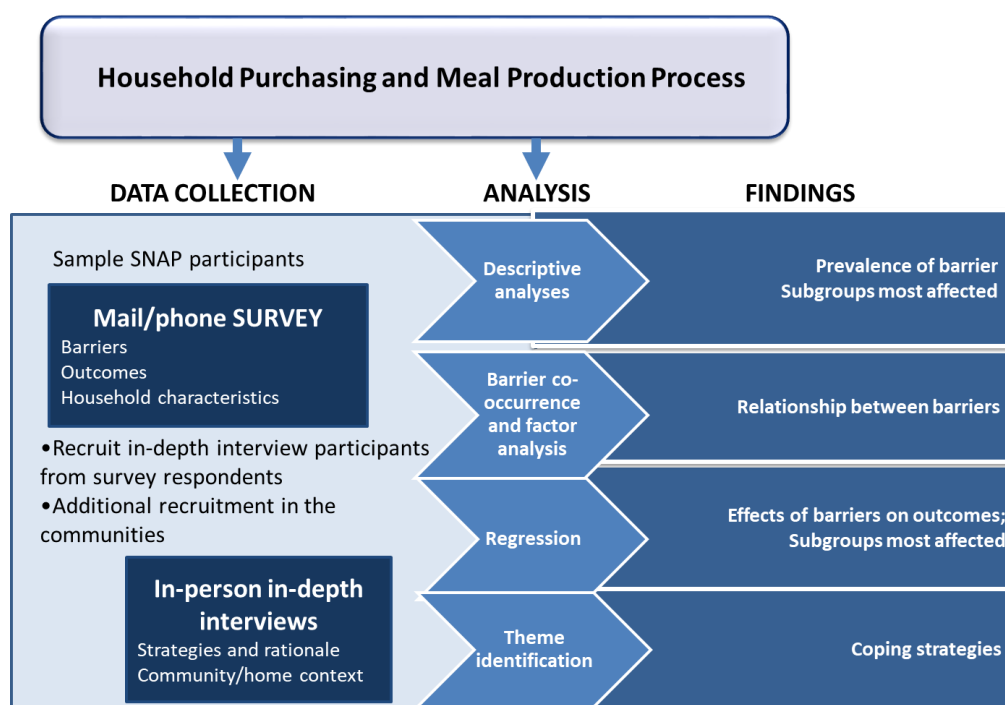
The Assessment of the Barriers that Constrain the Adequacy of SNAP Allotments study includes both quantitative and qualitative components. This chapter describes the study as a whole and provides greater detail on the quantitative component, data collection, and analytic methods.

The quantitative component addressed the objectives through a nationally-representative survey of SNAP households, while the qualitative component addressed objectives through in-depth interviews with 121 SNAP participants across 12 sites in 12 States. Some objectives are addressed in greater detail in the qualitative report; most notably, the in-depth interviews examine coping strategies in greater depth than the participant survey. Details on the in-depth interviews are presented in the report “Barriers that Constrain the Adequacy of Supplemental Nutrition Assistance Program (SNAP) Allotments: In-depth Interview Findings.”

2.1 Overview of the SNAP Barriers Study Design

Figure 2-1 provides an overview of the mixed methods study design implemented to address the five overarching research objectives of the study. The in-depth interviews focused on the strategies households use to overcome barriers and sought to obtain information to facilitate a better understanding of how households perceive the barriers they face. This report focuses on describing the prevalence of barriers and the associations between the barriers and food security status.

Figure 2-1 Study design



2.2 Survey Instrument and Data Collection Approach

In this section, details on the sampling, survey instruments, and data collection are provided. Greater detail is offered in the appendixes to this report.

2.2.1 SNAP Participant Survey

In consultation with FNS, the survey instrument was developed by the research team at Westat as well as consultants. It includes five modules: Shopping for Groceries, Nutrition Knowledge, Preparing Food at Home, Household Finances, and You and Your Household. The study team identified survey topics of interest and developed questions based on existing validated instruments. (The complete survey instrument, titled Food and Your Household, is presented in Appendix 1.)

The Shopping for Groceries module asks participants to answer questions about where they shop for groceries, including identifying the primary and secondary stores they shop at, the name of the store(s), type of store(s) (including large chain grocery store, ethnic market, discount superstore, and other options), how far away the store(s) is (are) from the participants' homes and workplaces, how they get to the store (car, walk, bus, etc.), and how frequently they shop for groceries. These

questions establish shopping patterns and provide information on access to stores. Finally, several questions look at access to foods that are part of a healthy diet and how shoppers choose foods. The survey defines a healthy diet for participants as “eating a variety of food from all five food groups (fruits, vegetables, grains, dairy, and protein foods). It also means not eating too much saturated fat, salt, or sugar, and getting the right amount of calories for you.” Questions ask participants to categorize the availability of different foods that are part of a healthy diet in the stores they frequent and the ease with which they can afford foods that are part of a healthy diet.

The Nutrition Knowledge module asks participants how important they consider it to be to eat healthy to stay healthy and whether they believe that they eat a healthy diet most days. It asks participants about their familiarity with the MyPlate graphic (shown in the survey). Finally, it asks participants about the main reasons that keep them from (1) shopping for foods that are part of a healthy diet and (2) preparing meals that are part of a healthy diet.

The Preparing Food at Home module explores eating patterns. Items focus on potential barriers to cooking, including cooking skills and kitchen equipment as well as frequency of cooking. Items also inquire about sources of food, including use of food banks or food pantries, and strategies to manage money. This module includes the U.S. Household Food Security Survey Module, developed by the Economic Research Service. All participants were directed to answer the household and adult reference questions, while households with children were also directed to answer the child-referenced items. This survey module is designed to identify food insecurity on a continuum, from food-secure households to households with low food security and households with very low food security. Participants were asked both about how much they had to eat and the quality of food items they could afford during the past 12 months.⁵

The Household Finances module inquires about the participants’ budgeting habits and financial situations. Questions ask about the ability of participants to pay for utilities, housing, child care, transportation, and healthcare; household debt; and household budgeting habits. These provide contextual information for a better understanding of the barriers to consuming a healthy diet.

⁵ Guide to Measuring Household Food Security: Revised 2000. USDA Office of Research and Analysis. <https://fns-prod.azureedge.net/sites/default/files/FSGuideSummary.pdf>

Finally, the You and Your Household module covers a variety of topics including sociodemographic characteristics, availability of kitchen equipment, and participation in other assistance programs (e.g., National School Lunch Program and Home Energy Assistance). Participants are also asked to verify their receipt of SNAP and to indicate how long their benefits last each month.

The survey instrument was revised extensively during development and went through two rounds of cognitive testing to ensure that questions were understandable and appropriate.

2.2.2 Sampling and Cooperation Rate

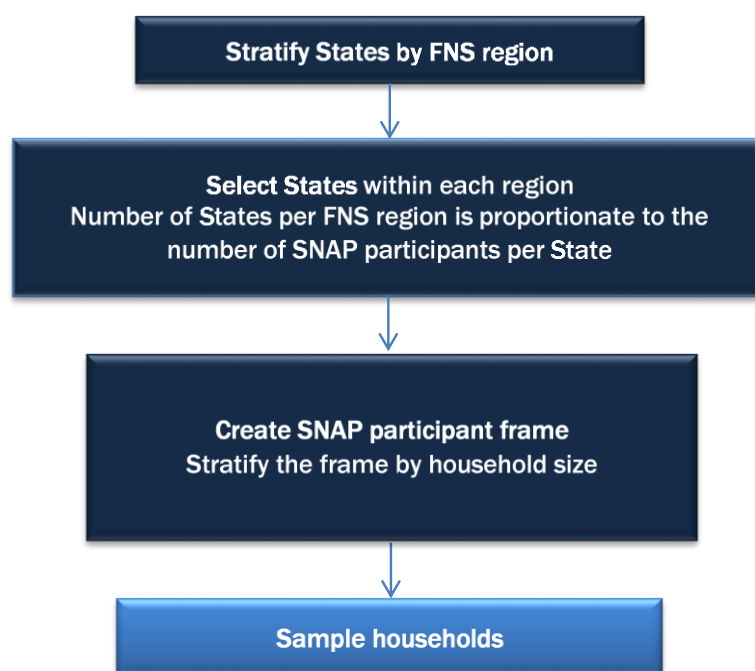
The study team used a two-stage stratified sample design to select a nationally-representative probability sample of SNAP participants. In the first stage, statisticians selected a sample of States as primary sampling units (PSUs), and in the second stage, they selected a sample of SNAP participant households from the sample States.⁶ This approach minimized the burden on States, as it reduced the number of States that had to provide sampling frame data.

Figure 2-2 provides an overview of the sampling approach. To ensure the representativeness of the State sample, the sampling process began by stratifying States in FNS regions. Within each region, Westat selected the States based on the number of SNAP participants in their State. States with more participants were more likely to be selected for the study. Thirty States were selected. Six States initially declined to participate and were replaced in the sample using the Keyfitz procedure⁷, a method commonly used for updating samples. Replacement States were chosen within the same region as the State which declined and was designed to resemble the replaced State in its number of SNAP households. Of the six replacement States, four declined to participate or declined to send sampling frame data after agreeing to participate. Due to scheduling constraints, these States were not replaced in the sample. The final sample included 26 States. The smaller sample of States meant that a larger sample total was required to meet precision goals. For data analysis, a State-level weight was assigned to all sample States, including the replacement sample States, based on their overall probability of being included in the sample.

⁶ SNAP households were selected from each State's SNAP participant rolls to reflect those receiving SNAP as of October 2017.

⁷ Keyfitz, N. (1951), "Sampling with Probabilities Proportional to Size," Journal of the American Statistical Association, 46, 105-109.

Figure 2-2. Overview of sampling approach



Once the State sample was selected, the study team spoke with each State to review the administrative case record data being requested and the timeframe for the study. Data use agreements were prepared and signed with each State in the final sample. The data request for each State was limited to variables that are typically maintained in the States' SNAP case files. The data elements collected included household size, household composition (children/no children, and the number of household members), date benefit started, amount of monthly benefit, and contact information.

Using the data obtained from States, the team of statisticians developed a sampling frame for selecting the SNAP participants. The frame was a household-level list of SNAP participants, stratified by State and then by household size categories (1-3 persons vs. 4 or more persons) within States.

Final sample size was set both to meet the precision requirements of ± 5 percent margin of error with a 95 percent level of confidence around a point estimate (proportion) for the full sample, and to satisfy the needs for subgroup analysis with reasonable precision for point estimates and power for detecting difference between groups. The study team sought to size the sample so that it produced point estimates for subgroups with reasonable precision (± 8 %) and detect modest

differences (6 percentage points) between subgroup prevalence levels. Precision-level calculations are presented in Appendix 2.

In sample size estimation, determining a design effect is necessary for accurate power and expected precision calculations if the sample design is different from a simple random sample. The design effect is computed as the ratio of the variance of an estimate obtained from a specified sample design to the variance of the estimate obtained from a simple random sample of the same size. Given the sample design for this study, the design effect included a clustering effect due to States being used as a sampling unit in the two-stage design. In addition, the calculations included an expected design effect resulting from variation in the nonresponse adjustments in the data weighting process. The study team estimates the design effect to be approximately 1.2 for most estimates; this means that the variance is 1.2 times the variance that would be expected in a random sample selection model. Further discussion of precision levels by subgroup are presented in Appendix 2.

Based on the precision and minimum detectable difference (MDD) analyses, the team calculated that a sample size of 4,800 participants exceeds target precision of +/-5 percent at the national level and also exceeds this level for most of the subgroup comparisons. Power analyses are presented in Appendix 2. Thus, the team targeted 4,800 completed questionnaires. Because survey response rates for mail surveys have been declining (Guo et al., 2016; Allen et al., 2015), the study drew a large sample of 13,584 to be fielded in three waves. Fielding the study in waves allows for the sample size to be adjusted based on response rates to date, maximizing the cost efficiency in data collection.

As mentioned, 13,584 surveys were mailed out over the three waves. Of these, 4,855 were returned completely filled out. Three surveys were returned partially completed (defined as completed through at least the first three modules, but with significant gaps in the last two modules). Another 1,467 surveys were returned by the post office as non-deliverable. Of the 6,676 cases turned over to telephone interviewers, 711 were completed through phone interviews and 97 partially completed interviews were conducted. Of the remaining, 39 sampled participants were discovered to be deceased, and 1,772 were non-locatable. The total number of completed surveys, through both mail and phone, was 5,469 for a response rate of 40 percent and a cooperation rate of 53 percent.⁸

⁸ The response rate is the number of completed surveys (5,469) divided by the total sample size (13,584). The cooperation rate is the number of completed surveys (5,469) divided by the sample size adjusted for non-locatable, non-deliverable, and deceased participants. It is thus 5,469 divided by (13,584 – 1,467 – 39 – 1,772).

For the analytic file, participants who indicated that they were not currently receiving SNAP and had not received SNAP within the past 6 months were excluded from the sample. Ineligible participants were expected due to the lag between receiving the sampling frame from the States and fielding the survey; the sampling frame provided SNAP participants as of October 2017, but by May 2018 many of them were no longer receiving SNAP. As a result, 947 surveys were excluded due to ineligibility. The final analytic sample size was 4,522. Analysis on the excluded surveys is included in Appendix 3.

2.2.3 Weighting and Nonresponse Adjustment

A summary of the weighting approach and nonresponse adjustment are presented here with more details in Appendix 4. Given the complex sample design, the analysis of the survey data required the use of weights to compensate for varying probabilities of selection and differential response rates. It also required the implementation of variance estimation procedures that appropriately account for sample design features and weighting factors. At the end of the weighting process, a final household-level weight was assigned to each eligible SNAP participant household who completed the survey. With weighted estimation, sample survey data can be used to draw valid inferences about the target population.

The final weights for this study were developed in two main steps, which can be expressed as a product of two weight components, the State-level weight and the household weight.

The State-level weighting process began with assigning a base weight to all sample States, where the base weight was the reciprocal of the probability of selection for the States. The State base weight was then adjusted for State-level nonresponse (that is, States that declined to participate in the study) to create the State weight for the responding States. The primary objective of adjusting the weights for nonresponse is to reduce the potential for bias associated with nonresponse.

The final weights for the survey were derived at the household level. First, a household-level base weight was created for all sample households (including responding, nonresponding, and ineligible households) based on the State-level weights and the household probability of selection, and then the base weight was adjusted for household-level nonresponse. Only the eligible responding households received a positive final weight. Both weighted and unweighted data are presented in this report. More detail on weighting is provided in Appendix 4.

2.2.4 Data Collection Approach

The Food and Your Household survey was fielded between May and November 2018; a total of 13,584 SNAP participants were mailed the survey. There were three waves of data collection. An initial mailing to 5,833 SNAP participants occurred May 21, 2018. A second wave, with 2,934 surveys mailed to SNAP participants began July 30, 2018. The third and final wave, with 4,817 contacted SNAP participants, began August 27, 2018.

For all waves, the same procedure was followed. The initial mailing consisted of the paper survey mailed to participants via first class mail. One week after the initial mailing, a postcard was sent to all participants, reminding them to fill out the survey if they had not and thanking them for responding if they had. One month following the postcard mailing, a second survey was mailed to nonparticipants via FedEx. One week following the nonresponse mailing, a postcard reminder/thank-you was sent. One week after the reminder postcard was sent, telephone interviewers began contacting all those who had not yet returned the surveys to fill out the survey over the phone.

The survey was mailed in English and included a letter in Spanish providing instructions for Spanish-speaking participants to request a survey in Spanish. Those who contacted the toll-free number provided in the letter were mailed a Spanish survey. Telephone interviewers were bilingual in English and Spanish and could administer the survey in either language. All participants who returned a completed survey received a \$20 cash incentive as a token of appreciation for their participation. As part of an experiment on the impact of pre-incentives (that is, incentives sent before completion), about half of the initial wave of mailings was randomly assigned (by State) to receive a \$2 pre-incentive sent with the survey.⁹

2.3 Analytic Approach

The analytic approach for the study is driven by the study objectives. Below, analysis for each research question is described.

⁹ 24 of the 26 States in the sample agreed to participate in the experiment; half of the first wave of sample from those 24 States did not receive the pre-incentive.

2.3.1 Individual, Household, and Environmental Barriers

The first and second research objectives call for determining the individual, household, and environmental barriers faced by SNAP participants. In designing the survey, the study team identified from prior literature four likely individual or household barriers: lack of knowledge about healthy eating, lack of cooking skills, lack of kitchen equipment, and lack of time to acquire or prepare food. The study team in the same manner identified three likely environmental barriers: lack of availability of foods that are part of a healthy diet; lack of transportation; and cost of foods that are part of a healthy diet. The study team also identified physical disability as a potential barrier. For each potential barrier, several questions were included in the survey.

In most cases, these questions ask the SNAP participants about their perception of barriers to healthy eating. That is, do they perceive that a lack of cooking skills prevents their household from eating meals that are part of a healthy diet? Do they perceive a lack of time for cooking preventing them from making meals that are part of a healthy diet? Analysis of cost as a barrier is also based on participant report, with participants identifying whether affordability of foods is a barrier to them shopping for foods that are part of a healthy diet.

Objective measures are included for several barriers, including knowledge about healthy eating, kitchen equipment, availability of foods that are part of a healthy diet, and transportation. For instance, the participants were asked if their residence includes a kitchen and, if so, whether that kitchen includes cooking equipment, a stove, refrigerator, and/or microwave. For knowledge about healthy eating, the participants were asked about their familiarity with and use of the MyPlate nutrition graphic. For availability of foods that are part of a healthy diet, participants were asked both to identify the number of stores at which they shop as well as their perception of the availability of various foods at the primary store where they shop. For lack of transportation, participants identify their mode of transportation to the grocery store and the time needed to reach their primary grocery store as well as whether they perceive lack of transportation prevents them from eating a healthy diet.

For each barrier, the prevalence of the barrier within the sample as a whole is presented before further analysis focuses on those who perceive the barrier as salient for their household. The prevalence of each barrier is presented, both weighted and unweighted, and prevalence within subgroups are investigated. These subgroups include households with varying compositions

(whether the household includes children or elderly adults), and Census region of the respondent (Midwest, Northeast, South, and West). In addition, urbanicity of the participant was examined, with four subgroups: city, rural, suburban, or town¹⁰. These categories were chosen to capture differences in population density more accurately, as availability of stores stocking foods that are part of a healthy diet may vary significantly by population density and population size (Rose and Richards, 2004). For some survey items, additional subgroups were examined, including participant's level of education and source of household income. Chi-square and pairwise tests were performed to determine significance; tables indicate where subgroups are significantly different from each other.

2.3.2 Barrier Associations and Relationship of Barriers to Food Security

Associations between barriers were examined through factor analysis. Factor analysis shows how survey items “hang together;” it shows the correlation between variables. This allows the study team to examine how clusters of individual questions may represent underlying constructs. For instance, if survey questions about distance to store and transportation to the store are correlated, they may represent a construct of shopping logistics.

By creating composite variables, composed of combined responses from correlated variables, the study can test the impact of clustered barriers on outcomes of interest. Specifically, the study tests the impact of barriers on food security. Food security is a household-level economic and social condition characterized by limited or uncertain access to adequate food.¹¹ The U.S. Household Food Security Survey Module was included in the survey. Households are identified as food secure or with low or very low food security.

The overall food security status of the sample is presented, as well as results for subgroups including household composition, urbanicity, and Census region. Next, cross-tabulations between barriers and food security status are presented. Finally, a logistic regression was run with barriers as explanatory variables and food security as the outcome. This analysis examines the impact of each barrier on

¹⁰Urbanicity categories are defined according to the National Center for Education Statistics' geographic categories. A city is a territory inside an urbanized area and inside a principal city. A suburb is a territory outside a principal city and inside an urbanized area. A town is a territory inside an urban cluster. Rural areas are Census-defined rural territories.

¹¹“Definitions of Food Security,” Economic Research Service, USDA. <https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/definitions-of-food-security/>

food security, holding constant other sociodemographic variables such as urbanicity, Census region, race and ethnicity, marital status, sources of income, and other factors.

2.3.3 Coping Strategies

This report provides the prevalence of coping strategies and the in-depth interview report, the counterpart to this report, provides greater detail and the interviewees' perspectives. The survey asks participants about proactive and reactive strategies for meeting their food needs, including strategies used to increase the amount of money available for food and to make food budgets go further. These include strategies such as borrowing money or exchanging labor for food. The frequency of strategy use across the sample was examined, as well as the frequency among those facing particular barriers. Finally, use of food assistance programs was examined, both across the sample and among those facing particular barriers to eating a healthy diet.

2.4 Characteristics of Survey Participants

A total of 4,522 responses were included in the analysis, after excluding 947 surveys from participants who were no longer on SNAP. Table 2-1 presents the demographic characteristics of survey participants. The majority of the survey participants were women, and most were not currently married (47% of the participants were widowed, divorced, or separated, and 39% were never married). The age groups with the largest percentages of participants were those aged 60 or older (26%) and aged 30 to 39 (23%). The majority of participants were born in the United States (79%) and spoke English at home (86%); less than 5 percent of the sample spoke a language other than English or Spanish. The largest race/ethnic group represented was White (not Hispanic or Latino) (53%), followed by Black or African-American (not Hispanic or Latino) (29%), Hispanic or Latino (24%), and 17.9 percent identified as "Other," including those who identified as mixed race. Slightly less than one-fourth of the participants had not completed high school. The majority perceived themselves to be in excellent (21%) or good/fair (68%) health.

Table 2-1. Demographic characteristics of survey participants

Respondent characteristics	Weighted %	SE	Weighted n	Unweighted n
Gender			16,347,784	4,436
Male	26.5	0.9	4,325,747	1,217
Female	73.5	0.9	12,022,036	3,219
Marital status			16,218,325	4,403
Married	18.4	0.7	2,976,765	794
Widowed/Divorced/Separated	42.6	0.9	6,906,200	1,966
Never married	39.1	0.8	6,335,361	1,643
Age			16,348,907	4,440
18-29 years old	13.6	0.6	2,227,856	578
30-39 years old	22.6	0.7	3,700,060	904
40-49 years old	17.7	0.8	2,901,173	735
50-59 years old	19.9	0.6	3,246,649	927
60 years old or older	26.1	0.7	4,273,169	1,296
Language spoken at home			16,302,195	4,425
English	86.2	0.7	14,318,844	3,983
Spanish	17.3	0.9	2,882,651	695
Other ^b	4.7	0.3	776,391	202
Race/Ethnicity			16,302,195	4,425
White (not Hispanic or Latino)	42.2	1.1	6,777,728	1,992
Black or African American (not Hispanic or Latino)	28.7	1.0	4,618,544	1,169
Hispanic or Latino	24.0	1.4	3,859,213	972
Other ^a	5.1	0.8	820,588	235
Born in the US?			16,609,275	4,521
Yes	79.3	0.9	13,172,538	3,649
No, in US for more than 10 years	14.9	0.8	2,478,991	601
No, in US for 6 to 10 years	1.3	0.2	213,227	47
No, in US for 5 or fewer years	1.2	0.2	209,845	45
Highest Education Level			16,226,750	4,399
Less than high school	22.0	0.8	3,566,338	941
High school	36.2	0.9	5,878,019	1,573
Some college/associate's degree	22.2	0.7	3,597,435	1,032
College graduate or above	19.6	0.8	3,184,959	853
Perceived Health Status of Respondent			1,6268,790	4,413
Excellent/Very good	21.1	0.6	3,439,095	919
Good/Fair	67.6	0.7	10,990,349	2,961
Poor	11.3	0.4	1,839,347	533

Data Source: Food and Your Household Survey, 2018

4,522 completed surveys were included in the analysis

^a These included respondents who wrote in a country of origin, were of mixed race, or indicated "other" but did not provide information in the write-in field.

^b These include respondents who indicated "other" to the question of language spoken at home.

Table 2-2 presents information on the residential characteristics of survey participants. The majority of participants (61%) lived in a rental home and about 1 percent lived in a group care, board or care facility, or shelter. About 45 percent of the participants lived in the city and a similar percentage were from the South (43%).

Table 2-2. Place of residence, urbanicity, and Census region of survey participants

Characteristic	Weighted %	SE	Weighted n	Unweighted n
Place of residence			15,743,468	4,275
Rental apartment, rental home, or mobile home	60.6	0.9	9,540,755	2,538
Own home, apartment, mobile home	22.9	0.7	3,602,540	1,034
In someone else's household	12.9	0.7	2,031,456	551
Group care, board or care facility, or shelter	1.2	0.2	188,750	51
Occupied without paying rent	2.4	0.3	379,968	101
Urbanicity^a			15,561,443	4,236
City	44.6	1.1	6,936,901	1,846
Suburb	30.2	0.7	4,697,750	1,235
Rural	13.8	0.9	2,140,800	626
Town	11.5	0.6	1,785,992	529
Census Region			16,617,828	4,522
South	43.2	2.5	7,178,270	2,024
West	22.4	3.6	3,715,160	1,105
Midwest	20.4	0.7	3,395,550	670
Northeast	14.0	2.1	2,328,848	723

Data Source: Food and Your Household Survey, 2018

4,522 completed surveys were included in the analysis

^a Urbanicity could not be geocoded for 286 participants because of address inaccuracy

Table 2-3 presents information on participants' household composition. Single adults households accounted for almost 40 percent of survey participants; the majority of households had two or more adults. Half of the survey households contained children, and one-third of the households contained one or more elderly adults. Among households with children, the mean number of children in the household was approximately 2. Among households with elderly adults, the mean number of elderly adults was 1.2. The average number of members per household was 2.5 and the majority of participants (90%) reported no change in their household size in the last 12 months.

Table 2-3. Household composition, size, and type of change in household size

Household characteristics	Weighted %	SE	Weighted n	Unweighted n
Number of adults in household ^a			16,603,822	4,519
Multiple adults	60.1	0.7	9,989,084	2,561
Single adult	39.8	0.7	6,614,738	1,958
Presence of children in household			16,617,828	4,522
No children in household	50.4	0.7	8,368,183	2,418
Children in household	49.6	0.7	8,249,645	2,104
	Mean (SE)	Median		
Among households with children				
Number of children	2.1 (0.03)	1.0	8,102,084	2,052
Number of children under 5 years of age	0.5 (0.02)	0.0	8,007,056	2,020
Number of children 5 to 17 years of age	1.6 (0.02)	0.9	8,132,590	2,062
Presence of elderly adults in household ^b			16,617,828	4,522
No elderly adults in household	65.5	0.8	10,878,955	2,792
Elderly adults in household	34.5	0.8	5,738,873	1,730
Among households with elderly adults				
Number of elderly adults	1.2 (0.02)	1.0	5,738,873	1,730
Household size				
Number of people in the household	2.5	1.5	16,611,390	4,520
	Weighted %	SE		
Change in household size in the past 12 months			16,008,541	4,327
No change	90.0	0.6	14,410,966	3,898
Increase	5.8	0.5	925,213	255
Decrease	4.2	0.4	672,362	174

Data Source: Food and Your Household Survey, 2018

4,522 completed surveys were included in the analysis

^a Adults include individuals 18 years or older. 187 of 1,958 (9.6%) single adult households had children

^b Elderly adults include individuals 60 and over. 377 of 1730 (22%) households with elderly adults also had children in the household

The number of adults in a household is a cross-cutting variable; it overlaps with presence of children and presence of elderly adults. It is included as a demographic characteristic here, and as a cross-cutting variable throughout the report, because the number of adults has been found to relate to multiple behaviors and outcomes of interest, including poverty and grocery shopping (Tai and Treas, 2009; Bawa and Ghosh, 1999). Table 2-4 presents information on number of adults in the household and how it varies by other characteristics. Single adult households are significantly less likely to have children; significantly less likely to have elderly adults in the household; and more likely to be widowed, divorced, or separated compared with multiple adult households.

Table 2-4. Characteristics of multiple vs single adult households

Characteristics	Multiple adult	Single adult
Presence of children		
Children	77.3 (1.1)	8.0 (0.7)
No children	22.7 (1.1)	92.0 (0.7)*
Presence of elderly adults		
Elderly adults	26.3 (0.9)	47.1 (1.3)
No elderly adults	73.7 (0.9)*	52.9 (1.3)
Ethnicity		
Hispanic	28.6 (1.6)	17.3 (1.5)
Not Hispanic	71.4 (1.6)	82.7 (1.5)
Gender		
Female	82.8 (1.0)*	59.5 (2.0)
Male	17.2 (1.0)	40.5 (2.0)
Respondent age		
18-29 years old	18.2 (0.8)	6.6 (0.7)
30-39 years old	32.6 (1.1)	7.3 (0.8)
40-49 years old	20.7 (1.0)	13.2 (1.0)
50-59 years old	14.5 (0.6)	28.1 (1.1)
60 or older	14.0 (0.7)	44.7 (1.3)
Respondent marital status		
Married	27.4 (1.0)	4.6 (0.5)
Widowed, divorced, separated	33.7 (1.1)	56.3 (1.3)*
Never married	39.0 (1.1)	39.1 (1.3)
Respondent education level		
No HS diploma	21.1 (0.9)	23.3 (1.4)
HS diploma	35.3 (1.1)	37.6 (1.4)
Some college	22.9 (1.1)	21.1 (1.0)
College degree	20.7 (1.0)	17.9 (1.3)

Data Source: Food and Your Household Survey, 2018

4,522 completed surveys were included in the analysis

* Indicates that estimate is statistically significantly different from other subgroup category, at the 1 percent level, as determined by Chi-square test.

As seen in Table 2-5, about one-third of the participants received income from wages and salary and 5 percent reported income from self-employment. Slightly more than one-third of the participants indicated they were unable to work due to disability.

Table 2-5. Employment status of survey participants

Employment status	Weighted %	SE	Weighted n	Unweighted n
Employment status of respondent at time of survey			15,552,055	4,201
Employed for wages	24.1	0.9	3,747,339	922
Self-employed	4.5	0.4	703,297	179
Out of work	13.0	0.5	2,021,850	536
Home maker	8.3	0.5	1,289,923	317
Student	2.1	0.3	329,222	85
Retired	12.2	0.5	1,896,182	579
Unable to work because of disability	35.8	1.0	5,564,242	1,583

Data Source: Food and Your Household Survey, 2018

4,522 completed surveys were included in the analysis

About 25 percent of households received Social Security or railroad retirement income and SSI in the last 12 months (Table 2-6). There is a high rate of missing for income questions, as is common when inquiring about sensitive topics like income: 18 percent of participants did not respond to the question on sources of income in the last 12 months. However, responses on other questions indicate that participants often had unstable financial situations. About two-thirds of the households reported that they sometimes miss or struggle to pay bills (41%) or had outstanding bills (25%). Overall, about 44 percent of participants indicating having outstanding bills at the time of the survey and about one-third indicated they did not have enough money to make a budget for their household.

Table 2-6. Sources of income, financial status and budgeting habits of households

Sources of income and household financial status	Weighted %	SE	Weighted n	Unweighted n
Household income sources in the last 12 months ^a			16,617,828	4,522
Wage/salary	33.6	0.9	5,584,169	1,452
Social security or railroad retirement income	25.3	0.6	4,203,079	1,254
SSI	25.2	0.7	4,186,239	1,214
Cash welfare income	11.4	0.5	1,895,246	524
Retirement/survivor/disability pension	7.0	0.4	1,157,869	323
Self-employment	5.5	0.4	914,351	234
Other income	17.6	0.7	2,932,422	807
Missing ^b	17.7	0.7	2,935,890	667
Household's financial situation			15,615,001	4,264
Bills on time and no debts in collection	34.0	0.7	5,306,403	1,468
Sometimes miss or struggle to pay bills but no debts in collection	41.1	0.9	6,421,866	1,742
Outstanding bills	24.9	0.8	3,886,732	1,054
Currently have bills that are past due			16,182,383	4,392
Yes	44.1	0.8	7,132,233	1,955
No	55.9	0.8	9,050,150	2,437

Table 2-6. Sources of income, financial status and budgeting habits of households (continued)

Sources of income and household financial status	Weighted %	SE	Weighted n	Unweighted n
Household budgeting habits			11,749,886	3,959
Don't have enough money to make a budget	33.2	0.9	3,902,099	1,322
Don't have time to make a budget and follow it	4.3	0.3	507,749	167
Would like to have a budget but don't know how to	4.6	0.4	541,822	183
Have a budget for bills but not for everyday expenses	27.2	0.8	3,193,246	1,069
Have a budget and use it to plan for all expenses	30.1	0.8	3,537,311	1,197

Data Source: Food and Your Household Survey, 2018

4,522 completed surveys were included in the analysis

^a Percentages do not add up to 100 as participants could select multiple options; 17.7 percent of participants did not select any option.

^b 800 (17.7%) respondents did not select any option to indicate their source of household income.

Turning to sources of assistance (Table 2-7), 41 percent of participants indicate that no one in their household participated in any food assistance program other than SNAP. Among the almost 50 percent of households with children, there is relatively high participation in the National School Lunch Program (73%) and the School Breakfast Program (69%). Among the almost 35 percent of households with elderly adults, nearly one-fifth (17 percent) receive prepared meals at a community program or senior center, slightly more than 5 percent report home meal delivery or meals on wheels. About 11 percent of households with children ages 0 to 5 years participate in the WIC program.

Households also participated in State and local assistance programs. One-third reported receiving food assistance from church, food bank, food pantry or other organizations and one-fourth receiving home energy assistance. About 12 percent indicated participating in housing choice voucher program to pay rent, while about 7 percent received employment and training services, and 2 percent received financial incentives at farmers markets.

In the next chapters, analyses focus on the barriers faced in accessing a healthy diet, as well as how these barriers impact participants' food security, and the strategies they employ to mitigate the barriers.

Table 2-7. Percentage of participants receiving support from assistance programs in the past 12 months

Participation in assistance programs	Weighted %	SE	Weighted n	Unweighted n
Food assistance programs				
National School Lunch Program (free or reduced price lunch) ^a	72.7	1.1	5,912,325	1,491
School Breakfast Program (free or reduced price breakfast) ^a	69.4	0.9	5,634,650	1,414
Head Start or child care program that offer free meals ^b	38.2	0.8	5,410,465	1,333
Community program or senior center to eat prepared meals ^c	17.0	0.7	2,630,653	669
Home meal delivery from Meals on Wheels or other programs ^c	5.8	0.4	962,434	281
Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) Program	11.1	0.7	1,417,726	349
Financial incentives to shop at farmers markets	2.4	0.4	394,553	116
Food assistance from church, food bank, food pantry, or other organizations	33.7	0.8	5,548,477	1,549
Other Assistance Programs				
Housing Choice Voucher to Pay Rent	11.7	0.6	1,927,637	555
Home Energy Assistance Program to pay electric or gas utility bills	23.1	0.9	3,777,097	1,089
Employment and training services to get a job, new skills, or school degree	6.5	0.4	1,064,143	270
None	40.8	0.9	6,772,176	1,918

Data Source: Food and Your Household Survey, 2018

4,522 completed surveys were included in the analysis

^a Among households with children between 5 and 17 years of age

^b Among households with children between 0 and 17 years of age

^c Among households with elderly adults

3. Individual and Household Barriers

Individual and household barriers are those that are internal to a person's circumstance. Prior research suggests several potentially important individual factors that could influence the food intake of individuals, including food knowledge, attitudes, and preferences of household members, availability of cooking facilities, as well as cooking skills and time available to prepare meals at home (Nicklaus et al., 2004; Wiig and Smith, 2009; Krolner et al., 2011; Mancino and Newman, 2007; Smith, Ng, and Popkin, 2013; Viradachalem et al., 2014). A final potential barrier that cuts across multiple factors is physical disability. Those with a physical disability are often those who may have difficulty preparing meals, have adequate facilities, and find time for cooking (Mechling, 2008; Stark, 2001). This chapter describes SNAP participants' knowledge of healthy eating, availability of kitchen facilities, cooking skills of the primary food preparer, and barriers to preparing and eating meals that are part of a healthy diet on most days.

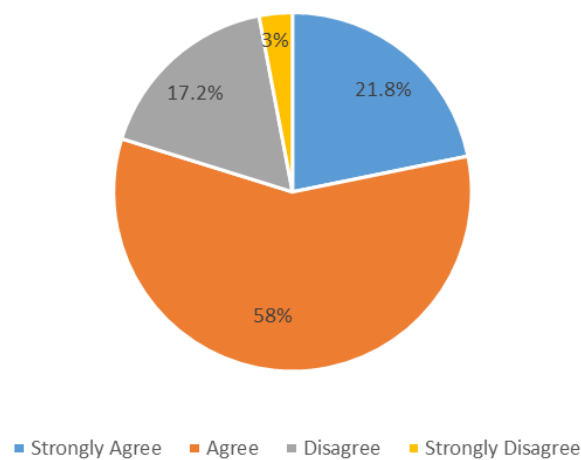
Key Findings

- Overall, about 70 percent of SNAP participants experience at least one individual barrier to cooking meals that are part of a healthy diet.
- A majority (78%) of SNAP participants understand the importance of eating a healthy diet. Four out of five indicate that they eat a healthy diet on most days.
- About 20 percent of SNAP participants agreed that they “don’t always know what foods are part of a healthy diet,” with about 13 percent indicating that they had never seen the MyPlate nutrition graphic.
- Sixty-five percent of the SNAP participants who are familiar with the MyPlate nutrition graphic tried to follow its recommendations.
- About 60 percent of SNAP households cooked most dinners from scratch, with about 30 percent using readymade ingredients to assemble meals. The remaining 40 percent consumed heat-and-serve foods or ready-to-eat dinners.
- Lack of time to prepare meals from scratch was the most common reason for not cooking meals that are part of a healthy diet (30% of the sample).

3.1 Healthfulness of Typical Diets

The majority of SNAP participants report that on most days, they/people in their household eat a healthy diet (Figure 3-1). When asked to indicate the extent to which they agreed with the statement, “On most days, I/People in my household eat a healthy diet,” 22 percent of SNAP participants strongly agreed and 58 percent agreed with the statement while 17 percent disagreed and 3 percent strongly disagreed with it.

Figure 3-1. Level of agreement with statement, “On most days, I/people in my household eat a healthy diet”



Data Source: Food and Your Household Survey, 2018
4,522 completed surveys were included in the analysis

Households with multiple adults were significantly more likely to strongly agree or agree with this statement, while households with single adults were significantly more likely to strongly disagree or disagree. Those in the Midwest are significantly less likely to agree or agree strongly than those in the Northeast (Table 3-1).

Table 3-1. Self-reported healthfulness of diet, overall and by sociodemographic characteristics

	On most days, I/people in my household eat a healthy diet		Sample size	
	Strongly Agree/Agree	Disagree Strongly/Disagree		
	Weighted % (SE)	Weighted % (SE)	Weighted n	Unweighted n
Overall mean	79.8 (0.6)	20.2 (0.6)	16,346,288	4,440
Number of adults in household				
Multiple adults	81.5 (0.8)*	18.5 (0.8)	9,872,514	2,529
Single adult	77.1 (1.1)	22.9 (1.1)*	6,459,767	1,908
Presence of children in household				
Children in household	81.5 (0.9)	18.5 (0.9)	8,158,076	2,079
No children in household	78.1 (1.0)	21.9 (1.0)	8,188,212	2,361
Presence of elderly adults in household				
Elderly adults in household	81.6 (0.9)	18.4 (0.9)	5,585,802	1,681
No elderly adults in household	78.8 (0.9)	21.2 (0.9)	10,760,485	2,759
Sources of household income ^a				
Multiple assistance Programs	78.4 (0.9)	21.6 (0.9)	7,935,246	2,351
Assistance program(s) and earned income	80.0 (1.0)	20.0 (1.0)	5,535,498	1,439
SNAP only	83.1 (1.7)	16.9 (1.7)	2,875,544	650
Highest Level of Education				
Less than high school	79.4 (1.6)	20.6 (1.6)	3,508,798	923
High school	80.0 (1.2)	20.0 (1.2)	5,796,094	1,549
Some college/associate's degree	78.3 (1.4)	21.7 (1.4)	3,551,976	1,017
College graduate or above	81.5 (1.6)	18.5 (1.6)	3,138,581	839
Urbanicity				
City	80.7 (1.2)	19.3 (1.2)	6,812,762	1,807
Rural	77.0 (1.6)	23.0 (1.6)	2,091,534	611
Suburban	81.0 (1.1)	19.0 (1.1)	4,649,527	1,222
Town	76.5 (2.5)	23.5 (2.5)	1,757,510	519
Census Region ^b				
Midwest	75.3 (1.6)*	24.7 (1.6)	3,319,601	654
Northeast	83.0 (1.5)	17.0 (1.5)	2,296,478	709
South	80.5 (1.0)	19.5 (1.0)	7,054,524	1,987
West	80.4 (1.6)	19.6 (1.6)	3,675,685	1,090

Data Source: Food and Your Household Survey, 2018

* Indicates that estimate is statistically significantly different from other subgroup category, at the 1 percent level, as determined by Chi-square and pairwise test.

^a Households are considered to have income from multiple assistance programs if they do not report receiving any income from wages, salary, commissions, bonuses, or tips from all jobs, self-employment income, or interest, dividends, net rental income, royalty income, or income from estates and trusts, but do report receiving income from any of the following: Social Security or Railroad Retirement; Supplemental Security Income (SSI); any public assistance or welfare payments from the state or local welfare office; retirement, survivor, or disability pensions; veteran's payments; unemployment compensation; child support; or alimony. Those who report receiving income from wages, salary, commissions, bonuses, or tips from all jobs, self-employment income, and/or interest, dividends, or rental income are categorized as assistance program(s) and earned income. Those who do not report any of the above sources of income are categorized as SNAP only.

^b Significant differences were noted for Northeast vs. Midwest.

4,440 completed surveys were included in the analysis

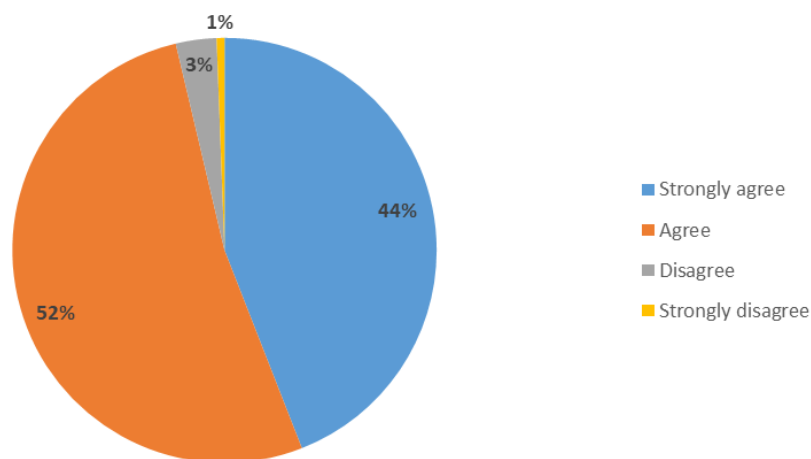
3.2 Nutrition Knowledge

Several survey questions measured nutrition knowledge. First, participants were asked about whether they and people in their household understood the importance of eating a healthy diet. Second, participants were asked, as part of a series of questions, about whether the lack of knowledge about food comprising a healthy diet or kept the primary food preparer from preparing meals that are part of a healthy diet. These two questions measure whether the participants perceive that lack of nutrition knowledge is a barrier for accessing a healthy diet. Next, participants were asked about their knowledge about and usage of the MyPlate nutrition graphic.

3.2.1 Perceived Importance of Eating a Healthy Diet

As seen in Figure 3-2, SNAP participants reported that they understood the importance of eating a healthy diet: less than 5 percent disagreed or strongly disagreed with the statement, “I/people in my household understand the importance of eating a healthy diet.”

Figure 3-2. Level of agreement with statement, “I/people in my household understand the importance of eating a healthy diet.”



Data Source: Food and Your Household Survey, 2018
4,522 completed surveys were included in the analysis

Sixteen percent of SNAP participants answered that they could not prepare meals that are part of a healthy diet because they “don’t always know what foods are part of a healthy diet” (Table 3-2.) Those with less than a high school degree were significantly more likely to report lack of nutrition knowledge as a barrier to eating a healthy diet compared with those with some college education and

those with a college degree. These data suggest that while there is high level of understanding of the importance of eating a healthy diet, about one in six SNAP households feel that they cannot prepare meals that are part of a healthy diet because of limited knowledge about what foods are part of a healthy diet.

Table 3-2. Lack of nutrition knowledge prevents the primary food preparer from preparing meals that are part of a healthy diet

	Reason that keeps the primary food preparer from preparing meals that are part of a healthy diet: Don't always know what foods are part of a healthy diet	Sample size	
		Weighted n	Unweighted n
Overall	16.4 (0.7)	16,527,946	4,115
Number of adults in household		16,513,939	4,508
Single adult	15.9 (0.9)	9,937,266	2,554
Multiple adults	17.2 (1.2)	6,576,673	1,954
Presence of children in household		16,527,946	4,511
Children in household	16.4 (1.0)	8,229,179	2,101
No children in household	16.4 (1.0)	8,298,767	2,410
Presence of elderly adults in household		16,527,946	4,511
Elderly adults in household	17.3 (1.3)	5,694,223	1,724
No elderly adults in household	15.9 (0.9)	10,833,722	2,787
Sources of household income ^a		16,527,946	4,511
Multiple assistance programs	17.8 (1.0)	7,955,496	2,377
Assistance program(s) and earned income	13.8 (1.0)	5,643,209	1,468
SNAP only	17.5 (1.6)	2,929,241	666
Highest level of education ^b		16,136,867	4,388
Less than high school	23.3 (1.4)*	3,528,088	936
High school diploma	19.0 (1.2)	5,831,768	1,568
Some college/associate's degree	11.0 (1.0)	3,592,053	1,031
College graduate or above	9.6 (1.2)	3,184,959	853
Urbanicity		15,483,841	4,227
City	17.3 (1.0)	6,886,125	1,841
Rural	15.8 (1.4)	2,125,474	624
Suburb	15.2 (1.1)	4,692,368	1,234
Town	16.7 (1.6)	1,779,874	528
Census Region		16,527,946	4,511
Midwest	14.5 (1.4)	3,370,252	668
Northeast	18.7 (1.8)	2,306,354	720
South	17.4 (1.0)	7,148,947	2,020
West	14.8 (1.2)	3,702,393	1,103

Data Source: Food and Your Household Survey, 2018

* Indicates that estimate is statistically significantly different from other subgroup category, at the 1 percent level, as determined by Chi-square and pairwise test.

^a Households are considered to have income from multiple assistance programs if they do not report receiving any income from wages, salary, commissions, bonuses, or tips from all jobs, self-employment income, or interest, dividends,

net rental income, royalty income, or income from estates and trusts, but do report receiving income from any of the following: Social Security or Railroad Retirement; Supplemental Security Income (SSI); any public assistance or welfare payments from the state or local welfare office; retirement, survivor, or disability pensions; veteran's payments; unemployment compensation; child support; or alimony. Those who report receiving income from wages, salary, commissions, bonuses, or tips from all jobs, self-employment income, and/or interest, dividends, or rental income are categorized as assistance program(s) and earned income. Those who do not report any of the above sources of income are categorized as SNAP only.

^b Significant differences were found between less than high school and some college and college graduate.

4,115 completed surveys were included in the analysis

3.2.2 Knowledge and Use of Nutrition Recommendations

One graphic that is commonly disseminated to increase knowledge of nutrition is the MyPlate graphic. The MyPlate graphic (Figure 3-3 and shown in the survey) depicts the components of a healthy meal and approximate ratios of types of foods to aim for in each meal.

Figure 3-3. MyPlate nutrition graphic



The majority of SNAP participants (86.5%) had seen the MyPlate graphic; and seven out of 10 SNAP participants knew a lot or knew somewhat about it (Table 3-3). Slightly more than one in 10 SNAP participants (about 13%) had not seen the MyPlate graphic. The percentage reporting a complete lack of awareness of the graphic is greater than the percentage of SNAP participants who indicate that people in their household understood the

importance of healthy eating (less than 5%). The association between understanding the importance of eating a healthy diet and familiarity with MyPlate graphic was not examined due to the small number of participants who indicated that they did not understand the importance of healthy diet.

Significant differences (as measured by Chi-square and pairwise tests of significance) in level of familiarity with the graphic were noted between several subgroups (Table 3-3). Single adult households were significantly more likely than multiple adult households to report having seen the MyPlate graphic and know a lot about it. Multiple adult households were significantly more likely than single adult households to report having never seen the MyPlate graphic before. Household with children were more likely to have seen it and know a lot about it; households without children were significantly more likely to have never seen the MyPlate graphic. Households without elderly adults were more likely to know a lot about it; households with elderly adults were more likely to

have never seen it. Those with less than a high school education were less likely than those with some college or a college degree or above both to have seen the graphic but know little about it or never before seen it.

Table 3-3. Level of familiarity with MyPlate nutrition graphic, overall and by sociodemographic characteristics

	Familiarity with MyPlate graphic ^a				Sample size	
	Seen it and know a lot about it	Seen it and know somewhat about it	Seen it and know very little about it	Never seen it before	Weighted n	Unweighted n
	Weighted % (SE)					
Overall	39.4 (1.0)	34.3 (1.0)	12.8 (0.6)	13.5 (0.6)	16,082,922	4,351
Number of adults in household						
Single adult	42.0 (1.2)*	35.3 (1.2)	11.7 (0.9)	10.9 (0.8)	9,759,912	2,492
Multiple adults	35.4 (1.6)	32.7 (1.1)	14.4 (0.8)*	17.6 (1.2)*	6,316,571	1,857
Presence of children in household						
Children in household	43.5 (1.2)*	35.5 (1.3)	12.0 (0.9)	9.0 (0.9)	8,066,309	2,046
No children in household	35.3 (1.4)	33.0 (1.2)	13.5 (0.8)	18.1 (1.1)*	8,016,613	2,305
Presence of elderly adults in household						
Elderly adults in household	37.4 (1.7)	33.0 (1.5)	12.9 (1.1)	16.7 (1.0)*	5,454,841	1,634
No elderly adults in household	40.5 (1.2)*	34.9 (1.2)	12.7 (0.8)	11.9 (0.9)	10,628,080	2,717
Highest Education Level of Respondent						
Less than high school	29.6 (1.7)	33.0 (1.7)	19.8 (1.6)*	17.6 (1.5)*	3,436,917	896
High school	37.8 (1.9)	36.1 (1.6)	13.5 (1.8)	12.6 (1.2)	5,695,453	1,519
Some college ^b	45.9 (2.0)	35.3 (2.0)	8.8 (1.3)	10.0 (1.2)	3,512,489	1,003
College graduate or above	44.7 (1.8)	33.1 (2.0)	7.7 (0.9)	14.5 (1.6)	3,111,710	828
Urbanicity						
City	38.6 (1.7)	33.6 (1.4)	13.6 (1.1)	14.2 (1.4)	6,732,957	1,780
Rural	39.0 (2.3)	35.4 (2.6)	12.8 (1.5)	12.8 (1.6)	2,056,155	597
Suburb	41.4 (1.7)	34.1 (2.1)	11.4 (1.3)	13.2 (1.2)	4,565,614	1,197
Town	38.8 (2.0)	37.0 (2.6)	11.5 (1.9)	12.7 (2.0)	1,715,345	504
Census Region						
Midwest	40.6 (4.0)	32.5 (2.9)	12.5 (1.5)	14.5 (1.8)	3,274,479	641
Northeast	42.8 (1.6)	30.5 (1.6)	13.5 (1.4)	13.1 (1.3)	2,237,822	690
South	39.5 (1.0)	36.0 (1.2)	12.2 (1.1)	12.4 (0.7)	6,946,981	1,947
West	36.2 (1.7)	35.0 (2.5)	13.7 (0.9)	15.1 (1.7)	3,623,638	1,073

Data Source: Food and Your Household Survey, 2018

4,351 completed surveys were included in the analysis

* Indicates that estimate is statistically significantly different from other subgroup category, at the 1 percent level, as determined by Chi-square and pairwise test.

^a The survey included a colored image of the MyPlate graphic

^b Includes some college or associate's degree

Among SNAP participants who are familiar with the MyPlate graphic, about six out of 10 have tried to follow the general guidelines conveyed by the MyPlate graphic (see Table 3-4). Single adult households were significantly more likely to have tried to use the information, as were households with children and households with elderly adults. Those with less than a high school education were significantly less likely to have tried to follow the information than those with some college education.

Table 3-4. Use of MyPlate nutrition graphic information among participants who have seen it, overall and by sociodemographic characteristics

	Tried to follow the MyPlate graphic information ^a		
	Weighted % (SE)	Weighted n	Unweighted n
Overall	65.5 (0.9)	13,176,898	3,582
Number of adults in household		13,170,460	3,580
Single adult	68.1 (1.1)*	8,278,450	2,126
Multiple adults	61.1 (1.5)	4,892,010	1,454
Presence of children in household		13,176,898	3,582
Children in household	67.6 (1.2)*	7,013,849	1,794
No children in household	63.2 (1.2)	6,163,049	1,788
Presence of elderly adults in household		13,176,898	3,582
Elderly adults in household	68.1 (1.2)*	4,244,147	1,290
No elderly adults in household	64.3 (1.2)	8,932,751	2,292
Highest Education Level of Respondent ^c		12,920,955	3,502
Less than high school	58.6 (2.3)*	2,630,757	699
High school	66.4 (2.0)	4,707,475	1,256
Some college ^b	69.7 (2.0)	3,008,740	854
College graduate or above	66.2 (2.0)	2,573,983	693
Urbanicity		12,334,654	3,356
City	63.8 (1.7)	5,476,782	1,471
Rural	65.8 (2.3)	1,667,605	484
Suburb	64.7 (2.3)	3,772,995	990
Town	70.1 (2.5)	1,417,272	411
Census Region		13,176,898	3,582
Midwest	63.5 (3.0)	2,660,427	524
Northeast	65.3 (2.7)	1,811,405	559
South	66.3 (1.1)	5,767,215	1,621
West	66.1 (1.5)	2,937,851	878

Data Source: Food and Your Household Survey, 2018

3,582 completed surveys were included in the analysis

^a The survey included a colored image of the MyPlate graphic

^b Includes some college or associate's degree

^c Significant differences were found between less than high school and some college

* Indicates that estimate is statistically significantly different from other subgroup category, at the 1 percent level, as determined by Chi-square and pairwise test.

Overall, most participants report knowing the importance of eating a healthy diet and are at least somewhat familiar with the MyPlate graphic. This suggests that lack of nutrition knowledge may not be an important barrier for most SNAP participants. However, certain groups appear to have less nutritional knowledge than others. In particular, those with less education and those without children in the household appear to have less nutritional knowledge. Across the sample, about one in six participants lists lack of nutrition knowledge as a barrier to preparing meals that are part of a healthy diet. Additional analysis of nutrition knowledge, supporting these results, are presented in Appendix 5.

3.3 Cooking Skills

Cooking skills were assessed using responses to multiple questions. Participants were asked their meal preparation patterns for dinners or main meals eaten at home—are most of them cooked from scratch or from ready-made foods? This established a baseline about cooking frequency. Participants were also asked about the person who does most of the cooking in their household, including whether this person knows how to cook and whether they generally prepare meals that are part of a healthy diet. Additionally, participants were asked whether lack of knowledge regarding how to cook from scratch¹² prevents them from preparing meals that are part of a healthy diet.

3.3.1 Dinner Assembly Patterns

More than half of the SNAP participants report that most of the dinners or main meals eaten at home were prepared from scratch (Table 3-5). About 10 percent indicate that dinner or main meals eaten at home are heat-and-serve products, and about 3 percent purchase ready-to-eat products for most dinners. Statistically significant differences were found by presence of children, presence of elderly adults, sources of household income, urbanicity, and Census region. Households without children are significantly more likely to say that most of their main meals eaten at home are convenience foods that are “heat and serve.” Households with elderly adults are more likely to cook more meals from scratch, while those with no elderly adults are more likely to prepare most meals from readymade ingredients. Households relying solely on SNAP income are significantly more

¹²Cooking from scratch was defined in the survey as cooking using basic ingredients, as contrasted with meals assembled using ready-made ingredients (such as sauces and mixes), meals of convenience foods that are “heat and serve,” or meals purchased ready to eat (do not require heating, assembly, or cooking).

likely than those relying on assistance programs and earned income to cook from scratch, while those relying on multiple assistance programs are more likely than those relying on SNAP only to prepare meals using readymade ingredients, but less likely than those with earned income to use convenience foods. Those in towns are less likely than those in the city to cook from scratch, while those in the city are less likely than those in towns to prepare meals using readymade ingredients. Those in the Northeast do more scratch cooking and less readymade assembly than those in the Midwest.

Table 3-5. Dinner/main meal assembly patterns of participants, overall and by sociodemographic characteristics

	Most of the dinners or main meals eaten at home are...				Sample size	
	Cooked from scratch	Assembled using readymade ingredients	Convenience foods that are "heat-and-serve"	Purchased ready-to-eat	Weighted n	Unweighted n
	Weighted % (SE)					
Overall	60.3 (1.2)	27.4 (0.8)	9.5 (0.6)	2.8 (0.4)	15,396,475	4,173
Number of adults in households					15,382,469	4,170
Multiple adults	63.1 (1.4)	28.3 (1.2)	6.4 (0.6)	2.1 (0.4)	6,074,395	1,794
Single adult	55.9 (1.9)	25.9 (1.2)	14.3 (1.1)	3.9 (0.7)	9,308,074	2,376
Presence of children in household					15,396,475	4,173
Children in household	62.0 (1.5)	29.6 (1.4)	6.8 (0.7)	1.6 (0.4)	7,650,378	1,943
No children in household	58.6 (1.7)	25.1 (1.0)	12.3 (0.9)*	4.1 (0.7)	7,746,098	2,230
Presence of elderly adults in household					15,396,475	4,173
Elderly adults in household	66.0 (1.6)*	21.1 (1.1)	10.6 (1.0)	2.3 (0.5)	5,315,379	1,592
No elderly adults in household	57.3 (1.4)	30.6 (1.0)*	9.0 (0.8)	3.1 (0.5)	10,081,096	2,581
Sources of household income ^a					15,396,475	4,173
Assistance program(s) and earned income	59.2 (1.6)	25.8 (1.2)	11.9 (0.8)	3.1 (0.7)	7,482,240	2,203
Multiple assistance programs	58.4 (1.6)	33.1 (1.3)*	6.9 (0.8)*	1.6 (0.4)	5,219,814	1,355
SNAP only	66.9 (2.4)*	20.7 (1.8)	8.0 (1.4)	4.3 (1.1)	2,694,421	615
Urbanicity					14,438,145	3,914
City	63.9 (1.4)	24.1 (1.4)*	9.4 (0.8)	2.6 (0.5)	6,373,200	1,692
Rural	56.4 (2.2)	31.9 (2.3)	10.4 (1.2)	1.4 (0.6)	1,991,047	579
Suburb	60.0 (2.3)	28.2 (1.5)	9.3 (1.1)	2.5 (0.9)	4,423,409	1,154
Town	51.0 (2.9)*	35.0 (3.0)	10.6 (1.1)	3.5 (1.4)	1,650,489	489

Table 3-5. Dinner assembly patterns of participants, overall and by sociodemographic characteristics (continued)

	Most of the dinners or main meals eaten at home are...				Sample size	
	Cooked from scratch	Assembled using readymade ingredients	Convenience foods that are “heat-and-serve”	Purchased ready-to-eat	Weighted n	Unweighted n
	Weighted % (SE)					
Census Region					15,396,475	4,173
Midwest	52.8 (3.6)	32.9 (1.6)	11.4 (1.9)	3.0 (1.4)	3,111,220	610
Northeast	68.0 (2.9)*	21.3 (2.1)*	8.5 (1.5)	2.2 (0.5)	2,160,831	665
South	60.2 (1.3)	28.8 (1.1)	8.5 (0.7)	2.5 (0.5)	6,646,651	1,865
West	62.4 (2.3)	23.4 (1.5)	10.6 (1.4)	3.6 (0.7)	3,477,774	1,033

Data Source: Food and Your Household Survey, 2018; 4,173 completed surveys were included in the analysis

* Indicates that estimate is statistically significantly different from other subgroup category, at the 1 percent level, as determined by Chi-square pairwise test.

^a Households are considered to have income from multiple assistance programs if they do not report receiving any income from wages, salary, commissions, bonuses, or tips from all jobs, self-employment income, or interest, dividends, net rental income, royalty income, or income from estates and trusts, but do report receiving income from any of the following: Social Security or Railroad Retirement; Supplemental Security Income (SSI); any public assistance or welfare payments from the state or local welfare office; retirement, survivor, or disability pensions; veteran’s payments; unemployment compensation; child support; or alimony. Those who report receiving income from wages, salary, commissions, bonuses, or tips from all jobs, self-employment income, and/or interest, dividends, or rental income are categorized as assistance program(s) and earned income. Those who do not report any of the above sources of income are categorized as SNAP only.

Despite these variations, most in the sample, regardless of household composition or location, appear to have the ability to cook from scratch most of the time.

3.3.2 Cooking Knowledge, Skills, and Practices

In keeping with the information provided by cooking patterns, the majority of SNAP participants reported that the person who did the most cooking at home knew how to cook meals that are part of a healthy diet and generally prepares meals that are part of a healthy diet (Table 3-6). Households with multiple adults were statistically significantly more likely than households with single adults to say that the person who does most of the cooking knows how to cook meals that are part of a healthy diet and that that person does so. Those in the Midwest were less likely than those in the South and West to say that the primary cook knows how to prepare meals that are part of a healthy diet. Additional analysis on cooking skills are found in Appendix 5.

Table 3-6. Cooking knowledge and practice for the person who does the most cooking at home, overall and by sociodemographic characteristics

	The person who does the most cooking in the household				Sample size	
	Knows how to cook healthy meals		Prepares healthy meals			
	Strongly agree/ agree	Disagree/ strongly disagree	Strongly agree/ agree	Disagree/ strongly disagree	Weighted n	Unweighted n
Overall	93.7 (0.4)	6.3 (0.4)	89.6 (0.7)	10.4 (0.7)	16,199,333	4,385
Number of adults in household					16,185,326	4,382
Multiple adults	95.0 (0.5)*	5.0 (0.5)	92.8 (0.7)*	7.2 (0.7)	9,852,735	2,516
Single adult	91.6 (0.9)	8.4 (0.9)*	84.6 (1.2)	15.4 (1.2)*	6,332,591	1,866
Presence of children in household					9,852,735	2,516
Children in household	94.8 (0.4)	5.2 (0.4)	92.8 (0.7)*	7.2 (0.7)	8,118,702	2,064
No children in household	92.6 (0.8)	7.4 (0.8)	86.4 (1.0)	13.6 (1.0)*	8,080,630	2,321
Presence of elderly adults in household					16,199,332	4,385
Elderly adults in household	94.0 (0.7)	6.0 (0.7)	90.0 (1.0)	10.0 (1.0)	5,477,703	1,640
No elderly adults in household	93.5 (0.6)	6.5 (0.6)	89.5 (0.8)	10.5 (0.8)	10,721,629	2,745
Sources of income ^a					16,199,333	4,385
Multiple assistance programs	91.4 (0.7)	7.6 (0.7)	88.7 (1.0)	12.3 (1.0)*	7,728,794	2,284
Assistance program(s) and earned income	94.9 (0.5)	5.1 (0.5)	91.7 (1.0)	8.3 (1.0)	5,598,619	1,456
SNAP only	94.7 (1.1)	5.3 (1.1)	89.7 (1.2)	9.3 (1.2)	2,871,920	645
Urbanicity					15,166,833	4,108
City	93.5 (0.7)	6.5 (0.7)	89.8 (0.9)	10.2 (0.9)	6,791,653	1,796
Rural	93.0 (1.3)	7.0 (1.3)	89.2 (1.4)	10.8 (1.4)	2,090,382	606
Suburb	94.3 (0.8)	5.7 (0.8)	88.6 (1.4)	11.4 (1.4)	4,560,077	1,196
Town	93.7 (0.9)	6.3 (0.9)	90.9 (1.4)	9.1 (1.4)	1,724,721	510
Census Region					16,199,333	4,385
Midwest	90.6 (1.5)*	9.4 (1.5)*	88.1 (2.3)	11.9 (2.3)	3,312,915	650
Northeast	93.6 (1.1)	6.4 (1.1)	90.7 (1.3)	9.3 (1.3)	2,259,163	697
South	94.8 (0.5)	5.2 (0.5)	90.2 (0.7)	9.8 (0.7)	7,000,779	1,962
West	94.5 (0.6)	5.5 (0.6)	89.3 (1.4)	10.7 (1.4)	3,626,476	1,076

Data Source: Food and Your Household Survey, 2018; 4,385 completed surveys were included in the analysis

* Indicates that estimate is statistically significantly different from other subgroup category, at the 1 percent level, as determined by Chi-square and pairwise test.

Significant differences were found for Midwest vs. South and Midwest vs West for knows how to cook healthy meals.

^a Households are considered to have income from multiple assistance programs if they do not report receiving any income from wages, salary, commissions, bonuses, or tips from all jobs, self-employment income, or interest, dividends, net rental income, royalty income, or income from estates and trusts, but do report receiving income from any of the following: Social Security or Railroad Retirement; Supplemental Security Income (SSI); any public assistance or welfare payments from the state or local welfare office; retirement, survivor, or disability pensions; veteran's payments; unemployment compensation; child support; or alimony. Those who report receiving income from wages, salary, commissions, bonuses, or tips from all jobs, self-employment income, and/or interest, dividends, or rental income are categorized as assistance program(s) and earned income. Those who do not report any of the above sources of income are categorized as SNAP only.

These data suggest that cooking skills are not perceived as a significant barrier to healthy eating for most of the sample, and this is confirmed by participants' direct response. When presented with a list of barriers to preparing meals that are part of a healthy diet, only about 11 percent of SNAP participants indicated that the primary preparer of food for the household does not "know how to cook meals from scratch" (Table 3-7). There were no significant differences by household composition, income, or location. Overall, responses suggest that the majority of sampled SNAP participants have someone in their household who knows how to cook meals that are part of a healthy diet and generally prepares healthy meals, mostly from scratch. Lack of cooking skills does not appear to be a barrier to preparing meals that are part of a healthy diet for most of the sample.

Table 3-7. Lack of cooking skills prevents the primary food preparer from preparing meals that are part of a healthy diet, overall and by sociodemographic characteristics

	Reason that keeps the primary food preparer from preparing meals that are part of a healthy diet: Don't know how to cook from scratch		
	Weighted % (SE)	Weighted n	Unweighted n
Overall	11.1 (0.5)	16,587,104	4,517
Number of adults in household		16,573,098	4,514
Multiple adults	10.3 (0.7)	9,976,368	2,559
Single adult	12.2 (0.8)	6,596,730	1,955
Presence of children in household		16,587,104	4,517
Children in household	11.0 (0.9)	8,242,747	2,103
No children in household	11.2 (0.7)	8,344,357	2,414
Presence of elderly adults in household		16,587,104	4,517
Elderly adults in household	9.5 (1.0)	5,721,165	1,727
No elderly adults in household	12.0 (0.7)	10,865,939	2,790
Sources of household income ^a		16,587,104	4,517
Multiple assistance programs	11.8 (0.8)	8,001,126	2,381
Assistance program(s) and earned income	10.5 (0.8)	5,657,026	1,470
SNAP only	10.4 (1.5)	2,928,952	666
Urbanicity		15,536,537	4,232
City	10.2 (0.7)	6,930,003	1,845
Rural	10.1 (1.3)	2,133,863	625
Suburb	11.7 (1.0)	4,692,797	1,234
Town	14.4 (1.5)	1,779,874	528
Census Region		16,587,105	4,517
Midwest	13.3 (1.4)	3,395,550	670
Northeast	10.9 (1.5)	2,323,896	722
South	10.7 (0.7)	7,158,617	2,021
West	10.0 (1.1)	3,709,042	1,104

Data Source: Food and Your Household Survey, 2018

* Indicates that estimate is statistically significantly different from other subgroup category, at the 1 percent level, as determined by Chi-square and pairwise test.

^a Households are considered to have income from multiple assistance programs if they do not report receiving any income from wages, salary, commissions, bonuses, or tips from all jobs, self-employment income, or interest, dividends, net rental income, royalty income, or income from estates and trusts, but do report receiving income from any of the following: Social Security or Railroad Retirement; Supplemental Security Income (SSI); any public assistance or welfare payments from the state or local welfare office; retirement, survivor, or disability pensions; veteran's payments; unemployment compensation; child support; or alimony. Those who report receiving income from wages, salary, commissions, bonuses, or tips from all jobs, self-employment income, and/or interest, dividends, or rental income are categorized as assistance program(s) and earned income. Those who do not report any of the above sources of income are categorized as SNAP only.

4,517 completed surveys were included in the analysis

3.4 Kitchen Facilities

A lack of available kitchen facilities may also limit access to a healthy diet. In the survey, participants are asked about the kitchen facilities, as well as whether they perceive that a lack of facilities and equipment prevents them from preparing meals that are part of a healthy diet.

Almost the entire sample of SNAP participants have a kitchen where they live (more than 95% of each subgroup) (Table 3-8). Similarly, almost all SNAP participants have a functioning refrigerator, stove or something to cook on in the place they are living, as well as basic cooking equipment. About 8 percent of SNAP households did not have access to a functioning microwave. Where significant differences among subgroups exist, they are small; single adult households are more likely to have a kitchen, but the difference is less than 2 percentage points.

When presented with a list of barriers to preparing foods that are part of a healthy diet, about 11 percent of SNAP participants selected, “lack of equipment” and 14 percent selected “lack of storage to keep cooked or fresh food.” (Table 3-9). There were no significant differences by geography or household composition.

Although the rate of those listing lack of equipment as a barrier (11%) is lower than that reporting lack of nutritional knowledge as a barrier (16%), it is still surprisingly high, given that most households have basic kitchen and cooking facilities as well as a functioning refrigerator. Overall, about the same percentage cited lack of kitchen facilities as a barrier as cited lack of cooking skills as a barrier. However, the percentage who cited either barrier was still small, suggesting that lack of kitchen facilities is not a barrier to preparing meals that are part of a healthy diet for most SNAP participants.

Table 3-8. Availability of kitchen facilities and equipment at residence, overall and by sociodemographic characteristics

	Residence has a kitchen ^a	Among those with kitchen			
		Basic cooking equipment ^c	Stove or something to cook on ^d	Functioning refrigerator ^e	Functioning microwave ^f
		Weighted % (SE)			
Overall	98.4 (0.2)	98.6 (0.2)	99.5 (0.1)	99.3 (0.1)	92.8 (0.4)
Number of adults in household					
Single adult	99.1 (0.2)*	98.9 (0.3)	99.5 (0.2)	99.3 (0.1)	93.2 (0.6)
Multiple adults	97.3 (0.4)	98.2 (0.4)	99.5 (0.2)	99.2 (0.2)	92.1 (0.6)
Presence of children in household					
Children in household	99.3 (0.2)*	98.7 (0.3)	99.7 (0.1)	99.3 (0.2)	93.0 (0.6)
No children in household	97.6 (0.3)	98.5 (0.3)	99.3 (0.2)	99.2 (0.2)	92.5 (0.6)
Presence of elderly adults in household					
Elderly adults in household	98.9 (0.3)	99.1 (0.3)	99.8 (0.1)	99.4 (0.2)	92.9 (0.8)
No elderly adults in household	98.1 (0.3)	98.4 (0.3)	99.4 (0.2)	99.2 (0.2)	92.7 (0.6)
Sources of household income ^b					
Multiple assistance programs	98.6 (0.3)	98.5 (0.3)	99.5 (0.2)	99.1 (0.2)	91.7 (0.6)
Assistance program(s) and earned income	98.6 (0.3)	98.5 (0.4)	99.5 (0.2)	99.5 (0.2)	93.7 (0.8)
SNAP only	97.6 (0.8)	98.9 (0.5)	99.5 (0.2)	99.4 (0.4)	93.8 (1.1)
Urbanicity					
City	98.3 (0.4)	98.3 (0.4)	99.6 (0.1)	99.2 (0.2)	91.6 (0.7)
Rural	98.7 (0.5)	98.6 (0.6)	98.8 (0.5)	98.5 (0.6)	94.2 (1.0)
Suburb	99.1 (0.3)	98.7 (0.5)	99.6 (0.2)	99.5 (0.2)	94.3 (0.7)
Town	97.9 (0.4)	99.5 (0.3)	99.5 (0.3)	99.5 (0.2)	92.8 (1.5)
Census Region					
Midwest	98.9 (0.4)	98.5 (0.7)	99.6 (0.2)	99.7 (0.2)	94.6 (0.6)
Northeast	99.3 (0.2)	98.8 (0.5)	99.8 (0.2)	99.4 (0.3)	88.5 (1.2)*
South	98.7 (0.3)	98.3 (0.4)	99.5 (0.2)	99.3 (0.2)	93.8 (0.6)
West	96.8 (0.5)*	99.1 (0.3)	99.2 (0.3)	98.7 (0.4)	91.7 (1.1)

Data Source: Food and Your Household Survey, 2018

Number of participants varies for each column due to item nonresponse.

^a 4,350 participants had a kitchen; ^c 4,204 provided this information; ^d 4,340 provided this information; ^e 4,334 provided this information; ^f 4,334 provided this information

* Indicates that estimate is statistically significantly different from other subgroup category, at the 1 percent level, as determined by Chi-square and pairwise test.

^b Households are considered to have income from multiple assistance programs if they do not report receiving any income from wages, salary, commissions, bonuses, or tips from all jobs, self-employment income, or interest, dividends, net rental income, royalty income, or income from estates and trusts, but do report receiving income from any of the following: Social Security or Railroad Retirement; Supplemental Security Income (SSI); any public assistance or welfare payments from the state or local welfare office; retirement, survivor, or disability pensions; veteran's payments; unemployment compensation; child support; or alimony. Those who report receiving income from wages, salary, commissions, bonuses, or tips from all jobs, self-employment income, and/or interest, dividends, or rental income are categorized as assistance program(s) and earned income. Those who do not report any of the above sources of income are categorized as SNAP only.

Table 3-9. Lack of equipment and storage prevents the primary food preparer from preparing meals that are part of a healthy diet, overall and by sociodemographic characteristics

	Lack of equipment to prepare food	Lack of storage to keep cooked or fresh food	Sample size	
	Weighted % (SE)	Weighted % (SE)	Weighted n	Unweighted n
Overall	11.1 (0.5)	14.1 (0.6)	16,603,157	4,520
Number of adults in household			16,589,150	4,517
Multiple adults	11.1 (0.8)	14.2 (0.7)	9,980,530	2,560
Single adult	10.8 (0.8)	14.0 (1.0)	6,608,620	1,957
Presence of children in household			16,603,157	4,520
Children in household	10.7 (0.8)	13.5 (0.8)	8,241,092	2,103
No children in household	11.3 (0.9)	14.7 (1.0)	8,362,065	2,417
Presence of elderly adults in household			16,603,157	4,520
Elderly adults in household	8.7 (0.9)	12.7 (0.9)	5,738,873	1,730
No elderly adults in household	12.2 (0.7)	14.9 (0.8)	10,864,284	2,790
Sources of household income ^a			16,603,157	4,520
Multiple assistance programs	10.7 (0.8)	13.6 (0.8)	8,018,794	2,384
Assistance program(s) and earned income	11.5 (0.9)	15.1 (0.9)	5,657,026	1,470
SNAP only	10.9 (1.5)	13.7 (1.6)	2,927,336	666
Urbanicity			15,546,772	4,234
City	11.7 (0.7)	14.7 (1.0)	6,936,901	1,846
Rural	9.4 (1.4)	11.1 (1.2)	2,140,800	626
Suburb	10.7 (1.0)	14.4 (1.1)	4,689,197	1,234
Town	9.3 (1.8)	12.9 (1.5)	1,779,874	528
Census Region			16,603,157	4,520
Midwest	10.5 (1.3)	13.3 (2.3)	3,395,550	670
Northeast	9.6 (1.5)	12.9 (1.1)	2,320,295	722
South	10.0 (0.9)	12.4 (0.7)	7,178,270	2,024
West	14.2 (1.2)	19.1 (1.3)	3,709,042	1,104

Data Source: Food and Your Household Survey, 2018

4,520 completed surveys were included in the analysis.

* Indicates that estimate is statistically significantly different from other subgroup category, at the 1 percent level, as determined by Chi-square and pairwise test.

^a Households are considered to have income from multiple assistance programs if they do not report receiving any income from wages, salary, commissions, bonuses, or tips from all jobs, self-employment income, or interest, dividends, net rental income, royalty income, or income from estates and trusts, but do report receiving income from any of the following: Social Security or Railroad Retirement; Supplemental Security Income (SSI); any public assistance or welfare payments from the state or local welfare office; retirement, survivor, or disability pensions; veteran's payments; unemployment compensation; child support; or alimony. Those who report receiving income from wages, salary, commissions, bonuses, or tips from all jobs, self-employment income, and/or interest, dividends, or rental income are categorized as assistance program(s) and earned income. Those who do not report any of the above sources of income are categorized as SNAP only.

3.5 Time

Lack of time may be a barrier to healthy eating in two ways. Participants may lack the time to shop for foods that are part of a healthy diet, and they may lack the time to prepare meals that are part of a healthy diet. Lack of time to shop is assessed through a survey item asking whether lack of time to shop at the store is a barrier for shopping for foods that are part of a healthy diet. Lack of time to prepare meals that are part of a healthy diet is addressed both by asking participants how much time they spend cooking dinner daily, as well as asking whether lack of time to prepare meals from scratch is a barrier to preparing meals that are part of a healthy diet.

As seen in Table 3-10, about 11 percent of participants said they could not shop for foods that are part of a healthy diet because of the amount of time available to shop at the store. There were no significant differences in percentage reporting lack of time to shop for foods by household composition, income sources, or location. This percentage is comparable to the percentage of participants reporting lack of cooking skills and lack of kitchen equipment as barriers to preparing meals that are part of a healthy diet.

Lack of time to prepare dinner was cited by a larger group. About one-third of participants indicated that lack of time to prepare meals from scratch prevented the primary food preparer from preparing meals that are part of a healthy diet (Table 3-11). There were significant differences by subgroup. Households with multiple adults were significantly more likely to report a lack of time to cook from scratch than were households with a single adult; households with children were more likely to report lack of time than households without children, and households without elderly adults were more likely than households with elderly adults to report lack of time to cook from scratch. Households reporting earned income were also significantly more likely to report lack of time for scratch cooking than those relying on either SNAP alone or multiple assistance programs.

Table 3-10. Lack of time available to shop at the store prevents the primary food shopper from shopping for foods that are part of a healthy diet, overall and by sociodemographic characteristics

	Cannot shop for foods that are part of a healthy diet because of: Amount of time available to shop at the store		Sample size	
	Weighted % (SE)	Weighted n	Unweighted n	
Overall	10.5 (0.7)	16,325,303	4,433	
Number of adults in household		16,311,296	4,430	
Multiple adults	10.2 (0.8)	9,920,850	2,545	
Single adult	10.8 (1.1)	6,390,446	1,885	
Presence of children in household		16,325,303	4,433	
Children in household	10.2 (0.9)	8,178,817	2,083	
No children in household	10.8 (0.9)	8,146,486	2,350	
Presence of elderly adults in household		16,325,303	4,433	
Elderly adults in household	9.7 (0.8)	5,615,094	1,694	
No elderly adults in household	10.9 (1.0)	10,710,209	2,739	
Sources of household income ^a		16,325,303	4,433	
Multiple assistance programs	9.7 (0.9)	7,858,364	2,334	
Assistance program(s) and earned income	11.3 (1.2)	5,573,603	1,445	
SNAP only	11.1 (1.7)	2,893,336	654	
Urbanicity		15,297,162	4,157	
City	11.5 (1.0)	6,798,255	1,806	
Rural	8.6 (1.7)	2,108,695	618	
Suburb	10.6 (1.4)	4,622,799	1,211	
Town	8.7 (1.6)	1,767,413	522	
Census Region		16,325,303	4,433	
Midwest	10.5 (1.9)	3,355,821	661	
Northeast	10.9 (1.1)	2,274,493	706	
South	10.4 (1.3)	7,069,416	1,987	
West	10.3 (1.1)	3,625,573	1,079	

Data Source: Food and Your Household Survey, 2018

4,433 completed surveys were included in the analysis.

* Indicates that estimate is statistically significantly different from other subgroup category, at the 1 percent level, as determined by Chi-square and pairwise test.

^a Households are considered to have income from multiple assistance programs if they do not report receiving any income from wages, salary, commissions, bonuses, or tips from all jobs, self-employment income, or interest, dividends, net rental income, royalty income, or income from estates and trusts, but do report receiving income from any of the following: Social Security or Railroad Retirement; Supplemental Security Income (SSI); any public assistance or welfare payments from the state or local welfare office; retirement, survivor, or disability pensions; veteran's payments; unemployment compensation; child support; or alimony. Those who report receiving income from wages, salary, commissions, bonuses, or tips from all jobs, self-employment income, and/or interest, dividends, or rental income are categorized as assistance program(s) and earned income. Those who do not report any of the above sources of income are categorized as SNAP only.

Table 3-11. Lack of time to prepare meals from scratch prevents the primary food preparer from preparing meals that are part of a healthy diet, overall and by sociodemographic characteristics

	Lack of time to: Prepare meals from scratch	Sample size	
	Weighted % (SE)	Weighted n	Unweighted n
Overall	29.6 (0.8)	16,538,083	4,511
Number of adults in household		16,524,077	4,508
Multiple adults	35.7 (1.2)*	9,947,804	2,556
Single adult	20.3 (1.1)	6,576,273	1,952
Presence of children in household		16,538,083	4,511
Children in household	38.6 (1.4)*	8,213,747	2,100
No children in household	20.8 (1.1)	8,324,336	2,411
Presence of elderly adults in household		16,538,084	4,511
Elderly adults in household	19.8 (1.1)*	5,695,121	1,724
No elderly adults in household	34.8 (1.1)	10,842,963	2,787
Sources of household income ^a		16,538,084	4,511
Multiple assistance programs	20.6 (1.1)	7,994,121	2,380
Assistance program(s) and earned income	46.1 (1.4)*	5,642,230	1,468
SNAP only	23.1 (1.8)	2,901,732	663
Urbanicity		15,481,698	4,225
City	29.9 (1.4)	6,904,647	1,842
Rural	25.4 (2.3)	2,140,800	626
Suburb	31.1 (1.6)	4,656,377	1,229
Town	32.0 (2.9)	1,779,874	528
Census Region		16,538,085	4,511
Midwest	31.0 (2.7)	3,395,550	670
Northeast	26.4 (2.0)	2,299,381	719
South	29.4 (1.1)	7,140,635	2,019
West	30.8 (1.4)	3,702,519	1,103

Data Source: Food and Your Household Survey, 2018

4,420 surveys were included in the analysis

* Indicates that estimate is statistically significantly different from other subgroup category, at the 1 percent level, as determined by Chi-square and pairwise test.

Significant differences were found for assistance program(s) and earned income vs multiple assistance programs and assistance program(s) and earned income vs. SNAP only.

^a Households are considered to have income from multiple assistance programs if they do not report receiving any income from wages, salary, commissions, bonuses, or tips from all jobs, self-employment income, or interest, dividends, net rental income, royalty income, or income from estates and trusts, but do report receiving income from any of the following: Social Security or Railroad Retirement; Supplemental Security Income (SSI); any public assistance or welfare payments from the state or local welfare office; retirement, survivor, or disability pensions; veteran's payments; unemployment compensation; child support; or alimony. Those who report receiving income from wages, salary, commissions, bonuses, or tips from all jobs, self-employment income, and/or interest, dividends, or rental income are categorized as assistance program(s) and earned income. Those who do not report any of the above sources of income are categorized as SNAP only.

Questions on the time taken to cook dinner or the main meal of the day help elucidate why lack of time could be a barrier. On a typical day, slightly more than 40 percent of SNAP households spent between 31 and 60 minutes to prepare dinner (or the main meal of the day); about one-fourth spent between 16 and 30 minutes, and about one in five spent more than an hour (Table 3-12).

Households with a single adult were more likely to spend 15 minutes or less than households with multiple adults, and were less likely to report taking either 31 to 60 minutes or more than 60 minutes. Households without children were also more likely to take less time in preparing the main meal than households with children, while households relying on multiple assistance programs for income were more likely to spend 15 minutes or less cooking than those with earned income. Across the sample, the average household spent at least half an hour, a considerable amount of time for many busy families.

Table 3-12. Time spent cooking dinner or the main meal of the day, overall and by sociodemographic characteristics

	Amount of time spent cooking dinner/Main meal on a typical day					Sample size	
	15 minutes or less	16 to 30 minutes	31 to 60 minutes	>60 minutes	Don't prepare meals at home	Weighted n	Unweighted n
	Weighted % (SE)						
Overall	7.0 (0.6)	25.5 (0.8)	44.8 (1.0)	21.4 (0.8)	1.2 (0.2)	16,064,746	4,343
Number of adults in household						16,050,740	4,340
Multiple adults	3.2 (0.4)	21.8 (0.9)	49.8 (1.4)	24.7 (1.1)	0.5 (0.1)	9,778,478	2,497
Single adult	13.0 (1.1)*	31.2 (1.5)*	37.2 (1.40)*	16.3 (1.0)*	2.3 (0.4)	6,272,262	1,843
Presence of children in household						16,064,746	4,343
Children in household	2.9 (0.4)	21.8 (1.1)	50.6 (1.5)	24.2 (1.1)	0.5 (0.1)	8,051,734	2,041
No children in household	11.2 (1.0)*	29.2 (1.3)*	39.0 (1.2)*	18.7 (1.1)	2.0 (0.3)	8,013,012	2,302
Presence of elderly adults in household						16,064,746	4,343
Elderly adults in household	7.4 (0.9)	27.1 (1.3)	40.0 (1.6)	23.6 (1.4)	1.8 (0.4)	5,507,586	1,653
No elderly adults in household	6.8 (0.6)	24.6 (0.9)	47.3 (1.2)	20.3 (1.0)	0.9 (0.2)	10,557,160	2,690
Sources of household income ^a						16,064,746	4,343
Multiple assistance programs	9.0 (0.8)*	27.5 (1.3)	40.9 (1.2)	21.0 (0.9)	1.5 (0.3)	7,770,784	2,296
Assistance program(s) and earned income	3.7 (0.7)	23.3 (1.2)	50.9 (1.7)	21.3 (1.3)	0.8 (0.2)	5,444,874	1,410
SNAP only	7.8 (1.3)	24.1 (2.0)	44.0 (2.6)	22.8 (2.1)	1.3 (0.4)	2,849,089	637
Urbanicity						15,040,659	4,070
City	6.4 (0.7)	23.9 (1.3)	44.9 (1.5)	23.6 (1.2)	1.2 (0.2)	6,712,981	1,776
Rural	5.6 (1.0)	26.5 (2.3)	43.3 (2.4)	22.9 (2.4)	1.6 (0.6)	2,088,208	604
Suburb	8.9 (1.2)	26.5 (1.6)	44.4 (2.2)	19.1 (1.5)	1.0 (0.2)	4,526,087	1,186
Town	6.7 (1.3)	25.3 (1.8)	51.0 (2.2)	16.6 (2.2)	0.4 (0.2)	1,713,383	504
Census Region						16,064,746	4,343
Midwest	8.3 (2.2)*	30.5 (2.3)	39.3 (2.2)	20.6 (1.6)	1.2 (0.4)	3,282,258	638
Northeast	6.5 (1.0)	26.7 (2.6)	43.1 (2.2)	22.5 (2.2)	1.3 (0.3)	2,264,507	698
South	6.2 (0.6)	22.5 (0.9)	46.1 (1.5)	23.9 (1.3)	1.3 (0.3)	6,926,831	1,942
West	7.8 (0.9)	25.9 (1.6)	48.6 (1.9)	16.7 (1.4)	1.1 (0.3)	3,591,150	1,065

Data Source: Food and Your Household Survey, 2018

4,343 completed surveys were included in the analysis

* Indicates that estimate is statistically significantly different from other subgroup category, at the 1 percent level, as determined by Chi-square and pairwise test.

^a Households are considered to have income from multiple assistance programs if they do not report receiving any income from wages, salary, commissions, bonuses, or tips from all jobs, self-employment income, or interest, dividends, net rental income, royalty income, or income from estates and trusts, but do report receiving income from any of the following: Social Security or Railroad Retirement; Supplemental Security Income (SSI); any public assistance or welfare payments from the state or local welfare office; retirement, survivor, or disability pensions; veteran's payments; unemployment compensation; child support; or alimony. Those who report receiving income from wages, salary, commissions, bonuses, or tips from all jobs, self-employment income, and/or interest, dividends, or rental income are categorized as assistance program(s) and earned income. Those who do not report any of the above sources of income are categorized as SNAP only.

3.6 Physical Disability as a Barrier to Cooking Meals that are Part of a Healthy Diet

The final barrier examined is physical disability. Physical disability does not necessarily lead to poor diet, but SNAP participants with a physical disability may find it more difficult to conduct grocery shopping and cook meals than SNAP participants without a physical disability; this may make consuming a healthy diet more challenging. The impact of physical disability is identified through a question asking whether physical disability prevented the primary food preparer from shopping for foods that are part of a healthy diet.

Overall, about 15 percent of SNAP participants indicated that physical disability kept the primary food preparer from preparing meals that are part of a healthy diet (Table 3-13). Significantly more single-adult households (compared with multiple adult households) reported physical disability as a barrier for healthy meal preparation, and significantly more households without children than with children reported this barrier. More households relying on multiple assistance programs reported the physical disability barrier to healthy food preparation compared with those relying on SNAP or those having earned income. The overall percentage of participants reporting disability as a barrier is comparable with the percentage reporting lack of storage as a barrier. However, the relatively high percentages within particular subgroups suggest that the burden is disproportionate.

Table 3-13. Physical disability prevents the primary food preparer from preparing meals that are part of a healthy diet, overall and by sociodemographic characteristics

	Reason that keeps the primary food preparer from preparing meals that are part of a healthy diet: Physical disability	Sample size	
	Weighted % (SE)	Weighted n	Unweighted n
Overall	14.9 (0.6)	16,580,958	4,516
Number of adults in household		16,543,693	4,511
Multiple adults	9.5 (0.8)	9,949,569	2,556
Single adult	23.3 (1.1)*	6,594,124	1,955
Presence of children in household		16,557,699	4,514
Children in household	7.2 (0.7)	8,218,807	2,100
No children in household	22.6 (0.9)*	8,338,892	2,414
Presence of elderly adults in household		16,557,700	4,514
Elderly adults in household	21.2 (1.2)	5,724,378	1,728
No elderly adults in household	11.6 (0.8)	10,833,322	2,786
Sources of household income ^a		14,105,235	3,848
Multiple assistance programs	23.0 (1.1)*	6,150,175	1,854
Assistance program(s) and earned income	5.7 (0.7)	5,324,562	1,390
SNAP only	10.2 (1.5)	2,630,498	604
Urbanicity		15,509,991	2,384
City	15.3 (1.0)	6,928,715	1,845
Rural	15.9 (1.6)	2,134,982	625
Suburb	14.5 (1.6)	4,675,098	1,232
Town	15.2 (1.8)	1,771,196	527
Census Region		16,557,700	3,844
Midwest	17.4 (1.5)	3,395,550	670
Northeast	18.4 (1.8)	2,313,764	721
South	13.2 (0.9)	7,156,698	2,021
West	13.8 (0.9)	3,691,688	1,102

Data Source: Food and Your Household Survey, 2018

4,522 completed surveys were included in the analysis

* Indicates that estimate is statistically significantly different from other subgroup category, at the 1 percent level, as determined by Chi-square and pairwise test.

^a Households are considered to have income from multiple assistance programs if they do not report receiving any income from wages, salary, commissions, bonuses, or tips from all jobs, self-employment income, or interest, dividends, net rental income, royalty income, or income from estates and trusts, but do report receiving income from any of the following: Social Security or Railroad Retirement; Supplemental Security Income (SSI); any public assistance or welfare payments from the state or local welfare office; retirement, survivor, or disability pensions; veteran's payments; unemployment compensation; child support; or alimony. Those who report receiving income from wages, salary, commissions, bonuses, or tips from all jobs, self-employment income, and/or interest, dividends, or rental income are categorized as assistance program(s) and earned income. Those who do not report any of the above sources of income are categorized as SNAP only.

Significant differences were noted between multiple assistance programs vs. assistance program(s) and earned income and between assistance program(s) and earned income vs SNAP only.

3.7 Summary

In summary, the most common individual or household barrier was lack of time to cook meals that are part of a healthy diet, with 30 percent of the sample citing this as a barrier. Lack of nutrition knowledge (16%), physical disability (15%), and lack of storage (14%) were all barriers for a minority, with all other barriers affected 10 percent or less of the sample. However, while each barrier might only affect a small fraction of SNAP participants, across the sample, about 70 percent of SNAP participants experience at least one individual or household barrier. Interactions among barriers are examined in Chapter 5, but first environmental barriers are discussed in the next chapter.

4. Environmental Barriers

Environmental barriers are those determined by where a participant lives, including availability of foods that are part of a healthy diet, transportation, and affordability. This chapter describes the food environment and shopping practices of SNAP participants, before focusing on barriers experienced by these participants.

Key Findings

- Overall, about 75 percent of participants experienced at least one environmental barrier.
- Affordability was the most prevalent environmental barrier, with over 60 percent of the sample saying that affording foods that are part of a healthy diet¹³ was a barrier to buying foods that are part of a healthy diet.
- SNAP participants generally have access to foods that are part of a healthy diet, as measured by proximity to stores that sell foods that are part of a healthy diet.
- Most participants report that the stores at which they do their primary shopping stock foods that are part of a healthy diet, with less than 5 percent of participants saying their stores do not stock fresh fruits and vegetables, lean meats, low-fat dairy, and whole grains.
- Eighty percent of the sample travel 20 minutes or less to reach their primary grocery store
- While most participants do have access to a vehicle, 19 percent cite lack of transportation as a barrier that keeps them from shopping for foods that are part of a healthy diet.

4.1 Availability of Foods That are Part of a Healthy Diet

The survey determines availability of foods that are part of a healthy diet in multiple ways. This chapter begins by describing typical shopping patterns of SNAP participants, including where they shop. These do not directly measure access to foods that are part of a healthy diet, but rather they more generally describe the food environment faced by SNAP participants and may suggest some

¹³A healthy diet is defined in the survey as “eating a variety of food from all five food groups (fruits, vegetables, grains, dairy, and protein foods). It also means not eating too much saturated fat, salt, or sugar, and getting the right amount of calories for you.”

barriers. For instance, those who shop primarily at stores known to have little selection of foods that are part of a healthy diet may be facing a lack of foods that are part of a healthy diet in their environment. From there, the chapter describes the participants' responses to questions about the availability of types of foods that are part of a healthy diet at the store where they do their primary shopping.

4.1.1 Types of Food Stores Available

About 57 percent of SNAP participants purchase most of their groceries at large chain grocery stores and three out of 10 do so at discount superstores such as Walmart, Target, or Kmart (Table 4-1). Only about 2 percent of the SNAP participants purchased most of their groceries at stores such as small grocery stores or discount stores, dollar stores, specialty stores, or used home delivery service.

Table 4-1. Types of stores where SNAP households buy most of their groceries

Store type	Weighted % (SE)	Weighted n	Unweighted n
Overall		15,581,720	4,194
Large chain grocery store	57.2 (0.8)	8,911,199	2,435
Discount superstore	31.5 (0.7)	4,910,623	1,280
Natural or organic supermarket/local market	3.0 (0.3)	472,503	123
Warehouse club store	2.8 (0.3)	429,954	111
Convenience store or corner store	1.8 (0.3)	281,573	72
Ethnic market	1.6 (0.2)	247,207	72
Farmers' market/farm stand/co-op	0.5 (0.1)	83,590	22
Home delivery service	0.1 (0.1)	19,152	5
Other ^a	1.4 (0.2)	225,918	74

Data Source: Food and Your Household Survey, 2018

4,194 completed surveys were included in the analysis

^a Of those who checked "other" store type, 69 provided a write-in response; 19 listed dollar stores, 11 listed specialty stores, 2 wrote in multiple stores, and the remaining listed the store name.

Given the relatively small proportion of households who shop at stores other than grocery stores or superstores/warehouse, several store types were combined for results presented in the rest of this chapter.

Supermarkets (including those categorized in Table 4-1 as large chain grocery stores, natural or organic supermarkets or local markets) remained the primary source of groceries for most SNAP households, regardless of household composition and sources of income, urbanicity, and census region (Table 4-2). Multiple-adult households were significantly more likely than single-adult

households to purchase most of their groceries at a superstore (discount superstore, warehouse, or club store), as were households with children compared with households without children, and households without elderly adults compared with households with elderly adults. This suggests that household composition influences choice of venue. The types of stores where SNAP households purchased most of their groceries did not differ by source of household income.

Table 4-2. Percentage of participants shopping for groceries at supermarkets, superstores, and other store types, overall and by sociodemographic characteristics

	Primary store type for most groceries			Sample size	
	Supermarkets	Superstores	Other store types ^a	Weighted n	Unweighted n
	Weighted % (SE)				
Overall	60.2 (0.7)	34.3 (0.7)	5.5 (0.4)	15,581,720	4,194
Number of adults in household				15,567,714	4,191
Multiple adults	58.8 (1.0)	36.6 (1.0)*	4.6 (0.4)	9,462,064	2,401
Single adult	62.5 (1.3)	30.6 (1.2)	6.8 (0.7)	6,105,649	1,790
Presence of children in household				15,581,720	4,194
Children in household	57.5 (1.2)	37.6 (1.3)*	4.9 (0.5)	7,784,556	1,968
No children in household	62.9 (1.1)	31.0 (1.0)	6.1 (0.5)	7,797,164	2,226
Presence of elderly adults in household				15,581,720	4,194
Elderly adults in household	64.6 (1.2)*	29.2 (1.1)	6.2 (0.5)	5,272,089	1,577
No elderly adults in household	58.0 (0.9)	36.9 (1.0)*	5.2 (0.5)	10,309,631	2,617
Sources of household income ^b				15,581,720	4,194
Multiple assistance programs	60.9 (1.0)	33.1 (1.0)	6.0 (0.5)	7,507,024	2,208
Assistance program(s) and earned income	58.9 (1.5)	36.2 (1.4)	4.8 (0.7)	5,281,177	1,364
SNAP only	60.9 (2.1)	33.7 (2.2)	5.4 (1.1)	2,793,520	622
Urbanicity				14,590,362	3,929
City	63.2 (1.2)*	30.5 (1.3)*	6.3 (0.5)	6,462,933	1,699
Rural	53.7 (2.5)	40.0 (2.3)	6.4 (1.0)	2,035,097	589
Suburb	61.9 (1.8)	34.5 (1.8)	3.6 (0.6)*	4,385,285	1,140
Town	53.9 (2.6)	41.3 (2.7)	4.8 (1.1)	1,707,046	501
Census Region				15,581,720	4,194
Midwest	57.1 (1.7)	37.8 (1.6)	5.1 (0.9)	3,149,017	618
Northeast	72.4 (1.6)*	18.6 (1.9)*	9.1 (1.8)*	2,176,680	664
South	55.5 (1.1)	40.0 (1.2)	4.5 (0.4)	6,744,621	1,871
West	64.5 (2.4)	29.9 (2.7)	5.6 (0.8)	3,511,401	1,041

Data Source: Food and Your Household Survey, 2018

4,194 completed surveys were included in the analysis

Number of responses varies for each column due to item nonresponse

^a Store types include convenience store (72) ethnic market (72), farmers market (22), home delivery service (5) and other (74)

* Indicates that estimate is statistically significantly different from other subgroup category, at the 1 percent level, as determined by Chi-square and pairwise test.

^b Households are considered to have income from multiple assistance programs if they do not report receiving any income from wages, salary, commissions, bonuses, or tips from all jobs, self-employment income, or interest, dividends, net rental income, royalty income, or income from estates and trusts, but do report receiving income from any of the following: Social Security or Railroad Retirement; Supplemental Security Income (SSI); any public assistance or welfare payments from the state or local welfare office; retirement, survivor, or disability pensions; veteran's payments; unemployment compensation; child support; or alimony.

SNAP households living in the city were significantly more likely than those living in suburbs to shop at supermarkets. This may reflect the presence of more supermarkets in urban areas. SNAP households living in the Northeast were more likely than those in the South to shop primarily at supermarkets, and less likely to shop at superstores. Additional analysis on store choice are presented in Appendix 5.

4.1.2 Availability of Types of Foods That are Part of a Healthy Diet

The survey instrument asks participants about the variety of foods that are part of a healthy diet they find in the stores where they buy groceries. Upwards of 70 percent of SNAP participants had access to fresh fruits and vegetables. However, 3.5 percent indicated that the stores where they shopped had very little variety of fresh fruits and 2.8 percent reported very little variety in fresh vegetables (see Table 4-3). At stores where they shopped, more SNAP participants reported having a wide selection of fresh produce (fruits and vegetables) than frozen or canned produce. A larger percentage of SNAP participants reported having a wide variety of low-fat dairy options (72%) than whole grain products (63%) or lean meats (62%). Repeating the analysis with restrictions only to those who shop at supermarkets and superstores provides the same result; this analysis is presented in Appendix 5.

Overall, most SNAP participants report being able to find foods that are part of a healthy diet. The percentage who can find only very little variety of such foods is quiet small, suggesting that lack of availability of foods that are part of a healthy diet does not represent an important barrier for most SNAP participants. Of course, the availability at stores of a wide variety of foods needed for a healthy diet does not mean there are no environmental barriers to healthy eating. The next sections examine transportation and affordability barriers.

Table 4-3. Availability of products in food categories at stores where participants shop for groceries

	Variety of products in food categories					Sample size	
	Wide	Some	Very little	Not available	Don't know/ Don't buy		
	Weighted % (SE)					Weighted n	Unweighted n
Fruits							
Fresh fruits	71.1 (0.9)	23.0 (0.9)	3.5 (0.3)	0.9 (0.2)	1.5 (0.2)	16,340,504	4,427
Frozen fruits	51.4 (1.1)	28.0 (1.1)	7.3 (0.4)	1.1 (0.2)	12.1 (0.5)	15,825,211	4,244
Canned fruits	62.6 (0.8)	20.7 (0.7)	4.5 (0.4)	0.9 (0.3)	11.3 (0.5)	15,884,741	4,270
Vegetables							
Fresh vegetables	75.0 (0.7)	20.4 (0.7)	2.8 (0.2)	0.6 (0.1)	1.2 (0.2)	16,181,963	4,372
Frozen vegetables	60.9 (0.9)	25.3 (0.9)	5.5 (0.5)	0.7 (0.2)	7.7 (0.6)	15,880,698	4,273
Canned vegetables	67.4 (0.8)	17.8 (0.7)	5.0 (0.4)	0.9 (0.2)	8.9 (0.6)	15,813,950	4,245
Whole grain products	63.2 (0.9)	26.1 (0.8)	5.2 (0.4)	0.7 (0.2)	4.8 (0.3)	16,220,684	4,380
Lean meat	62.4 (0.9)	27.0 (0.9)	6.2 (0.5)	0.7 (0.1)	3.7 (0.3)	16,257,756	4,396
Low-fat dairy	72.3 (0.8)	20.6 (0.7)	3.7 (0.3)	0.6 (0.2)	2.8 (0.3)	16,299,786	4,410

Data Source: Food and Your Household Survey, 2018

4,427 completed surveys were included in the analysis

4.2 Travel and Transportation Barriers

While most of the sample is able to access grocery stores with a variety of foods that are part of a healthy diet, the cost they face to access and purchase such foods, either monetary for bus or taxi fares or in terms of time, may be prohibitive for some. The survey addresses both types of barriers. Participants were asked how long it takes them to get to their primary grocery store, as well as the distance from their home to their primary grocery store. Participants were also asked about the mode of transportation they used to travel to the store and whether they viewed transportation as a barrier to shopping for foods that are part of a healthy diet.

4.2.1 Time and Distance to Store

To get to their primary food store, the majority (80%) of SNAP households traveled for 20 minutes or less (Table 4-4). A significantly larger percentage of single adult households, those without children, and with elderly adults traveled for 21 or more minutes to get to the store where they did most of their shopping. While 22 percent of SNAP households relying on multiple assistance

programs as their sole source of income traveled for more than 20 minutes, about 16 percent of those reporting earned income and assistance programs did so. A greater proportion of those living in rural areas (36%) than in city, suburb, or town (18%, 12%, and 17%) also travelled for more than 20 minutes to get to the primary store for grocery shopping. Additional analyses on traveling to the store are presented in Appendix 5.

Table 4-4. Usual travel time to primary grocery store, overall and by sociodemographic characteristics

	20 minutes or less	21 minutes or more		
	Weighted % (SE)		Weighted n	Unweighted n
Overall	80.4 (0.7)	19.6 (0.7)	16,372,363	4,437
Number of adults in household			16,358,356	4,434
Multiple adults	82.2 (0.8)*	17.8 (0.8)*	9,891,138	2,530
Single adult	77.7 (1.2)	22.3 (1.2)	6,467,218	1,904
Presence of children in household			16,372,363	4,437
Children in household	82.2 (0.8)*	17.8 (0.8)*	8,174,321	2,079
No children in household	78.7 (1.0)	21.3 (1.0)	8,198,042	2,358
Presence of elderly adults in household			16,372,363	4,437
Elderly adults in household	78.8 (1.2)	21.2 (1.2)*	5,611,225	1,686
No elderly adults in household	81.3 (0.8)*	18.7 (0.8)	10,761,138	2,751
Sources of household income ^a			16,372,363	4,437
Multiple assistance programs	77.6 (1.0)	22.4 (1.0)*	7,937,247	2,344
Assistance program(s) and earned income	84.2 (1.1)*	15.8 (1.1)	5,528,224	1,436
SNAP only	81.0 (1.8)	19.0 (1.8)	2,906,892	657
Urbanicity			15,325,866	4,155
City	82.4 (1.1)	17.6 (1.1)	6,816,605	1,803
Rural	63.5 (2.4)*	36.5 (2.4)*	2,106,946	614
Suburban	88.1 (1.1)	11.9 (1.1)	4,639,064	1,216
Town	83.1 (2.2)	16.9 (2.2)	1,763,252	522
Census Region			16,372,363	4,437
Midwest	81.3 (1.3)	18.7 (1.3)	3,353,657	656
Northeast	76.6 (1.6)	23.4 (1.6)	2,280,084	706
South	82.0 (1.1)	18.0 (1.1)	7,066,893	1,985
West	79.0 (1.8)	21.0 (1.8)	3,671,729	1,090

Data Source: Food and Your Household Survey, 2018

4,437 completed surveys were included in the analysis

* Indicates that estimate is statistically significantly different from other subgroup category, at the 1 percent level, as determined by Chi-square and pairwise test.

^a Households are considered to have income from multiple assistance programs if they do not report receiving any income from wages, salary, commissions, bonuses, or tips from all jobs, self-employment income, or interest, dividends, net rental income, royalty income, or income from estates and trusts, but do report receiving income from any of the following: Social Security or Railroad Retirement; Supplemental Security Income (SSI); any public assistance or welfare payments from the state or local welfare office; retirement, survivor, or disability pensions; veteran's payments; unemployment compensation; child support; or alimony.

Significant differences were found between those from the city vs rural, city vs suburb, rural vs. suburb, rural vs. town, and suburb vs. town.

Significant differences were found for multiple assistance programs vs. assistance program(s) and earned income.

A comparable percentage of SNAP participants report distance to their primary shopping store as a barrier to buying foods that are part of a healthy diet as report taking 21 or more minutes to get to the store (Table 4-5). Overall, 19 percent of SNAP participants said distance to the store was a barrier, a higher percentage than those who report lack of nutrition knowledge, lack of cooking skills, lack of time to shop, lack of kitchen facilities, or physical disability, but a lower percentage than those who cited lack of time to cook as a barrier to preparing meals that are part of a healthy diet. Those without children in the household were significantly more likely to report distance as a barrier to shopping for foods that are part of a healthy diet than those with children; those with elderly adults in the household were also more likely to report distance as a barrier than those without elderly adults in the household.

Table 4-5. Distance to store prevents the primary food shopper from shopping for foods that are part of a healthy diet, overall and by sociodemographic characteristics

	Weighted % (SE)	Sample size	
		Weighted n	Unweighted n
Overall	19.0 (0.7)	16,074,005	4,393
Number of adults in household		16,059,999	4,390
Multiple adults	18.0 (1.1)	9,682,491	2,500
Single adult	19.2 (1.1)	6,377,507	1,890
Presence of children in household		16,074,005	4,393
Children in household	17.0 (1.2)	8,010,114	2,058
No children in household	19.9 (1.1)*	8,063,891	2,335
Presence of elderly adults in household		16,074,005	4,393
Elderly adults in household	20.1 (1.1)*	5,524,956	1,671
No elderly adults in household	17.6 (1.0)	10,549,049	2,722
Sources of household income ^a		16,074,005	4,393
Multiple assistance programs	20.2 (1.0)	7,804,414	2,318
Assistance program(s) and earned income	16.6 (1.2)	5,483,032	1,433
SNAP only	17.3 (1.7)	2,786,560	642
Urbanicity		15,044,947	4,115
City	19.0 (1.1)	6,652,768	1,786
Rural	16.4 (2.0)	2,091,535	610
Suburban	19.1 (1.6)	4,542,096	1,201
Town	13.3 (1.8)	1,758,548	518
Census Region		16,074,005	4,393
Midwest	19.4 (2.9)	3,318,498	652
Northeast	21.4 (1.9)	2,219,865	695
South	16.2 (0.9)	6,991,403	1,976
West	20.1 (1.6)	3,544,239	1,070

Data Source: Food and Your Household Survey, 2018

4,393 completed surveys were included in the analysis

* Indicates that estimate is statistically significantly different from other subgroup category, at the 1 percent level, as determined by Chi-square and pairwise test.

^a Households are considered to have income from multiple assistance programs if they do not report receiving any income from wages, salary, commissions, bonuses, or tips from all jobs, self-employment income, or interest, dividends, net rental income, royalty income, or income from estates and trusts, but do report receiving income from any of the following: Social Security or Railroad Retirement; Supplemental Security Income (SSI); any public assistance or welfare payments from the state or local welfare office; retirement, survivor, or disability pensions; veteran's payments; unemployment compensation; child support; or alimony.

4.2.2 Travel to Store

Finally, the survey examined how participants get to their primary shopping store. The majority (82%) of SNAP households indicated that they usually travel to the food store in a car—by driving their own car, a car belonging to someone else in the household, or getting a ride in a car with someone they know (Table 4-6). While 15 percent of SNAP households walked, biked, or used public transportation, about 3 percent reported taking a taxi (or paid driver) or using a home delivery service.

Significantly more households with multiple adults (than single adults), households with children (than households without children), and households without elderly adults (than households with elderly adults) used cars to do their grocery shopping. Single adult households, households without children, and households with elderly adults were all more likely to walk, bike, or use public transportation and more likely to use a taxi, other paid driver, or grocery delivery service.

Households relying on earned income were more likely than households relying on multiple assistance programs to use cars, and less likely to use other modes of transportation for grocery shopping. Those living in cities were less likely to use cars than those in all other urban categories, while those in rural areas were less likely than those in other urbanities to use noncar transit methods. Finally, those in the Northeast were less likely than those in all other regions to use cars for grocery shopping and more likely to use other transportation methods.

Table 4-6. Usual mode of transportation to grocery store, overall and by sociodemographic characteristics

	Usual mode of transportation for grocery shopping			Sample size	
	Car ^a	Walk, bike, or public transportation ^b	Taxi, other paid driver, or home delivery ^c	Weighted n	Unweighted n
	Weighted % (SE)				
Overall	82.2 (0.7)	15.1 (0.7)	2.8 (0.3)	16,063,325	4,338
Number of adults in household				16,049,318	4,335
Multiple adults	87.2 (1.0)*	10.7 (0.8)	2.1 (0.5)	9,741,227	2,481
Single adult	74.4 (1.2)	21.8 (1.1)*	3.8 (0.5)*	6,308,091	1,854
Presence of children in household				16,063,325	4,338
Children in household	86.9 (1.0)*	10.9 (1.0)	2.2 (0.5)	8,024,947	2,031
No children in household	77.5 (0.9)	19.2 (0.9)*	3.3 (0.4)*	8,038,378	2,307
Presence of elderly adults in household				16,063,325	4,338
Elderly adults in household	78.9 (1.1)	17.3 (1.0)*	3.8 (0.5)	5,474,413	1,640
No elderly adults in household	83.9 (0.9)*	13.9 (0.9)	2.3 (0.3)	10,588,912	2,698
Sources of household income ^d				16,063,325	4,338
Multiple assistance programs	78.0 (1.2)	18.0 (1.1)	4.0 (0.5)*	7,736,324	2,284
Assistance programs and earned income	87.8 (1.1)*	10.8 (1.0)*	1.5 (0.4)	5,466,602	1,413
SNAP only	82.7 (1.7)	15.3 (1.7)	2.0 (0.8)	2,860,399	641
Urbanicity				15,033,764	4,060
City	72.7 (1.4)*	24.2 (1.3)	3.0 (0.6)	6,674,638	1,758
Rural	96.3 (1.1)	2.6 (0.9)*	1.1 (0.3)*	2,086,152	605
Suburban	85.3 (1.3)	11.1 (1.0)	3.7 (0.7)	4,550,364	1,190
Town	89.0 (1.7)	8.6 (1.9)	2.3 (0.9)	1,722,609	507
Census Region				16,063,325	4,338
Midwest	85.0 (1.8)	12.6 (1.7)	2.4 (0.7)	3,300,884	646
Northeast	55.1 (4.1)*	40.0 (4.1)*	4.9 (0.8)*	2,198,182	678
South	89.8 (0.9)	7.8 (0.7)	2.4 (0.5)	6,957,149	1,947
West	81.3 (2.1)	16.2 (1.8)	2.5 (0.7)	3,607,110	1,067

Data Source: Food and Your Household Survey, 2018

4,338 completed surveys were included in the analysis

*Indicates that estimate is statistically significantly different from other subgroup category, at the 1 percent level, as determined by Chi-square and pairwise test.

^a Includes those who drive in their own car, in a car that belongs to someone they live with, and in a car that belongs to someone who lives elsewhere

^b Includes those who walk, those who ride a bicycle, and those who use a bus, subway, or other public transit

^c Includes those who use a tax or other paid driver and those who have someone else deliver groceries

^d Households are considered to have income from multiple assistance programs if they do not report receiving any income from wages, salary, commissions, bonuses, or tips from all jobs, self-employment income, or interest, dividends, net rental income, royalty income, or income from estates and trusts, but do report receiving income from any of the following: Social Security or Railroad Retirement; Supplemental Security Income (SSI); any public assistance or welfare payments from the state or local welfare office; retirement, survivor, or disability pensions; veteran's payments; unemployment compensation; child support; or alimony.

Participants may choose different modes of transit for different reasons; on its own, lack of access to a car does not mean that participants face a transportation barrier. When asked directly whether transportation is a barrier to purchasing foods that are part of a healthy diet, 19 percent report that it is (Table 4-7). A comparable percentage of participants report transportation and distance barriers, suggesting that transportation may be an important barrier for almost one in five SNAP households.

Table 4-7. Transportation prevents the primary food shopper from shopping for foods that are part of a healthy diet, overall and by sociodemographic characteristics

	Transportation keeps primary shopper from shopping for foods that are part of a healthy diet		
	Weighted % (SE)	Sample size	
		Weighted n	Unweighted n
Overall	19.0 (0.7)	16,617,828	4,522
Number of adults in household		16,603,822	4,519
Multiple adults	16.0 (1.0)	9,989,084	2,561
Single adult	23.5 (1.1)	6,614,738	1,958
Presence of children in household		16,617,828	4,522
Children in household	16.0 (1.0)	8,249,645	2,104
No children in household	22.0 (0.9)	8,368,183	2,418
Presence of elderly adults in household		16,617,828	4,522
Elderly adults in household	21.5 (1.0)	5,738,873	1,730
No elderly adults in household	17.7 (0.9)	10,878,955	2,792
Sources of household income ^a		16,617,828	4,522
Multiple assistance programs	22.4 (0.8)	8,097,769	2,403
Assistance program(s) and earned income	13.4 (1.1)*	5,584,169	1,452
SNAP only	20.5 (1.8)	2,935,890	667
Urbanicity		15,561,443	4,236
City	21.2 (1.2)	6,936,901	1,846
Rural	14.4 (1.6)	2,140,800	626
Suburban	18.9 (1.3)	4,697,750	1,235
Town	16.0 (2.2)	1,785,992	529
Census Region		16,617,828	4,522
Midwest	19.4 (2.2)	3,395,550	670
Northeast	21.2 (1.8)	2,328,848	723
South	18.0 (0.9)	7,178,270	2,024
West	19.3 (1.5)	3,715,160	1,105

Data Source: Food and Your Household Survey, 2018

4,522 completed surveys were included in the analysis

Number of responses varies for each column due to item nonresponse

* Indicates that estimate is statistically significantly different from other subgroup category, at the 1 percent level, as determined by Chi-square and pairwise test.

^a Households are considered to have income from multiple assistance programs if they do not report receiving any income from wages, salary, commissions, bonuses, or tips from all jobs, self-employment income, or interest, dividends, net rental income, royalty income, or income from estates and trusts, but do report receiving income from any of the following: Social Security or Railroad Retirement; Supplemental Security Income (SSI); any public assistance or welfare payments from the state or local welfare office; retirement, survivor, or disability pensions; veteran's payments; unemployment compensation; child support; or alimony.

Significant differences were found for those relying on multiple assistance programs vs assistance program(s) and earned income and assistance program(s) and earned income vs. SNAP only.

4.3 Affordability

The last environmental barrier under consideration is affordability. The survey did not collect data on food prices. Rather, participants were asked about how easy they found it to afford foods that are part of a healthy diet in various categories and whether they perceived affordability as a barrier to buying foods that are part of a healthy diet. These questions reveal price to be the largest barrier to a healthy diet according to SNAP participants. Overall, about 43 percent of SNAP participants found it difficult or very difficult to afford fresh fruits, 38 percent found it difficult or very difficult to afford fresh vegetables, 29 percent found it difficult or very difficult to afford whole grain products, and almost 50 percent found it difficult or very difficult to afford lean meat (Table 4-8). When looking at all of the categories of foods that are part of a healthy diet together, about 20 percent of SNAP participants had difficulty affording all components of a healthy diet. Households with multiple adults were significantly more likely to find it difficult or very difficult to afford fresh fruits, fresh vegetables, and whole grain products than households with single adults; households without children were more likely than households with children to find it difficult or very difficult to afford each food category. Households with elderly adults were more likely than households without elderly adults to find it difficult or very difficult to afford fruits, vegetables, and whole grains. Households relying on multiple assistance programs were more likely to report difficulty affording fresh fruits, fresh vegetables, and whole grain products than households with earned income; households on multiple assistance programs were also more likely than households with earned income to report difficulty affording all four food categories.

Table 4-8. Percentage of participants reporting difficulty affording foods in four food categories, overall and by sociodemographic characteristics

	It is difficult or very difficult to afford ... on the household's budget				
	Fresh fruits ^b	Fresh vegetables ^b	Whole grain products ^b	Lean meat ^b	All four food categories ^b
Overall	42.9 (0.9)	38.2 (0.9)	29.3 (0.8)	49.9 (0.7)	19.2 (0.7)
Number of adults in household					
Single adult	39.9 (1.3)	35.0 (1.1)	26.3 (1.1)	48.5 (1.2)	17.2 (1.0)
Multiple adults	47.5 (1.4)*	43.2 (1.3)*	34.2 (1.3)*	52.3 (1.3)	22.4 (1.1)*
Presence of children in household					
Children in household	38.1 (1.4)	33.1 (1.3)	24.9 (1.2)	46.9 (1.4)	16.6 (1.0)
No children in household	47.7 (1.2)*	43.3 (1.3)*	33.9 (1.3)*	53.0 (1.1)*	21.8 (1.1)*
Presence of elderly adults in household					
Elderly adults in household	46.9 (1.4)*	41.9 (1.4)*	32.8 (1.5)*	50.7 (1.5)	22.8 (1.2)*
No elderly adults in household	40.8 (1.2)	36.2 (1.2)	27.5 (1.1)	49.5 (1.0)	17.4 (0.9)
Sources of household income ^a					
Multiple assistance programs	46.4 (1.3)*	41.8 (1.2)*	33.3 (1.1)*	51.7 (1.0)	22.6 (1.1)*
Assistance program(s) and earned income	39.3 (1.4)	33.6 (1.3)	25.3 (1.3)	50.1 (1.6)	15.9 (1.1)
SNAP only	40.2 (2.7)	36.9 (2.4)	26.5 (2.2)	44.9 (2.1)	16.3 (1.7)
Urbanicity					
City	40.0 (1.5)*	35.3 (1.6)	28.0 (1.4)	47.3 (1.2)	17.7 (1.4)
Rural	48.8 (2.1)	41.9 (2.5)	30.6 (2.3)	53.1 (1.7)	21.3 (2.1)
Suburban	42.9 (1.5)	39.9 (1.5)	30.4 (2.0)	52.8 (1.7)	20.9 (1.3)
Town	47.2 (2.3)	41.8 (2.9)	29.2 (2.6)	50.4 (2.7)	19.8 (1.7)
Census Region					
Midwest	45.0 (1.6)	40.4 (1.8)	32.8 (1.8)	54.6 (1.7)	20.9 (1.6)
Northeast	43.9 (1.7)	40.3 (1.9)	30.5 (1.7)	47.4 (1.5)*	21.1 (2.1)
South	42.5 (1.6)	37.6 (1.4)	28.3 (1.4)	48.1 (1.2)	18.6 (1.1)
West	41.1 (1.9)	35.8 (2.1)	27.3 (2.1)	50.7 (1.8)	17.8 (1.5)

Data Source: Food and Your Household Survey, 2018

4,522 completed surveys were included in the analysis

^b Number of responses varies for each column due to item nonresponse. Unweighted sample size for fresh fruits is 4,383; fresh vegetables is 4,317; whole grain products is 4,092; lean meats is 4,272; all four food categories is 4,522.

* Indicates that estimate is statistically significantly different from other subgroup category, at the 1 percent level, as determined by Chi-square and pairwise test.

^a Households are considered to have income from multiple assistance programs if they do not report receiving any income from wages, salary, commissions, bonuses, or tips from all jobs, self-employment income, or interest, dividends, net rental income, royalty income, or income from estates and trusts, but do report receiving income from any of the following: Social Security or Railroad Retirement; Supplemental Security Income (SSI); any public assistance or welfare payments from the state or local welfare office; retirement, survivor, or disability pensions; veteran's payments; unemployment compensation; child support; or alimony.

Significant differences were found for difficult affording fresh fruits, fresh vegetables, whole grain products, and all four categories for multiple assistance programs vs. assistance program(s) and earned income.

When asked directly whether affordability, as defined as food prices, prevents the primary food shopper from shopping for foods that are part of a healthy diet, 61 percent of SNAP participants indicated that the cost of food is a barrier (Table 4-9). Those who did not report any sources of

income outside of SNAP were less likely to report affordability as a barrier than those on multiple assistance programs and those with earned income; otherwise, the percentage reporting affordability as a barrier did not vary significantly by household composition or location. Additional analysis of affordability as a barrier are included in Appendix 5.

Table 4-9. Affordability (food prices) prevents the primary food shopper from shopping for foods that are part of a healthy diet, overall and by sociodemographic characteristics

	Food price keeps food shopper from shopping for foods that are part of a healthy diet		
	Weighted %	Sample size	
		Weighted n	Unweighted n
Overall	61.1 (0.9)	16,559,277	4,514
Number of adults in household			
Multiple adults	61.2 (1.3)	6,088,429	1,614
Single adult	60.9 (1.0)	4,022,711	1,188
Presence of children in household			
Children in household	60.0 (1.4)	4,936,339	1,294
No children in household	62.2 (1.0)	5,185,199	1,510
Presence of elderly adults in household			
Elderly adults in household	60.5 (1.6)	3,448,071	1,045
No elderly adults in household	61.5 (1.1)	6,673,468	1,759
Sources of household income ^a			
Multiple assistance programs	60.5 (1.3)	8,079,184	2,400
Assistance program(s) and earned income	65.0 (1.4)	5,550,853	1,448
SNAP only	55.4 (2.2)*	2,929,241	666
Urbanicity			
City	58.7 (1.4)	4,060,605	1,106
Rural	61.6 (2.0)	1,310,634	391
Suburban	64.5 (1.7)	3,021,907	807
Town	60.6 (2.5)	1,076,597	326
Census Region			
Midwest	62.2 (2.4)	2,105,843	419
Northeast	60.4 (1.4)	1,396,932	438
South	60.0 (1.2)	4,289,531	1,238
West	62.8 (2.0)	2,329,232	709

Data Source: Food and Your Household Survey, 2018

4,514 completed surveys were included in the analysis

* Indicates that estimate is statistically significantly different from other subgroup category, at the 1 percent level, as determined by Chi-square and pairwise test.

^a Households are considered to have income from multiple assistance programs if they do not report receiving any income from wages, salary, commissions, bonuses, or tips from all jobs, self-employment income, or interest, dividends, net rental income, royalty income, or income from estates and trusts, but do report receiving income from any of the following: Social Security or Railroad Retirement; Supplemental Security Income (SSI); any public assistance or welfare payments from the state or local welfare office; retirement, survivor, or disability pensions; veteran's payments; unemployment compensation; child support; or alimony.

Significant differences were found for those on multiple assistance programs vs. SNAP only and assistance program(s) and earned income vs. SNAP only.

In summary, price was the largest environmental barrier to a healthy diet among the sample, with more than 60 percent listing affordability as a barrier. Distance and transportation were also barriers for about 20 percent. Availability of stores stocking foods that are part of a healthy diet was not a barrier, with less than 5 percent unable to access foods that are part of a healthy diet in different categories.

From reporting on barrier prevalence, the study turns to examining how barriers interact with each other and how barriers relate to food security.

5. Barrier Associations and Relationship to Food Security

The prior chapters examined the prevalence of individual/household, and environmental barriers to healthy eating among SNAP participants. This chapter discusses how barriers relate to each other and to outcomes of interest. First, relationships between barriers are examined using factor analysis. Factor analysis explains how variables are correlated with each other. Examining how variables measuring transportation as a barrier and distance to a store as a barrier, for instance, can help illuminate the relationship between the two barriers. A strong correlation between the two could indicate that both variables are measuring one underlying construct—physical access to stores, for instance. Next, the relationship of barriers to food security is examined through logistic regression.

Key Findings

- Five factors are identified through exploratory factor analysis, including shopping logistics, physical disability, nutrition attitudes and habits, equipment and storage facilities, and preferences and skills. Additional barriers included in the analysis are found not to correlate strongly with others—these include time, lack of knowledge about what foods are part of a healthy diet, and affordability.
- More than 60 percent of the sample has low or very low food security.
- The barriers of affordability and lack of equipment are significantly associated with low or very low food security.
- Affordability appears to be a particularly strong barrier.
- Those who face an affordability barrier are more likely to exhaust their benefits in under 3 weeks, compared with those who do not face an affordability barrier.

5.1 Associations Between Barriers

Factor analysis measures the interrelatedness of survey items. By performing exploratory factor analysis using the barrier questions in the survey, the study team aims to describe clusters of responses, showing how barriers questions are correlated. Correlated barrier questions may reflect an underlying construct. For example, correlations between store hours as a barrier and amount of time

available to shop at the store could reflect an underlying construct of lack of time for grocery shopping.

Factor analysis was performed using responses to 17 questions: seven questions about barriers to shopping for foods that are part of a healthy diet, seven questions about barriers to cooking meals that are part of a healthy diet, and three questions about nutrition knowledge and attitudes towards healthy eating. These questions are presented in Appendix 6. The results of the factor analysis are presented in Table 5-1, which shows the correlations between questions. Items with a correlation factor greater than 0.5 are considered to form a cluster and are presented in red.

Table 5-1. Factor analysis of barriers

Barriers	Rotated factor pattern				
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
	Shopping logistics	Physical disability	Nutrition attitudes and habits	Equipment and storage facilities	Preferences and skills
Shopping: Distance to store	0.703	0.083	0.063	0.106	-0.167
Shopping: Transportation	0.670	0.217	0.101	0.136	-0.125
Shopping: Store hours	0.641	-0.076	-0.071	0.120	0.228
Shopping: Amount of time to shop	0.536	0.020	0.010	0.006	0.145
Shopping: Safety concerns	0.515	0.113	-0.060	-0.001	0.205
Preparing: Physical disability	0.045	0.875	0.008	0.022	-0.000
Shopping: Physical disability	0.188	0.845	-0.020	0.027	0.007
Behavior: How often use Nutrition Facts Panel to buy a food?	-0.039	-0.036	0.770	0.006	0.004
Knowledge: How familiar are you with the MyPlate graphic?	0.118	0.031	0.648	0.084	0.025
Knowledge: Understand the importance of eating healthy	-0.134	-0.031	0.594	0.035	0.107
Preparing: Do not know what foods are part of a healthy diet	0.175	0.084	0.404	-0.137	0.363
Preparing: Lack of equipment	0.133	0.036	0.044	0.791	0.019
Preparing: Lack of storage	0.119	0.019	0.021	0.779	0.114
Preparing: Lack of time	0.030	-0.118	0.047	0.055	-0.077
Shopping: Affordability	0.066	0.216	0.035	0.188	0.012
Preparing: do not like home cooked meals	-0.036	-0.021	-0.057	0.124	0.745
Preparing: do not know how	0.078	0.001	0.213	0.033	0.555
Variance explained by each factor	2.051	1.625	1.608	1.360	1.185

Data Source: Food and Your Household Survey, 2018

4,522 completed surveys were included in the analysis

The analysis yielded five factors, as follows:

Factor 1. Shopping logistics: This factor includes five barriers to shopping for foods that are part of a healthy diet because of the distance to the stores, lack of transportation to get to the store, hours of store operation, the amount of time available to shop at the store, and safety concerns in and around the stores. This factor could be termed a shopping logistics barrier. All variables concern how shopping is to be accomplished—based on where the store is, how the participant is to get to the store, the hours the store is open, the amount of time the participant has to shop, and their comfort level with the safety of the store.

Factor 2. Physical disability: this factor includes physical disability as a barrier to both shopping for foods that are part of a healthy diet and to cooking meals that are part of a healthy diet. The impact of physical disability cuts across individual, household, and environmental barriers.

Factor 3. Nutrition attitudes and habits: this factor includes four barriers to shopping for and preparing meals that are part of a healthy diet due to lack of nutrition knowledge. These barriers include lack of knowledge or infrequent use of nutrition facts panel to purchase food products, limited familiarity or lack of knowledge about the MyPlate graphic, and limited understanding about the importance of eating a healthy diet.

Factor 4. Equipment and storage facilities: This factor included two barriers to preparing meals that are part of a healthy diet – lack of equipment to cook healthy meals and of facilities to store cooked or fresh foods.

Factor 5. Preferences and cooking skills: This factor included two barriers to preparing meals that are part of a healthy diet – household member's' food preferences and primary food preparer's ability to prepare healthy meals.

Three variables did not strongly correlate with any other variables. These variables were time available to prepare meals that are part of a healthy diet, lack of knowledge about what foods are part of a healthy diet, and affordability (price) of foods that are part of a healthy diet.

This understanding of the correlation between barrier variables was used in examining the relationship between barriers and food security status.

5.2 Food Security

Food security is a key outcome. SNAP is designed to reduce food insecurity (and studies have shown it to be effective at this—see Mabli et al., 2013). To the extent that the barriers identified in this study contribute to food insecurity, regardless of SNAP receipt, they are of significant policy interest. Below, the food security characteristics of the sample are described, and then barriers are included in a logistic regression of food security.

5.2.1 Sample Food Security Status

Food security of SNAP households was calculated from responses to the 18-item ERS food security module, which encompasses a series of questions about food conditions and behaviors in the past 12 months. Participants are categorized as food secure, having low food security, or having very low food security. Being food secure is defined as households having consistent, dependable access to enough food for active, healthy living (see Coleman-Jensen et al., 2018). Having low food security is defined as the households having reports of reduced quality, variety, or desirability of diet but little or no indication of reduced food intake. Finally, having very low food security occurs when the household has multiple indications of disrupted eating patterns and reduced food intake.

One-third of the SNAP households were food secure; meaning that everyone in the household had enough food at all times in the past 12 months (Table 5-2). More than one-third of the SNAP households experienced low food security and almost a third experienced very low food security, wherein eating patterns of one or more household members was altered with reductions in food intake at least some time during the past 12 months, because they were unable to afford enough food for the household. Households with multiple adults were more likely to have low food security than households with a single adult, but households with a single adult were more likely to have experienced very low food security. Households with children were less likely to be food secure than households without children and more likely to have low food security. Households with elderly adults were more likely to be food secure than households without elderly adults, and households without elderly adults were more likely to have very low food security.

Table 5-2. Food security status of participants, overall and by sociodemographic characteristics

Household composition	Food secure	Low Food Security	Very Low Food Security	Sample size	
				Unweighted n	Weighted n
Overall	32.8 (0.9)	37.8 (0.7)	30.2 (0.8)	4,462	16,441,635
Number of adults in household				4,459	16,427,628
Multiple adults	31.4 (1.0)	40.4 (1.0)*	28.1 (0.9)	2,540	9,921,408
Single adults	32.9 (1.6)	33.6 (1.3)	33.5 (1.4)*	1,919	6,506,221
Presence of children in household				4,462	16,441,635
Children in household	29.5 (1.1)	40.4 (1.1)*	30.1 (1.1)	2,088	8,202,693
No children in household	34.6 (1.3)*	35.1 (1.2)	30.3 (1.3)	2,374	8,238,942
Presence of elderly adults in household				4,462	16,441,635
Elderly adults in household	36.4 (1.3)*	37.2 (1.4)	26.4 (1.3)	1,700	5,655,767
No elderly adults in household	29.7 (1.0)	38.0 (0.9)	32.2 (1.1)*	2,762	10,785,868
Sources of household income ^a				4,462	16,441,635
Multiple assistance programs	32.1 (1.1)	36.1 (1.1)	31.8 (1.2)	2,368	7,995,658
Assistance program(s) and earned income	31.8 (1.5)	41.1 (1.6)	27.2 (1.1)	1,438	5,541,534
SNAP only	32.4 (2.4)	36.0 (2.4)	31.7 (2.2)	656	2,904,443
Urbanicity				4,179	15,395,620
City	32.2 (1.4)	37.2 (1.3)	30.6 (1.4)	1,817	6,852,338
Rural	38.1 (2.5)	31.2 (2.1)	30.7 (2.1)	622	2,131,535
Suburban	30.2 (1.4)	41.3 (1.1)	28.5 (1.7)	1,218	4,645,789
Town	28.8 (2.4)	39.8 (2.3)	31.4 (2.6)	522	1,765,958
Census Region				4,462	16,441,635
Midwest	28.6 (2.2)	41.5 (1.3)	29.9 (2.3)	658	3,347,930
Northeast	31.3 (2.7)	37.3 (2.3)	31.4 (1.9)	716	2,310,068
South	32.6 (1.2)	37.7 (1.1)	29.7 (1.2)	2,001	7,109,010
West	34.5 (2.0)	34.7 (1.5)	30.7 (1.7)	1,087	3,674,626

Source: Survey of SNAP participants, 2018

4,522 completed surveys were included in the analysis

The sums of household types do not match the numbers in the total row because a household may have more than one characteristic

* Indicates that estimate is statistically significantly different from other subgroup category, at the 1 percent level, as determined by Chi-square test.

^a Households are considered to have income from multiple assistance programs if they do not report receiving any income from wages, salary, commissions, bonuses, or tips from all jobs, self-employment income, or interest, dividends, net rental income, royalty income, or income from estates and trusts, but do report receiving income from any of the following: Social Security or Railroad Retirement; Supplemental Security Income (SSI); any public assistance or welfare payments from the state or local welfare office; retirement, survivor, or disability pensions; veteran's payments; unemployment compensation; child support; or alimony.

Given this high rate of food insecurity, cross-tabulations between barriers and food security are presented before moving to the regression.

5.2.2 Prevalence of Food Security Among Households Experiencing Barriers

The association between cooking barriers and prevalence of household food insecurity is explored first (see Table 5-3). Overall, those who did not face any barriers to preparing meals that are part of a healthy diet were significantly more likely to be food secure than those who faced one or more barriers (45% versus 27%). Those who faced one or more barriers to preparing meals that are part of a healthy diet were significantly more likely to have very low food security (35% versus 17%).

Table 5-3. Food security status of households by type of barrier that keeps them from preparing meals that are part of a healthy diet

	Food security status			Sample size	
	Food Secure	Low Food Security	Very Low Food Security	Unweighted n	Weighted n
	Weighted percentage (SE)				
Number of barriers faced				4,462	16,441,635
1 or more barriers	26.7 (0.9)	37.9 (0.9)	35.4 (1.1)*	3,303	11,707,591
No barriers	45.3 (1.8)*	37.3 (1.4)	17.4 (1.3)	1,159	4,734,044
Whether faced: Lack of time to prepare meals from scratch				4,451	16,361,891
No	34.5 (1.2)*	36.6 (0.8)	28.9 (0.9)	3,160	11,515,231
Yes	25.7 (1.7)	40.8 (1.6)	33.5 (1.9)*	1,291	4,846,659
Whether faced: Lack of equipment (working stove, pots and pans) to prepare food				4,460	16,426,963
No	33.9 (1.0)*	38.6 (0.7)*	27.5 (0.7)	3,985	14,619,436
Yes	17.3 (2.0)	31.0 (2.7)	51.7 (3.2)*	475	1,807,528
Whether faced: Lack of storage for cooked/fresh food				4,460	16,427,331
No	34.4 (0.9)*	38.0 (0.7)	27.6 (0.8)	3,830	14,106,009
Yes	17.4 (1.8)	36.4 (2.0)	46.2 (2.6)*	630	2,321,322
Whether faced: Lack of cooking skills				4,457	16,410,911
No	32.4 (0.9)	38.0 (0.7)	29.6 (0.8)	3,962	14,585,571
Yes	29.0 (2.2)	36.2 (3.0)	34.9 (2.5)	495	1,825,340
Whether faced: Lack of nutrition knowledge				4,451	16,351,752
No	33.0 (0.9)	37.3 (0.8)	29.8 (0.9)	3,728	13,671,185
Yes	27.1 (2.3)	39.8 (2.1)	33.1 (2.4)	723	2,680,568
Whether faced: Physical disability				4,456	16,404,765
No	33.6 (1.0)*	38.7 (0.8)*	27.7 (0.9)	3,799	13,963,587
Yes	23.2 (1.9)	32.0 (2.4)	44.8 (2.3)*	657	2,441,178

Source: Food and Your Household Survey, 2018

4,522 completed surveys were included in the analysis

* Indicates that estimate is statistically significantly different from other subgroup category, at the 1 percent level, as determined by Chi-square test.

Looking at individual and household barriers, lack of time to prepare meals, lack of kitchen facilities, and physical disability are all significantly related to food security status, with those who lack time, lack kitchen facilities, and have a physical disability all less likely to be food secure and more likely to have very low food security. Lack of cooking skills and lack of nutrition knowledge are not significantly related to food security status.

Next, associations between shopping barriers and food security are examined. Among SNAP households who did not experience any barriers to shopping for foods that are part of a healthy diet, slightly more than half were food secure and 15 percent experienced very low food security. In contrast, among SNAP households that experienced one or more barriers, about one-fourth were food secure and over one-third experienced very low food security (Table 5-4).

Significant differences were noted in the prevalence of food security by type of barrier that keeps the household from shopping for foods that are part of a healthy diet. Those who faced a distance barrier were more likely to have very low food security and were less likely to be food secure compared to those who did not face a distance barrier; the same finding applies to those who face a transportation barrier, a physical disability barrier, lack of time to shop at their primary shopping store, and an affordability barrier. The largest difference is found among those who face an affordability barrier; 46 percent of those who do not face an affordability barrier are food secure, compared with just 23 percent of those who do report that the price of foods prevents them from purchasing foods that are part of a healthy diet. There were no significant differences in food security status by whether participants faced a barrier of store hours or safety concerns around stores.

Table 5-4. Food security status by type of barrier that keeps them from shopping for foods that are part of a healthy diet

Barriers that kept the household from shopping for foods that are part of a healthy diet	Food security status			Unweighted n	Weighted n
	Food Secure	Low Food Security	Very Low Food Security		
Weighted percentage (SE)					
Number of barriers faced				4,462	16,441,635
1 or more barriers	24.7 (0.8)	39.9* (0.8)	35.4* (0.9)	3,372	12,270,467
No barriers	53.6 (1.8)*	31.4 (1.5)	15.0 (1.5)	1,090	4,171,168
Whether faced: Distance to store barrier				4,450	16,335,813
No	34.4 (1.0)*	37.6 (0.9)	28.0 (0.9)	3,637	13,330,237
Yes	22.1 (1.9)	37.8 (2.4)	40.0 (2.2)*	813	3,005,577
Whether faced: Transportation barrier				4,462	16,441,635
No	35.0 (1.0)*	37.0 (0.8)	28.1 (0.8)	3,674	13,336,561
Yes	19.5 (1.7)	41.2 (2.3)	39.4* (2.2)	788	3,105,074
Whether faced: Store hours barrier				4,447	16,323,814
No	32.6 (0.9)	37.5 (0.7)	30.0 (0.8)	4,107	14,847,183
Yes	28.0 (2.7)	40.8 (3.8)	31.2 (3.0)	340	1,476,630
Whether faced: Food prices/affordability barrier				4,454	16,383,084
No	46.1 (1.6)*	33.8 (1.4)	20.1 (1.5)	1,686	6,368,978
Yes	22.9 (0.9)	40.3 (0.9)*	36.7 (1.0)*	2,768	10,014,105
Whether faced: Physical disability barrier				4,452	16,365,634
No	33.7 (1.0)*	38.0 (0.7)	28.3 (0.8)	3,853	13,981,218
Yes	22.8 (1.7)	35.6 (2.3)	41.6 (2.5)*	599	2,384,416
Whether faced: Lack of time to shop at the store				4,376	16,154,431
No	33.2 (0.9)*	37.8 (0.7)	29.0 (0.8)	3,989	14,466,630
Yes	22.2 (3.0)	38.5 (4.0)	39.3 (3.5)*	387	1,687,801
Whether faced: Concerns about safety in and round the stores				4,455	16,386,960
No	32.5 (0.9)	38.0 (0.7)	29.5 (0.8)	4,241	15,452,877
Yes	25.2 (3.4)	34.6 (4.1)	40.3 (4.0)	214	934,083

Source: Food and Your Household Survey, 2018

4,522 completed surveys were included in the analysis

* Indicates that estimate is statistically significantly different from other subgroup category, at the 1 percent level, as determined by Chi-square test.

The relationship between barriers and food security is further tested through multivariate logistic regression. The advantage of logistic regression is that it ascertains the relationship between food security and barriers while controlling for other variables that may be associated with both the likelihood of facing a barrier and the likelihood of having low or very low food security. The model includes controls for household composition (number of adults, presence of children, presence of elderly adults), level of participant education, marital status, race/ethnicity, household financial status, home ownership status, urbanicity, and Census region. The results present the odds ratios of being food insecure (including having either low food security or very low food security) compared

with the reference category. An odds ratio greater than 1 should be interpreted as being more likely to be food insecure, while an odds ratio less than 1 should be interpreted as being less likely to be food insecure. For barriers, the five clusters indicated by factor analysis (shopping logistics, physical disability, nutrition attitudes and habits, equipment and storage facilities, and preferences and skills) are included, as well as the nonclustered barriers, time for cooking, lack of knowledge about what foods are part of a healthy diet, and affordability.

Findings from multivariate logistic regression models show that, after controlling for household demographics, financial situation, and geography, experiencing some barriers increased the likelihood of being food insecure (Table 5-5). While experiencing five barriers (shopping logistics, lack of time to cook meals that are part of a healthy diet, physical disability, nutrition knowledge and attitudes, and preferences and skills) did not increase the likelihood of being food insecure, the lack of ability to afford foods that are part of a healthy diet and lack of equipment to cook meals that are part of a healthy diet increased the odds of being food insecure. The strongest effect was for affordability. Participants reporting an affordability barrier are 2.31 times more likely to have low or very low food insecurity than participants who do not report an affordability barrier.

Table 5-5. Logistic regression model examining the association between sociodemographic characteristics, barriers, and food insecurity

Variables in the model	Odds ratio
Barriers	
Affordability	2.31*
Equipment and storage facilities ^a	1.60*
Lack of time to cook meals that are part of a healthy diet	1.23
Shopping logistics ^b	1.22
Physical disability ^c	1.16
Lack of knowledge about what foods are part of a healthy diet	1.09
Nutrition attitudes and habits ^d	1.04
Preferences and skills ^e	0.82
Household size: each additional household member	0.97
Number of adults in household (reference: multiple adults)	
Single adult	1.10
Presence of children in household (reference: no children)	
Children in household	1.49*
Presence of elderly adults in household (reference: no elderly adults)	
Elderly adults in household	0.99
Participant education level (reference: high school or more)	
Less than high school	1.09

Table 5-5. Logistic regression model examining the association between sociodemographic characteristics, barriers, and food insecurity (continued)

Variables in the model	Odds ratio
Participant marital status (reference: currently married)	
Divorced	0.98
Never married	1.11
Separated	1.58*
Widowed	0.92
Participant race/ethnicity (reference: white)	
Black	0.62
Hispanic	0.83
Missing	0.73
Other ^g	0.62
Sources of household income (reference: assistance and earned income) ^f	
Multiple assistance programs	1.15
SNAP only	1.18
Household has past due bills	
No	0.34*
Home ownership status (reference: own home)	
In someone else's household	1.08
Group care, board or care facility, shelter	1.15
Rent	1.16
Occupied without paying rent	1.23
Census Region (reference: West)	
Midwest	1.69
Northeast	1.51
South	1.49
Urbanicity (reference: rural)	
Suburb	1.58
City	1.54
Town	1.67

Source: Food and Your Household Survey, 2018

4,522 completed surveys were included in the analysis

* Indicates that estimate is statistically significantly different from other subgroup category, at the 1 percent level, as determined by Chi-square test.

^a Based on factor loading scores of >0.5, includes: lack of storage and lack of equipment keeps from preparing meals that are part of a healthy diet. Scores range from 0 to 2.

^b Based on factor loading scores of >0.5, includes: distance, transportation, store hours, time to shop at the store, and safety concerns in and around the stores keeps from shopping. Score ranges from 0 to 5.

^c Based on factor loading scores of >0.5, includes: physical disability keeps from shopping and physical disability keeps from cooking meals that are part of a healthy diet. Scores range from 0 to 2.

^d Based on factor loading scores of >0.5, includes: frequency of Nutrition Facts Panel Information, Familiarity with MyPlate Graphic, and Understanding the Importance of Eating Healthy. Scores range from 0 to 4.

^e Based on factor loading scores of >0.5, includes: do not know how to prepare foods that are part of a healthy diet and household members do not like home cooked meals. Scores range from 0 to 2.

^f Households are considered to have income from multiple assistance programs if they do not report receiving any income from wages, salary, commissions, bonuses, or tips from all jobs, self-employment income, or interest, dividends, net rental income, royalty income, or income from estates and trusts, but do report receiving income from any of the following: Social Security or Railroad Retirement; Supplemental Security Income (SSI); any public assistance or welfare payments from the state or local welfare office; retirement, survivor, or disability pensions; veteran's payments; unemployment compensation; child support; or alimony.

^g Includes those who identify as multiple races, Asian, and Native American/Pacific Islander

We performed logistic regression analysis to examine the unadjusted effect of each factor on the outcome.

5.2.3 Benefit Exhaustion

Given the large magnitude of the association between the affordability barrier and food security, more investigation is warranted. SNAP households are said to have exhausted their benefits when they have spent all their monthly benefit. Prior research has found that those who exhaust their benefits before their next issuance of benefits are at risk of negative health outcomes related to food insecurity (Seligman et al., 2014). Examining benefit exhaustion can help illuminate how the affordability barrier may affect SNAP usage.

The modal benefit exhaustion period for the sample was 3 weeks (Table 5-6). Only 134 participants said their benefits lasted more than 4 weeks; for analysis, these participants were combined with those who said their benefits lasted 4 weeks. Single adult households were significantly more likely to exhaust their benefits within one week of receipt, as were households without children and households with elderly adults. Households relying on multiple assistance programs were also more likely to exhaust benefits within a week than households with earned income.

Table 5-6. SNAP benefit exhaustion patterns, overall and by sociodemographic characteristics

	Number of weeks SNAP benefits usually last				Sample size	
	1 week or less	2 weeks	3 weeks	4 or more weeks ^a	Weighted n	Unweighted n
	Weighted % (SE)					
Overall	20.9 (0.8)	23.5 (0.9)	35.3 (1.0)	20.2 (0.7)	16,059,271	4,339
Number of adults in household						
Multiple adults	18.0 (1.0)	23.6 (1.1)	38.1 (1.3)*	20.3 (0.9)	9,713,876	2,470
Single adult	25.4 (1.1)*	23.4 (1.4)	31.1 (1.3)	20.1 (1.5)	6,331,389	1,866
Presence of children in household						
Children in household	15.6 (1.0)	23.7 (1.2)	39.8 (1.4)*	21.0 (1.0)	8,002,809	2,029
No children in household	26.2 (1.0)*	23.3 (1.1)	31.0 (1.3)	19.5 (1.2)	8,056,462	2,310
Presence of elderly adults in household						
Elderly adults in household	30.8 (1.6)*	22.5 (1.2)	29.0 (1.5)	17.7 (1.0)	5,508,055	1,646
No elderly adults in household	15.8 (0.8)	24.0 (1.0)	38.7 (1.1)*	21.6 (0.9)*	10,551,216	2,693
Sources of household income ^b						
Multiple assistance programs	26.9 (1.0)*	22.2 (1.2)	31.9 (1.2)*	19.0 (1.1)	7,798,460	2,298
Assistance program(s) and earned income	16.4 (1.1)	26.5* (1.4)	36.8 (1.5)	20.3 (1.3)	5,436,150	1,406
SNAP only	13.1 (1.8)	21.1 (2.2)	42.0 (3.1)	23.8 (2.1)	2,824,661	635
Urbanicity						
City	19.0 (1.2)	22.6 (1.2)	38.2 (1.7)	20.2 (1.5)	6,643,196	1,757
Rural	21.9 (1.6)	25.6 (2.3)	34.4 (2.1)	18.1 (2.0)	2,066,643	600
Suburban	21.2 (1.2)	24.5 (1.4)	33.1 (1.5)	21.2 (1.2)	4,598,928	1,196
Town	24.1 (2.7)	21.3 (2.2)	33.2 (2.3)	21.4 (2.4)	1,730,381	509
Census Region						
Midwest	20.2 (1.8)	21.9 (2.4)	38.3 (2.9)	19.6 (1.7)	3,261,072	641
Northeast	18.8 (1.9)	26.0 (2.3)	35.5 (3.1)	19.7 (2.1)	2,235,026	686
South	23.7 (1.3)	22.6 (1.3)	33.0 (1.1)	20.7 (1.1)	6,954,183	1,945
West	17.4 (1.5)	25.1 (1.4)	37.1 (2.0)	20.4 (1.3)	3,608,989	1,067

Data Source: Food and Your Household Survey, 2018

4,522 completed surveys were included in the analysis

* Indicates that estimate is statistically significantly different from other subgroup category, at the 1 percent level, as determined by Chi-square test.

^a 134 participants said their benefits lasted more than 4 weeks.

^b Households are considered to have income from multiple assistance programs if they do not report receiving any income from wages, salary, commissions, bonuses, or tips from all jobs, self-employment income, or interest, dividends, net rental income, royalty income, or income from estates and trusts, but do report receiving income from any of the following: Social Security or Railroad Retirement; Supplemental Security Income (SSI); any public assistance or welfare payments from the state or local welfare office; retirement, survivor, or disability pensions; veteran's payments; unemployment compensation; child support; or alimony.

SNAP participants who reported that food price kept their households from shopping for foods that are part of a healthy diet were significantly more likely to run out of benefits sooner than those who did not report this as a barrier (Figure 5-1). Among those who reported food price as a barrier, about 16 percent were able to stretch their benefits to week four or beyond whereas about 28 percent of those who did not report food price as a barrier were able to stretch their benefits to week four or beyond.

Figure 5-1. Number of weeks SNAP benefits lasts, by whether food price is a barrier (% of participants whose benefits last each time period)



Source: Food and Your Household Survey, 2018. 134 participants said their benefits lasted more than 4 weeks.

The number of weeks SNAP households were able to extend the SNAP benefits was significantly associated with their reported ability to eat a healthy diet. Those whose benefits lasted 4 weeks or more were significantly more likely to strongly agree that on most days they eat a healthy diet, compared with those whose benefits run out in 1 week or less. Those whose benefits lasted 4 weeks or more were also significantly less likely to strongly disagree that they eat a healthy diet on most days, again compared with those whose benefits are exhausted in 1 week or less (Table 5-7). Those whose benefits run out may lack the ability to eat a healthy diet, and it may be that their ability to make their benefits last is tied to food prices/affordability.

Table 5-7. Healthfulness of diet by number of weeks SNAP benefits last

Number of weeks SNAP benefits usually last	On most days, I/people in my household eat a healthy diet				Sample size	
	Strongly Agree	Agree	Disagree	Strongly Disagree	Weighted n	Unweighted n
	Weighted % (SE)					
1 week or less	18.9 (1.4)	54.3 (2.0)	21.7 (1.9)	5.0 (1.1)	3,296,623	969
2 weeks	22.5 (1.3)	55.2 (1.8)	18.6 (1.1)	3.7 (0.7)	3,721,378	982
3 weeks	20.1 (1.1)	61.6 (1.4)	16.2 (1.1)	2.0 (0.4)	5,598,267	1,482
4 or more weeks	27.9 (2.1)*	57.3 (1.9)	13.2 (1.3)*	1.6 (0.5)*	3,198,096	833

Data Source: Food and Your Household Survey, 2018

4,522 completed surveys were included in the analysis

* Indicates that estimate is statistically significantly different from other subgroup category, at the 1 percent level, as determined by Chi-square test.

To confirm these results, the study team ran a multivariate logistic model to identify the predictors of a household's ability to stretch their SNAP benefits to 4 weeks or beyond (Table 5-8). SNAP participants who report facing an affordability barrier are significantly less likely to be able to stretch their benefits four weeks or more. Of all the barriers, affordability is the only significant predictor of being able to stretch benefits. Those who report an affordability barrier are half as likely to have their benefits last 4 weeks or more when compared to those who do not report an affordability barrier.

Table 5-8. Logistic regression model examining the impact of barriers on SNAP benefit exhaustion: Likelihood that benefits last 4 weeks or more

Variables in the model	Odds ratio
Barriers	
Affordability	0.50*
Equipment and storage facilities ^a	1.03
Lack of time to cook meals that are part of a healthy diet	0.74
Shopping logistics ^b	1.04
Physical disability ^c	1.08
Lack of knowledge about what foods are part of a healthy diet	1.17
Nutrition attitudes and habits ^d	0.99
Preferences and skills ^e	1.00
Household size: each additional household member	1.07
Number of adults in household (reference: multiple adults)	
Single adult	1.16
Presence of children in household (reference: no children)	
Children in household	1.03
Presence of elderly adults in household (reference: no elderly adults)	
Elderly adults in household	0.75
Participant education level (reference: high school or more)	
Less than high school	1.09

Table 5-8. Logistic regression model examining the impact of barriers on SNAP benefit exhaustion: Likelihood that benefits last 4 weeks or more (continued)

Variables in the model	Odds ratio
Participant marital status (reference: currently married)	
Divorced	1.01
Never married	1.14
Separated	1.04
Widowed	0.83
Participant race/ethnicity (reference: white)	
Black	1.04
Hispanic	0.73
Missing	1.42
Other ^g	1.00
Sources of household income (reference: assistance and earned income) ^f	
Multiple assistance programs	0.86
SNAP only	1.06
Household has past due bills	
No	1.89*
Home ownership status (reference: own home)	
In someone else's household	1.26
Group care, board or care facility, shelter	0.43
Rent	0.92
Occupied without paying rent	1.16
Census Region (reference: West)	
Midwest	0.89
Northeast	0.92
South	0.95
Urbanicity (reference: rural)	
Suburb	1.34
City	1.12
Town	1.27

Source: Food and Your Household Survey, 2018

4,522 completed surveys were included in the analysis

* Indicates that estimate is statistically significantly different from other subgroup category, at the 1 percent level, as determined by Chi-square test.

^a Based on factor loading scores of >0.5, includes: lack of storage and lack of equipment keeps from preparing meals that are part of a healthy diet. Scores range from 0 to 2.

^b Based on factor loading scores of >0.5, includes: distance, transportation, store hours, time to shop at the store, and safety concerns in and around the stores keeps from shopping. Score ranges from 0 to 5.

^c Based on factor loading scores of >0.5, includes: physical disability keeps from shopping and physical disability keeps from cooking meals that are part of a healthy diet. Scores range from 0 to 2.

^d Based on factor loading scores of >0.5, includes: frequency of Nutrition Facts Panel information, familiarity with MyPlate graphic, understanding the importance of eating healthy, and knowledge of how to prepare foods that are part of a healthy diet keeps from cooking meals that are part of a healthy diet. Scores range from 0 to 4.

^e Based on factor loading scores of >0.5, includes: do not know how to prepare foods that are part of a healthy diet and household members do not like home cooked meals. Scores range from 0 to 2.

^f Households are considered to have income from multiple assistance programs if they do not report receiving any income from wages, salary, commissions, bonuses, or tips from all jobs, self-employment income, or interest, dividends, net rental income, royalty income, or income from estates and trusts, but do report receiving income from any of the following: Social Security or Railroad Retirement; Supplemental Security Income (SSI); any public assistance or welfare payments from the state or local welfare office; retirement, survivor, or disability pensions; veteran's payments; unemployment compensation; child support; or alimony.

^g Includes those who identify as multiple races, Asian, and Native American/Pacific Islander

We performed logistic regression analysis to examine the unadjusted effect of each factor on the outcome.

This suggests that affordability is a key barrier, faced by a majority of SNAP participants. It relates not only to participants' perception of their ability to eat a healthy diet, but also to how they are able to manage their benefits and their food security status. While other barrier variables may be important in the day-to-day lives of some SNAP participants, only affordability appears to make such a significant impact on SNAP participants' quality of life.

The question arises: why do some participants report that barriers may affect their ability to shop for or prepare foods that are part of a healthy diet, when analysis shows they have no significant impact on their perception of the healthfulness of their diet or their food security status? It is possible that these barriers are quite real and concrete for participants, but that participants are able to manage the impact of these barriers effectively through coping strategies, such that they do not impact food security or participants' overall diet. These coping strategies are discussed in the next chapter.

6. Coping Strategies

This chapter reports on findings on the strategies employed by SNAP participants to both avoid food insecurity and to mitigate food insecurity if faced. First, a brief review of the literature on coping strategies is presented, followed by discussion of survey items related to coping strategies, their prevalence among the sample, and their relationship to barriers.

Key Findings

- Across the sample, strategies to stretch the budget are the most often used, and social support strategies are the least often used.
- The most commonly employed, budget-stretching strategy is making a shopping list, with about 66 percent of the sample making a shopping list; the least commonly employed strategy is sending household members to stay elsewhere, with just over 1 percent of the sample using this strategy.
- Those who face barriers are more likely to use coping strategies than those who do not face barriers. Those who face disability barriers are most likely to use coping strategies, while those who face a cooking barrier of not liking home-cooked meals are the least likely to use coping strategies.

6.1 Previous Literature

Researchers have identified both proactive strategies—those used to avoid food insecurity—and reactive strategies—those used to cope with food insecurity once present (Edin et al., 2013). In particular, three strategies have commonly emerged—stretching the food budget (proactive strategy), using food pantries (reactive strategy), and using social supports (reactive strategy) (Edin et al., 2013; Darko et al., 2013; Vericker and Mills, 2012).

There are several methods for stretching the food budget, including looking for sales, shopping multiple stores to maximize bargains, and planning meals around sales (Edin et al., 2013). Alkon et al. (2013), in their study of low-income residents in Oakland, California and Chicago, Illinois, found that residents often traveled outside of their neighborhoods to shop at supermarkets perceived as having better prices, shopped at chain and discount stores, and used significant pre-planning to buy specific products at different stores according to sales; Wiig and Smith (2009) and Darko, Eggett, and Richards (2013) found similar results in other areas. SNAP participants look for bargains in

multiple ways; Chang, Kim, and Chatterjee (2016) discovered that SNAP participants are more likely to use loyalty programs or other store savings than shoppers not receiving SNAP. Other ways of stretching the food budget include changing the amount and types of foods purchased and stored. Edin et al. (2013) reported SNAP participants buying food in bulk and storing it for future need, as well as using so-called “filler” foods like beans and rice to pad out meals when other foods are unavailable.

Another important coping strategy identified in the literature is the use of social support, meaning help (of many forms) from friends, family, and community members. Social support can be both reactive, as households seek out support when facing food insecurity, or proactive, as social support is used to avoid food insecurity, but most researchers have approached social support as a primarily reactive strategy (Martin, Rogers, Cook, and Joseph, 2004; Dean and Sharkey, 2011; Vericker and Mills, 2012). Researchers find that households with greater social support—measured in various ways including number of ties in a community—are more adept at mitigating food insecurity (Martin, Rogers, Cook, and Joseph, 2004; Dean and Sharkey, 2011). Measuring social capital as households’ perceived sense of social trust and community reciprocity, Martin et al. (2004) found that reciprocity among neighbors contributes to food security. Similarly, in a survey administered to low-income households in rural Texas, Dean and Sharkey (2011) found that participants with low social capital were more likely to experience food insecurity. When examining the likelihood of food insecurity among children in low-income households, Vericker and Mills (2012) found an increased risk of food insecurity for children whose parents have little social support.

Finally, several studies found that low-income families also mitigate food insecurity by using charitable food assistance (Darko et al., 2013). Using food pantries and food banks is primarily a reactive strategy for managing food insecurity, but it can also be a proactive strategy as households plan to use pantries in anticipation of food budget shortfalls. Using survey data from African American households in South Carolina, Sharpe et al. (2018) found that food-insecure households are more likely to seek food assistance from churches or social services, food pantries, social networks, soup kitchens or shelters, and community, school, or church gardens than food secure households. In a report commissioned by Feeding America, a hunger-relief organization supporting a network of food banks across the nation, a team of researchers found that 63 percent of households who use food banks include charitable food assistance when planning their monthly household budgets (Weinfield et al., 2014).

6.2 Prevalence of Coping Strategies

The analysis begins by describing the coping strategies that SNAP participants use. These include efforts to stretch the food budget, uses of social supports, and reliance on food assistance programs, including charitable organization and Federal, State, and local food programs.

6.2.1 Stretching the Food Budget

Several items in the survey ask participants about how they stretch their food budget. These include strategies to increase the amount of money available for food by adjusting spending within the budget, as well as strategies to maximize the amount of food able to be purchased with the food budget. Strategies to increase the amount of money available for food include borrowing money, carrying or increasing credit limits, buying groceries with money set aside for other purposes, skipping buying medicine or delaying medical care, delaying paying rent or mortgage, delaying paying other bills, and selling or pawning household items. Strategies to maximize the amount of food able to be purchased with the food budget include making a food budget, planning meals and snacks for the household, making a shopping list, checking store ads, shopping at stores with the lowest price, using coupons/bonus cards, shopping for specials, buying nonperishable foods in bulk, buying store brand products, choosing a brand with the lowest price, buying whole fruits and vegetables, buying canned or frozen fruits and vegetables, and shopping at more than one store to get the best deals.

Table 6-1 below presents the prevalence of coping strategies to increase the amount of money available for food. Participants were asked how often they used the given coping strategy in the past 12 months, “often,” “once in a while,” “hardly at all,” or “never.” Only borrowing money and buying groceries using money set aside for other purpose are used by a majority of the sample. More than a third of the sample report buying groceries using money set aside for other purpose “once in a while,” while 28 percent borrow money once in a while to buy food. The least commonly cited strategy is selling or pawning household items, with only 4.7 percent of the participants reporting “often” using this strategy.

Table 6-1 Frequency of using coping strategies to increase the amount available for food, in the last 12 months

Coping strategies	Frequency of coping strategy use % (SE)				Sample size	
	Often	Once in a while	Hardly at all	Never/ Not an Option	Weighted n	Unweighted n
Borrow money	10.1 (0.6)	28.3 (0.9)	15.7 (0.7)	46.0 (0.9)	16,145,903	4,366
Carry or increase credit card debt limit	9.2 (0.5)	14.2 (0.6)	9.7 (0.5)	66.8 (0.8)	15,987,344	4,334
Buy groceries using money set aside for other purpose	17.9 (0.7)	36.1 (0.9)	12.0 (0.7)	34.0 (1.0)	16,112,192	4,355
Skip buying medicine or seeking medical care	7.6 (0.4)	13.2 (0.8)	9.8 (0.5)	69.4 (1.0)	16,039,703	4,330
Delay paying rent/mortgage	6.5 (0.5)	15.5 (0.7)	10.8 (0.5)	67.3 (0.9)	16,012,298	4,322
Delay paying other bills	11.0 (0.7)	25.8 (1.0)	12.3 (0.6)	50.9 (1.0)	16,093,575	4,353
Sell or pawn household items	4.7 (0.3)	14.3 (0.6)	10.1 (0.6)	70.9 (0.7)	16,071,788	4,338

Source: Food and Your Household Survey, 2018

4,522 completed surveys were included in the analysis

Table 6-2 presents the frequency of strategies used to maximize the amount of food purchased with the budget. These strategies are much more common, with a majority of the sample “always” or “almost always” making a food budget, planning meals and snacks, making a shopping list, checking store ads, shopping at stores with the lowest price, choosing brands with the lowest price, and buying whole fruits and vegetables. Though cited by smaller percentages, a notable minority of the sample uses coupons or bonus cards, buys store brand products, and buys canned or frozen fruits and vegetables. The least frequently used strategy is buying nonperishable foods in bulk, with around 20 percent of the sample using this strategy “always” or “almost always.” This may reflect a lack of storage space for bulk purchases.

Table 6-2. Frequency of using coping strategies to maximize the amount of food bought, in the last 30 days

Coping strategies	Frequency of coping strategy use % (SE)				Sample size	
	Always/ Almost Always	Sometimes	Rarely	Never	Weighted n	Unweighted n
Make a food budget	54.0 (0.9)	26.7 (0.8)	10.4 (0.5)	8.8 (0.6)	16,024,745	4,336
Plan meals and snacks for your household	53.0 (1.0)	31.6 (0.8)	9.6 (0.6)	5.7 (0.4)	15,812,721	4,258
Make a shopping list	65.7 (0.9)	22.9 (0.8)	5.9 (0.4)	5.6 (0.4)	16,141,191	4,366
Check store ads	55.7 (1.1)	24.3 (0.9)	10.3 (0.5)	9.7 (0.7)	16,093,078	4,351
Shop at stores with lowest price	62.8 (0.8)	27.1 (0.8)	6.2 (0.5)	3.9 (0.4)	16,004,420	4,327
Use coupons/bonus cards	35.7 (1.1)	30.5 (0.9)	16.5 (0.6)	17.4 (0.9)	16,002,468	4,316
Shop for specials	54.6 (0.9)	32.3 (1.0)	8.5 (0.6)	4.6 (0.4)	15,927,426	4,306
Buy nonperishable foods in bulk	19.9 (0.8)	32.5 (1.0)	24.7 (0.7)	23.0 (0.9)	15,434,360	4,158
Buy store brand products	41.3 (0.9)	44.6 (0.9)	9.2 (0.5)	4.8 (0.5)	15,899,203	4,292
Choose a brand with lowest price	57.9 (0.9)	33.9 (0.9)	5.7 (0.5)	2.5 (0.3)	15,914,498	4,300
Buy whole fruits and vegetables	56.3 (0.8)	34.0 (0.7)	7.4 (0.5)	2.2 (0.3)	15,983,598	4,308
Buy canned or frozen fruits and vegetables	34.3 (1.1)	40.3 (1.0)	14.9 (0.6)	10.5 (0.7)	15,998,883	4,321
Shop at more than one store to get the best deals	42.8 (0.9)	35.5 (0.7)	13.7 (0.6)	10.0 (0.6)	16,117,706	4,366

Source: Food and Your Household Survey, 2018

4,522 completed surveys were included in the analysis

Generally, SNAP participants use a range of strategies to maximize their food budgets, and are less likely to resort to riskier strategies, such as taking on debt, to increase their food budget. The strategies most frequently cited as “always” or “almost always” used are making a shopping list and shopping at stores with the lowest prices.

6.2.2 Social Support

The survey also collected information on the type and prevalence of social support. The in-depth interviews examined this topic to understand informal and nuanced relationships. However, a few survey questions indicate the use of social networks by SNAP participants to avoid or mitigate food insecurity. The survey inquires about the frequency with which participants use social support coping strategies including getting food from friends and family, sending household members to eat elsewhere, and exchanging labor for food. Many of these represent somewhat extreme uses of social

support and may not reflect or capture more informal social ties. For instance, many interviewed participants spoke of reciprocal support with family and friends, where those who had food would share it with others; the survey may not have captured these coping strategies accurately.

Table 6-3 presents the survey's measures of social support as a coping strategy. A majority of the sample "never" uses any of the social support coping strategies. The most commonly employed social support is getting food from friends and family. The least common strategy is sending household members to stay elsewhere, followed by exchanging labor for food.

Table 6-3. Frequency of using social support coping strategies, in the last 12 months

Coping strategies	Frequency of coping strategy use % (SE)				Sample size	
	Often	Once in a while	Hardly at all	Never	Weighted n	Unweighted n
Get replacement food from friends and family	6.1 (0.4)	22.1 (0.8)	17.6 (0.8)	54.1 (0.9)	16,026,503	4,329
Send household members to eat elsewhere	2.3 (0.3)	7.6 (0.4)	10.0 (0.5)	80.1 (0.7)	15,898,397	4,297
Send household members to stay elsewhere	1.3 (0.2)	3.4 (0.3)	7.3 (0.5)	88.0 (0.6)	15,890,673	4,295
Exchange labor for food	2.2 (0.3)	6.1 (0.4)	8.1 (0.5)	83.6 (0.7)	15,978,862	4,311

Source: Food and Your Household Survey, 2018

4,522 completed surveys were included in the analysis

6.2.3 Food Assistance

Finally, participants were asked about their use of charitable and governmental food assistance. Obviously, all participants use SNAP, but there are a range of other programs available that could help participants avoid or mitigate food insecurity. This information is presented in Chapter 2 and summarized here. As shown in Table 6-4, a majority of participant households with children participate in the National School Lunch Program and the National School Breakfast Program, providing food to children during the school day. Another 38 percent of households with children also participate in Head Start or other childcare programs that provide free meals. A third of participants use food pantries or food banks, in line with estimates from other researchers (Worthington and Mabli, 2017). A lower percentage of participants use Meals on Wheels or the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), both of which serve only specific populations, or community programs.

Table 6-4. Percentage of participants receiving support from other food assistance programs, in the past 12 months

Participation in assistance programs	Weighted %	SE	Weighted n	Unweighted n
Food Assistance Programs				
National School Lunch Program (free or reduced price lunch) ^a	72.7	1.1	5,912,325	1,491
School Breakfast Program (free or reduced price breakfast) ^a	69.4	0.9	5,634,650	1,414
Head Start or child care program that offer free meals ^b	38.2	0.8	5,410,465	1,333
Community program or senior center to eat prepared meals ^c	17.0	0.7	2630,653	669
Home meal delivery from Meals on Wheels or other programs ^c	5.8	0.4	962,434	281
Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) Program ^d	11.1	0.7	1,417,726	349
Food assistance from church, food bank, food pantry, or other organizations	33.7	0.8	5,548,477	1,549
None	40.8	0.9	6,772,176	1,918

Data Source: Food and Your Household Survey, 2018

4,522 completed surveys were included in the analysis

^a Among households with Children between 5 and 17 years of age

^b Households with Children between 0 and 17 years of age

^c Among households with elderly adults

^d Among households with children under the age of 5

6.3 Coping Strategies and Barriers

This section examines the interactions of coping strategies and barriers. The associations presented are not causal. But associations between barriers and coping strategies present a fuller picture of how those who have difficulty accessing a healthy diet cope with food insecurity, both proactively and reactively.

6.3.1 Stretching the Food Budget and Barriers

Tables 6-5 through 6-8 present associations between coping strategies for stretching the food budget and barriers faced. The first two tables (Tables 6-5 and 6-6) present the percentage of participants using coping strategies to increase the amount of money available for food; the second two tables (Tables 6-7 and 6-8) present the percentage of participants using coping strategies to maximize the amount of food purchased. All tables are among those who face the barrier being analyzed.

Results for shopping barriers (Table 6-5) show those who face disability as a barrier are generally more likely to use strategies to increase money than those facing other barriers. These participants may be more adept than those facing other barriers at finding additional sources of grocery funds; this could be explained if more of these participants have faced disability over a long period of time and thus have greater experience in coping with their barrier. Among cooking barriers (Table 6-6), those who face lack of equipment as a barrier to prepare food are the most likely to use strategies to maximize their food budget. Those who lack cooking equipment are likely the poorest participants. About 10 percent of those who lack equipment to prepare food have sold or pawned household items to buy groceries in the past 12 months. For some barriers, the proportion of those using a coping strategy is quite high: almost a quarter of those who lack storage to keep cooked or fresh food buy groceries using money set aside for other purpose.

Table 6-5. Percentage of households “often” using coping strategies to increase the amount of money for food, by barriers that kept them from shopping for foods that are part of a healthy diet

Coping strategies	Distance to store ^a	Transportation ^b	Store hours ^c	Food prices ^d	Physical disability ^e	Time to shop at store ^f	Safety in and around the stores ^g
	Percentage (SE) participants using coping strategies often						
Borrow money	12.0 (1.2)	13.9 (1.6)	8.3 (1.5)	12.2 (0.8)	13.6 (1.8)	10.8 (1.7)	9.7 (2.2)
Carry or increase credit limit	9.6 (1.1)	7.0 (0.9)	7.4 (1.5)	10.8 (0.6)	8.5 (1.1)	8.8 (1.8)	4.5 (1.5)
Buy groceries using money set aside for other purpose	20.2 (1.5)	20.3 (1.4)	14.5 (2.2)	22.6 (1.0)	23.4 (1.7)	19.2 (2.1)	18.9 (3.4)
Skip buying medicine or seeking medical care	11.4 (1.3)	9.2 (1.2)	9.0 (1.5)	10.0 (0.6)	10.9 (1.4)	9.2 (1.8)	11.0 (2.8)
Delay paying rent/mortgage	9.7 (1.0)	9.4 (1.2)	8.6 (1.8)	8.2 (0.7)	8.0 (1.8)	8.7 (2.0)	8.1 (2.0)
Delay paying other bills	13.8 (1.6)	12.7 (1.6)	10.7 (2.1)	13.9 (1.0)	14.7 (2.5)	15.8 (2.6)	11.5 (2.6)
Sell or pawn household items	6.6 (0.8)	5.5 (0.8)	4.6 (1.1)	5.8 (0.5)	6.1 (1.1)	5.0 (1.3)	4.9 (1.5)

Source: Food and Your Household Survey, 2018; ^a 835 responses; ^b 859 responses; ^c 340 responses; ^d 2,768 responses; ^e 599 responses; ^f 387 responses; ^g 214 responses

Table 6-6. Percentage of households “often” using strategies to increase the amount of money for food, by barriers that kept participant from preparing meals that are part of a healthy diet

Coping strategies	Barriers that keep respondent from cooking foods that are part of a healthy diet						
	Lack of time to prepare meals from scratch ^a	Lack of equipment to prepare food ^b	Lack of storage to keep cooked or fresh food ^c	Don't know how to cook from scratch ^d	Don't always know what foods are part of a healthy diet ^e	Physical disability ^f	Do not like home cooked meals ^g
Percentage (SE) participants using coping strategies often							
Borrow money	10.1 (1.0)	19.4 (2.1)	15.4 (1.7)	12.3 (1.6)	9.0 (1.1)	11.1 (1.5)	9.1 (2.6)
Carry or increase credit limit	11.3 (1.2)	8.6 (1.2)	13.3 (1.5)	10.3 (1.5)	7.6 (1.2)	9.6 (1.4)	5.5 (1.6)
Buy groceries using money set aside for other purpose	19.0 (1.3)	22.6 (2.4)	23.5 (2.0)	15.4 (1.9)	16.3 (1.6)	22.8 (1.7)	15.2 (2.5)
Skip buying medicine or seeking medical care	8.3 (0.8)	14.1 (2.0)	11.5 (1.6)	6.5 (1.5)	8.4 (1.4)	11.5 (1.2)	7.6 (2.4)
Delay paying rent/mortgage	8.4 (1.0)	14.2 (2.2)	8.6 (1.4)	7.2 (1.4)	5.2 (1.2)	8.7 (1.7)	4.7 (1.6)
Delay paying other bills	13.2 (1.3)	18.0 (2.2)	15.6 (1.5)	11.5 (1.3)	10.7 (1.6)	15.6 (2.2)	6.5 (2.0)
Sell or pawn household items	4.7 (0.7)	10.3 (1.6)	7.0 (1.3)	5.5 (1.3)	3.7 (0.7)	6.6 (1.3)	4.1 (1.5)

Source: Food and Your Household Survey, 2018; ^a 1,291 responses; ^b 475 responses; ^c 630 responses; ^d 495 responses; ^e 723 responses; ^f 657 responses; ^g 212 responses

Among strategies used to maximize food purchased (Tables 6-7 and 6-8), those who do not like home cooked meals are the least likely to use such coping strategies. There are few other patterns; for example, differences in percentages of participants using coping strategies by barrier faced are largely not significant. This may reflect the small sample sizes, as these are less frequently used coping strategies among those who face barriers.

Table 6-7. Percentage of households “always” or “almost always” using strategies to maximize food purchased, by barrier that kept them from shopping for foods that are part of a healthy diet

Coping strategies	Distance to store ^a	Transportation ^b	Store hours ^c	Food prices ^d	Physical disability ^e	Time to shop at store ^f	Safety in and around the stores ^g
	Percentage (SE) participants using coping strategies often						
Make a food budget	55.4 (2.5)	56.8 (2.4)	61.7 (2.8)	54.8 (1.3)	60.9 (2.5)	55.2 (3.4)	63.5 (4.1)
Plan meals and snacks for your household	54.2 (2.2)	52.7 (2.5)	58.4 (3.5)	52.3 (1.1)	53.5 (2.8)	53.7 (2.7)	59.8 (3.3)
Make a shopping list	65.1 (1.9)	65.8 (2.1)	66.3 (3.4)	65.4 (1.3)	68.5 (2.7)	65.1 (3.0)	64.8 (4.0)
Check store ads	57.2 (2.0)	57.6 (2.5)	59.5 (2.8)	57.0 (1.3)	62.3 (2.8)	50.0 (3.0)	61.4 (4.6)
Shop at stores with lowest price	63.2 (1.7)	64.4 (2.0)	65.9 (2.8)	64.4 (0.8)	63.9 (2.3)	61.9 (3.1)	66.7 (4.1)
Use coupons/bonus cards	33.6 (2.1)	37.1 (2.3)	34.8 (3.1)	36.5 (1.5)	42.5 (2.7)	31.0 (2.7)	34.2 (4.1)
Shop for specials	54.2 (2.0)	57.6 (2.1)	51.9 (3.5)	55.5 (1.2)	55.7 (2.4)	49.2 (2.9)	51.3 (4.7)
Buy nonperishable foods in bulk	21.7 (1.6)	23.2 (1.8)	25.4 (3.2)	18.8 (0.9)	22.6 (2.2)	17.7 (2.3)	24.8 (3.8)
Buy store brand products	38.9 (1.8)	38.1 (2.0)	37.2 (2.8)	42.3 (1.2)	39.9 (2.7)	39.4 (3.3)	43.7 (4.2)
Choose a brand with lowest price	59.6 (1.7)	57.7 (2.3)	54.2 (3.2)	60.4 (1.0)	60.0 (2.6)	56.5 (3.4)	60.1 (4.2)
Buy whole fruits and vegetables	55.6 (1.9)	54.6 (2.3)	63.6 (3.1)	51.1 (1.0)	51.6 (2.4)	53.2 (3.6)	59.0 (3.9)
Buy canned or frozen fruits and vegetables	35.2 (2.0)	38.9 (2.0)	36.6 (3.3)	34.8 (1.3)	45.5 (2.5)	35.5 (3.0)	44.1 (4.5)
Shop at more than one store to get the best deals	44.5 (2.2)	44.9 (2.2)	50.5 (3.6)	44.4 (0.9)	49.1 (2.1)	45.9 (3.2)	51.0 (5.2)

Source: Food and Your Household Survey, 2018

^a 835 responses; ^b 859 responses; ^c 340 responses; ^d 2,768 responses; ^e 599 responses; ^f 387 responses; ^g 214 responses

Table 6-8. Percentage of households “always” or “almost always” using coping strategies to maximize the amount of food purchased, by the barrier that kept them from preparing meals that are part of a healthy diet

Coping strategies	Barriers that keep respondent from cooking foods that are part of a healthy diet						
	Lack of time to prepare meals from scratch ^a	Lack of equipment to prepare food ^b	Lack of storage to keep cooked or fresh food ^c	Don't know how to cook from scratch ^d	Don't always know what foods are part of a healthy diet ^e	Physical disability ^f	Do not like home cooked meals ^g
	Percentage (SE) participants using coping strategies often						
Make a food budget	48.4 (1.6)	49.2 (2.5)	48.6 (2.06)	42.6 (2.2)	46.5 (2.1)	59.5 (2.1)	43.9 (4.4)
Plan meals and snacks for your household	47.6 (1.7)	49.1 (3.0)	49.3 (2.44)	38.9 (2.7)	48.8 (2.1)	52.2 (2.7)	49.9 (3.8)
Make a shopping list	62.2 (1.5)	55.3 (2.7)	60.4 (1.96)	59.4 (2.5)	62.7 (1.9)	66.4 (2.7)	64.9 (4.0)
Check store ads	49.1 (1.7)	48.3 (2.8)	54.5 (2.80)	51.6 (2.8)	55.6 (2.0)	60.5 (2.8)	56.5 (4.2)
Shop at stores with lowest price	59.4 (1.5)	59.5 (3.3)	61.4 (2.23)	57.7 (2.8)	58.6 (2.3)	64.6 (2.4)	59.9 (4.0)
Use coupons/bonus cards	31.7 (1.7)	33.3 (2.5)	36.7 (2.68)	29.9 (2.3)	32.0 (2.4)	42.2 (2.7)	32.6 (3.6)
Shop for specials	56.8 (1.1)	53.4 (2.3)	57.4 (2.32)	49.2 (2.6)	51.5 (2.1)	56.2 (2.3)	47.6 (4.2)
Buy nonperishable foods in bulk	19.3 (1.4)	21.7 (2.4)	21.5 (1.84)	16.3 (2.2)	17.1 (2.1)	21.0 (1.8)	21.6 (3.4)
Buy store brand products	39.9 (1.6)	41.1 (2.7)	42.9 (2.53)	40.3 (2.5)	34.9 (2.0)	39.0 (2.4)	34.9 (3.4)
Choose a brand with lowest price	55.8 (1.6)	57.5 (2.6)	59.7 (2.19)	58.5 (2.4)	55.1 (2.5)	61.8 (2.3)	53.6 (4.9)
Buy whole fruits and vegetables	55.2 (1.9)	48.6 (2.9)	52.3 (2.52)	46.4 (3.1)	51.0 (2.2)	52.3 (2.5)	55.2 (3.6)
Buy canned or frozen fruits and vegetables	31.1 (1.4)	36.5 (2.5)	34.1 (2.35)	36.9 (2.4)	32.3 (2.2)	42.1 (2.6)	31.2 (3.6)
Shop at more than one store to get the best deals	42.5 (1.0)	42.9 (2.6)	44.8 (2.33)	37.3 (2.5)	41.3 (2.4)	47.3 (2.2)	43.6 (4.5)

Source: Food and Your Household Survey, 2018

^a 1,291 responses; ^b 475 responses; ^c 630 responses; ^d 495 responses; ^e 723 responses; ^f 657 responses; ^g 212 responses

6.3.2 Social Support and Barriers

Tables 6-9 and 6-10 present the associations between social support coping strategies and barriers. As with the sample as a whole, results again suggest that the most common strategy for social support among those facing a barrier is to get replacement food from friends and family, with between 6 and 13 percent of the sample (depending on barrier faced) using this strategy. The least common is to send household members to stay elsewhere, with only less than 1 percent to 3 percent of participants using this strategy. Although figures are small, a larger percentage of those facing barriers use social support coping strategies compared with the sample as a whole.

Those who face a shopping barrier because of safety in and around stores and those who face a cooking barrier of lack of equipment to prepare food appear to use social support to cope, with the highest frequency of using every social support coping strategy “often.” Those whose cooking barrier is that their household does not like home-cooked meals and those whose shopping barrier is time to shop at stores are generally the least likely to use social support coping strategies.

Table 6-9. Percentage of households using social support coping strategies “often,” by barrier that kept them from shopping for foods that are part of a healthy diet

Coping strategies	Distance to store ^a	Transportation ^b	Store hours ^c	Food prices ^d	Disability ^e	Time to shop at store ^f	Safety in and around the stores ^g
	Percentage (SE) participants using coping strategies often						
Get replacement food from friends and family	7.8 (0.9)	8.1 (1.0)	10.3 (2.0)	7.4 (0.6)	9.6 (1.3)	6.9 (1.7)	12.8 (2.8)
Send household members to eat elsewhere	2.9 (0.5)	2.7 (0.7)	2.6 (0.9)	2.7 (0.4)	2.9 (0.7)	1.5 (0.7)	3.5 (1.1)
Send household members to stay elsewhere	2.7 (0.8)	2.6 (0.7)	1.9 (0.7)	1.2 (0.3)	2.4 (0.8)	1.9 (1.0)	3.3 (1.7)
Exchange labor for food	3.3 (0.6)	2.7 (0.6)	3.1 (1.0)	2.4 (0.4)	3.4 (1.0)	0.9 (0.3)	2.4 (1.1)

Source: Food and Your Household Survey, 2018

^a 835 responses; ^b 859 responses; ^c 340 responses; ^d 2,768 responses; ^e 599 responses; ^f 387 responses; ^g 214 responses

Table 6-10. Percentage of households using social support coping strategies “often,” by barrier that kept them from preparing meals that are part of a healthy diet

Coping strategies	Barriers that keep respondent from cooking foods that are part of a healthy diet						
	Lack of time to prepare meals from scratch ^a	Lack of equipment to prepare food ^b	Lack of storage to keep cooked or fresh food ^c	Don't know how to cook from scratch ^d	Don't always know what foods are part of a healthy diet ^e	Physical disability ^f	Do not like home cooked meals ^g
Percentage (SE) participants using coping strategies often							
Get replacement food from friends and family	6.0 (1.0)	12.6 (2.1)	11.0 (2.0)	6.9 (1.1)	5.6 (1.0)	9.4 (1.1)	6.3 (2.0)
Send household members to eat elsewhere	3.1 (0.6)	4.0 (0.9)	4.5 (1.0)	3.5 (0.9)	2.6 (0.7)	3.0 (0.8)	2.1 (1.0)
Send household members to stay elsewhere	1.1 (0.4)	2.5 (1.0)	2.3 (0.8)	2.0 (0.8)	2.0 (0.7)	1.7 (0.6)	0.3 (0.3)
Exchange labor for food	2.1 (0.4)	2.9 (0.7)	3.8 (0.9)	2.5 (0.7)	2.0 (0.6)	2.4 (0.6)	1.7 (1.0)

Source: Food and Your Household Survey, 2018

^a 1,291 responses; ^b 475 responses; ^c 630 responses; ^d 495 responses; ^e 723 responses; ^f 657 responses; ^g 212 responses

6.3.3 Food Assistance and Barriers

Table 6-11 and 6-12 present results of analyses examining associations between other food assistance programs and barriers. As with other coping strategies, a higher percentage of those who face barriers use food assistance than in the sample as a whole (see Table 6-4).

Table 6-11. Percentage of households participating in food assistance programs, by barrier that kept them from shopping for foods that are part of a healthy diet

	Barriers that keep the respondent household from shopping for foods that are part of a healthy diet						
	Distance to store ^a	Transportation ^b	Store hours ^c	Food prices ^d	Physical disability ^e	Time to shop at store ^f	Safety in and around the stores ^g
Food assistance programs	Percentage (SE) participants reporting participation in food assistance program						
National School Lunch Program ^h	71.0 (2.4)	66.9 (3.1)	75.8 (4.1)	74.0 (1.2)	66.1 (4.7)	73.5 (3.5)	66.7 (6.0)
School Breakfast Program ^h	72.2 (2.4)	69.1 (3.1)	76.4 (3.8)	70.9 (1.2)	65.3 (4.4)	72.2 (3.7)	68.4 (5.7)
Head Start or Child Care Program that provides free meals ⁱ	17.1 (2.8)	14.8 (2.8)	19.3 (4.2)	15.6 (1.5)	13.3 (3.5)	21.8 (3.3)	15.5 (4.9)
Community Program that serves free meals ^j	9.4 (1.6)	10.8 (2.0)	12.7 (3.5)	8.8 (1.1)	10.8 (2.2)	12.3 (3.3)	15.0 (4.3)
Meals on Wheels ^j	8.8 (2.1)	10.3 (2.2)	10.4 (3.4)	5.5 (0.9)	10.9 (2.4)	12.5 (3.2)	14.6 (4.5)
WIC	31.9 (3.1)	27.1 (2.8)	26.4 (4.2)	31.0 (2.0)	22.9 (4.4)	40.0 (4.4)	38.4 (6.1)
Food assistance from church, food bank, food pantry, or other organizations	34.7 (1.7)	39.7 (1.8)	30.2 (2.6)	36.8 (1.2)	42.3 (2.6)	29.7 (2.6)	28.0 (3.9)

Source: Food and Your Household Survey, 2018

^a 835 responses; ^b 859 responses; ^c 340 responses; ^d 2,768 responses; ^e 599 responses; ^f 387 responses; ^g 214 responses; ^h Among Households with children;

ⁱ Among Households with children 5 and younger; ^j Among Households with elderly adults

Table 6-12. Percentage of households participating in food assistance program, by barrier that kept them from preparing meals that are part of a healthy diet

Food assistance program	Barriers that keep the respondent household from cooking foods that are part of a healthy diet						
	Lack of time to prepare meals from scratch ^a	Lack of equipment to prepare food ^b	Lack of storage to keep cooked or fresh food ^c	Don't know how to cook from scratch ^d	Don't always know what foods are part of a healthy diet ^e	Physical disability ^f	Do not like home cooked meals ^g
	Percentage (SE) participants reporting participation in food assistance program						
National School Lunch Program ^h	77.8 (1.7)	70.4 (3.7)	76.4 (2.8)	78.2 (2.8)	77.2 (3.2)	71.9 (4.8)	86.6 (3.6)
School Breakfast Program ^h	72.3 (1.5)	65.0 (3.8)	70.7 (2.9)	70.8 (3.4)	68.9 (3.1)	62.4 (5.4)	75.2 (4.9)
Head Start or Child Care Program that provides free meals ⁱ	62.1 (3.4)	57.7 (5.9)	64.7 (5.1)	56.8 (7.0)	59.7 (6.2)	57.5 (10.5)	59.6 (9.9)
Community Program that serves free meals ^j	10.5 (2.2)	11.0 (3.9)	7.2 (2.3)	5.1 (2.4)	6.4 (1.7)	1.0 (0.7)	6.6 (3.0)
Meals on Wheels ^j	9.9 (1.4)	17.3 (3.9)	11.0 (2.6)	9.7 (2.4)	6.3 (1.6)	11.6 (2.0)	6.2 (2.7)
WIC	15.2 (1.1)	10.4 (2.0)	10.9 (1.5)	11.1 (12.0)	11.3 (1.5)	4.7 (1.2)	16.3 (3.4)
Food assistance from church, food bank, food pantry, or other organizations	32.0 (1.4)	39.5 (2.7)	40.7 (2.5)	33.9 (2.0)	34.7 (1.7)	42.7 (2.3)	29.4 (3.1)

Source: Food and Your Household Survey, 2018

^a 1,291 responses; ^b 475 responses; ^c 630 responses; ^d 495 responses; ^e 723 responses; ^f 657 responses; ^g 212 responses; ^h Among households with children;

ⁱ Among households with children 5 and younger; ^j Among households with elderly adults

Those who do not like home cooked meals are among the most likely to use assistance programs, particularly programs for children. This is different from the pattern seen for other types of support, where those do not like home cooked meals are comparable to those who face other barriers in their use of coping strategies. This could be explained by the fact that some children's feeding programs reduce the burden on families to prepare meals, as the meals are taken at the childcare site. Those with a physical disability are generally less likely to take advantage of the assistance programs described, again a change from other coping strategies. However, to the extent that many of the programs require transportation, these programs may be more difficult for some of those with physical disabilities to access. Indeed, those with a disability are more likely to use Meals on Wheels, which does not require transportation.

In general, members of the sample use a wide range of coping strategies, and those who face barriers indicate that they use coping strategies more frequently. The fact that food insecurity and lack of access to a healthy diet are so widespread in the sample, despite broad use of coping strategies, suggests that these coping strategies are insufficient to mitigate these barriers. Results also suggest that some populations facing barriers are more adept at using coping strategies than others, most notably those who face physical disability. Others, including those who lack time to prepare meals, seem less inclined to use many coping strategies, in keeping with findings in the previous chapter that lack of time may not be as meaningful a barrier for most.

In the next chapter, findings are conceptualized and policy implications are discussed.

7. Conclusion

This study has shown that a sizeable portion (over 87%) of SNAP participants sampled reported facing some type of barrier to healthy eating. In this chapter, the implications of these findings for SNAP allotments and for FNS policy are examined.

7.1 Policy Relevance

Although individual, household, and environmental barriers combined are quite prevalent among SNAP households, it does not necessarily follow that all of these barriers can be addressed through changes to the SNAP allotment formula. Only two barriers examined – affordability of food for a healthy diet and lack of equipment – appear to be significantly related to food security. Even among these two barriers only affordability appears to make a large difference to measures of food security. These results suggest that the main focus of policy should be on affordability, with a secondary focus on lack of equipment. The next step would be to determine how to mitigate these barriers.

7.2 SNAP Allotment

The size of the SNAP allotment is based on the Thrifty Food Plan, which itself is based on the price of food and varies according to two characteristics: income and household size. The natural way to mitigate barriers would involve adjusting the formula to better target those who face barriers. Congress could mandate changing the benefit for those whose characteristics indicate they are more likely to face barriers, or introducing new characteristics into the formula to determine household allotment. However, changing the benefit based on income and household size would not mitigate all barriers effectively, such as lack of equipment. Solutions that raise SNAP allotments for all or most SNAP households, which may address affordability, may not be viable because they are very costly and would need to be rigorously tested for effectiveness before enactment.

7.3 Other Approaches

It is possible, then, that the best way to mitigate the equipment and affordability barriers lies through other policies. Few if any existing policies address lack of kitchen equipment, but some programs

could peripherally help address some of the impacts of lack of kitchen equipment. For instance, expanding the reach and increasing participation in the Supplemental Nutrition Assistance Program Education (SNAP-Ed) could potentially help mitigate the impact of lack of kitchen equipment on food security status. Implementing agencies receive USDA funding through the State to host nutrition classes, promote healthier eating, and even host cooking classes, often centered around cooking with limited equipment and experience. While SNAP-Ed programs are now found in every state, only a relatively small proportion of SNAP participants participate in active programming and classes.

For affordability, if the goal is to target the purchase of foods that are part of a healthy diet, their purchase could be subsidized for those on SNAP. Federal, State, and local groups are investigating these types of options. At the Federal level, subsidizing foods that are part of a healthy diet is being examined through a USDA grant program, the Gus Schumacher Nutrition Incentive Program (GusNIP formerly known as FINI). GusNIP funds projects to increase purchase of fruits and vegetables by SNAP participants by providing incentives at the point of purchase at authorized SNAP retailers. GusNIP provides rebates or discounts in hundreds of farmers markets, small markets, food stands, community-supported agriculture (CSAs), and grocery stores most States. Evidence of effectiveness would be needed before expanding any of these programs, but it is an avenue that bears consideration.

Such policies may be more viable in the short term at addressing the barriers that are most prevalent among SNAP households.

7.4 Summary

In summary, this study found evidence of many individual, household, and environmental barriers to healthy eating among SNAP participants. About 60 percent of the sample said that the price of foods that are part of a healthy diet prevented them from shopping for them. Another 30 percent of SNAP participants say that lack of time prevents them from preparing meals that are part of a healthy diet; just under 20 percent each say transportation or distance to the store prevents them from shopping for foods that are part of a healthy diet. Other barriers are reported by a smaller percentage of SNAP participants: 16 percent say a lack of knowledge about foods that are part of a healthy diet prevents them from preparing meals that are part of a healthy diet; physical disability is a

barrier for 15 percent; lack of storage is a barrier for 14 percent; and about 10 percent each report lack of time to shop for groceries, lack of equipment to cook, and lack of cooking skills. There are no clear patterns for subgroups more likely to face barriers.

While these barriers may impose costs (whether monetary or otherwise) on SNAP participants, only two were found to relate to food security: affordability and lack of equipment. This lack of relationship between other barriers and food security may be due to the lesser severity of the barrier (some barriers may only slightly reduce the ability of participants to shop for and prepare foods that are part of a healthy diet) or by the ability of participants to mitigate these barriers. Participants use multiple coping strategies, including stretching their budget, relying on social support, and participating in other nutrition assistance programs and community resources. Those who face some barriers, such as physical disability or lack of knowledge of foods that are part of a healthy diet, may be able to use coping strategies to mitigate these barriers such that they do not impact food security.

References

- Alkon, A. H., Block, D., Moore, K., Gillis, C., DeNuccio, N., and Chavez, N. (2013). Foodways of the urban poor. *Geoforum*, 48, 126-135. <https://doi.org/10.1016/j.geoforum.2013.04.021>
- Allen J., Liptak K., Guo J., Worasinchai L. (2015) Mail Survey Response Rates in Academic Research: A Multi-Disciplinary Trend Analysis. In: Noble C. (eds) Proceedings of the 1999 Academy of Marketing Science (AMS) Annual Conference. Developments in Marketing Science: Proceedings of the Academy of Marketing Science. Springer, Cham
- Bawa, K., and Ghosh, A. (1999). A model of household grocery shopping behavior. *Marketing letters*, 10(2), 149-160.
- Bowling, A. B., Moretti, M., Ringelheim, K., Tran, A., and Davison, K. (2016). Healthy foods, healthy families: Combining incentives and exposure interventions at urban farmers' markets to improve nutrition among recipients of US federal food assistance. *Health Promotion Perspectives*, 6(1), 10.
- Buck-McFadyen, E. V. (2015). Rural food insecurity: When cooking skills, homegrown food, and perseverance aren't enough to feed a family. *Canadian Journal of Public Health*, 106(3), e140-e146.
- Carlson, A., & Frazão, E. (2012). Are healthy foods really more expensive? It depends on how you measure the price. It Depends on How You Measure the Price (May 1, 2012). USDA-ERS Economic Information Bulletin, (96).
- Coleman-Jensen, A., Rabbitt, M.P., Gregory, C.A., and Singh, A. (2019). Household Food Security in the United States in 2018, ERR-270, U.S. Department of Agriculture, Economic Research Service.
- Chang, Y., and Kim, J., and Chatterjee, S. (2016). *The effect of food price on food insecurity and diet quality: Exploring potential moderating roles of SNAP and consumer competency*. University of Kentucky Center for Poverty Research Discussion Paper Series, DP2016-06. Retrieved from <http://www.ukcpr.org/research/discussion-papers>
- Cummins, S., Flint, E., and Matthews, S. A. (2014). New neighborhood grocery store increased awareness of food access but did not alter dietary habits or obesity. *Health Affairs (Project Hope)*, 33(2), 283-291. <https://doi.org/10.1377/hlthaff.2013.0512>
- Dammann, K. W., and Smith, C. (2009). Factors affecting low-income women's food choices and the perceived impact of dietary intake and socioeconomic status on their health and weight. *Journal of nutrition education and behavior*, 41(4), 242-253.
- Darko, J., Eggett, D. L., and Richards, R. (2013). Shopping behaviors of low-income families during a 1-month period of time. *Journal of Nutrition Education and Behavior*, 45(1), 20-29. <https://doi.org/10.1016/j.jneb.2012.05.016>

- Davis, G. C., and You, W. (2010). The Thrifty Food Plan is not thrifty when labor cost is considered. *The Journal of nutrition*, 140(4), 854-857.
- Dean, W. R., and Sharkey, J. R. (2011). Food insecurity, social capital and perceived personal disparity in a predominantly rural region of Texas: An individual-level analysis. *Social Science & Medicine*, 72(9), 1454-1462. <https://doi.org/10.1016/j.socscimed.2011.03.015>
- Downing, J., and Laraia, B. (2016). *Supermarket proximity and price: Food insecurity and obesity in the United States*. University of Kentucky Center for Poverty Research Discussion Paper Series, DP2016-05. Retrieved from <http://www.ukcpr.org/research/discussion-papers>
- Drewnowski, A. (2010). The Nutrient Rich Foods Index helps to identify healthy, affordable foods. *American Journal of Clinical Nutrition* 91(4): 1095S-1101S. <https://doi.org/10.3945/ajcn.2010.28450D>
- Edin, K., Boyd, M., Mabli, J., Ohls, J., Worthington, J., Greene, S., ...Sridharan, S. (2013). *SNAP food security in-depth interview study* (Contract No. GS-10F-0050L). Alexandria, VA: U.S. Department of Agriculture, Food and Nutrition Service, Office of Research and Analysis.
- Fertig, A. R., Loth, K. A., Trofholz, A. C., Tate, A. D., Miner, M., Neumark-Sztainer, D., and Berge, J. M. (2019). Compared to Pre-prepared Meals, Fully and Partly Home-Cooked Meals in Diverse Families with Young Children Are More Likely to Include Nutritious Ingredients. *Journal of the Academy of Nutrition and Dietetics*.
- Fox, L. (2018). The supplemental poverty measure: 2017. Washington, DC: US Census Bureau.
- Gearing, M., Lewis, M., Wilson, C., Bozzolo, C., and Hansen, D. (2019). Barriers that Constrain the Adequacy of Supplemental Nutrition Assistance Program (SNAP) Allotments: In-depth Interview Findings. Report prepared by Westat, Inc. for the U.S. Department of Agriculture, Food and Nutrition Service, July 2019. Project Officer Rosemarie Downer. Available online at www.fns.usda.gov/research-and-analysis
- Guo, Y., Kopec, J. A., Cibere, J., Li, L. C., and Goldsmith, C. H. (2016). Population survey features and response rates: a randomized experiment. *American Journal of Public Health*, 106(8), 1422-1426.
- Gustafson A. (2017). Shopping pattern and food purchase differences among Supplemental Nutrition Assistance Program (SNAP) households and non-Supplemental Nutrition Assistance Program households in the United States. *Preventive Medicine Reports*, 7, 152-157. <https://doi.org/10.1016/j.pmedr.2017.06.005>
- Hillier, A., Cannuscio, C. C., Karpyn, A., McLaughlin, J., Chilton, M., and Glanz, K. (2011). How far do low-income parents travel to shop for food? Empirical evidence from two urban neighborhoods. *Urban Geography*, 32(5), 712-729. Retrieved from <https://pdfs.semanticscholar.org/3334/43b547530c88db0cfac7db4bda16a372dafa.pdf>
- IOM (Institute of Medicine) and NRC (National Research Council) (2013). *Supplemental Nutrition Assistance Program: Examining the evidence to define benefit adequacy*. J.A. Caswell & A. L. Yaktine (Eds.). Washington, DC: The National Academies Press.

- Jabs, J., and Devine, C. M. (2006). Time scarcity and food choices: an overview. *Appetite*, 47(2), 196-204.
- Keith-Jennings, B., & Chaudhry, R. (2018). Most working-age SNAP participants work, but often in unstable jobs. Center on Budget and Policy Priorities, 15.
- Krølner, R., Rasmussen, M., Brug, J., Klepp, K. I., Wind, M., and Due, P. (2011). Determinants of fruit and vegetable consumption among children and adolescents: a review of the literature. Part II: qualitative studies. *The International Journal of Behavioral Nutrition and Physical Activity* 8(112). <https://doi.org/10.1186%2F1479-5868-8-112>
- Larson, N. I., Story, M. T., and Nelson, M. C. (2009). Neighborhood environments: Disparities in access to healthy foods in the U.S. *American Journal of Preventive Medicine*, 36(1), 74-81.e10. <https://doi.org/10.1016/j.amepre.2008.09.025>
- Lavelle, F., McGowan, L., Spence, M., Caraher, M., Raats, M. M., Hollywood, L., ... and Dean, M. (2016). Barriers and facilitators to cooking from 'scratch' using basic or raw ingredients: A qualitative interview study. *Appetite*, 107, 383-391.
- LeDoux, T. F., and Vojnovic, I. (2013). Going outside the neighborhood: The shopping patterns and adaptations of disadvantaged consumers living in the lower eastside neighborhoods of Detroit, Michigan. *Health & Place*, 19, 1-14. <https://doi.org/10.1016/j.healthplace.2012.09.010>
- Mabli, J, Ohls J, Dragoset, L, Castner, L, and Santos, B. (2013). *Measuring the Effect of Supplemental Nutrition Assistance Program (SNAP) Participation on Food Security*. Prepared by Mathematica Policy Research for the U.S. Department of Agriculture, Food and Nutrition
- Mabli, J. (2014). *SNAP Participation, Food Security, and Geographic Access to Food* (Contract No. GS-10F-0050L). Alexandria, VA: U.S. Department of Agriculture, Food and Nutrition Service.
- Mancino, L., and Newman, C. (2007). *Who has time to cook? How family resources influence food preparation* (Economic Research Report Number 40). Washington, DC: U.S. Department of Agriculture, Economic Research Service. Retrieved from https://www.ers.usda.gov/webdocs/publications/45797/11722_err40_1_.pdf?v=0
- Martin, K. S., Rogers, B. L., Cook, J. T., and Joseph, H. M. (2004). Social capital is associated with decreased risk of hunger. *Social Science & Medicine*, 58(12), 2645-2654. <https://doi.org/10.1016/j.socscimed.2003.09.026>
- Mechling, L. C. (2008). High tech cooking: A literature review of evolving technologies for teaching a functional skill. *Education and Training in Developmental Disabilities*, 43(4), 474.
- Miller, L. M. S., and Cassady, D. L. (2015). The effects of nutrition knowledge on food label use. A review of the literature. *Appetite*, 92, 207-216.
- Monsivais, P., and Drewnowski, A. (2007). The rising cost of low-energy-density foods. *Journal of the American Dietetic Association*, 107(12), 2071-2076. <https://doi.org/10.1016/j.jada.2007.09.009>

- Monsivais, P., and Drewnowski, A. (2009). Lower-energy-density diets are associated with higher monetary costs per kilocalorie and are consumed by women of higher socioeconomic status. *Journal of the American Dietetic Association*, 109(5), 814-822.
<https://doi.org/10.1016/j.jada.2009.02.002>
- Morton, J. F., and Guthrie, J. F. (1997). Diet-related knowledge, attitudes, and practices of low-income individuals with children in the household. *Family Economics and Nutrition Review*, 10(1), 2-16.
- Nicklaus, S., Boggio, V., Chabanet, C., and Issanchou, S. (2004). A prospective study of food preferences in childhood. *Food Quality and Preference*, 15(7-8), 805-818.
<https://doi.org/10.1016/j.foodqual.2004.02.010>
- Persoskie, A., Hennessy, E., and Nelson, W. L. (2017). Peer Reviewed: US Consumers' Understanding of Nutrition Labels in 2013: The Importance of Health Literacy. *Preventing Chronic Disease*, 14.
- Rose, D., and Richards, R. (2004). Food store access and household fruit and vegetable use among participants in the US Food Stamp Program. *Public health nutrition*, 7(8), 1081-1088.
- Seligman, H. K., Bolger, A. F., Guzman, D., López, A., and Bibbins-Domingo, K. (2014). Exhaustion of food budgets at month's end and hospital admissions for hypoglycemia. *Health affairs*, 33(1), 116-123.
- Sharpe, P. A., Liese, A. D., Bell, B. A., Wilcox, S., Hutto, B. E., and Stucker, J. (2018). Household food security and use of community food sources and food assistance programs among food shoppers in neighborhoods of low income and low food access. *Journal of Hunger & Environmental Nutrition*, 13(4), 482-496. <https://doi.org/10.1080/19320248.2017.1364188>
- Stark, S. (2001). Creating disability in the home: The role of environmental barriers in the United States. *Disability & Society*, 16(1), 37-49.
- Tach, L., and Amorim, M. (2015). Constrained, convenient, and symbolic consumption: Neighborhood food environments and economic coping strategies among the urban poor. *Journal of Urban Health: Bulletin of the New York Academy of Medicine*, 92(5), 815-834.
<https://doi.org/10.1007/s11524-015-9984-x>
- Tai, T. O., and Treas, J. (2009). *Does household composition explain welfare regime poverty risks for older adults and other household members?*. *Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 64(6), 777-787.
- Taillie, L. S., and Poti, J. M. (2017). Associations of cooking with dietary intake and obesity among Supplemental Nutrition Assistance Program participants. *American journal of preventive medicine*, 52(2), S151-S160.
- Vaitkeviciute, R., Ball, L. E., and Harris, N. (2015). The relationship between food literacy and dietary intake in adolescents: a systematic review. *Public health nutrition*, 18(4), 649-658.

- Van der Horst, K., Brunner, T. A., and Siegrist, M. (2011). Ready-meal consumption: associations with weight status and cooking skills. *Public health nutrition*, 14(2), 239-245.
- Velardo, S. (2015). The nuances of health literacy, nutrition literacy, and food literacy. *Journal of nutrition education and behavior*, 47(4), 385-389.
- Vericker, T., and Mills, G. (2012, October). *Childhood food insecurity: The mitigating role of SNAP* [Brief]. Retrieved from the Urban Institute's Web site: <https://www.urban.org/sites/default/files/publication/25936/412681-Childhood-Food-Insecurity-The-Mitigating-Role-of-SNAP.PDF>
- Wallace, R., Lo, J., and Devine, A. (2016). Tailored nutrition education in the elderly adults can lead to sustained dietary behaviour change. *The journal of nutrition, health & aging*, 20(1), 8-15.
- Wang, C., El-Nour, M. M. A., and Bennett, G. W. (2008). Survey of pest infestation, asthma, and allergy in low-income housing. *Journal of community health*, 33(1), 31-39.
- Weinfield, N. S., Mills, G., Borger, C., Gearing, M., Macaluso, T., Montaquila, J., and Zedlewski, S. (2014). *Hunger in America 2014: National report prepared for Feeding America*. Retrieved from the Feeding America Web site: <http://help.feedingamerica.org/HungerInAmerica/hunger-in-america-2014-full-report.pdf>
- Wiecha, J. L., Dywer, J. T., Jacques, P. F., and Rand, W. M. (1993). Nutritional and economic advantages for homeless families in shelters providing kitchen facilities and food. *Journal of the American Dietetic Association*, 93(7), 777-783.
- Wiig, K., and Smith, C. (2009). The art of grocery shopping on a food stamp budget: Factors influencing the food choices of low-income women as they try to make ends meet. *Public Health Nutrition*, 12(10), 1726-1734. <https://doi.org/10.1017/S1368980008004102>
- Winkler, E. A. (2008). *Food accessibility, affordability, cooking skills and socioeconomic differences in fruit and vegetable purchasing in Brisbane, Australia* (Doctoral dissertation, Queensland University of Technology).
- Wolfson, J. A., and Bleich, S. N. (2015). Is cooking at home associated with better diet quality or weight-loss intention?. *Public Health Nutrition*, 18(8), 1397-1406.
- Worthington, J., and Mabli, J. (2017). Emergency Food Pantry Use Among SNAP Households with Children.

Appendix 1

Survey (English)

Appendix 1

Survey (English)

OMB Approval No. XXXX-XXXX
Approval Expires: XX/XX/20XX

Food and Your Household

You are selected to participate in a survey that is being conducted by the U.S. Department of Agriculture, Food and Nutrition Services (FNS) to understand people's grocery shopping behaviors.

The survey asks questions about foods purchased and meals prepared for your household.

By household, we mean people who live with you and with whom you purchase and prepare food.

- If you live alone, please answer all the questions for yourself.
- If you live with others but purchase foods and prepare meals for yourself only, please answer all the questions for yourself.
- If you live with others and food purchases and meal preparation are shared with people in your household, please answer all questions for your household.

There are no right or wrong answers. If you are unsure of how to answer a question, please give the best answer you can and make a comment in the margin. Your answers will not be shared outside the study team, except as otherwise required by law. Your answer will be combined with everyone else's and reported as overall findings. Information provided by all invited participants will be combined to answer questions like these:

- **Where do people shop for groceries?**
- **How do people decide where to shop?**
- **What types of foods are available to people where they shop?**
- **What is the general food situation in America's households?**

Please write clearly and use a black or blue pen only.

Please answer by filling in the circles completely like this:



Not  or 



If you made a mistake, mark through it with an X like this:



then fill in and draw a circle around the correct one like this:



The survey will take about 25 minutes to fill out. Please remember to answer questions on both the front and back of each page.

After you are done, return it in the enclosed postage-paid envelope within the next 7 days. When we receive your completed survey, we will send you \$20 as a token of appreciation. If you need additional information, please call 1-XXX-XXX-XXXX or email us at XXXX.com.

Thank you.

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB number. The valid OMB control number for this information collection is XXXX-XXXX. The time required to complete this information collection is estimated to average 25 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

SECTION A: SHOPPING FOR GROCERIES

When answering questions, please think about your household. By household, we mean people who live with you and with whom you purchase and prepare food. If you live alone, please answer only for yourself.

This section asks you about where you or the primary shopper (person who does the most grocery shopping) shopped for groceries in the past year.

A1. Where do you (or primary shopper) usually buy most of your groceries?

WRITE THE NAME OF ONE STORE AND TELL US WHERE IT IS LOCATED.

Store Name: _____

Nearest Intersection/Street: _____

City/Town: _____

A1a. Is the store listed above a ... (FILL IN ONLY ONE)

- ☐ Large chain grocery store or supermarket (such as Albertsons, Kroger, Publix, Safeway, Giant)
- ☐ Discount superstore (such as Wal-Mart, K-Mart, Target)
- ☐ Convenience store (such as 7-Eleven or a mini market) or corner store
- ☐ Warehouse club store (such as Sam's Club, BJ's, Costco)
- ☐ Ethnic market
- ☐ Natural or organic supermarket/local market (such as Whole Foods)
- ☐ Farmers Market/Farm Stand/Co-op
- ☐ Home Delivery Service (such as Peapod or Fresh Direct)
- ☐ Other, tell us where: _____

A1b. How often do you (or primary shopper) shop for food at this store?

- ☐ More than once a week
- ☐ Once a week
- ☐ Once every 2 weeks
- ☐ About once a month or less

A1c. About how many miles do you (or the primary shopper) live from the store where you buy most of your groceries?

- ☐ Less than 1 mile
- ☐ 1 to less than 3 miles
- ☐ 3 to less than 5 miles
- ☐ 5 to less than 10 miles
- ☐ 10 to less than 20 miles
- ☐ 20 or more miles away

A1d. About how many miles is your workplace (or the primary shopper's workplace) from this store?

- ☐ Less than 1 mile
- ☐ 1 to less than 3 miles
- ☐ 3 to less than 5 miles
- ☐ 5 to less than 10 miles
- ☐ 10 to less than 20 miles
- ☐ 20 or more miles away
- ☐ Not employed

A1e. How do you (or the primary shopper) usually get to this store? (FILL IN ONLY ONE)

- ☐ In my (or primary shopper's) car
- ☐ In a car that belongs to someone I (or primary shopper) live with
- ☐ In a car that belongs to someone who lives elsewhere
- ☐ Walk
- ☐ Ride bicycle
- ☐ Bus, subway or other public transit
- ☐ Taxi or other paid driver
- ☐ Someone else delivers groceries
- ☐ Some other way – Tell us how _____

A1f. How much time does it usually take you (or the primary shopper) to get to this store?

- ☐ Less than 10 minutes
- ☐ 10-20 minutes
- ☐ 21-30 minutes
- ☐ More than 30 minutes

A1g. What are the THREE most important reasons why you (or the primary shopper) shop for groceries at this store?

(FILL IN THREE)

- ☐ Close to home
- ☐ Close to work or school
- ☐ Location convenient but not close to home, work, or school
- ☐ Affordable price
- ☐ Lots of in store promotions
- ☐ Variety of products at the store
- ☐ Other items besides groceries at store
- ☐ Ethnic foods are available at the store
- ☐ High quality meat
- ☐ Preferred products are always available at the store
- ☐ Better or fresher produce than other stores

- ☐ Good service
- ☐ Store is clean
- ☐ Store is familiar to me
- ☐ Store hours of operation are convenient for me
- ☐ Frequent shopper program or savings card
- ☐ Store accepts EBT
- ☐ Home delivery option
- ☐ Other, tell us why: _____

A2. Besides the store identified in A1, do you (or the primary shopper) buy groceries at other stores?

- ☐ Yes
- ☐ No → **GO TO QUESTION A3a**

A2a. About how many other stores do you (or the primary shopper) buy groceries at on a regular basis?

- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4 or more

**A2b. Where else do you (or the primary shopper) go to buy groceries?
(FILL IN ALL THAT APPLY)**

- ☐ Large chain grocery store or supermarket (such as Albertsons, Kroger, Publix, Safeway, Giant)
- ☐ Discount superstore (such as Wal-Mart, K-Mart, Target)
- ☐ Convenience store (such as 7-Eleven or mini market) or corner store
- ☐ Warehouse club store (such as Sam's Club, BJ's, Costco)
- ☐ Ethnic market
- ☐ Natural or organic supermarket/local market (such as Whole Foods)
- ☐ Farmers Market/Farm Stand/Co-op
- ☐ Home Delivery Service (such as Peapod or Fresh Direct)
- ☐ Other, tell us where: _____

A2c. How often do you (or the primary shopper) usually buy groceries at any of the stores referred to in A2a?

- ☐ More than once a week
- ☐ Once a week
- ☐ Once every 2 weeks
- ☐ About once a month or less

A3a. Thinking about ALL the stores where you (or the primary shopper) shop for groceries, please indicate the extent to which a variety (that is, different kinds) of products in these food categories are available to you at these stores?

How much variety is available for ...	A wide variety	Some variety	Very little variety	Not available	Don't know/Don't buy
Fresh fruits	☐	☐	☐	☐	☐
Frozen fruits	☐	☐	☐	☐	☐
Canned fruits	☐	☐	☐	☐	☐
Fresh vegetables	☐	☐	☐	☐	☐
Frozen vegetables	☐	☐	☐	☐	☐
Canned vegetables	☐	☐	☐	☐	☐
Whole grain products such as brown rice, multigrain cereal, whole grain pasta	☐	☐	☐	☐	☐
Lean meat such as 92% or more lean ground beef, skinless chicken breasts, fat-free deli meats	☐	☐	☐	☐	☐
Low-fat dairy products such as milk, cheese, yogurt	☐	☐	☐	☐	☐

A3b. Thinking about ALL the stores where you (or the primary shopper) shop for groceries, how easy is it to afford these foods on your budget?

How easy is it to afford these foods on your budget?	Very Easy	Easy	Difficult	Very Difficult	Don't know/Don't eat
Fresh fruits	☐	☐	☐	☐	☐
Fresh vegetables	☐	☐	☐	☐	☐
Whole grain products such as brown rice, multigrain cereal, whole grain pasta	☐	☐	☐	☐	☐
Lean meat such as 92% or more lean ground beef, skinless chicken breasts, fat-free deli meats	☐	☐	☐	☐	☐

A4. In the past 30 days, about how much money did you/your household spend on food at supermarkets, grocery stores, or other stores that sell food products (including any purchase made with SNAP/formerly Food Stamps)?

\$__|__|__|

A4a. In the past 30 days, about how much money did you/your household spend on nonfood items (such as cleaning or paper products, pet food, cigarettes, or alcoholic beverages) at supermarkets, grocery stores, or other stores that sell food products?

\$__|__|__|

A5. What are the THREE most important reasons why you (or the primary shopper) choose the foods you buy? (FILL IN THREE)

- ☐ The price
- ☐ The brand name
- ☐ The nutrition content
- ☐ The taste
- ☐ Expiration date
- ☐ Ease of preparation
- ☐ How well the food keeps after it's bought
- ☐ Other, tell us why: _____

A6. How often do you (or the primary shopper) use the following strategies to buy groceries for yourself/your household?

How often do you ...	Always/Almost always	Sometimes	Rarely	Never
Make a food budget	☐	☐	☐	☐
Plan meals and snacks for your household	☐	☐	☐	☐
Make a shopping list of foods you need to make the meals and snacks for you/your household	☐	☐	☐	☐
Check store ads for sales	☐	☐	☐	☐
Shop at stores with the lowest price	☐	☐	☐	☐
Use manufacturer or store coupons/bonus cards	☐	☐	☐	☐
Shop for specials	☐	☐	☐	☐
Buy nonperishables in bulk	☐	☐	☐	☐
Buy store brand food products	☐	☐	☐	☐
Choose a brand with the lowest price	☐	☐	☐	☐
Buy whole fruits and vegetables	☐	☐	☐	☐
Buy canned or frozen fruits and vegetables to save money	☐	☐	☐	☐
Shop at more than one store to get the best deals	☐	☐	☐	☐

SECTION B: NUTRITION KNOWLEDGE

The following questions are about the Federal Government's nutrition guidelines for Americans

Please indicate the extent to which you agree with the following statements about your/your household's ability to eat a healthy diet. In this survey, a healthy diet means eating a variety of food from all five food groups (fruits, vegetables, grains, dairy, and protein foods). It also means not eating too much saturated fat, salt, or sugar, and getting the right amount of calories for you.

B1. On most days, I/people in my household eat a healthy diet.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

B2. I/People in my household understand the importance of eating healthy to stay healthy

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

B3. Please tell us if any of the following reasons keep you (or the primary food shopper) from shopping for foods that are part of a healthy diet.

In this survey, a healthy diet means eating a variety of food from all five food groups (fruits, vegetables, grains, dairy, and protein foods). It also means not eating too much saturated fat, salt, or sugar, and getting the right amount of calories for you.

(FILL IN ALL THAT APPLY)

- ☐ Distance to store
- ☐ Transportation
- ☐ Store hours
- ☐ Affordability (food prices)
- ☐ Physical disability
- ☐ Amount of time available to shop at the store
- ☐ Safety concerns (in and around the stores)
- ☐ Other, Challenge is: _____
- ☐ None of the above, I am able to shop for foods that are a part of healthy diet

B4. Please tell us if any of the following reasons keep you (or the primary food shopper) from preparing meals that are part of a healthy diet.

In this survey, healthy diet means eating a wide variety of foods which contain plenty of fiber and are low in fat, salt, and sugar. **(FILL IN ALL THAT APPLY)**

- ☐ Lack of time to prepare meals from scratch
- ☐ Lack of equipment (working stove, pots and pans) to prepare food
- ☐ Lack of storage to keep cooked or fresh food
- ☐ Don't know how to cook from scratch
- ☐ Don't always know what foods are part of a healthy diet
- ☐ Physical disability
- ☐ Household members don't like home cooked meals
- ☐ Other, Challenge is: _____

B5. How familiar are you with the following graphic?



- ☐ I have seen it and know a lot about it
- ☐ I have seen it and know somewhat about it
- ☐ I have seen it but know very little about it
- ☐ I have never seen it before → **GO TO QUESTION B7**

B6. Have you tried to follow the MyPlate information?

- ☐ Yes
- ☐ No
- ☐ I do not know what MyPlate is

B7. How often do you use the Nutrition Facts Panel (example shown on the right) when deciding to buy a food product?

- ☐ Always
- ☐ Most of the time
- ☐ Sometimes
- ☐ Rarely
- ☐ Never → **GO TO SECTION C**
- ☐ I have not seen the Nutrition Facts Panel on food labels → **GO TO SECTION C**

Nutrition Facts	
Serving Size 2/3 cup (55g)	
Servings Per Container About 8	
Amount Per Serving	
Calories 230	Calories from Fat 40
% Daily Value*	
Total Fat 8g	12%
Saturated Fat 1g	5%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 160mg	7%
Total Carbohydrate 37g	12%
Dietary Fiber 4g	16%
Sugars 1g	
Protein 3g	
Vitamin A	10%
Vitamin C	8%
Calcium	20%
Iron	45%
* Percent Daily Values are based on a 2,000 calorie diet. Your daily value may be higher or lower depending on your calorie needs.	
	Calories: 2,000 2,500
Total Fat	Less than 65g 80g
Sat Fat	Less than 20g 25g
Cholesterol	Less than 300mg 300mg
Sodium	Less than 2,400mg 2,400mg
Total Carbohydrate	300g 375g
Dietary Fiber	25g 30g

B8. What nutritional information do you look for on the Nutrition Facts Panel? (**FILL IN ALL THAT APPLY**)

- ☐ Nutritional quality of food
- ☐ Serving size
- ☐ Calories

SECTION C: PREPARING FOOD AT HOME

When answering questions, please think about your household. By household, we mean people who live with you and with whom you purchase and prepare food.

If you live alone, please answer only for yourself.

- C1. The following statements describe people's attitudes towards cooking, cooking skills, and practices.

Please indicate the extent to which you agree with them when thinking about the person who cooks the most in your household, whether that is you or someone else.

The person who does the most cooking in my household (you or the primary food preparer)...	Strongly agree	Agree	Disagree	Strongly disagree
Prepares healthy meals for people in my household	☐	☐	☐	☐
Knows how to cook healthy meals	☐	☐	☐	☐
Usually makes main dishes that require more than 3 ingredients	☐	☐	☐	☐
Can make a meal out of whatever foods are at home	☐	☐	☐	☐
Often tries new recipes	☐	☐	☐	☐
Prepares batch meals that can be eaten throughout the week	☐	☐	☐	☐
Does not prepare healthy meals because no one in my household likes them	☐	☐	☐	☐
Does not prepare healthy meals because they do not satisfy hunger	☐	☐	☐	☐
Usually has basic ingredients for a meal at home	☐	☐	☐	☐
Usually has basic equipment to prepare a meal at home	☐	☐	☐	☐
Does not have the time to prepare healthy meals	☐	☐	☐	☐

C2. When it comes to dinners, would you say that most of the dinners (or the main meal of the day) eaten in your home are... (FILL IN ONLY ONE)

- ☐ Cooked from scratch using basic ingredients
- ☐ Assembled using readymade ingredients (such as sauces and mixes)
- ☐ Convenience foods that are “heat-and-serve”
- ☐ Purchased ready-to-eat (do not require heating, assembly, or cooking)

C3. On a typical day, how much time do you/primary food preparer in your household spend on cooking dinner (or the main meal of the day)?

- ☐ 15 minutes or less
- ☐ 16 to 30 minutes
- ☐ 31 to 60 minutes
- ☐ More than 60 minutes
- ☐ I/We don’t prepare meals at home on a typical day.

C4. In the past 7 days, how many home-cooked dinners (or the main meal of the day) did you/the primary food preparer make from scratch, using basic ingredients?

Number of meals
(PLEASE SPECIFY A NUMBER FROM 0 TO 7)

C5. In the past 7 days, how many meals (including breakfast, lunch, and dinner) did you/people in your household get that were prepared away from home in places such as restaurants, fast food places, food stands, grocery stores, convenience stores, or from vending machines?

Number of meals
(PLEASE SPECIFY A NUMBER FROM 0 TO 21)

C5a. During the past 7 days, how many of these meals (including breakfast, lunch, and dinner) were from a fast-food or pizza place?

Number of meals that were from fast food or pizza place
(PLEASE SPECIFY A NUMBER FROM 0 TO 21)

- C5b. During the past 7 days, how many of these meals (including breakfast, lunch, and dinner) were “ready-to-eat” foods (such as main dishes, salads, soups, sandwiches) from a grocery store? Please do not include deli meat or cheese you buy for sandwiches or frozen and canned foods.

Number of meals that were “ready-to-eat” foods
(PLEASE SPECIFY A NUMBER FROM 0 TO 21)

- C5c. During the past 7 days, how many of these meals (including breakfast, lunch, and dinner) were frozen meals, frozen main dishes, or frozen pizzas?

Number of frozen meals, frozen main dishes, or frozen pizzas
(PLEASE SPECIFY A NUMBER FROM 0 TO 21)

These following questions are about the foods eaten in your household in the past 12 months and whether you were able to afford the foods you need.

- C6. Which of these statements best describes the food eaten in your household in the past 12 months?

- ☐ Enough of the kinds of food we want to eat
- ☐ Enough but not always the kinds of food we want to eat
- ☐ Sometimes not enough to eat
- ☐ Often not enough to eat

- C7. In the last 12 months, we worried whether our food would run out before we got money to buy more. Was that

- ☐ Often true
- ☐ Sometimes true
- ☐ Never true

- C8. In the last 12 months, the food that we bought just didn’t last, and we didn’t have money to get more. Was that

- ☐ Often true
- ☐ Sometimes true
- ☐ Never true

- C9. **In the last 12 months, we couldn't afford to eat balanced meals. Was that**
- ☐ Often true
 - ☐ Sometimes true
 - ☐ Never true
- C10. **In the last 12 months, did you or other adults in your household ever cut the size of your meals or skip meals because there wasn't enough money for food?**
- ☐ Yes, almost every month
 - ☐ Yes, some months but not every month
 - ☐ Yes, only 1 or 2 months
 - ☐ No
- C11. **In the last 12 months, did you ever eat less than you felt you should because there wasn't enough money for food?**
- ☐ Yes
 - ☐ No
- C12. **In the last 12 months, were you ever hungry but didn't eat because there wasn't enough money for food?**
- ☐ Yes
 - ☐ No
- C13. **In the last 12 months, did you lose weight because there wasn't enough money for food?**
- ☐ Yes
 - ☐ No
- C14. **In the last 12 months, did you or other adults in your household ever not eat for a whole day because there wasn't enough money for food?**
- ☐ Yes, almost every month
 - ☐ Yes, some months but not every month
 - ☐ Yes, only 1 or 2 months
 - ☐ No

The following are several statements that people have made about the food situation of their children. Please answer these questions about the food situation of children living in the household who are under 18 years old. **IF YOUR HOUSEHOLD DOES NOT INCLUDE CHILDREN UNDER 18, PLEASE GO TO QUESTION C22.**

C15. **In the last 12 months**, we relied on only a few kinds of low-cost food to feed the children because we were running out of money to buy food.

- ☐ Often true
- ☐ Sometimes true
- ☐ Never true

C16. **In the last 12 months**, we couldn't feed the children a balanced meal, because we couldn't afford that.

- ☐ Often true
- ☐ Sometimes true
- ☐ Never true

C17. **In the last 12 months**, the children were not eating enough because we just couldn't afford enough food.

- ☐ Often true
- ☐ Sometimes true
- ☐ Never true

C18. **In the last 12 months**, did you ever cut the size of any of the children's meals because there wasn't enough money for food?

- ☐ Yes
- ☐ No

C19. **In the last 12 months**, did any of the children ever skip meals because there wasn't enough money for food?

- ☐ Yes, almost every month
- ☐ Yes, some months but not every month
- ☐ Yes, only 1 or 2 months
- ☐ No

C20. **In the last 12 months**, were the children ever hungry but you just couldn't afford more food?

- ☐ Yes
- ☐ No

C21. In the last 12 months, did any of the children ever not eat for a whole day because there wasn't enough money for food?

- ☐ Yes
☐ No

C22. In the last 12 months, how often did you/people in your household have to do any of the following things to make your food money go further?

In the last 12 months, how often did you/people in your household have to...	Often	Once in a while	Hardly at all	Never/Not an option
Get food you have to replace from family or friends	☐	☐	☐	☐
Borrow money you have to repay from family or friends	☐	☐	☐	☐
Carry or increase credit card debt	☐	☐	☐	☐
Send household members to eat elsewhere	☐	☐	☐	☐
Send household members to stay elsewhere	☐	☐	☐	☐
Exchange labor for food	☐	☐	☐	☐
Buy groceries using money set aside for other purposes	☐	☐	☐	☐
Get food from a pantry or soup kitchen	☐	☐	☐	☐
Skip buying medicine or seeking medical care	☐	☐	☐	☐
Delay paying rent/mortgage	☐	☐	☐	☐
Delay paying other bills (e.g., utilities, car, credit cards, etc.)	☐	☐	☐	☐
Sell or pawn household items	☐	☐	☐	☐
Other, please specify: _____	☐	☐	☐	☐

C23. Please tell us which of the following community food options/supports are available in your community (FILL IN ALL THAT APPLY):

- ☐ Food bank/ food pantry
☐ Free meals served at a food kitchen/soup kitchen
☐ Free meals served at church/school/community center
☐ Don't know
☐ Other places where food is available to those in need, please tell us where: _____
☐ There is no community food support available in my community

SECTION D: HOUSEHOLD FINANCES

When answering the following questions, please think about your household.

By household, we mean people who live with you and with whom you purchase and prepare food. If you live alone, please answer only for yourself.

D1. Who is responsible for day-to-day decisions about money in your household?

- ☐ I am
- ☐ My spouse/partner
- ☐ Joint decision (with partner or other household member)
- ☐ Another household member
- ☐ Nobody

D2. Which of the following statements best describes budgeting habits in your household? (FILL IN ALL THAT APPLY)

- ☐ I/We do not have enough money to have a budget
- ☐ I/We do not have the time to make a budget and follow it
- ☐ I/We would like to have a monthly budget but don't know how to make one
- ☐ I/We have a budget for monthly bills but not for everyday expenses
- ☐ I/We have a monthly budget and I/We use it to plan for all my expenses

D3. Which of the following best describes you/your household's financial situation?

- ☐ All bills are paid on time and there are no debts in collection
- ☐ I/We sometimes miss a payment but have no debts in collection
- ☐ I/We struggle to pay bills every month but have no debts in collection
- ☐ I/We get calls from collectors and struggle to pay bills every month
- ☐ I am/We are considering filing for bankruptcy or have filed bankruptcy in the past three years

D4. Do you/your household currently have any bills that are past due?

- ☐ Yes
- ☐ No

D5. Please rate the extent to which each of the problems below personally concerned you/ your household in the past 12 months.

	Not a problem	Is a mild problem	Is a moderate problem	Is a severe problem
Ability to pay for utilities (heating/cooling/water)	☐	☐	☐	☐
Ability to pay rent or mortgage	☐	☐	☐	☐
Getting someone to watch over children or other dependents	☐	☐	☐	☐
Having reliable, convenient transportation	☐	☐	☐	☐
Ability to obtain medicines as needed	☐	☐	☐	☐

SECTION E: YOU AND YOUR HOUSEHOLD

E1. In general, would you say your health is...?

- ☐ Excellent
- ☐ Very good
- ☐ Good
- ☐ Fair
- ☐ Poor

E2. Have you or anyone in your household been instructed by your doctor to follow a particular diet to address a specific health condition (e.g., diabetes, high blood pressure) IN THE PAST YEAR?

- ☐ Yes
- ☐ No

E3. Are you male or female?

- ☐ Male
- ☐ Female

E4. What is your marital status?

- ☐ Now married
- ☐ Widowed
- ☐ Divorced
- ☐ Separated
- ☐ Never married

E5. How old are you?

- ☐ 18-29 years old
- ☐ 30-39 years old
- ☐ 40-49 years old
- ☐ 50-59 years old
- ☐ 60 or older

E6. What language(s) do you usually speak at home? (FILL IN ALL THAT APPLY)

- ☐ English
- ☐ Spanish
- ☐ Other, Please specify: _____

E7. Are you Hispanic or Latino?

- ☐ Yes, Hispanic or Latino
- ☐ No, Not Hispanic or Latino

E8. Which one or more of the following would you say is your race? (FILL IN ALL THAT APPLY)

- ☐ White
- ☐ Black or African American
- ☐ Asian
- ☐ Native Hawaiian or Other Pacific Islander
- ☐ American Indian or Alaska Native
- ☐ Other [specify]_____

E9. Were you born outside of the United States, Puerto Rico, or other U.S. territories?

- ☐ Yes
- ☐ No → **GO TO QUESTION E10**

E9a. How long have you lived in the United States?

- ☐ Less than 1 year
- ☐ 1 to 5 years
- ☐ 6 to 10 years
- ☐ More than 10 years

E10. What is the highest grade or level of school you have completed or the highest degree you have received?

- ☐ Less than high school
- ☐ High school diploma or GED
- ☐ Some college, no degree
- ☐ Associate degree: occupational, technical, or vocational program
- ☐ Associate degree: academic program
- ☐ Bachelor's degree (example: BA, AB, BS, BBA)
- ☐ Master's degree (example: MA, MS, MEng, MEd, MBA)
- ☐ Professional school degree (example: MD, DDS, DVM, JD)
- ☐ Doctoral degree (example: PhD, EdD)

E11. Do you live...? (FILL IN ONLY ONE)

- ☐ In a place such as home, apartment, or mobile home → **GO TO QUESTION E11a**
- ☐ In someone else's household → **GO TO QUESTION E11b**
- ☐ In a group care or board or care facility or shelter → **GO TO QUESTION E11b**
- ☐ Other → **GO TO QUESTION E11b**

E11a. Is the place where you live ... (FILL IN ONLY ONE)

- ☐ Owned by you or someone in your household with a mortgage or loan
- ☐ Owned by you or someone in your household free and clear (without a mortgage or loan)
- ☐ Rented
- ☐ Rented to buy
- ☐ Occupied without paying rent

E11b. How many rooms are in this home, including kitchen but not the bathrooms?

|__|__| rooms

E11c. Does the place where you live have a kitchen?

- ☐ Yes
- ☐ No → **GO TO QUESTION E11e**

E11d. Do you have basic cooking equipment, such as pots and pans, utensils, and plates, in your kitchen?

- ☐ Yes
☐ No

E11e. Does the place where you live have a stove or something to cook on?

- ☐ Yes
☐ No

E11f. Does the place where you live have a functioning refrigerator?

- ☐ Yes
☐ No

E11g. Does the place where you live have a functioning microwave?

- ☐ Yes
☐ No

E12. Including you, how many people currently live in your household? By household, we mean the people who share food and income with you. Please do not include people in your home who your SNAP benefits and other income do not support.

|_|_|

E12a. How many of these are children 5-17 years old?

|_|_| number of children

E12b. How many of these are children under 5 years of age?

|_|_| number of children

E12c. How many are adults over 60 years?

|_|_| number of adults over 60

E13. In the last 12 months, has there been a change in the number of people living in your household?

- ☐ Yes
- ☐ No → **GO to QUESTION E14**

E13a. What caused the change? (FILL IN ALL THAT APPLY)

- ☐ Birth of child
- ☐ New step, foster, or adopted child
- ☐ Marriage/New partner
- ☐ Separation or divorce
- ☐ Death of a household member
- ☐ Boarder moving in
- ☐ Family/boarder moving out
- ☐ Other, Please specify: _____

E14. Do you or anyone in your household ... (FILL IN ALL THAT APPLY)

- ☐ Have serious difficulty hearing or is deaf?
- ☐ Have difficulty seeing even when wearing glasses?
- ☐ Have a physical, mental, or emotional condition causing difficulty concentrating?
- ☐ Suffer from depression?
- ☐ Have serious difficulty walking or climbing stairs?
- ☐ Have difficulty dressing or bathing?
- ☐ Have a physical, mental, or emotional condition causing difficulty doing errands such as visiting a doctor or shopping?
- ☐ None of the above

E15. In the past 12 months, did any children who live in your household get free or reduced price lunch from the National School Lunch Program?

- ☐ Yes
- ☐ No

E16. In the past 12 months, did any children who live in your household get free or reduced price breakfast from the School Breakfast Program?

- ☐ Yes
- ☐ No

E17. In the past 12 months, did any children who live in your household get free or reduced price lunch from the Summer Food Service Program?

- ☐ Yes
- ☐ No

- E18. **In the past 12 months**, did any children who live in your household go to a Head Start program or a childcare program where they got free meals?
- ☐ Yes
☐ No
- E19. **In the past 12 months**, did you or anyone who lives in your household get help from WIC, that is the Women, Infants, and Children Program?
- ☐ Yes
☐ No
- E20. **In the past 12 months**, did you or anyone who lives in your household go to a community program or senior center to eat prepared meals?
- ☐ Yes
☐ No
- E21. **In the past 12 months**, did you or anyone who lives in your household receive any meals delivered to your home from community programs, “Meals on Wheels” or any other programs?
- ☐ Yes
☐ No
- E22. **In the past 12 months**, did you or anyone who lives in your household receive financial incentives (such as bonus bucks) to shop at farmers markets?
- ☐ Yes
☐ No
- E23. **In the past 12 months**, did you or anyone who lives in your household get any other type of food assistance, such as from churches, food banks, food pantries, or other organizations?
- ☐ Yes
☐ No
- E24. **In the past 12 months**, did you or anyone who lives in your household get financial assistance to pay rent (e.g., Housing Choice Voucher)?
- ☐ Yes
☐ No

E25. In the past 12 months, did you or anyone who lives in your household receive assistance from the Home Energy Assistance Program to pay electric or gas utility bills?

☐ Yes

☐ No

E26. In the past 12 months, did you or any other adult in your household receive employment and training services to get a job, new skills, or school degree?

☐ Yes

☐ No

E27. Do you or anyone in your household currently get SNAP benefits? This includes any SNAP benefits, even if the amount is small and even if benefits are received on behalf of children in the household.

☐ Yes

☐ No → **GO TO QUESTION E29**

E27a. During the past 12 months, for how many months did you get SNAP benefits?

|_|_| months

E27b. On what date were SNAP benefits last put on your EBT card?

|_|_| - |_|_| - |_|_|_|_|
MONTH DAY YEAR

E27c. Last month, how much did you receive in SNAP benefits?

\$ |_|_|_|

E28. How many weeks do your monthly SNAP benefits usually last?

☐ 1 week or less

☐ 2 weeks

☐ 3 weeks

☐ 4 weeks

☐ More than 4 weeks

E29. Which of the following best describes your current work situation?

(FILL IN ONLY ONE)

- ☐ Employed for wages
- ☐ Self-employed
- ☐ Out of work for more than 1 year
- ☐ Out of work for less than 1 year
- ☐ A homemaker
- ☐ A student
- ☐ Retired
- ☐ Unable to work because of disability
- ☐ Other, Please specify: _____

E30. Not including yourself, how many adults age 18 and older in the household were employed last week?

|_|_| number of adults

- ☐ Does not apply to me, I live alone

E31. Have you or anyone in your household had a change in employment or a change in pay or hours worked from a job in the past 6 months?

- ☐ Yes
- ☐ No → **GO TO QUESTION E32**

E31a. Was that change you/anyone in your household experienced in the past 6 months due to (FILL IN ALL THAT APPLY)

- ☐ Getting a job
- ☐ Losing a job
- ☐ Increase in pay or hours
- ☐ Decrease in pay or hours
- ☐ Other [specify] _____

E32. What was the total income received last month by you and other household members before taxes? Please include income from all sources such as wages, salaries, social security or retirement benefits, SNAP benefits, WIC benefits, help from relatives, and so forth). Please round to the nearest dollar amount.

\$|_|_|_|_|_|_|_|_|_|

E33. Please indicate whether you or anyone in your household received income in the last 12 months from any of the following: (FILL IN ALL THAT APPLY)

- ☐ Wages, salary, commissions, bonuses, or tips from all jobs
- ☐ Self-employment income from own nonfarm business or businesses, including proprietorships and partnerships
- ☐ Interest, dividends, net rental income, royalty income, or income from estates and trusts
- ☐ Social Security or Railroad Retirement
- ☐ Supplemental Security Income (SSI)
- ☐ Any public assistance or welfare payments from the state or local welfare office
- ☐ Retirement, survivor, or disability pensions
- ☐ Veterans' (VA) payments
- ☐ Unemployment compensation
- ☐ Child support
- ☐ Alimony
- ☐ Any other sources of income received regularly, Please specify:

**THANK YOU FOR COMPLETING THIS SURVEY.
PLEASE RETURN THE SURVEY IN THE POSTAGE-PAID ENVELOPE PROVIDED TO YOU.
IF THE ENVELOPE IS MISSING, PLEASE SEND TO: **FOOD AND YOUR HOUSEHOLD
SURVEY, 1600 RESEARCH BLVD, ROCKVILLE, MD 20850.****

Appendix 2

Precision Estimates, Minimal Detectable Differences, and Power Analysis

Appendix 2

Precision Estimates, Minimal Detectable Differences, and Power Analysis

Table A2-1 provides estimates of the levels of precision to be expected for different prevalence rates with a design effect of 1.2, for subgroup sample sizes ranging from 200 to 2,500. For example, if a subgroup has a sample size of 1,200 and an estimated prevalence rate of 30 percent, then with 95 percent confidence the true population prevalence rate for this subgroup is between 27.16 percent and 32.84 percent, (30 ± 2.84) . As Table A2-1 shows, even for subgroup samples as small as 200 to 300 households, precision levels are under ± 8 percentage point margin of error for all prevalence estimates.

Table A2-1. Expected 95-percent confidence bounds for selected sample sizes and prevalences (P)

Subgroup sample size ^a	P = 20%	P = 30%	P = 40%	P = 50%
200	6.07	6.96	7.44	7.59
300	4.96	5.68	6.07	6.20
400	4.29	4.92	5.26	5.37
500	3.84	4.40	4.70	4.80
600	3.51	4.02	4.29	4.38
700	3.25	3.72	3.98	4.06
800	3.04	3.48	3.72	3.80
900	2.86	3.28	3.51	3.58
1000	2.72	3.11	3.33	3.39
1200	2.48	2.84	3.04	3.10
1500	2.22	2.54	2.72	2.77
2000	1.92	2.20	2.35	2.40
2500	1.72	1.97	2.10	2.15

^a Assuming design effects (DEFF) = 1.2

Table A2-2 provides estimates of the minimum detectable difference (MDD) between subgroups for subgroup sample sizes ranging from 200 to 2,500. The detectable differences are for a one-sided test with significance level of 0.05 and power of 0.80. For example, comparing samples of 500 respondents per group (e.g., 500 households with a female household head vs. 500 households with a male household head), the minimum detectable difference between the groups will range from 7.3 percentage points to 8.6 percentage points depending on the underlying prevalence rate being estimated.

Table A2-2. Minimal detectable difference between subgroups for selected sample sizes and prevalences (P)

Subgroup sample size ^a	P = 20%	P = 30%	P = 40%	P = 50%
200	11.9	13.1	13.5	13.4
300	9.6	10.6	11.1	11.0
400	8.2	9.2	9.6	9.6
500	7.3	8.2	8.5	8.6
600	6.6	7.4	7.8	7.8
700	6.1	6.9	7.2	7.3
800	5.7	6.4	6.7	6.8
900	5.4	6.0	6.4	6.4
1000	5.1	5.7	6.0	6.1
1200	4.6	5.2	5.5	5.5
1500	4.1	4.6	4.9	5.0
2000	3.6	4.0	4.3	4.3
2500	3.2	3.6	3.8	3.8

^a Assuming a one-sided test with a significance level of 0.05, power of 0.80, and DEFF = 1.2.

Table A2-3 shows the results of a power analysis with unequal sample sizes for subgroups. The table shows both the gender of household head and household size categories, with the true population prevalence rates ranging from 20 to 80 percent. The results indicate that, for example, a t-test for difference between two subgroups with a 0.05 one-sided significance level will have 91 percent power to detect the difference between female vs. male household heads, with each having a 0.50 proportion and a total sample size of 4,800. Similarly, in the example comparing households of different sizes using the same test and assumptions on prevalence rates, there is 84 percent power to detect the difference between households with three or fewer people and those with at least four people.

Table A2-3. Power for detecting a 5 percentage point difference between unequal-sized subgroups, n=4,800

Group 1 proportion	Power (%) for detecting 5-percent difference between subgroups						
	20%	30%	40%	50%	60%	70%	80%
Gender of household head (66% female vs. 34% male) ^a	97	94	91	91	92	95	98
Household size (77% with 1~3 persons vs. 23% with 4+ persons) ^a	93	88	85	84	86	90	96

^a Distribution of households obtained from USDA, 2013, Measuring the Effect of Supplemental Nutrition Assistance Program (SNAP) Participation on Food Security. Table III.2, p.19.

Appendix 3

Analysis on Excluded Surveys

Appendix 3

Analysis on Excluded Surveys

As discussed in Chapter 2, for the analytic file, participants who indicated that they were not currently receiving SNAP and had not received SNAP within the past 6 months were excluded from the sample. Ineligible participants were expected due to the lag between receiving the sampling frame from States and fielding the survey; the sampling frame provided SNAP participants as of October 2017, but by May 2019, many of them were no longer receiving SNAP. As a result, 947 surveys were excluded due to ineligibility.

We compared demographic characteristics of survey respondents by their SNAP participation status at the time of survey completion. Survey participants were classified as being on SNAP, not on SNAP, or missing SNAP participation status.

As seen in Table A3-1, significant differences were noted for gender, language spoken at home and perceived health status of the respondent. Significant differences were also noted for place of residence (urbanicity and census region) (Table A3-2) and presence of elderly adults in the household (Table A3-3).

Table A3-1. Comparison of demographic characteristics of survey participants by SNAP participation status

Respondent characteristics	SNAP status		
	On SNAP	Not on SNAP	Missing
	Weighted % (SE)		
Overall	(N=4,522)	(N=787)	(N=248)
Gender	N=16,347,784 (4,436)	N=2,449,029 (767)	N=419,529 (134)
Male	26.5 (0.9)	31.8 (2.2)	36.4 (4.1)
Female	73.5 (0.9)*	68.2 (2.2)*	63.6 (4.1)
Marital status	N=16,218,325 (4,403)	N=2,438,320 (764)	N=399,876 (128)
Married	18.4 (0.7)	23.7 (1.7)	14.2 (3.6)
Widowed/Divorced/ Separated	42.6 (0.9)	40.2 (1.6)	48.7 (4.3)
Never married	39.1 (0.8)	36.1 (1.7)	37.2 (4.4)
Age	N=16,348,907 (4,440)	N=2,453,207 (769)	N=418,428 (132)
18 - 29 years old	13.6 (0.6)	13.1 (1.4)	8.5 (3.2)
30 - 39 years old	22.6 (0.7)	19.8 (1.4)	9.1 (2.6)
40 - 49 years old	17.7 (0.8)	18.2 (1.6)	17.2 (4.8)
50 - 59 years old	19.9 (0.6)	20.1 (1.6)	27.6 (6.2)
60 years old or older	26.1 (0.7)	28.7 (1.9)	37.6 (4.3)

Table A3-1. Comparison of demographic characteristics of survey participants by SNAP participation status (continued)

Respondent characteristics	SNAP status		
	On SNAP	Not on SNAP	Missing
	Weighted % (SE)		
Language spoken at home	N=16,302,195 (4,425)	N=2,507,068 (787)	N=1,258,964 (249)
English	86.2 (0.7)*	82.6 (1.7)*	29.3 (3.1)
Spanish	17.3 (0.9)	17.3 (1.6)	5.5 (1.5)
Other ^b	4.7 (0.3)	5.8 (0.8)	1.4 (0.7)
Race/Ethnicity	N=16,076,073 (4,368)	N=2,392,888 (755)	N=412,728 (132)
White (not Hispanic or Latino)	42.2 (1.1)	36.8 (1.9)	28.8 (4.9)
Black or African American (not Hispanic)	28.7 (1.0)	29.7 (2.2)	41.7 (5.7)
Hispanic or Latino	24.0 (1.4)	26.7 (2.6)	22.4 (5.0)
Other ^a	5.1 (0.8)	6.8 (0.9)	7.1 (2.3)
Born in the US?	N=16,074,600 (4,342)	N=2,372,458 (741)	N=384,395 (127)
Yes	81.9 (1.0)	79.6 (1.7)	77.1 (4.0)
No, in US for more than 10 years	15.4 (0.8)	17.9 (1.8)	21.6 (4.0)
No, in US for 6 to 10 years	1.3 (0.2)	1.0 (0.4)	1.3 (0.9)
No, in US for 5 or fewer years	1.3 (0.2)	1.5 (0.4)	–
Highest education level	N=16,226,750 (4,339)	N=2,418,379 (756)	N=403,073 (131)
Less than high school	22 (0.8)	21.2 (1.5)	28.5 (5.0)
High school	36.2 (0.9)	37.0 (2.2)	40.1 (5.9)
Some college/Associate's degree	22.2 (0.7)	21.4 (1.6)	22.3 (4.6)
College graduate or above	19.6 (0.8)	20.4 (1.8)	9.1 (2.6)
Perceived health status of respondent	N=16,268,790 (4,113)	N=2,447,321 (767)	N=419,971 (138)
Excellent/Very good	21.1 (0.6)	30.1 (2.0)	21.6 (4.4)
Good/Fair	67.6 (0.7)*	59.9 (2.2)*	70.5 (4.9)
Poor	11.3 (0.4)	10.1 (1.3)	7.9 (2.2)

Data Source: Food and Your Household Survey, 2018

Notes: N=weighted n (unweighted n)

* Indicates that estimate is statistically significantly different from other subgroup category, at the 1 percent level, as determined by Chi-square and pairwise test. For instance, the percentage of respondents on SNAP who speak English at home is significantly higher than the percentage of respondents not on SNAP who speak English at home.

^a These included respondents who wrote in a country of origin, were of mixed race, or indicated “other” but did not provide information in the write-in field.

^b These include respondents who indicated “other” to the question of language spoken at home.

Table A3-2. Comparison of place of residence, urbanicity, and census region of survey participants by SNAP participation status

	On SNAP	Not on SNAP	Missing SNAP status
Place of residence	N=15,743,468 (4,275)	N=2,294,306 (720)	N=353,499 (117)
Rental apartment, rental home, or mobile home	60.6 (0.9)	59.0 (1.9)	51.3 (4.3)
Own home, apartment, mobile home	22.9 (0.7)	25.9 (2.0)	24.7 (4.1)
In someone else's household	12.9 (0.7)	12.3 (1.7)	15.2 (3.5)
Group care, board or care facility, or shelter	1.2 (0.2)	1.0 (0.4)	5.4 (3.0)
Occupied without paying rent	2.4 (0.3)	1.8 (0.6)	3.3 (1.5)
Urbanicity^a	N=15,561,443 (4,236)	N=2,343,011 (734)	N=1,204,811 (239)
City	44.6 (1.1)*	48.7 (2.2)*	54.4 (4.3)*
Suburb	30.2 (0.9)	14.8 (1.5)	6.6 (1.4)
Rural	13.8 (0.9)	29.5 (1.8)	28.0 (3.8)
Town	11.5 (0.6)	7.0 (1.0)	11.0 (2.6)
Census Region	N=16,617,828 (4,522)	N=2,507,068 (787)	N=1,258,964 (249)
South	43.2 (2.5)*	22.5 (2.0)	22.2 (4.0)
West	22.4 (3.6)	8.4 (1.5)	11.9 (2.8)
Midwest	20.4 (0.7)	39.7 (2.6)*	40.4 (5.1)*
Northeast	14.0 (2.1)	29.4 (2.7)	25.5 (5.3)

Data Source: Food and Your Household Survey, 2018

Notes: N=weighted n (unweighted n)

^a Urbanicity could not be geocoded for 286 participants because of address inaccuracy

* Indicates that estimate is statistically significantly different from other subgroup category, at the 1 percent level, as determined by Chi-square and pairwise test.

Table A3-3. Comparison of household composition, size, and type of change in household size by SNAP participation status

Household characteristics	On SNAP	Not on SNAP	Missing SNAP
	Weighted %		
Number of adults in household	N=16,603,822 (4,519)	N=2,507,068 (787)	N=1,256,489 (248)
Multiple adults	60.1 (0.7)	62.3 (1.9)	65.8 (3.2)
Single adult	39.8 (0.7)	37.7 (1.9)	34.2 (3.2)
Presence of children in household	N=16,617,828 (4,522)	N=2,507,068 (787)	N=1,258,964 (249)
Children in household	49.6 (0.7)	46.2 (1.8)	54.9 (3.4)
No children in household	50.4 (0.7)	53.8 (1.8)	45.1 (3.4)
Among households with children	N=8,249,645 (2,104)	N=1,114,756 (332)	N=672,713 (102)
Number of children	2.1 (0.0)	2.0 (0.1)	2.1 (0.2)
Number of children under 5 years of age	0.5 (0.0)	0.5 (0.1)	0.6 (0.1)
Number of children 6 to 18 years of age	1.6 (0.0)	1.5 (0.1)	1.5 (0.2)
Presence of elderly adults in household	N=16,617,828 (4,522)	N=2,507,068 (787)	N=1,258,964 (249)
Elderly adults in household	34.5 (0.8)	40.7 (2.1)	28.5 (3.7)
No elderly adults in household	65.5 (0.8)*	59.3 (2.1)	71.5 (3.7)

Table A3-3. Comparison of household composition, size, and type of change in household size by SNAP participation status (continued)

Household characteristics	On SNAP	Not on SNAP	Missing SNAP
	Weighted %		
Among households with elderly adults	N=5,738,873 (1,730)	N=1,020,354 (330)	N=358,512 (93)
	Mean (SE)		
Number of elderly adults	1.2 (0.0)	1.3 (0.1)	1.7 (0.5)
Household size	N=16,611,390 (4,520)	N=2,507,068 (787)	N=1,256,489 (248)
	Mean (SE)		
Number of people in the household	2.5 (0.0)	2.6 (0.1)	2.7 (0.2)
	Weighted %		
Change in household size in the past 12 months	N=16,008,541 (4,227)	N=2,366,793 (740)	N=320,814 (110)
No change	90.0 (0.5)	89.6 (1.1)	90.2 (3.6)
Increase	5.8 (0.5)	5.7 (0.9)	5.1 (3.2)
Decrease	4.2 (0.4)	4.8 (0.9)	4.7 (1.7)

Data Source: Food and Your Household Survey, 2018

Notes: N=weighted n (unweighted n)

* Indicates that estimate is statistically significantly different from other subgroup category, at the 1 percent level, as determined by Chi-square and pairwise test.

Note: There were no differences between mean number of children (total, under 5, and 6 to 18 y) or mean number of elderly adults in the household for any of the three groups.

While significant differences were noted by in the proportion of households that did not experience any individual or household barriers to preparing meals by SNAP participation status, differences were not significant for any given individual or household barrier to cooking meals that are part of a healthy diet by SNAP participation status (Table A3-4). While there were no differences in the proportion of households who reported experiencing one or more environmental barrier by SNAP participation status, differences were noted for those reporting transportation, store hours, and safety concerns in and around the stores (Table A3-4). The proportion of households experienced at least one individual and environmental barrier did not differ by SNAP participation status (Table A3-4).

Table A3-4. Comparison of reported barriers to shopping for foods and preparing a healthy diet by SNAP participation status

	On SNAP	Not on SNAP	Missing SNAP status
	N=16,617,828 (4,522)	N=2,507,068 (787)	N=1,223,470 (244)
	Weighted % (SE)		
Reasons that keep you or the primary food shopper from preparing meals that are part of a healthy diet			
None	28.8 (0.8)	26.4 (1.8)	47.8 (3.2)*
Lack of time to prepare meals from scratch	29.6 (0.8)	34.0 (1.7)	29.0 (3.6)
Lack of equipment	11.0 (0.5)	11.1 (1.4)	14.4 (3.7)
Lack of storage	14.1 (0.6)	15.1 (1.6)	15.5 (3.6)
Don't know how to prepare meals from scratch	11.1 (0.5)	9.3 (1.2)	13.5 (2.5)
Don't always know what foods are part of a healthy diet	16.4 (0.7)	16.5 (1.5)	18.2 (3.8)
Physical disability	14.9 (0.6)	10.7 (1.2)	17.0 (3.2)
Household members don't like home cooked meals	6.1 (0.5)	4.7 (1.1)	9.6 (2.2)
Reasons that keep you for the primary food shopper from shopping for foods that are part of a healthy diet			
None	25.2 (0.9)	21.9 (1.6)	20.1 (3.1)
Distance to store	18.4 (0.9)	19.6 (2.0)	27.4 (4.0)
Transportation	19.0 (0.7)	16.1 (1.4)	32.3 (4.0)*
Store hours	9.0 (0.5)	11.0 (1.4)	22.0 (4.2)*
Affordability (food price)	61.1 (0.9)	60.7 (1.8)	51.1 (3.7)
Physical disability	14.6 (0.6)	11.1 (1.3)	16.9 (3.5)
Amount of time available to shop at the store	10.5 (0.7)	12.6 (1.5)	13.1 (3.8)
Safety concerns (in and around the store)	5.7 (0.4)	5.9 (0.9)	12.5 (3.3)*
Both barriers to preparing and barriers to shopping			
No preparing or shopping barriers	87.7 (0.6)	92.0 (1.2)	84.1 (3.1)
At least 1 preparing or shopping barrier	12.3 (0.6)	8.0 (1.2)	15.9 (3.1)

Data Source: Food and Your Household Survey, 2018

* Indicates that estimate is statistically significantly different from other subgroup category, at the 1 percent level, as determined by Chi-square and pairwise test.

Notes: N=weighted n (unweighted n)

Appendix 4

Data Weighting and Variance Estimation

Appendix 4

Data Weighting and Variance Estimation

As was described in the sample design section, a two-stage stratified probability sample design was used to select the sample for the SNAP Barriers Study. In the first stage, a sample of states was selected as primary sampling units (PSUs) with probabilities proportional to size (PPS), and in the second stage, a sample of SNAP participant households was selected from a sampling frame constructed from lists of SNAP households provided by the responding sample states. Given the complex sample design, the analysis of the survey data requires the use of weights to compensate for varying probabilities of selection and differential response rates. It also requires the implementation of variance estimation procedures that appropriately account for sample design features and weighting factors. At the end of the weighting process, a final household-level weight was assigned to each eligible SNAP participant household who completed the survey. With weighted estimation, sample survey data can be used to draw valid inferences about the target population. The final weights for this study were developed in two main steps, which can be expressed as a product of two weight components

$$\text{Final weight} = \text{State weight component} \times \text{Household weight component}$$

The development of the two-weight components will be described in detail in the next few sections.

State-level Weighting

The state-level weighting process began with assigning a base weight to all sample states, where the base weight was the reciprocal of the probability of selection for the states. The state base weight was then adjusted for state-level nonresponse to create the state weight for the responding states. The primary objective of adjusting the weights for nonresponse is to reduce the potential for bias associated with nonresponse. In general, nonresponse adjustment is a two-step process. First, weighting adjustment classes are defined. Then once the sample units are partitioned into these classes, the actual weight adjustment is calculated within each class. For the state-level nonresponse adjustment, the weighting classes were formed by collapsing the FNS Regions into a few groups

based on state-level response rates within each FNS region. The state level weight W_i can be expressed as

$$W_i = W_{base_i} \cdot f_{nr(c)}^{St} = \frac{1}{p_i} \cdot f_{nr(c)}^{St}$$

where

W_i is the state-level weight for state i ;

$W_{base_i} = \frac{1}{p_i}$ is the state-level base weight for state i ;

p_i is the probability of selection for state i ;

$$F_{nr(c)}^{St} = \frac{\sum_{r(c)} W_{base_i} + \sum_{nr(c)} W_{base_i}}{\sum_{r(c)} W_{base_i}}$$

is the state-level nonresponse adjustment factor for weighting class c , which is the sum of state base weight for responding states plus the sum of state base weight for nonresponding states, divided by the sum of state base weight for responding states, within weighting class c .

For example, Iowa was selected with a probability of 0.5639484, thus the state base weight for Iowa was assign as $1/0.563948 = 1.773213$. The nonresponse adjustment factor for the weighting class that Iowa belongs to was 1.181672. Then, the nonresponse adjusted state weight for Iowa is $1.773213 \times 1.181672 = 2.095355$.

Household-level Weighting

The final weights for the survey were derived at the household level. First, a household-level base weight was created for all sample households (including responding, nonresponding, and ineligible households) based on the state-level weights and the household probability of selection, and then the base weight was adjusted for household-level nonresponse. Only the eligible responding households received a positive final weight.

Household-level Base Weight

The household base weight was the product of the state-level nonresponse adjusted weight and the reciprocal of the conditional selection probability of SNAP participant households within a responding sample state. The household-level base weight can be expressed as

$$W_{base_{ij}} = W_i \cdot \frac{1}{p_{ij}}$$

where

$W_{base_{ij}}$ is the SNAP participant household base weight for household j in state i ;

p_{ij} is the conditional probability of selection for SNAP participant household j in state i .

Household-level Nonresponse Adjustment

The final SNAP participant household-level weights were created by applying nonresponse adjustment to the household-level base weights within weighting classes. For the nonresponse adjustment at the household level, demographic and geographic characteristics available in the sampling frame based on SNAP administrative files were used to form the weighting classes.

There were some nonresponding sample households for which eligibility status could not be ascertained, including reasons such as address not deliverable, not available in field period, households not locatable, or no contact. In this case, every sample household was assigned to one of the following four response status groups:

Group 1: Respondents – eligible sample households that participated in the survey.

Group 2A: Eligible nonrespondents – eligible sample households that did not provide complete and usable survey data.

Group 2B: Other nonrespondents – nonresponding sample households for which eligibility could not be ascertained.

Group 3: Ineligibles – sample households that were determined to be ineligible or out of scope for the survey.

With the existence of households with unknown eligibility status, the nonresponse adjustment was made in two steps. The first step was to adjust for those nonresponse households with unknown

eligibility status, and the second was to adjust for nonresponse among those households known to be eligible.

At the first stage, the nonresponse adjustment factor was calculated as the sum of weights for all sample households (all four groups) divided by the sum of weights of the households with known eligibility status (Groups 1, 2A, and 3) within each adjustment group. The first adjustment factor was then applied to the base weights of the sample households for which eligibility status was known. For those nonresponse households with eligibility status unknown, a zero weight was assigned.

At the second stage of adjustment, the previously adjusted weight was further adjusted for nonresponse among those households known to be eligible. The nonresponse adjustment factor was calculated as the sum of weights for all eligible sample households (Groups 1 and 2A) divided by the sum of weights for the eligible responding households (Group 1) within each adjustment group.

The household-level final weight can be expressed as

$$W_{ij} = W_{base_{ij}} \cdot F_{unk(c)}^{HH} \cdot F_{nr(c)}^{HH}$$

where

W_{ij} is the SNAP participant household weight for household j in state i ;

$F_{unk(c)}^{HH}$ is the household-level unknown eligibility adjustment factor for weighting class c ;

$F_{nr(c)}^{HH}$ is the household-level nonresponse adjustment factor for weighting class c .

For example, continuing with the state of Iowa, if an eligible responding SNAP participant household in Iowa was selected with a conditional probability of 0.001273304, the base weight for this household was then calculated as the state nonresponse adjusted weight multiplied by the reciprocal of the conditional probability of selection for this household, that is, $2.095355/0.001273304 = 1645.6046$. For this household, the unknown eligibility adjustment factor was 2.55439, and the nonresponse adjustment factor among those households known to be eligible was 1.58179, based on the weighting classes identified by CHAID. Then, the final household-level weight for this household was calculated as $1645.6046 \times 2.55439 \times 1.58179 = 6649.0797$.

Forming the Weight Adjustment Classes

For household-level nonresponse adjustment, CHAID (Chi-squared Automatic Interaction Detector) software was used to form the weighting classes that are homogenous in terms of response propensity. Grouping sample records into such subclasses makes it possible to apply same adjustment factors to their weights within the same weighting class according to their response status. This is possible because the adjustment factors are calculated based on within-class response rate, by identifying the records with a similar response propensity. The analysis in CHAID begins by dividing the sample records into two or more groups based on the categories of the best predictor for response propensity. Each of these groups is then divided into smaller subgroups based on the best available predictor at each level. The splitting process continues until either there is no significant predictor remaining or the minimum cell size requirement is met. The CHAID software displays the final subgroups in the form of a tree diagram whose branches (nodes) correspond to the groups.

Frame related variables were used for constructing weighting classes since they were available for respondents and nonrespondents alike. Among all frame variables that were included in the analysis, the CHAID software identified the following variables that were significant and used to form weighting classes for either of the two adjustment steps:

AMOUNT_CAT – SNAP payment amount, categorical

MODE – survey mode (=1, if Teleform; =2, if CATI)

NUMADLT – number of adults in the household

NUMCHILD – number of children in the household

FNS_REG – FNS Region

HHSIZE – household size

MONTH_CAT – months of participation in the SNAP Program, categorical

SAMPLE – sample identifier (=1, if from the main or the reserve samples; =2, if from the additional reserve sample; =3, if from the California sample)

Because the nonresponse adjustment was made in two steps, CHAID analysis was run twice to form the weighting classes for each of the two steps. Figures A4-1 and A4-2 show the tree diagrams of weighting classes formed by the two CHAID runs.

Figure A4-1. Weighting classes for household nonresponse with unknown eligibility status

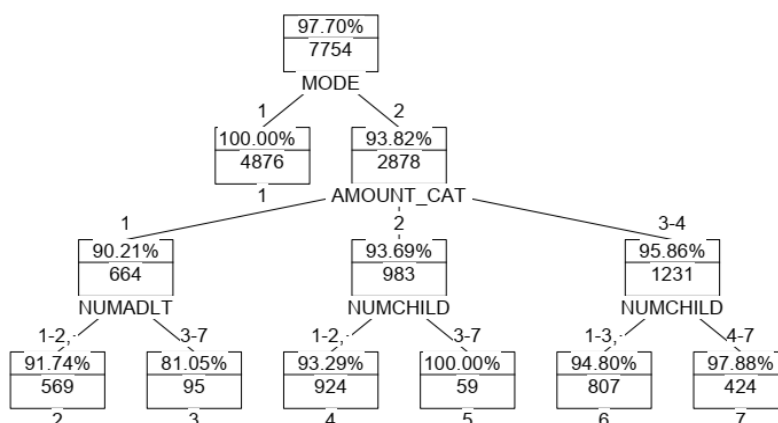
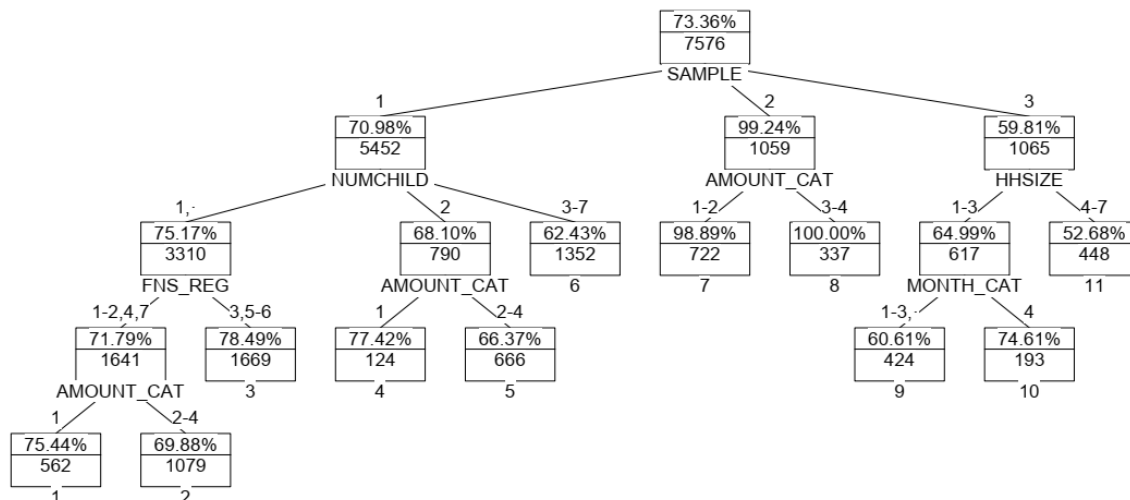


Figure A4-2. Weighting classes for nonresponse among those households known to be eligible



Variance Estimation

In addition to the full-sample weight, a set of 60 replicate weights was derived for each household using the jackknife repeated replication method. Under the jackknife replication approach, subsamples of the full sample (referred to as replicates) were formed, and the entire weighting process developed for the full sample was applied individually to each replicate. This resulted in a series of weights that are attached to each record in the data file. The full sample and each set of replicate weights can be used to compute the statistic of interest, and the sum of the squared deviations of the replicate estimates from the full-sample estimate is the basis for computing the standard error of the estimate. Statistical software packages such as SAS, WESVAR, and SUDAAN can be used to compute jackknife variances.

Appendix 5

Additional Analysis

Appendix 5

Additional Analysis

This appendix presents additional supporting analysis, organized by topic.

Nutrition Knowledge

In addition to being asked about knowledge and use of the MyPlate graphic, SNAP participants were also asked about their use of Nutrition Facts Panels. Participants varied in their frequency of information use from the Nutrition Fact Panel. About one-fourth of participants report that they rarely/never use the Nutrition Facts Panel when deciding to buy food products (Table A5-1).

Among those who used the Nutrition Facts Panel to make product purchase (regardless of frequency of use), about 65 percent of SNAP participants used it to assess the nutritional quality of foods. About 68 percent of SNAP participants used information on calorie content of products and 55 percent used the serving size information to make food purchase decisions (Table A5-2). There are few significant differences by subgroup.

Table A5-1. Frequency of Nutrition Facts Panel information use in deciding to buy a food product, overall and by sociodemographic characteristics

	Use Nutrition Facts Panel when deciding to buy a food product ^a						Sample size Weighted n	Unweighted n
	Always	Most of the time	Sometimes	Rarely	Never ^b			
	Weighted % (SE)							
Overall	17.8 (0.6)	23.5 (0.8)	32.3 (0.8)	13.3 (0.7)	13.1 (0.8)	16,189,342	4,385	
Number of adults in household								
Multiple adults	17.3 (0.7)	23.7 (0.9)	33.3 (1.1)	13.6 (0.8)	12.0 (1.0)	9,795,094	2,501	
Single adult	18.4 (1.1)	23.2 (1.2)	30.8 (1.1)	12.8 (1.1)	14.8 (1.2)	6,380,242	1,881	
Presence of children in household								
Children in household	16.3 (0.8)	23.5 (1.1)	34.4 (1.3)*	14.0 (1.0)	11.7 (1.0)	8,084,590	2,050	
No children in household	19.3 (1.1)*	23.5 (1.3)	30.2 (1.1)	12.5 (0.9)	14.5 (1.1)*	8,104,752	2,335	
Presence of elderly adults in household								
Elderly adults in household	20.4 (1.5)	23.7 (1.3)	31.0 (1.2)	13.0 (0.9)	12.0 (1.0)	5,535,199	1,661	
No elderly adults in household	16.5 (0.9)	23.4 (1.0)	33.0 (1.0)	13.4 (0.9)	13.7 (1.1)	10,654,144	2,724	
Highest level of education								
Less than high school	12.8 (1.3)	17.5 (1.4)	33.3 (2.3)	18.2 (1.8)	18.1 (1.6)	3,493,843	912	
High school diploma	15.4 (1.0)	21.9 (1.1)	35.0 (1.4)	13.5 (1.0)	14.2 (1.4)	5,750,183	1,531	
Some college/ Associate's degree	22.5 (1.6)	25.3 (1.6)	31.7 (1.9)	10.7 (1.2)	9.8 (1.2)	3,493,826	1,001	
College graduate or above	22.6 (1.9)	30.5 (1.9)	27.5 (1.9)	10.6 (1.3)	8.8 (1.5)	3,122,530	833	
Urbanicity								
City	18.3 (1.3)	21.7 (1.1)	32.2 (1.4)	13.1 (1.0)	14.6 (1.5)	6,808,713	1,806	
Rural	15.0 (2.4)	27.5 (2.5)	30.2 (1.9)	13.0 (1.5)	14.3 (1.8)	2,063,103	597	
Suburb	19.0 (1.4)	23.5 (1.6)	32.7 (1.8)	13.6 (1.3)	11.2 (1.2)	4,564,787	1,197	
Town	15.0 (2.3)	24.8 (2.2)	33.3 (2.5)	13.3 (1.8)	13.6 (1.7)	1,729,102	509	

Table A5-1. Frequency of Nutrition Facts Panel information use in deciding to buy a food product, overall and by sociodemographic characteristics (continued)

	Use Nutrition Facts Panel when deciding to buy a food product ^a					Sample size	
	Always	Most of the time	Sometimes	Rarely	Never ^b	Weighted n	Unweighted n
	Weighted % (SE)						
Census Region							
Midwest	17.1 (1.5)	19.9 (1.9)	35.0 (1.0)	10.6 (1.4)	17.4 (2.3)	3,286,907	644
Northeast	20.0 (2.4)	27.0 (2.3)	30.4 (2.6)	11.5 (1.4)	11.1 (2.2)	2,279,812	704
South	16.8 (0.7)	25.2 (0.9)	32.1 (1.2)	14.1 (1.1)	11.8 (1.1)	6,988,814	1,961
West	18.9 (1.2)	21.3 (1.4)	31.5 (1.9)	15.2 (1.3)	13.1 (1.6)	3,633,809	1,076

Data Source: Food and Your Household Survey, 2018

4,522 completed surveys were included in the analysis

^a The survey included the Nutrition Facts Panel Graphic

^b Includes those who indicate they have never used the Nutrition Facts Panel (509) and not seen the Nutrition Facts Panel (14)

* Indicates that estimate is statistically significantly different from other subgroup category, at the 1 percent level, as determined by Chi-square test.

Table A5-2. Among Nutrition Facts Panel users: type of information used from the Nutrition Facts Panel when deciding to buy a food product, overall and by sociodemographic characteristics

	Among those who use the Nutrition Facts Panel: Information Used ^a			Sample size	
	Nutritional Quality	Serving size	Calories	Weighted n	Unweighted n
	Weighted % (SE)				
Overall	65.2 (0.7)	55.2 (0.7)	67.6 (0.9)	14,065,297	3,862
Number of adults in household					
Multiple adults	71.3 (0.9)	59.6 (1.0)*	70.6 (1.2)*	8,615,542	2,215
Single adult	69.5 (1.4)	48.2 (1.5)	62.8 (1.6)	5,435,748	1,644
Presence of children in household					
Children in household	70.5 (1.1)	59.9 (1.1)*	70.2 (1.3)*	7,137,189	1,822
No children in household	70.8 (1.1)	50.4 (1.2)	64.9 (1.4)	6,928,108	2,040
Presence of elderly adults in household					
Elderly adults in household	70.3 (1.2)	49.0 (1.5)	62.6 (1.5)	4,872,327	1,471
No elderly adults in household	70.8 (0.9)	58.5 (0.9)	70.2 (1.2)*	9,192,969	2,391
Highest level of education					
Less than high school	66.9 (1.5)	54.5 (2.0)	66.1 (1.9)	2,860,598	759
High school	71.0 (1.3)	56.4 (1.2)	68.4 (1.4)	4,933,656	1,333
Some college/associate's degree	73.7 (1.9)	54.9 (2.0)	65.7 (2.1)	3,152,642	909
College graduate or above	78.7 (1.8)	55.5 (1.7)	70.2 (1.7)*	2,848,138	771
Urbanicity					
City	71.5 (1.0)	54.9 (1.4)	69.1 (1.4)	5,817,963	1,591
Rural	67.7 (1.9)	53.1 (2.0)	57.6 (2.3)	1,767,085	513
Suburb	71.8 (1.4)	55.7 (1.8)	71.4 (1.6)*	4,051,490	1,065
Town	66.8 (2.4)	54.9 (2.7)	65.0 (3.2)	1,493,366	443
Census Region					
Midwest	67.7 (2.0)	53.3 (1.7)	62.9 (2.5)	2,715,582	548
Northeast	73.8 (2.0)	52.0 (1.9)	72.0 (2.0)*	2,025,793	630
South	69.4 (1.0)	56.9 (1.1)	69.3 (1.1)	6,164,531	1,731
West	73.6 (1.1)	55.6 (1.1)	65.4 (1.7)	3,159,391	953

Data Source: Food and Your Household Survey, 2018

4,522 completed surveys were included in the analysis

^a The survey included the Nutrition Facts Panel Graphic

* Indicates that estimate is statistically significantly different from other subgroup category, at the 1 percent level, as determined by Chi-square test.

Cooking Skills

As seen in Table A5-3, a majority of SNAP participants reported the person who does most of the cooking in the household usually has basic ingredients to prepare a meal at home, that the primary food preparer usually makes main dishes with three or more ingredients, and could make meals from whatever is available at home. However, one-fourth of the SNAP participants indicated that the primary food preparer did not try new recipes often.

Table A5-3. Ability to cook meals that are part of a healthy diet and cooking practices, overall and by sociodemographic characteristics

	Agree/strongly agree that: The person who does the most cooking in the household							
	Usually Has Basic Ingredients for a Meal at Home	Usually Makes Main Dishes with 3+ Ingredients	Prepares Batch Meals that can be Eaten Throughout the Week	Can Make Meals from Whatever is Available at Home	Try New Recipes Often	Sample size		
						Weighted % (SE)	Weighed n	Unweighted n
Overall	89.1 (0.5)	86.4 (0.7)	62.6 (0.9)	92.4 (0.5)	72.7 (0.8)	16,133,616	4,353	
Number of adults in household						16,119,610	4,350	
Multiple adults	89.3 (0.7)	90.6 (0.6)*	62.1 (1.2)	93.1 (0.5)	79.1 (0.8)*	9,773,438	2,491	
Single adult	88.7 (0.7)	79.8 (1.2)	63.4 (1.3)	91.3 (0.8)	62.7 (1.4)	6,346,172	1,859	
Presence of children in household						16,133,616	4353	
Children in household	89.5 (0.8)	91.1 (0.6)*	62.4 (1.5)	93.5 (0.5)*	80.8 (0.9)*	8,065,244	2,047	
No children in household	88.7 (0.7)	81.6 (1.1)	62.9 (1.1)	91.2 (0.8)	64.6 (1.4)	8,068,372	2,306	
Presence of elderly adults in household						16,133,617	4,353	
Elderly adults in household	88.4 (0.9)	84.5 (1.0)	65.0 (1.4)	91.6 (0.9)	66.1 (1.6)	5,452,667	1,622	
No elderly adults in household	89.4 (0.6)	87.4 (0.9)	61.5 (1.2)	92.8 (0.5)	76.1 (0.9)*	10,680,950	2,731	
Sources of household income						16,133,616	4,353	
Multiple assistance programs	88.0 (0.7)	83.0 (1.0)	62.9 (1.5)	91.7 (0.8)	67.9 (1.3)	7,719,253	2,273	
Assistance program(s) and earned income	90.3 (0.8)	90.1 (1.0)*	61.2 (2.5)	92.3 (0.7)	78.4 (1.2)*	5,565,907	1,442	
SNAP only	89.7 (1.3)	88.2 (1.5)	61.2 (2.5)	94.5 (0.9)	74.7 (1.8)	2,848,457	638	
Urbanicity						15,099,159	4,075	
City	88.6 (0.8)	88.0 (0.9)	63.1 (1.3)	93.3 (0.6)	73.0 (1.2)	6,729,774	1,774	
Rural	89.0 (1.3)	86.5 (1.3)	61.8 (2.2)	94.1 (1.2)	73.4 (1.8)	2,090,556	608	
Suburb	89.7 (0.8)	85.1 (1.2)	61.5 (1.5)	89.5 (1.0)*	73.4 (1.5)	4,556,900	1,187	
Town	87.7 (1.6)	84.4 (2.2)	65.8 (2.3)	92.9 (1.3)	70.3 (1.9)	1,721,929	506	
Census Region						16,133,616	4,353	
Midwest	89.9 (1.2)	86.0 (2.3)	63.6 (1.4)	92.1 (1.2)	70.7 (2.1)	3,318,586	652	
Northeast	88.9 (1.0)	88.4 (1.6)	59.3 (2.0)	93.7 (0.7)	72.8 (3.2)	2,247,147	691	
South	89.6 (0.8)	86.4 (0.7)	66.1 (1.6)*	92.9 (0.7)	73.8 (0.9)	6,925,903	1,934	
West	87.5 (1.0)	85.7 (1.3)	57.3 (1.7)	90.8 (1.2)	72.5 (1.8)	3,641,980	1,076	

Data Source: Food and Your Household Survey, 2018

4,522 completed surveys were included in the analysis

* Indicates that estimate is statistically significantly different from other subgroup category, at the 1 percent level, as determined by Chi-square test.

Frequency of Grocery Shopping

Generally, data suggest that SNAP participants have access to grocery stores, with the majority of the sample shopping at least once every 2 weeks. Slightly more than half (53%) of the SNAP households shopped for groceries once a week or once every 2 weeks; more than one-fourth (28%) of SNAP households shopped more than once a week at their primary grocery store and the remaining one-fifth shopping once a month or less at their primary grocery store (Table A5-4).

Table A5-4. Frequency of grocery shopping at primary store type, overall and by sociodemographic characteristics

	How often do you or the primary shopper shop for food at the <PRIMARY GROCERY STORE>				
	Once a week or once every 2 weeks			Once a month or less	
	More than once a week			Sample size	
				Weighted n	Unweighted n
Weighted % (SE)					
Overall	27.8 (0.8)	53.4 (0.8)	18.8 (0.6)	16,157,816	4,366
Number of adults in household				16,143,809	4,363
Multiple adults	32.1 (1.1)*	52.9 (1.1)	15.0 (0.8)	9,782,591	2,495
Single adult	21.2 (0.9)	54.1 (1.3)	24.6 (1.1)*	6,361,218	1,868
Presence of children in household				16,157,816	4,366
Children in household	33.0 (1.1)*	53.3 (1.1)	13.8 (0.8)	8,073,040	2,050
No children in household	22.7 (0.9)	53.5 (1.1)	23.8 (1.1)*	8,084,776	2,316
Presence of elderly adults in household				16,157,816	4,366
Elderly adults in household	26.0 (1.3)	53.8 (1.5)	20.2 (1.3)	5,527,453	1,656
No elderly adults in household	28.8 (0.9)	53.2 (1.0)	18.1 (0.7)	10,630,363	2,710
Sources of household income				16,157,816	4,366
Multiple assistance programs	22.6 (1.0)	54.0 (1.1)	23.3 (1.0)	7,849,667	2,317
Assistance program(s) and earned income	35.3 (1.4)*	51.8 (1.4)	12.9 (0.9)	5,456,296	1,412
SNAP only	27.7 (2.1)	54.9 (2.6)	17.4 (1.7)	2,851,853	637
Urbanicity				15,130,675	4,092
City	27.5 (1.3)	53.2 (1.2)	19.3 (1.0)	6,700,489	1,768
Rural	25.8 (2.1)	55.4 (2.4)	18.7 (1.7)	2,098,720	610
Suburb	29.4 (1.2)	54.1 (1.6)	16.6 (1.3)	4,565,964	1,193
Town	28.7 (1.7)	53.9 (2.2)	17.5 (2.1)	1,765,502	521
Census Region				16,157,816	4,366
Midwest	23.6 (1.9)	59.7 (2.1)*	16.7 (1.7)	3,282,892	643
Northeast	26.7 (1.3)	50.3 (1.7)	23.0 (1.4)*	2,257,420	694
South	28.7 (1.2)	51.3 (1.3)	20.0 (1.1)	6,988,550	1,957
West	30.7 (1.8)*	53.7 (1.6)	15.6 (1.5)	3,628,953	1,072

Data Source: Food and Your Household Survey, 2018

4,522 completed surveys were included in the analysis

* Indicates that estimate is statistically significantly different from other subgroup category, at the 1 percent level, as determined by Chi-square test.

Number of Stores Where Shopped

In addition, most SNAP participants had access to more than one grocery store. In general, about three out of four SNAP households purchased their groceries at two or three stores (Table A5-5).

Table A5-5. Number of stores where participants shop regularly for groceries, overall and by sociodemographic characteristics

	Number of stores where participants shop for groceries			
	2 or 3	4 or more	Sample size	
	Weighted % (SE)	Weighted % (SE)	Weighted n	Unweighted n
Overall	74.8 (1.0)	25.2 (1.0)	13,550,393	3,656
Number of adults in household				
Multiple adults	73.9 (1.2)	26.1 (1.2)	8,415,148	2,140
Single adult	76.4 (1.5)	23.6 (1.5)	5,128,807	1,514
Presence of children in household				
Children in household	73.3 (1.4)	26.7 (1.4)	7,011,986	1,777
No children in household	76.5 (1.1)	23.5 (1.1)	6,538,407	1,879
Presence of elderly adults in household				
Elderly adults in household	74.5 (1.4)	25.5 (1.4)	4,560,658	1,349
No elderly adults in household	75.0 (1.3)	25.0 (1.3)	8,989,735	2,307
Sources of household income				
Multiple assistance programs	76.7 (1.1)	23.3 (1.1)	6,468,310	1,908
Assistance program(s) and earned income	74.1 (1.6)	25.9 (1.6)	4,719,392	1,217
SNAP only	71.2 (2.7)	28.8 (2.7)	2,362,691	531
Urbanicity				
City	71.1 (1.3)	28.9 (1.3)*	5,584,408	1,486
Rural	78.7 (2.2)	21.3 (2.2)	1,720,927	495
Suburb	76.8 (2.2)	23.2 (2.2)	3,948,756	1,020
Town	81.6 (2.5)*	18.4 (2.5)	1,456,899	429
Census Region				
Midwest	74.8 (2.8)	25.2 (2.8)	2,821,623	546
Northeast	71.8 (1.9)	28.2 (1.9)	1,906,071	595
South	76.8 (1.4)	23.2 (1.4)	5,728,062	1,605
West	73.0 (2.2)	27.0 (2.2)	3,094,637	910

Data Source: Food and Your Household Survey, 2018

4,522 completed surveys were included in the analysis

* Indicates that estimate is statistically significantly different from other subgroup category, at the 1 percent level, as determined by Chi-square test.

Availability of Foods at Stores where Shop

Tables A5-6 and A5-7 present the availability of products in food categories specifically for those who shop primarily at supermarkets (A5-6) and superstores (A5-7). The results are substantively similar as for all store types.

Table A5-6. Availability of products in food categories at supermarkets where participants shop for groceries

	Variety of products in food categories at supermarket						Sample size	
	Wide	Some	Very little	Not available	Don't know/ Don't buy			
	Weighted % (SE)					Weighted n	Unweighted n	
Fresh fruits	73.1 (1.2)	22.5 (1.0)	2.6 (0.4)	0.6 (0.2)	1.1 (0.2)	9,256,400	2,515	
Frozen fruits	50.7 (1.7)	28.0 (1.3)	7.4 (0.6)	1.0 (0.2)	12.8 (0.8)	8,998,786	2,421	
Canned fruits	62.4 (1.6)	20.9 (0.8)	3.6 (0.5)	0.8 (0.2)	12.3 (0.7)	9,053,095	2,436	
Fresh vegetables	77.0 (1.1)	19.4 (0.9)	2.4 (0.3)	0.4 (0.2)	0.8 (0.2)	9,175,419	2,484	
Frozen vegetables	61.4 (1.4)	25.2 (1.0)	5.2 (0.5)	0.7 (0.2)	7.5 (0.6)	9,035,220	2,440	
Canned vegetables	66.6 (1.5)	18.5 (0.8)	4.4 (0.5)	0.8 (0.2)	9.6 (0.7)	8,982,667	2,416	
Whole grain products	64.6 (1.5)	25.3 (1.0)	5.3 (0.7)	0.3 (0.1)	4.6 (0.5)	9,183,684	2,484	
Lean meat	62.7 (1.3)	27.1 (1.3)	6.0 (0.6)	0.6 (0.2)	3.7 (0.4)	9,200,501	2,494	
Low fat dairy	73.0 (1.4)	20.8 (1.0)	2.6 (0.5)	0.4 (0.2)	3.3 (0.5)	9,206,318	2,495	

Data Source: Food and Your Household Survey, 2018

2,524 completed surveys were included in the analysis

Table A5-7. Availability of products in food categories at superstores where participants shop for groceries

	Variety of products in food categories at superstores						Sample size	
	Wide	Some	Very little	Not available	Don't know/ Don't buy			
	Weighted % (SE)					Weighted n	Unweighted n	
Fresh fruits	69.0 (1.2)	23.8 (1.3)	4.8 (0.8)	0.8 (0.4)	1.6 (0.4)	1,366	5,261,514	
Frozen fruits	54.6 (1.7)	28.5 (1.7)	6.8 (0.7)	0.6 (0.3)	9.5 (1.0)	1,314	5,115,232	
Canned fruits	66.1 (1.6)	19.7 (1.2)	4.6 (0.7)	1.0 (0.5)	8.6 (1.2)	1,320	5,114,695	
Fresh vegetables	73.3 (1.1)	21.7 (1.2)	3.2 (0.5)	0.4 (0.1)	1.3 (0.3)	1,348	5,200,359	
Frozen vegetables	62.5 (1.4)	25.9 (1.4)	4.7 (0.7)	0.5 (0.2)	6.5 (0.9)	1,314	5,117,006	
Canned vegetables	72.3 (1.5)	15.8 (1.2)	4.6 (0.7)	0.7 (0.4)	6.6 (1.0)	1,308	5,100,380	
Whole grain products	62.8 (1.5)	26.5 (1.3)	4.8 (0.7)	0.9 (0.5)	5.0 (0.7)	1,352	5,229,318	
Lean meat	63.8 (1.3)	27.2 (1.5)	5.2 (0.8)	0.2 (0.1)	3.6 (0.5)	1,357	5,238,906	
Low fat dairy	73.8 (1.4)	19.0 (1.3)	4.4 (0.8)	0.6 (0.4)	2.1 (0.4)	1,364	5,257,928	

Data Source: Food and Your Household Survey, 2018

1,438 completed surveys were included in the analysis

Why Choose Stores and Foods

Looking at why participants choose their particular grocery stores and why they choose particular foods provides even more support for the idea that price is a significant barrier to eating foods that are part of a healthy diet for many SNAP participants. Almost three-quarters of participants choose to shop at their primary store because of price (A5-8) while a little more than three-quarters select foods (within stores) based on price (A5-9).

Table A5-8. Reasons for selecting stores where most groceries are purchased, overall and by sociodemographic characteristics

	Reasons for grocery shopping at primary store				
	Convenient location ^a	Affordable price, loyalty program, instore promotions ^b	Product quality, variety, and preferred products ^c	Store characteristics ^d	Store accepts EBT ^e
	Weighted % (SE)				
Overall	56.8 (0.9)	74.5 (0.9)	41.7 (0.9)	33.1 (0.9)	22.1 (0.8)
Number of adults in household					
Multiple adults	56.2 (1.3)	76.7 (1.1)*	41.2 (1.0)	32.0 (1.2)	20.8 (0.8)
Single adult	57.9 (1.4)	71.2 (1.3)	42.5 (1.5)	34.8 (1.5)	24.1 (1.4)
Presence of children in household					
Children in household	56.2 (1.4)	76.7 (1.0)*	41.6 (1.1)	31.8 (1.5)	21.5 (0.9)
No children in household	57.5 (1.2)	72.3 (1.3)	41.9 (1.1)	34.4 (1.2)	22.8 (1.3)
Presence of elderly adults in household					
Elderly adults in household	56.1 (1.6)	70.8 (1.4)	43.2 (1.6)	33.2 (1.3)	22.7 (1.3)
No elderly adults in household	57.2 (1.0)	76.5 (1.0)*	41.0 (1.0)	33.1 (1.1)	21.8 (0.9)
Sources of household income					
Multiple assistance programs	58.5 (1.1)	71.7 (1.2)	41.2 (1.3)	33.8 (1.0)	24.8 (1.3)
Assistance program(s) and earned income	59.4 (1.7)	77.3 (1.2)*	44.3 (1.3)	33.9 (1.4)	20.5 (1.2)
SNAP only	47.5 (2.3)*	76.8 (1.7)	38.2 (2.7)	29.7 (1.9)	18.1 (1.4)
Urbanicity					
City	58.5 (1.5)	73.2 (1.3)	42.2 (1.6)	32.5 (1.2)	20.5 (1.2)
Rural	49.0 (2.5)	75.2 (2.1)	42.2 (2.1)	37.6 (1.9)	24.7 (1.7)
Suburb	62.1 (1.8)*	76.3 (2.1)	39.5 (1.3)	30.8 (1.7)	21.0 (1.4)
Town	53.4 (2.8)	74.7 (2.1)	44.0 (2.6)	35.8 (2.3)	28.5 (2.1)
Census Region					
Midwest	54.0 (2.8)	75.8 (2.9)	47.6 (3.4)	32.2 (1.9)	23.8 (1.6)
Northeast	60.8 (3.1)	71.1 (2.4)	38.6 (2.0)	30.7 (2.1)	25.2 (3.3)
South	58.1 (1.2)	75.2 (1.1)	40.8 (1.1)	33.7 (1.3)	20.1 (0.7)
West	54.5 (1.2)	74.1 (1.3)	40.2 (1.3)	34.3 (1.7)	22.5 (1.8)

Data Source: Food and Your Household Survey, 2018

4,522 completed surveys were included in the analysis.

^a Convenient location: close to home, close to work, convenient but not close to home, work, or school. n=2,568

^b Price and Promotion: Affordable price, lots of in-store promotions, Frequent Shopper Program or Savings Card. n=3,369

^c Product quality and variety: variety of products at the store, other items besides groceries, ethnic foods available, high quality meat, preferred products available, better or fresher produce than other stores. n=1,886

^d Store characteristics: Good service, store is clean, store is familiar to me, store hours of operation are convenient to me, home delivery option. n=1,497

^e n=999

* Indicates that estimate is statistically significantly different from other subgroup category, at the 1 percent level, as determined by Chi-square test.

Table A5-9. Important reasons for choosing the foods purchased by the primary food shopper, overall and by sociodemographic characteristics

	Important reasons to choose the foods purchased ^a						
	Price ^b	Brand name ^c	Nutrition content ^d	Taste ^e	Expiration date ^f	Ease of preparation ^g	How well the food keeps after purchase ^h
	Weighted % (SE)						
Overall	77.4 (0.9)	15.0 (0.6)	48.1 (0.9)	44.1 (0.9)	12.1 (0.6)	24.3 (0.8)	21.9 (0.5)
Number of adults in household							
Multiple adults	76.5 (1.3)	14.7 (0.7)	50.3 (1.3)*	46.0 (1.2)*	11.1 (0.8)	23.6 (1.0)	20.4 (0.8)
Single adult	78.9 (1.1)	15.4 (0.9)	44.6 (1.5)	41.1 (1.4)	13.5 (0.8)	25.5 (1.1)	24.3 (1.2)
Presence of children in household							
Children in household	77.8 (1.2)	16.0 (0.8)	49.0 (1.3)	46.8 (1.2)	11.2 (0.8)	23.4 (1.1)	20.0 (0.8)
No children in household	77.0 (1.2)	14.0 (0.8)	47.2 (1.3)	41.4 (1.3)	12.9 (0.8)	25.3 (1.0)	23.8 (0.8)*
Presence of elderly adults in household							
Elderly adults in household	79.0 (1.5)	16.8 (0.9)	47.4 (1.7)	40.6 (1.6)	14.9 (0.9)	23.5 (1.3)	24.6 (1.1)*
No elderly adults in household	76.5 (1.1)	14.0 (0.7)	48.4 (1.2)	45.9 (1.0)*	10.6 (0.8)	24.8 (1.0)	20.5 (0.7)
Sources of household income							
Multiple assistance programs	80.3 (1.2)	16.7 (0.9)	43.9 (1.3)	41.5 (1.3)	13.8 (0.7)	24.3 (1.0)	24.9 (0.9)
Assistance program(s) and earned income	78.9 (1.6)	14.7 (1.0)	54.1 (1.5)*	49.5 (1.7)*	10.3 (0.8)	26.6 (1.1)	20.6 (1.1)
SNAP only	66.6 (2.6)*	10.7 (1.1)*	47.9 (2.4)	40.8 (2.1)	10.6 (1.5)	20.2 (1.8*)	16.2 (1.5)*
Urbanicity							
City	76.5 (1.5)	15.6 (1.1)	49.6 (1.7)	43.7 (1.6)	10.6 (0.8)	21.7 (1.0)*	20.4 (1.0)
Rural	80.5 (1.8)	16.4 (1.4)	43.1 (2.5)	48.8 (2.9)	13.0 (1.6)	29.2 (2.1)	25.8 (1.8)
Suburb	78.5 (1.5)	14.8 (1.0)	50.7 (1.9)	42.4 (1.6)	13.1 (1.2)	25.4 (1.5)	19.1 (1.3)
Town	79.8 (2.3)	13.0 (1.2)	43.9 (2.4)	48.6 (2.2)	14.2 (1.7)	25.4 (2.2)	29.2 (2.6)*
Census Region							
Midwest	81.3 (1.6)	13.4 (1.7)	47.6 (2.5)	45.4 (2.0)	12.4 (1.5)	24.2 (2.1)	22.2 (1.6)
Northeast	75.2 (2.9)	17.8 (1.5)	47.5 (2.1)	41.8 (2.2)	14.4 (1.8)	21.8 (2.3)	22.6 (1.9)
South	77.2 (1.4)	15.3 (0.8)	47.0 (1.3)	44.1 (1.7)	12.2 (0.8)	25.5 (1.2)	22.0 (0.8)
West	75.6 (1.8)	14.0 (1.4)	50.8 (2.5)	44.2 (1.7)	10.2 (0.9)	23.8 (1.6)	21.2 (1.0)

Data Source: Food and Your Household Survey, 2018

4,522 completed surveys were included in the analysis

^a Participants were asked to select top three reasons for choosing the foods purchased by them or the primary food shopper.

^b n=3,500

^c n=678

^d n=2,175

^e n=1,994

^f n=547

^g n=1,099

^h n=990

* Indicates that estimate is statistically significantly different from other subgroup category, at the 1 percent level, as determined by Chi-square test.

Barriers and Behaviors

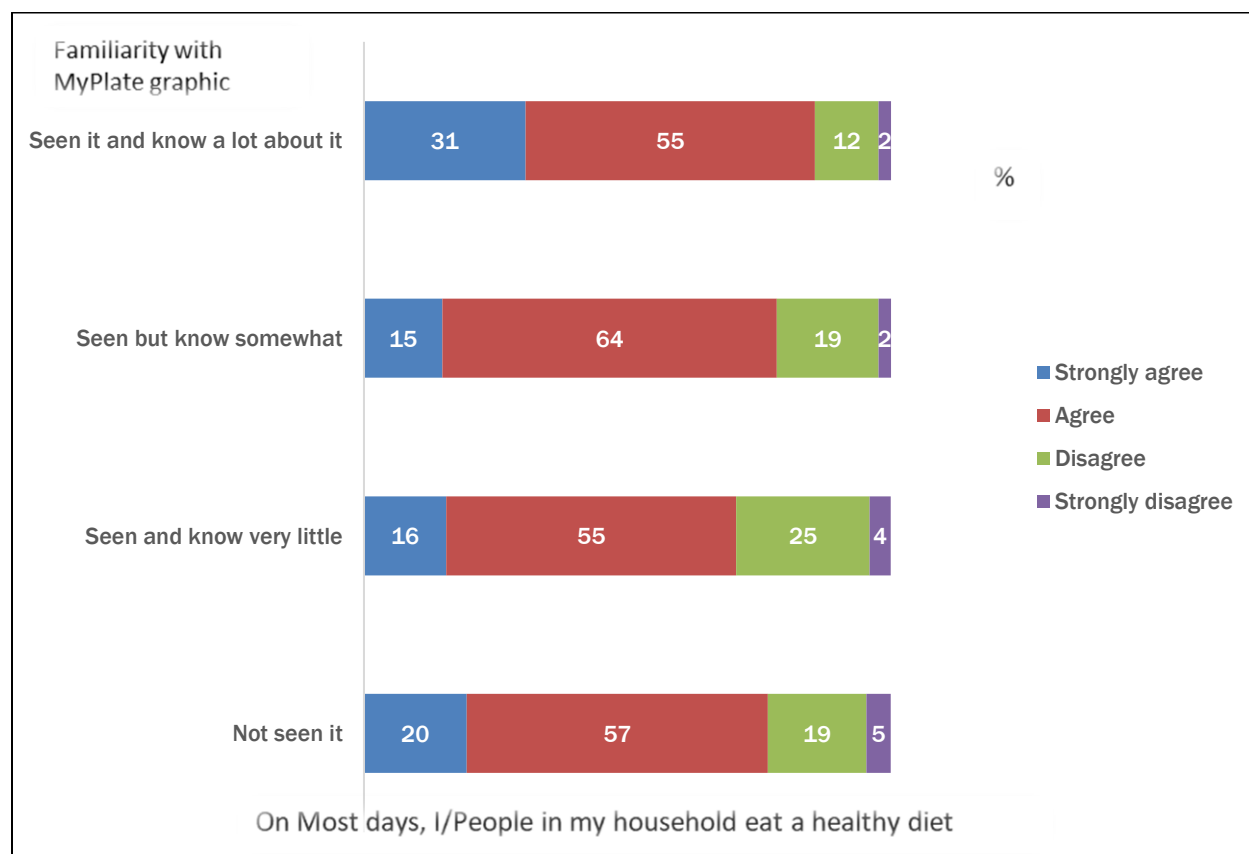
The framework for determining the feasibility of defining the adequacy of the SNAP allotment presented by the IOM posits that barriers impact food security through multiple channels (IOM and NRC 2013). Directly, they impact what SNAP participants shop for, what they cook, and what they eat. Below, associations between these barriers and behaviors are examined directly to ascertain whether pathways between barriers and food security and access to a healthy diet are plausible.

Eating Behaviors

Several barriers are associated with participants' reports of eating a healthy diet, suggesting that these barriers may impact food security through the mechanism of what foods are eaten. SNAP participants with a physical disability were significantly more likely than those without to report they did not eat a healthy diet on most days (7% vs. 2%) (data not shown), suggesting that physical disability directly impacts diet. Lack of nutritional knowledge also appears to significantly relate to diet. Among SNAP participants who strongly agreed that they understood the importance of eating a healthy diet, 40 percent also strongly agreed that they ate a healthy diet on most days. Conversely, among those who strongly agreed that they understood the importance of healthy eating, only 3 percent strongly disagreed with the statement, "On most days, I/people in my household eat a healthy diet."

These findings are supported by examinations of knowledge of MyPlate graphics and use of Nutrition Facts panels. About one-third (31%) of those who had seen the MyPlate graphic and knew a lot about it strongly agreed that they ate a healthy diet on most days. In contrast, about 15 percent of those who had seen it and knew somewhat or very little about it reported eating a healthy diet (Figure A5-1). Among SNAP participants who report that they always use the Nutrition Facts panel to purchase food products, about 44 percent strongly agree that they eat a healthy diet on most days. Among those who use the nutrition fact panel most of the time, sometimes, rarely or never use the Nutrition Fact panel, about 26 percent, 15 percent, 11 percent, respectively, strongly agree that they eat a healthy diet on most days (data not shown).

Figure A5-1. Relationship between level of familiarity with MyPlate nutrition graphic and eating a healthy diet on most days



Data Source: Food and Your Household Survey, 2018

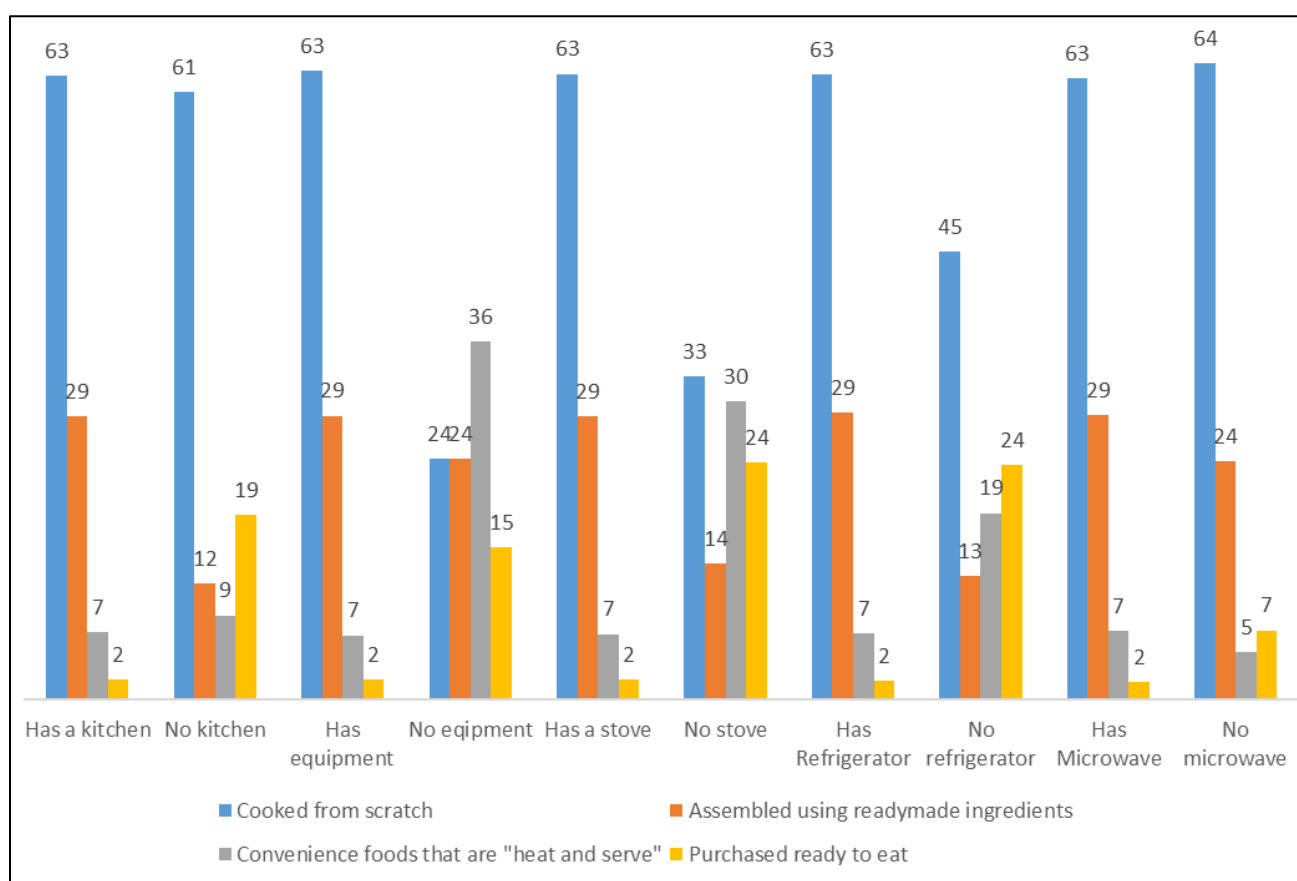
4,522 completed surveys were included in the analysis

Cooking Behaviors

Next, cooking behaviors are examined. There is a positive association between participants cooking from scratch and agreeing that they/their household eats a healthy diet on most days. About one-third of the SNAP participants from households doing scratch cooking strongly agreed and about 1 percent strongly disagreed with the statement that on most days, people in their household ate a healthy diet. Fewer SNAP participants from households who assembled meals using readymade ingredients, convenient heat-and-serve foods, or purchased ready-to-eat foods strongly agreed with the statement (14%, 10%, and 16%, respectively); and greater percentage of SNAP participants disagreed with the statement that on most days, they ate a healthy diet (2%, 9%, and 23%, respectively). This supports the findings of Jobs and Devine (2006) that cooking from scratch is associated with healthy eating.

It is not surprising that those who lack kitchen facilities and kitchen equipment are less likely to cook from scratch. While two-thirds of SNAP participants cooked meals from scratch, regardless of whether they reported having a kitchen, significantly more SNAP participants without a kitchen relied on ready-to-eat foods for dinner (2.0% vs. 18.6%). Among SNAP participants with a kitchen, the prevalence of scratch cooking was significantly lower in households without cooking equipment as well as pots and pans, a working stove, and functioning refrigerator. These households relied more on ready-to-eat meals as well as heat-and-serve products (Figure A5-2).

Figure A5-2. Dinner/main meal assembly patterns by availability of kitchen facilities (%)



Data Source: Food and Your Household Survey, 2018

4,522 completed surveys were included in the analysis

SNAP participants with a physical disability were less likely to prepare meals from scratch (53% vs. 68%) than those without a physical disability and more likely to rely on meals using readymade ingredients (37% vs. 24%) or convenience heat-and-serve type foods (8% vs. 6%).

By contrast, SNAP participants who reported food price as a barrier were also significantly more likely than those not reporting affordability as a barrier to cook from scratch using basic ingredients (66% vs. 57%) and less likely to assemble meals using readymade ingredients, such as sauces and mixes (23% vs. 31%), suggesting that while they find foods that are part of a healthy diet expensive, cooking is still more affordable than buying prepared foods (Table A5-10).

Table A5-10. Dinner/main meal assembly patterns by whether affordability is a barrier

Affordability (food price) is a barrier to shopping for foods that are part of a healthy diet	Most of the dinners or main meals eaten at home are ...			
	Cooked from scratch using basic ingredients N=9,237,707	Assembled using readymade ingredients N=4,204,613	Convenience foods that are heat-and-serve N=1,468,103	Purchased ready-to-eat N=433,150
	Weighted % (SE)			
No	56.8 (1.6)	30.5 (1.2)*	10.1 (0.9)	2.6 (0.5)
Yes	65.7 (1.5)*	22.5 (1.3)	8.7 (0.7)	3.1 (0.6)

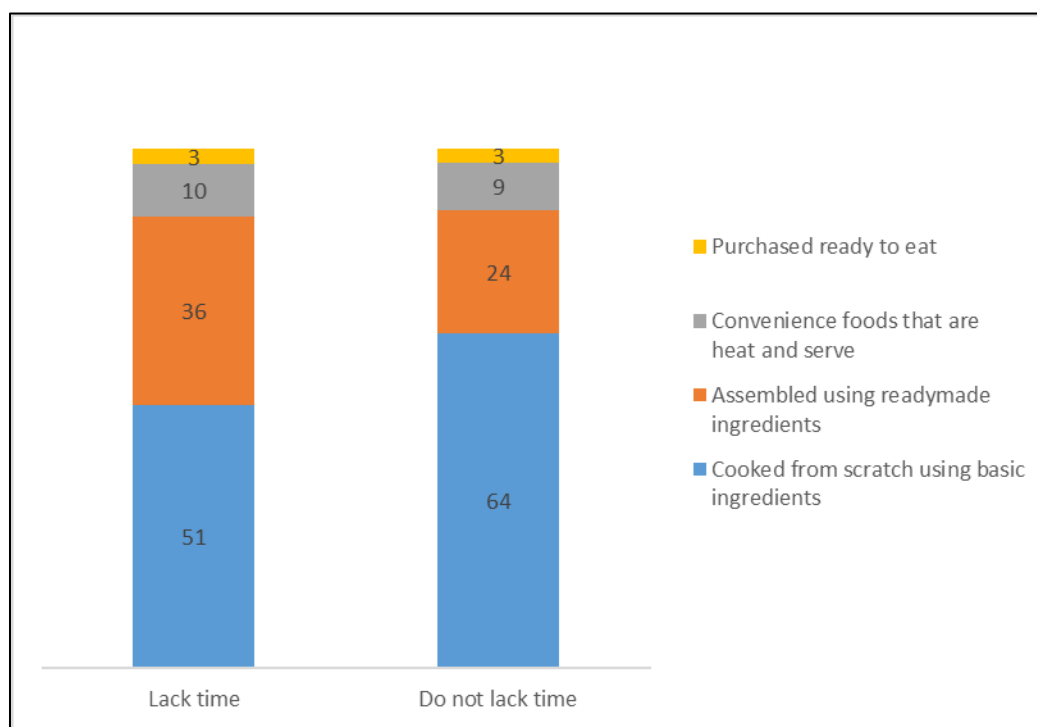
Source: Food and Your Household Survey, 2018

4,522 completed surveys were included in the analysis

* Indicates that estimate is statistically significantly different from other subgroup category, at the 1 percent level, as determined by Chi-square test.

Finally, there is the lack of time barrier. While the prevalence of cooking meals from scratch was lower among SNAP participants who reported lack of time to cook meals that are part of a healthy diet than those who did not, about half of those with lack of time still managed to do scratch cooking using basic ingredients. Interestingly, the prevalence of purchasing ready-to-eat foods or relying on convenience heat-and-serve foods was comparable between households who reported lack of time as a barrier to cooking meals that are part of a healthy diet and households that did not report lack of time as a barrier (Figure A5-3). This suggests that while lack of time is a common barrier it may be less meaningful as an indicator about whether participants are able to eat a healthy diet than other individual barriers such as lack of nutritional knowledge, lack of cooking skills, lack of kitchen equipment, physical disability, or affordability.

Figure A5-3. Dinner/main meal assembly practices by availability of time to prepare meals from scratch (%)



Data Source: Food and Your Household Survey, 2018
 4,522 completed surveys were included in the analysis

Shopping Behaviors

The inability to shop for foods that are part of a healthy diet also has a direct impact on the ability of participants to access a healthy diet. However, capturing this inability concretely can be difficult. First, the study examined how shopping frequency impacts shopping behaviors. SNAP participants who shopped at supermarkets or superstores as their primary store were more likely to shop for groceries at their primary store once a month or less than those shopping at “other” store types (35% and 39% vs. 27%, respectively). Slightly more SNAP participants shopping for most of their groceries at “other” store types than at supermarkets or superstores purchased groceries more than once a week at said stores (18% vs. 14% and 13%, respectively). This is likely to reflect the availability of foods at supermarkets and superstores (greater availability may mean less frequent shopping).

It does not reflect travel time to stores. Although the majority of SNAP participants traveled for fewer than 20 minutes to get to their primary grocery store, SNAP participants traveling for a greater duration of time were more likely to report transportation as a barrier than those who reported short travel times to the stores where they purchased most of their groceries (Table A5-11). About twice as many SNAP participants who traveled for more than 30 minutes than those who traveled for less than 10 minutes reported transportation as a barrier to shopping for foods that are part of a healthy diet (34% vs. 14%).

Table A5-11. Percentage of participants indicating transportation as a barrier by time take to get to the store

Transportation is a barrier	Time taken to get to the store			
	Less than 10 minutes	10 to 20 minutes	21 to 30 minutes	31 or more minutes
No	85.8 (1.1)*	81.2 (1.1)*	75.1 (2.7)*	66.5 (3.1)*
Yes	14.2 (1.1)	18.8 (1.1)	24.9 (2.7)	33.5 (3.1)
Weighted N	7,199,048	5,930,318	1,761,751	1,441,185
Unweighted N	1,962	1,546	522	402

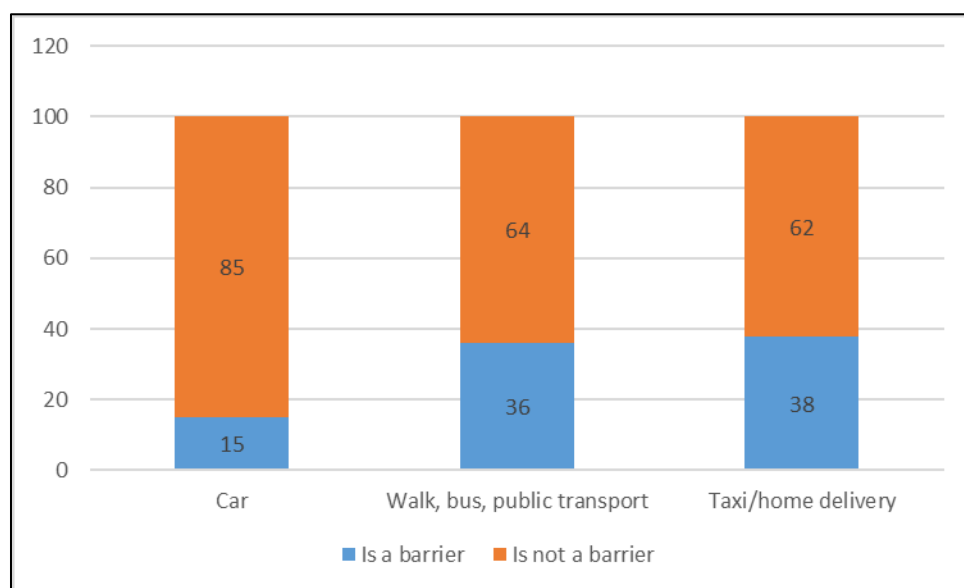
Data Source: Food and Your Household Survey, 2018

4,522 completed surveys were included in the analysis

* Indicates that estimate is statistically significantly different from other subgroup category, at the 1 percent level, as determined by Chi-square test.

Transportation barrier may also be expressed through mode of travel. Twice as many SNAP households who took a taxi/had home delivery or walked/biked/took public transportation than those who traveled by car reported transportation as a barrier to shopping for foods that are part of a healthy diet (Figure A5-4).

Figure A5-4. Lack of transportation as a barrier by mode of transportation to the store (%)



Data Source: Food and Your Household Survey, 2018

4,522 completed surveys were included in the analysis

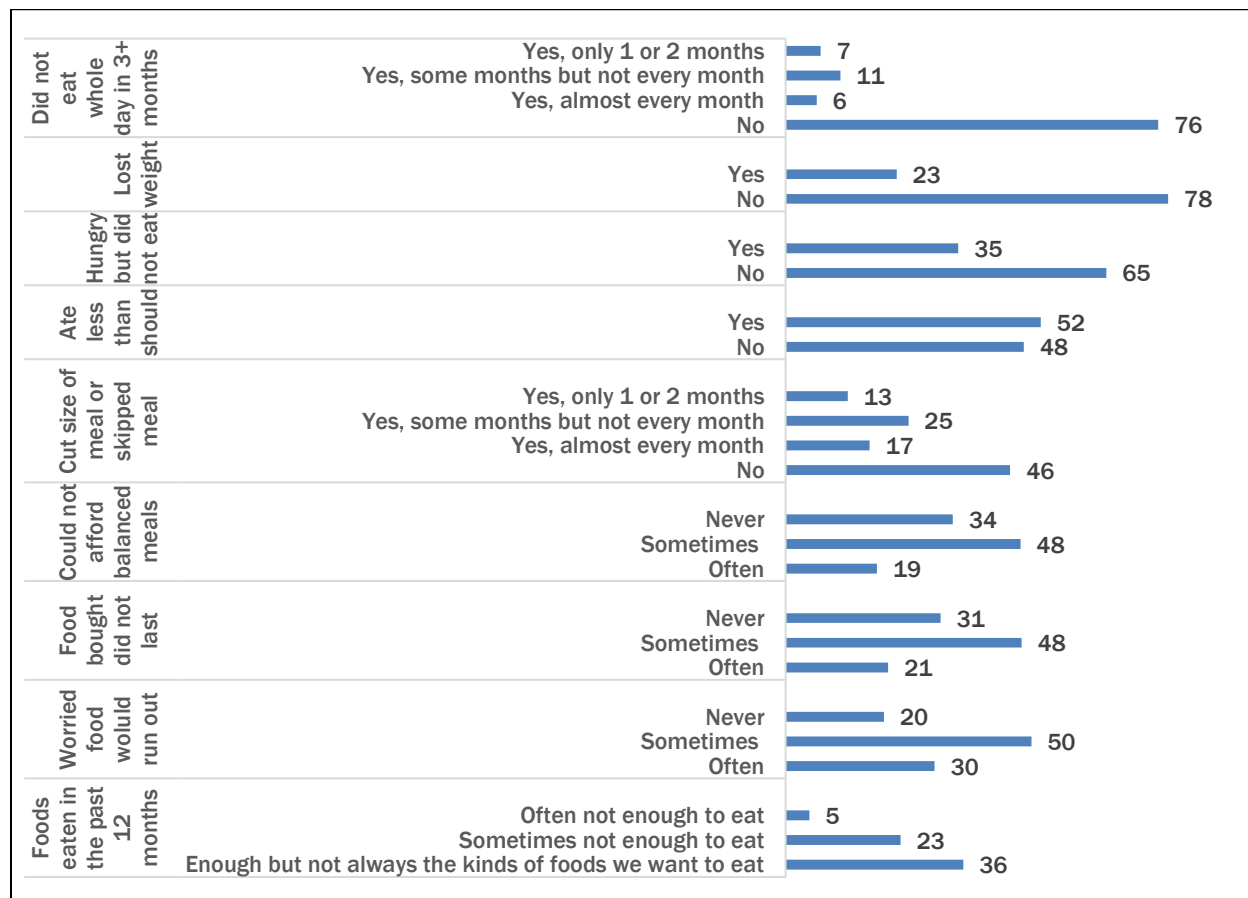
What these results suggest is that most of the barriers are associated with outcomes related to a healthy diet. Lack of nutritional knowledge appears related to eating a healthy diet, with those who do not have much nutritional knowledge less likely to eat a healthy diet. Cooking meals from scratch is positively associated with eating a healthy diet, and those who lack kitchen facilities and kitchen equipment are less likely to cook from scratch. Physical disability is also associated with less scratch cooking and a more negative perception of the health of one's diet. Similarly, affordability is associated with less scratch cooking. Lack of transportation affects the ability to shop for groceries. Lack of time appears to be a less severe barrier, as those who lack time to prepare meals that are part of a healthy diet are not much less likely to cook from scratch.

Food Security Question

Figure A5-5 presents responses to individual items of the food security module. While 80 percent of SNAP participants worried that they would run out of food, about 70 percent experienced running out of food (sometimes or often) and 67 percent could not afford to eat balanced meals. About one-half of the adults in the SNAP households cut the size of meals or skipped meals, and ate less

than they should. Twenty-three percent reported that they lost weight because they could not afford to buy more food.

Figure A5-5. Responses to individual items in the food security module (%)

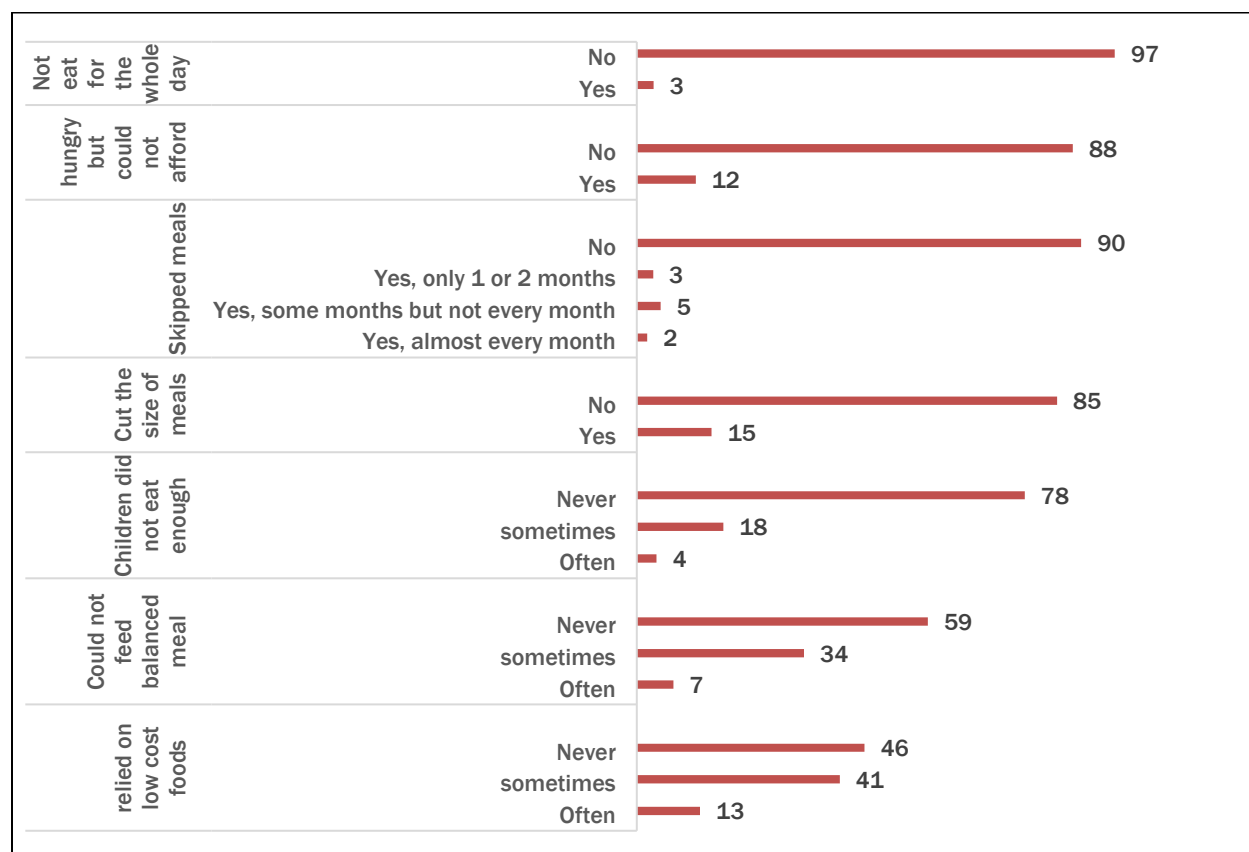


Data Source: Food and Your Household Survey, 2018

4,522 completed surveys were included in the analysis

Figure A5-6 presents responses among households with children. Most SNAP households with children were able to feed their children; 2 to 3 percent indicated that children in the household did not eat for the whole day, or children skipped meals almost every month. About 15 percent of the children in SNAP households ate less (cut the size of meals) and 12 percent went hungry because they could not afford to buy more food. Slightly more than half of the SNAP households relied on low-cost foods to feed their children and 40 percent could not feed balanced meals to their children.

Figure A5-6. Responses to individual items in the food security module among households with children (%)



Data Source: Food and Your Household Survey, 2018

4,522 completed surveys were included in the analysis

Appendix 6
Factor Analysis Survey Items

Appendix 6

Factor Analysis Survey Items

Table A6-1 shows the survey items included in the factor analysis (described in Chapter 5).

Table A6-1. Survey items included in factor analysis

B2.	People in my household understand the importance of eating healthy	Strongly agree, agree, disagree, strongly disagree
B3.	Reasons that keep you from shopping for foods that are part of a healthy diet	Checked vs. Not checked
B3a.	Distance to store	
B3b.	Transportation	
B3c.	Store hours	
B3d.	Affordability (food price)	
B3e.	Physical disability	
B3f.	amount of time to shop at the store	
B3g.	Safety concerns	
B4.	Reasons that keep food preparer from cooking meals that are part of a healthy diet	Checked vs. Not checked
B4a.	lack of time to prepare meals from scratch	
B4b.	lack of equipment	
B4c.	lack of storage to keep cooked or fresh food	
B4d.	don't know how to cook from scratch	
B4e.	don't always know what foods are part of a healthy diet	
B4f.	Physical disability	
B4g.	Household members don't like cooked meals	
B5.	Knowledge of MyPlate (Seen and know a lot, seen and know some, seen and know very little, never seen it)	I have seen it and know a lot about it, I have seen it and know somewhat about it, I have seen it and know very little about it, I have never seen it before
B7.	How often do you use nutrition facts labels to buy products	Always, most of the time, sometimes, rarely, not seen it