



Food Security and Food Purchase Quality Among Low-Income Households: Findings From the National Household Food Acquisition and Purchase Survey (FoodAPS)

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What Is the Issue?

Most households in the United States have access to enough food so that everyone in the household can lead active, healthy lives—they are food secure. A sizeable fraction of households are food insecure, meaning that they lack such access to enough food. Currently, there is a single security survey module used in the United States. In the module, the food security survey questions on which food security classification is based are largely focused on sufficient *quantities* rather than the *quality* of foods. However, the quality of food that food-insecure households acquire is also essential to know. Food insecurity is known to be associated with a host of adverse health outcomes in both adults and children. Some of those conditions are related to the quality of diet—for example, diabetes, high blood pressure, and dyslipidemia (abnormal levels of cholesterol or triglycerides in the blood). Looking more closely at the quality of food in food-insecure households could offer insights into the ways that food choices impact health for these households and might also underscore the importance of consumer education, particularly for low-income households. This study uses a novel data collection fielded by the USDA, Economic Research Service in partnership with the USDA, Food and Nutrition Service to quantify and characterize differences in food purchases by food-secure and food-insecure households in a way that, before now, has not been possible.

What Did the Study Find?

This study looks at the nutritional quality of food purchases of low-income food-secure and food-insecure households, as collected over 1 week in the National Household Food Acquisition and Purchase Survey (FoodAPS). The quality of the purchases were estimated using the 2010 Healthy Eating Index (HEI-2010) score, a standard measure of adherence to Federal dietary guidance widely used in research about healthfulness of food intakes and consumption. Total HEI-2010 scores are made up of 12 “component” scores that are added together. For both total and component HEI-2010 scores, higher numbers indicate better adherence to dietary guidance—i.e., more healthy purchases. There are significant differences in the purchase quality of low-income food-secure and food-insecure households. In particular:

- Food-insecure households spend about \$13 less per adult equivalent (PAE) per week on food at home (FAH) than food-secure households.

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- Food-insecure households spend a higher fraction of their total FAH budget at convenience stores than food-secure households do—food-insecure households spend about 20 percent, while food-secure households spend less than 10 percent.
- The total HEI-2010 score for the FAH purchase basket for food-insecure households (44.2) is about 10 percent lower than for food-secure households (48.9).
- For every 1,000 calories in their FAH total purchases, food-insecure households acquire less total fruit, whole fruit, total protein, and seafood and plant protein compared to food-secure households.
- Food-insecure households have significantly higher probabilities of purchasing no fruit, no dairy, and no protein foods for FAH than food-secure households. Food-insecure households also have a higher probability of having a zero score for refined grains, meaning that they purchase more refined grains per 1,000 calories than is recommended by dietary guidance.
- Food-insecure households acquire about half the fruit (in cup equivalents) PAE per week than food-secure households. Food-insecure households acquire about 3.6 cups, while food-secure households acquire just over 7 cups PAE.
- The relative deficits in whole fruit and total fruit persist across the income distribution.
- Food-insecure households also purchase significantly less in protein foods (measured in ounce equivalents) PAE than food-secure households.
- Food-insecure households acquire about 5,200 calories less PAE per week in FAH than food-secure households. That is roughly the intake of an adult male for 2 days.
- The difference in FAH calories PAE purchased is not due to income alone; food-insecure households at 200 percent of the Federal poverty level purchase about 2,700 calories PAE less per week than food-secure households—about the intake of an adult male in 1 day.
- Food-insecure households' HEI-2010 score for their food-away-from-home (FAFH) purchases is about 5 percent lower than for food-secure households.
- There are also some differences by food security status in FAFH purchases, including lower scores for protein foods that remain across the income distribution.

The large differences in FAH total and component scores underline the fact that the differences in the amounts of food that food-insecure households purchase also show up in differences in the *quality* of foods that they purchase. This adds important detail to the understanding of the meaning of food insecurity and its relevance to overall health.

How Was the Study Conducted?

Data from FoodAPS were used for this study. The data set is a cross-sectional survey that oversamples low-income Supplemental Nutrition Assistance Program (SNAP) and non-SNAP households; the data contain weights and sampling information that make the estimates nationally representative. A unique feature of the data is that they contain information on all food acquisitions made by anyone in any of the sample households over the survey week. Using information on the nutritional quality of all of the acquisitions, researchers have calculated HEI-2010 scores for the total purchases for at-home and away-from-home consumption. Regression-adjusted predictions were estimated for total HEI-2010, components of HEI-2010, total energy, and food spending across food security status.