Not All Measures Are the Same: How Food Access Indicators Differ and Why That Matters

Colleen M Heflin, Michele Ver Ploeg, and Elaine Waxman
SYRACUSE UNIVERSITY, NATIONAL CENTER FOR FOOD AND AGRICULTURAL POLICY, URBAN INSTITUTE
February 2026

Food security is defined by the US Department of Agriculture (USDA)as "access by all people at all times to enough food for an active, healthy life."[1] This indicator of economic well-being has been measured annually from 1995 through 2024 in the Current Population Survey Food Security Supplement (CPS-FSS), a nationally representative survey of the civilian noninstitutionalized population, with food security status of households assessed using a validated 18-item food security scale. However, in September 2025, the USDA canceled the annual collection of household food security data in the CPS-FSS.[2] Prior to the cancelation, USDA published national estimates of the US household population who were "food secure" and "food insecure" each year, as well as state estimates, using three-year moving averages and estimates for a variety of demographic subgroups. The salience of food insecurity as an indicator of material hardship is affirmed by a large body of research linking it to a wide range of negative outcomes. For instance, food insecurity is associated with poor health among adults (Royer et al. 2025). Children's health may be especially vulnerable to experiences of food insecurity, and there is also evidence food insecurity can impede school outcomes (Johnson and Markowitz 2018; Ryu and Bartfeld 2012).

KEY TERMS

Food insecurity: 6-, 10-, or 18-item versions of the Food Security Scale that measure household access for all household members to safe and nutritious food

Food insufficiency: Single item measure used to indicate if households sometimes or often did not have enough food to eat over a specified reference period

Hunger Vital Signs: Two-item screener used in clinical settings to identify households at risk of food insecurity

Food hardship: Other survey questions besides those above that measure food access

Hunger: Not measured with any of the survey items discussed

The more than 25 years of CPS data on food security has allowed researchers to document trends over time, study the causes and consequences of food insecurity, and evaluate the impact on food security of economic changes, policy changes, and events like recessions or the COVID-19 pandemic. The measure has also been used to help target resources and interventions to the communities and demographic groups most in need, such as children, elderly populations, rural areas, or specific geographic areas (Coleman-Jensen, McFall, and Nord 2013; Gregory and Coleman-Jensen 2013; Heflin and Zilliak 2024; Rabbitt et al. 2024). Of particular importance, these data have enabled researchers and policymakers to assess whether federal nutritional assistance programs such as the Supplemental Nutrition Assistance Program (SNAP), the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), and school meal programs are effectively reaching those in need, and their efficacy in reducing the prevalence and severity of food insecurity in the population.

The 18-item food security scale was developed as a collaborative effort across federal agencies, academic researchers, and private commercial and nonprofit organizations in response to the National Nutrition Monitoring and Related Research Act of 1990. A key goal of the measurement project was to develop a scale that could capture the severity of deprivation in basic food needs as experienced by US households. Extensive testing established the

validity and reliability of the scale and its applicability across various household types in the broad national sample.[3] The 18-item scale, along with other contextual questions about food spending and food assistance programs, was added to the CPS-FSS. Over the years as the food security measure has been further tested and refined, it has become the gold standard for measuring the concept of food security.[4]

Why Does This Matter?

Household experiences accessing food is an indicator of well-being and an important factor in understanding economic hardship, nutrition, and health, and has implications for the healthy development of children. Consequently, many different surveys collect information on food access—sometimes using the established food security scale and other times using different measures. Often these studies do not have the survey space or time to use the full 18-item food security scale and instead, use alternative measures of food access to reduce respondent burden and lower survey costs. In some cases, researchers may be primarily interested in a specific manifestation of food hardship or deprivation as distinct from food security. These various measures, while often related with a level of food security, are distinct from food security and often cannot capture the multiple levels of severity that the Household Food Security scale measures. In some cases, the measures have not gone through the same rigorous scientific validation process and do not have the same evidence base regarding the same causes and consequences as the official food security measure.

The distinctions between food security and other food access measures are sometimes not made in research and are frequently ignored altogether in the popular press. Instead, "food insecurity" or "hunger" may be used to refer to the general concept of lack of access to food. As a result, the public as well as other researchers can easily become confused about what is known about the prevalence, causes, and consequences associated with varying measures.

To provide additional clarity to the field, we recommend specific terminology for consideration when presenting findings based on different measures of food access. This brief is part of a series being published under the Food Security Data Collaborative, an initiative convening researchers and practitioners interested in furthering food security measurement. See "About the Food Security Data Collaborative" for more information.

Household Food Security Scale (6-,10-, and 18-Item Scales)

Definition: Households are ***food insecure*** when they are unable to acquire adequate food for one or more household members because they had insufficient money and other resources for food. Food security can be thought of as a managed process where resource constrained households first cope by making minor adjustments to meet food needs and these adjustments become increasingly more severe as resources become more constrained.

Measure: A series of 18 questions in households with children under 18 (or 10 items in adult-only households). The six-item "short form" is designed to assess the same concepts but with fewer questions when respondent burden and survey time are of concern. Food security is most commonly measured and reported with a 12-month reference period, but a 30-day reference period can also be used. A household's food security status indicates the lowest level of food security experienced at any time during the reference period.

According to USDA[5]:

"The food security status of each household lies somewhere along a continuum extending from high food security to very low food security. This continuum is divided into four ranges, characterized as follows:

- **High food security**. Households had no problems, or anxiety about, consistently accessing adequate food.
- **Marginal food security**. Households had problems at times, or anxiety about, accessing adequate food, but the quality, variety, and quantity of their food intake were not substantially reduced.
- **Low food security**. Households reduced the quality, variety, and desirability of their diets, but the quantity of food intake and normal eating patterns were not substantially disrupted.
- **Very low food security**. At times during the year, eating patterns of one or more household members were disrupted and food intake reduced because the household lacked money and other resources for food.

"For most reporting purposes, USDA describes households with high or marginal food security as food secure and those with low or very low food security as food insecure. Placement on this continuum is determined by the household's responses to a series of questions about behaviors and experiences associated with difficulty in meeting food needs. The questions cover a wide range of severity of food insecurity.

- **Least severe.** Was this statement often, sometimes, or never true for you in the last 12 months? 'We worried whether our food would run out before we got money to buy more.'
- **Somewhat more severe.** Was this statement often, sometimes, or never true for you in the last 12 months? 'We couldn't afford to eat balanced meals.'
- **Midrange severity.** In the last 12 months, did you ever cut the size of your meals or skip meals because there wasn't enough money for food?
- **Most severe.** In the last 12 months, did you ever not eat for a whole day because there wasn't enough money for food? 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?

"Every question specifies the period (last 12 months) and specifies lack of resources as the reason for the behavior or experience ('We couldn't afford more food,' 'There was not enough money for food.')

"Food insecure. Households that report three or more conditions that indicate food insecurity are classified as 'food insecure.' That is, they were at times unable to acquire adequate food for one or more household members because they had insufficient money and other resources for food. The three least severe conditions that would result in a household being classified as food insecure are:

- They worried whether their food would run out before they got money to buy more.
- The food they bought didn't last, and they didn't have money to get more.
- They couldn't afford to eat balanced meals.

"Households are also classified as food insecure if they report any combination of three or more conditions, including any more severe conditions.

"Very low food security. Households having 'very low food security' were food insecure to the extent that eating patterns of one or more household members were disrupted and their food intake reduced, at least some time during the year, because they could not afford enough food. To be classified as having 'very low food security,' households with no children present must report at least the three conditions listed above and also that:

- Adults ate less than they felt they should.
- Adults cut the size of meals or skipped meals and did so in 3 or more months.

"Many report additional, more severe experiences and behaviors as well. If there are children in the household, their experiences and behaviors are also assessed, and an additional two affirmative responses are required for a classification of very low food security."

The **10-item scale** is often used in settings when the unit of analysis for a study is an individual (adult), for example, individual diet or health, so the food security status of children is not of primary interest. The **6-item scale** is often used when survey space and time are more constrained. It can be used to produce food security prevalence estimates of low and very low food security. However, it is less precise and reliable than the 18-item scale and does not measure food security among children.[6]

Food Insufficiency

Definition: ***Food insufficiency*** means "households sometimes or often do not have enough to eat."

Measure: Food insufficiency is measured with a single item with a specified reference period that varies across surveys (e.g., 7 days, 30 days, 12 months):

> "In the last [reference period], which of these statements best describes the food eaten in your household? Select only one answer: (1) Enough of the kinds of food (I/we) wanted to eat; (2) Enough, but not always the kinds of food (I/we) wanted to eat; (3) Sometimes not enough to eat; (4) Often not enough to eat."

Responses of (3) or (4) are classified as food insufficient.

According to the USDA,[7] additional levels of food sufficiency can be measured with this single item measure:

- **Marginal food sufficiency**. A household reports they had enough to eat but not always the kinds of food they wanted to eat in the reference period.
- **Low food sufficiency**. A household did not have enough to eat sometimes in the reference period.
- **Very low food sufficiency.** A household did not have enough to eat often in the reference period.

The food insufficiency question was used extensively to monitor food hardship during the COVID-19 pandemic because as a single question, it could be added to surveys with more frequent data collection to monitor the rapid changes some households were experiencing.[8]

How Does Food Insufficiency Compare to Food Insecurity?

According to USDA, "The food insufficiency question provides relatively little detail on the food hardship experienced and indicates only whether a household had enough to eat. Food insufficiency is a more severe condition than food insecurity and measures whether a household generally has enough to eat. In this way, food insufficiency is closer in severity to very low food security than to overall food insecurity."[9]

Conceptually, the food insufficiency question asks households to describe the condition that best describes the food eaten over the reference period (time period). In contrast, the food security scale asks about the worst experiences over the reference period. As such, even households with very low food security in a given year may be food sufficient, since the latter refers to their typical experience over the full period. The food insufficiency question is included in the CPS-FSS, although it is not part of the 18-item food security scale that is used to assess food security itself. Nonetheless, since both food insufficiency and food security were measured in the same data, it is possible to compare how households are categorized across the two measures using a similar reference period.[10] USDA analyses of the CPS-FSS indicate that rates of food insufficiency are similar to those of very low food security,

however, the two measures frequently do not capture the same households: among households with very low food security, about half are nonetheless identified as food sufficient.[11] This pattern is consistent with differences in the underlying concepts. This has important implications because the research on the consequences of exposure to very low food security may not apply to the population that is food insufficient, while there may be consequences of food insufficiency that are not associated with very low food security (Población, de Cuba, and Cook 2021).

Hunger Vital Signs (2-Item Screener)

Definition: ***Hunger Vital Signs*** is a two-item screener designed to be used in clinical settings to identify patients at risk of food insecurity.

Measurement: The screener was developed by clinical researchers associated with Children's Health Watch and is measured with two questions drawn from the Food Security Scale.

> Q1: "Within the past 12 months we worried whether our food would run out before we got money to buy more." (Often true, Sometimes true, never true)
>
> Q2: "Within the past 12 months the food we bought just didn't last and we didn't have money to get more." (Often true, Sometimes true, never true)

Households are considered at risk for food insecurity if they answer that either or both of the two statements is "often true" or "sometimes true" (vs. "never true").

How Does the Hunger Vital Signs Compare to Food Insecurity?

Currently, evidence regarding the correspondence of Hunger Vital Signs and Food Insecurity is limited. Researchers at Children's Health Watch[12] compared answers to the full 18-item Food Security Scale and the two questions Hunger Vital Signs using hospital-based data collected between 1998 and 2005. Most respondents who lived in food insecure households answered affirmatively (often true or sometimes true versus never true) to questions 1 and 2 of the Hunger Vital Signs (Q1: 92.5 percent and Q2: 81.9 percent, respectively). Used together, the two items were shown to accurately identify individuals with food insecurity with only 3 percent false negatives (a 97 percent rate of sensitivity). However, the level of false positives—those who screening indicated were at risk for food insecurity but who were nonetheless food secure based on the full scale—was 17 percent (an 83 percent specificity rate; Hager et al. 2010). More recent analysis using a survey of low-income New Yorkers in 2022 found similarly high ability to identify food secure households (98.1 percent) but higher rates of false positives (27.1 percent), when comparing the Hunger Vital Signs to the 10-item Household Food Security Scale (Shaheen, Liu, and Crossa 2024). This pattern of results suggests that Hunger Vital Signs—designed to flag at-risk households in a clinical setting—would provide too-high prevalence rates if used to measure food insecurity in the population.

Food Hardship

Definition: Definitions of ***food hardship*** vary

Measure: Measures of food hardship also vary

Some surveys use other measures of food access besides these standard measures (e.g., the Fragile Families and Family Well-Being Study, and the 2017 optional module on the Behavioral Risk Factor Surveillance System). To avoid confusion with these other measures, we suggest that the term "food insecurity" not be used and these measures collectively be referred to as measures of "food hardship."

How Does Food Hardship Compare to Food Insecurity?

Given the different question wording, answer frames, and reference periods used in other measures of food access, there is no standard comparison to food security. Furthermore, since these other measures are not usually fielded alongside the Food Security Scale, it is unclear how various food hardship measures relate to food insecurity. These measures may tap into dimensions and experiences of constrained food access that are relevant in various contexts or in communicating with certain audiences. They are, however, not interchangeable or synonymous with food security, and this distinction is important for clarity in communicating with other researchers, policymakers, and the public.

Hunger

Definition: ***Hunger*** is the *individual*, *physical feeling* of needing to eat.

Measure: None of the measures discussed above are measures of hunger.

How Does Hunger Compare to Food Insecurity?

Hunger has been a widely used term among advocates, media, and the general public for many years to capture a range of food hardship experiences. Some people feel it is a more relatable term for challenges people experience getting food for their families, while others equate hunger with only the more severe forms of deprivation. Outside of popular conversations, hunger is characterized as the "the uneasy or painful sensation caused by lack of food."[13] While hunger *can* result from food insecurity, it is not always present, due to coping mechanisms like reducing food quality or variety. Additionally, those who are food secure can experience hunger before eating healthy and nutritious meals.

In 2006, USDA funded a study by the National Academies Committee on National Statistics (CNSTAT) to review the food security measure and the communication of food-insecure levels. The final report provided specific recommendations regarding the use of the term of "hunger," advising that hunger should not be used when discussing food insecurity measures.

As described in 2007 by USDA:

> "The panel recommended that USDA continue to measure and monitor household food insecurity but to recognize more explicitly that hunger, although related, is a different phenomenon. Food security is a household-level economic and social condition of limited access to food, while hunger is an individual-level physiological condition that may result from food insecurity. The food security measure, then, provides important information about the economic and social contexts that may lead to hunger, but it does not assess the extent to which hunger actually ensues. Based on the more severe concept of hunger and on the lack of a one-to-one correspondence between food insecurity and hunger, the CNSTAT panel recommended that USDA avoid using the word "hunger" to characterize a severe range of food insecurity."[14]

USDA adopted the panel's recommendations, and the labels "low food security" and "very low food security" have been used since 2006. The label wording is designed to distinguish between differences in the severity of food access difficulties without implying a direct correspondence with hunger.

Conclusion

The Household Food Security scale has gained wide acceptance as a validated measure of the range of experiences and conditions households experience when they lack access to enough food for an active, healthy life. Other measures of food access may describe some of these experiences, but they do not measure the same underlying concept. Using terms interchangeably is technically incorrect and creates confusion. We encourage the use of the food access terms in a manner that is consistent with what is presented in this brief including avoidance of the term "hunger" when referring to what is explicitly captured by any of the measures discussed. Clarity in the terms used will allow readers of published materials to correctly identify the measure used, make valid comparisons over time, and find similar research using the same measure.

About the Food Security Data Collaborative

This brief was written as part of a series of the Food Security Data Collaborative. Hosted by the Urban Institute, the Collaborative convenes researchers, practitioners, service providers, and other stakeholders interested in furthering food security measurement during the pause in federal data collection. These briefs are designed to elevate information on key topics and best practices related to food security measurement and methodology. For more information or to get involved, please reach out to the Collaborative at FoodSecurityData@urban.org.

Notes

[1] "Food Security in the US," USDA Economic Research Service, accessed January 2026, https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us.

[2] "USDA Terminates Redundant Food Insecurity Survey," US Department of Agriculture, September 20, 2025, https://www.usda.gov/about-usda/news/press-releases/2025/09/20/usda-terminates-redundant-food-insecurity-survey.

[3] "Guide to Measuring Household Food Security, Revised 2000," USDA Food and Nutrition Service, accessed January 2026, https://www.fns.usda.gov/research/guide-measuring-household-food-security-revised-2000.

[4] "CNSTAT Assessment," USDA Economic Research Service, accessed January 2026, https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/definitions-of-food-security/cnstat-assessment.

[5] "Food Security Measurement: Comparison," USDA Economic Research Service, accessed January 2026, https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/measurement#comparison.

[6] "Food Security Survey Tools," USDA Economic Research Service, accessed January 2026, https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/survey-tools

[7] "Food Security Measurement: Comparison," USDA Economic Research Service, accessed January 2026, https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/measurement#comparison.

[8] See for example the Household Pulse Survey, which collected food insufficiency data between 2020 and 2024, https://www.census.gov/programs-surveys/household-pulse-survey.html.

[9] "Food Security Measurement: Comparison," USDA Economic Research Service, accessed January 2026, https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/measurement#comparison.

[10] "Food Security Measurement," USDA Economic Research Service, accessed February 2026, https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/measurement

[11] "Food Security Measurement: Comparison," USDA Economic Research Service, accessed January 2026, https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/measurement#comparison.

[12] "The Hunger Vital Sign," Children's HealthWatch, accessed February 2026, https://childrenshealthwatch.org/hunger-vital-sign/.

[13] "Food Security in the U.S.: Measurement," USDA Economic Research Service, accessed January 2026, https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/measurement.

[14] "Struggling to Feed the Family: What Does It Mean to Be Food Insecure?" USDA Economic Research Service, accessed January 2026, https://www.ers.usda.gov/amber-waves/2007/june/struggling-to-feed-the-family-what-does-it-mean-to-be-food-insecure.

References

Coleman-Jensen, Alisha, William McFall, and Mark Nord. 2013. *Food Insecurity in Households with Children: Prevalence, Severity, and Household Characteristics, 2010–11*. EIB-113. Washington, DC: US Department of Agriculture, Economic Research Service.

Gregory, Christian A., and Alisha Coleman-Jensen. 2013. "Do High Food Prices Increase Food Insecurity in the United States?" *Applied Economic Perspectives and Policy* 35: 679–707. https://doi.org/10.1093/aepp/ppt024.

Hager, Elizabeth R., Allison M. Quigg, Maureen M. Black, Sarah M. Coleman, Timothy Heeren, Rachel Rose-Jacobs, John T. Cook, Stephanie A. Ettinger de Cuba, Patrick H. Casey, Mariana Chilton, et al. 2010. "Development and Validity of a 2-Item Screen to Identify Families at Risk for Food Insecurity." *Pediatrics* 126: e26–e32. https://doi.org/10.1542/peds.2009-3146.

Heflin, Colleen, and James P. Ziliak. 2024. "Does the Reference Period Matter When Evaluating the Effect of SNAP on Food Insecurity?" *Applied Economic Perspectives and Policy* 46 (4): 1268–1285. https://doi.org/10.1002/aepp.13420.

Johnson, Angela D., and Anna J. Markowitz. 2018. "Associations Between Household Food Insecurity in Early Childhood and Children's Kindergarten Skills." *Child Development* 89: e1–e17. https://doi.org/10.1111/cdev.12764.

Poblacion, Ana, Stephanie Ettinger de Cuba, and John T Cook. 2021. "Comparing Food Security Before and During the COVID-19 Pandemic: Considerations When Choosing Measures." *Journal of the Academy of Nutrition and Dietetics* 3; 121 (10): 1945–1947. https://doi.org/10.1016/j.jand.2021.06.004.

Rabbitt, Matthew P., Megan Reed-Jones, Laura J. Hales, and Micah P. Burke. 2024. *Household Food Security in the United States in 2023*. ERR-337. Washington, DC: US Department of Agriculture, Economic Research Service. https://doi.org/10.32747/2024.8583175.ers.

Royer, Megan F., L. G. Rosas, and Abby C. King. 2025. "Food Insecurity and Cardiovascular Disease Risk Factors among U.S. Adults." *BMC Public Health* 25: 817. https://doi.org/10.1186/s12889-025-22031-9.

Ryu, Jae H., and Judith S. Bartfeld. 2012. "Household Food Insecurity during Childhood and Subsequent Health Status: The Early Childhood Longitudinal Study–Kindergarten Cohort." *American Journal of Public Health* 102 (11): e50–e55. https://doi.org/10.2105/AJPH.2012.300971.

Shaheen, Tanzia, Yuqing Liu, and Aldo Crossa. 2024. "Validating the Hunger Vital Sign™ and USDA Food Insufficiency Tools Against the HFSS-10 Measure in a New York City Population Survey." *Journal of Health Care for the Poor and Underserved* 35 (4 suppl.): 48–69. https://doi.org/10.1353/hpu.2024.a942868.

About the Authors

Colleen M Heflin is professor at the Maxwell School of Citizenship and Public Affairs at Syracuse University and a nonresident fellow at the Urban Institute. As a research and policy scholar for over 25 years, Heflin research helped document the causes and consequences of food insecurity, identify the barriers and consequences of participation in nutrition programs, and understand the changing role of the public safety net in the lives of low-income Americans. She received her MPP and PhD from the University of Michigan.

Michele Ver Ploeg is a Senior Fellow at the National Center for Food and Agriculture Policy. She recently retired from the Economic Research Service of the US Department of Agriculture where she served as Chief of the Food Assistance Branch, where she was responsible for directing the agency's research and data priorities to support USDA's mission to ensure all Americans have access to enough healthy foods and to monitor and evaluate USDA's significant investments in food and nutrition programs. Her research focuses on access to healthy and affordable foods, food assistance program participation and diet and health outcomes, and the measurement of poverty. She received an MS and PhD in policy analysis and management from Cornell.

Elaine Waxman is a senior fellow in the Tax and Income Supports Division. Her expertise includes food insecurity, nutrition, the food assistance safety net, and social determinants of health disparities, as well as broader issues affecting families and communities with low incomes. Waxman is the coprincipal investigator for the Well-Being and Basic Needs Survey. She received her MPP and PhD from the University of Chicago, where she is currently a lecturer at the Crown Family School of Social Work, Policy, and Practice.

Acknowledgments

This brief was funded by the Annie E Casey Foundation. We are grateful to them and to all our funders, who make it possible for Urban to advance its mission. The views expressed are those of the authors and should not be attributed to the Urban Institute, its trustees, or its funders. Funders do not determine research findings or the insights and recommendations of Urban experts. Further information on the Urban Institute's funding principles is available at urban.org/fundingprinciples. The authors gratefully acknowledge assistance from Judith Bartfeld, Poonam Gupta and Michael Karpman, and we thank Alex Dallman for their careful editing.