

Defining Food Insecurity and Measuring it During COVID-19

Food insecurity is the primary measure of food hardship and is associated with poor health.¹ Official estimates of food insecurity are released annually from the Current Population Survey Food Security Supplement (CPS-FSS). However, data for 2020 will not be released until September 2021. To track food hardship in real time during COVID-19, the Census has fielded the biweekly Household Pulse Survey (Pulse),² which includes questions on “food insufficiency.”

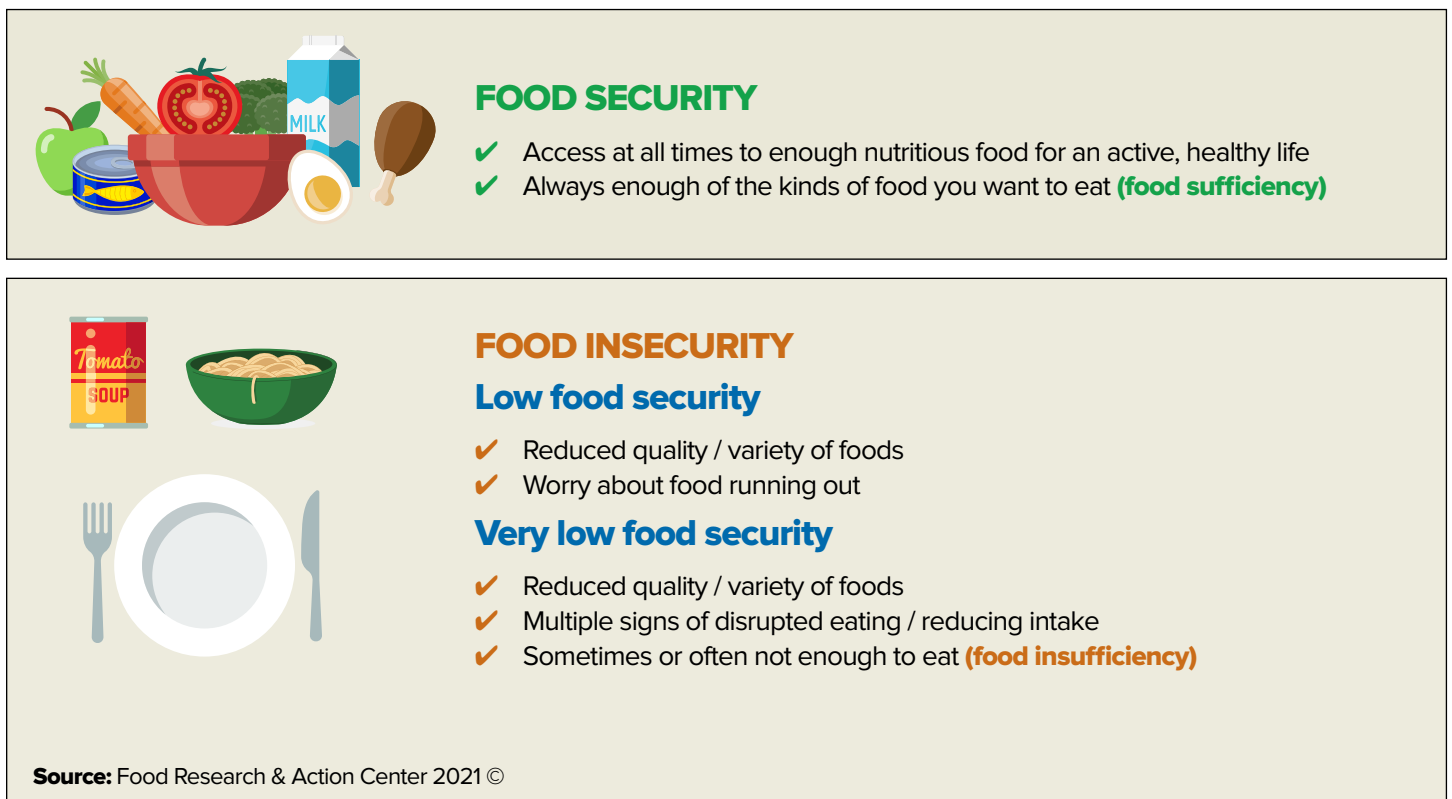
In addition to Pulse, a variety of surveys have been fielded to measure food hardship during the pandemic. Regardless of the data source, research has consistently found that food hardship has increased during COVID-19 and is higher among racial and ethnic minorities, households with children, and families where someone has had their hours cut or lost their job.³

Differences between CPS-FSS and Pulse data mean that food insecurity measures from 2019 are not directly comparable with food insufficiency measures from 2020. This means that we are likely underestimating the degree of food hardship during the pandemic. Here’s why.

1. Food insufficiency is more severe than food insecurity. Food insufficiency and food insecurity are fundamentally due to insufficient resources to meet basic needs and indicate economic hardship,^{4,5} but their meanings are different.

Food insecurity includes people who can’t afford a healthy diet (low food security) and people who are forced to eat less than they should on multiple occasions (very low food security). On the CPS-FSS, these two levels of food

FIGURE 1: Understanding Food Insecurity and Food Insufficiency



insecurity can be distinguished because the survey includes 10 questions (18 with children).

In comparison, only one food insufficiency question is asked on the Pulse survey. Respondents are food insufficient if they “sometimes” or “often” do not have enough to eat. This disruption in eating patterns is more analogous to very low food security.

2. The CPS-FSS and Pulse surveys are designed differently. While these differences have mixed effects, the net effect is that Pulse likely underestimates the extent of food hardship compared to the CPS-FSS data due to the shorter reference period (see Table 1).

TABLE 1: Comparing the Current Population Survey Food Security Supplement (CPS-FSS) Versus the Household Pulse Survey (Pulse)

Source	CPS-FSS	Pulse	Effect on Estimation of Food Hardship
What is measured?	Food insecurity	Food insufficiency	
Questionnaire	<ul style="list-style-type: none"> ■ The CPS-FSS is a series of 10 questions (18 if children are in the household).⁶ ■ Households are food insecure if they respond affirmatively to 3+ questions and have very low food security if they respond affirmatively to 6+ questions (8+ with children). 	<ul style="list-style-type: none"> ■ Food insufficiency is a single question and is asked twice, once about the respondent’s experience prior to COVID-19, and once about their current experience.⁷ ■ Food insufficiency corresponds to selecting “Sometimes not enough to eat,” “Often not enough to eat.” 	<ul style="list-style-type: none"> ■ The CPS-FSS is a more detailed picture of the severity and persistence of a household’s food insecurity. ■ Food insufficiency implies disrupted eating patterns and is therefore more similar to the more serious condition of very low food security rather than to food insecurity in general.
Who is measured?	Households (50,000)	Individuals (80,000)	In both cases, a large sample size means that rates can be compared among specific groups of people (for example, by income, race, or geography).
How is the survey conducted?	Phone and in-person interviews, once a year in December	Online, every two weeks	The type of person who responds to a survey on the phone versus online might be different.
Reference period for food insecurity	Last 12 months and last 30 days	Last seven days; prior to COVID-19	A respondent is more likely to have been food insecure sometime over the past year compared to only the past week.
Method	Households are screened using income ⁸ and are asked survey questions in stages — households reporting food security in early questions are not asked later questions.	There is no screening process, every participant is asked the food insufficiency questions.	Research ^{9,10} finds that not including the screening process yields higher estimates of food insecurity.

Key Takeaways:

1. Food insecurity and food insufficiency are both measures of food hardship that indicate limited access to food due to the economic or social conditions of a household, but they mean different things, which is important to keep in mind when comparing data across surveys.
2. The CPS-FSS is the gold standard for measuring food insecurity and a more detailed representation of the true degree of food hardship, but it's expensive and only happens once a year.
3. The Pulse Survey measures food insufficiency, but is a less detailed representation of food hardship; however, it can be measured and released quickly, which is important during the pandemic.
4. Compare general patterns between surveys (for example, disparities by income, geography, or race and ethnicity).
5. Avoid comparing specific numbers across surveys (for example, food insecurity rates from the 2019 CPS-FSS compared to food insufficiency rates from the May 2020 Pulse to look at the percentage increase in food hardship).

Endnotes

¹ Hartline-Grafton H. (2017). *Hunger and Health – The Impact of Poverty, Food Insecurity, and Poor Nutrition on Health and Well-Being*. Available at: <https://frac.org/research/resource-library/hunger-health-impact-poverty-food-insecurity-poor-nutrition-health-well>. Accessed on April 14, 2021.

² U.S. Census Bureau. (2021). Household Pulse Survey Data Tables. Available at: <https://www.census.gov/programs-surveys/household-pulse-survey/data.html>. Accessed on April 14, 2021.

³ Other surveys conducted during COVID-19 that measure food insecurity or food insufficiency include the Survey of Mothers with Young Children (Brookings Institution), the Coronavirus Tracking Survey (Urban Institute), the COVID Tracking Project (NORC at the University of Chicago), the National Food Access and COVID Research Team (NFACT) surveys, and various other research studies (see [Ahn & Norwood 2020](#) or [Wolfson & Leung 2020](#)). For more detail on these studies and their findings, please see FRAC's [Spring 2021 issue of the ResearchWIRE](#).

⁴ Sethi, S. (2020). *Hunger and food insecurity are not the same. Here's why that matters — and what they mean*. Available at: <https://thecounter.org/hunger-food-insecurity-covid-19-feeding-america/>. Accessed on April 14, 2021.

⁵ Bauer, L. (2020). *Hungry at Thanksgiving: A Fall 2020 Update on Food Insecurity in the U.S.* Available at: <https://www.brookings.edu/blog/up-front/2020/11/23/hungry-at-thanksgiving-a-fall-2020-update-on-food-insecurity-in-the-u-s/>. Accessed on April 14, 2021.

⁶ U.S. Department of Agriculture, Economic Research Service. (2020). December 2019 CPS Food Security Supplement Data File: Questionnaire. Available at: <https://www.ers.usda.gov/data-products/food-security-in-the-united-states/>. Accessed on April 20, 2021.

⁷ U.S. Census Bureau. (2021). Household Pulse Survey Questionnaire (In Field Beginning January 26, 2021). Available at: <https://www.census.gov/programs-surveys/household-pulse-survey/technical-documentation.html>. Accessed on April 20, 2021.

⁸ "Low income" refers to households that earn an income below 185 percent of the federal poverty line threshold.

⁹ Ahn, S., & Norwood, F. B. (2020). Measuring Food Insecurity during the COVID-19 Pandemic of Spring 2020. *Appl Econ Perspect Policy*. 43(1):162-168.

¹⁰ Ahn, S., Smith, T. A., & Norwood, F. B. (2020). Can Internet Surveys Mimic Food Insecurity Rates Published by the US Government? *Appl Econ Perspect Policy*. 42(2):187-204.