RESEARCH BRIEF

Challenges in Researching the Diets of SNAP Recipients — Addressing Methodological Flaws and Emphasizing SNAP as an Anti-Hunger Program

FRAC Food Research & Action Center

Summary

- **SNAP** is a vital anti-hunger and poverty alleviation program supporting millions of Americans.
- The **worst proven health outcome** is not having enough food to eat.
- There are **significant challenges** in drawing conclusions in examining SNAP recipients' dietary quality.
- **Methodological difficulties** affect the accuracy of research, including:
  - **selection bias**
  - **misreporting of SNAP participation**
  - **limitations of cross-sectional studies**
- These challenges lead to **misleading conclusions** about SNAP usage and its impact on dietary quality.
- While the average benefit of $6 per person per day is inadequate, SNAP is still **critical to helping families alleviate hunger and curb food insecurity**.

Food Insecurity

Food insecurity[1] — defined as the lack of consistent access to enough nutritious food for an active, healthy life — is a critical issue in the U.S., affecting millions of individuals, particularly those from households with low incomes.[2] Food insecurity is linked to poor dietary quality and increased risk of diet-related diseases, including cardiovascular disease, diabetes, and certain types of cancer. Food insecurity also limits individuals' and families' ability to follow a healthy dietary pattern[3], with implications for human development and school experience.[4]

Food insecurity is inextricably linked to poverty: 38.7 percent of households with incomes below the federal poverty line are food insecure.[5] In 2023, disproportionately high poverty rates were noted among Black/African American (17.9 percent), Latine (16.6 percent), and American Indian and Alaska Native populations (21.2 percent), compared to a poverty rate of just 7.7 percent among White Americans.[6] In the same year, approximately 47.4 million people in the U.S. lived in food-insecure households, including 13.8 million children.[7]

Food insecurity also imposes avoidable health care costs at both societal and individual levels.[8] Studies show that food insecurity is a cause and effect, contributing to higher health care costs, with food-insecure families paying about 20 percent more — an average of $2,500 annually — than families with sufficient food.[9] This also impacts children, as those from food-insecure families tend to have higher health care utilization and associated costs.[10] In 2014, food insecurity was conservatively estimated to cost the U.S. over $160 billion annually in excess health care expenses, a figure that remains the most current estimate available.[11]

The Role of SNAP

SNAP is the nation's primary defense against hunger and food insecurity. In 2023, approximately 43.1 million people participated in SNAP, the largest federal nutrition program designed to alleviate hunger by providing food assistance to individuals and families at or below the federal poverty guidelines. While studies focus on SNAP's dietary impact, it is essential to recognize its fundamental role as a food assistance program and consider its effects on health care and the external factors that shape dietary behaviors.

SNAP supports individuals across all developmental phases and life phases, positively impacting children, adults, and caregivers alike. For families with young children, SNAP increases the likelihood of affording enough food by 22 percent and reduces the chances of cutting children's meal sizes by 33 percent compared to income-eligible non-participating families.[12] Children in SNAP households exhibit better health, growth, and emotional and academic outcomes compared to their peers in non-participating income-eligible families.[13] For adults, SNAP participation is associated with improved mental health and a reduced risk of obesity, diabetes, and hypertension, particularly for those who participated during early childhood.[14] Additionally, mothers who participate in SNAP during pregnancy are less likely to have low-birth-weight babies, thereby avoiding various adverse health outcomes.[15] When SNAP benefits are reduced or terminated, families face significantly heightened risks of food insecurity.[16]

Challenges in SNAP Diet Research

1. The Heterogeneity of SNAP Recipients

One of the major difficulties in examining the diet of SNAP recipients is the diverse nature of the population. SNAP beneficiaries are not a homogeneous group; they range in age, health status, geographic location, economic circumstances, and longevity of program participation. While children, older adults, and people with disabilities constitute a large proportion of SNAP recipients, the factors that influence their food choices and nutrition vary widely.

Furthermore, variations in SNAP benefit amounts, which are determined by income and household expenses, further complicates the landscape. The program allocates greater benefits to those with lower incomes and higher shelter expenses, meaning that dietary outcomes of recipients are often influenced by factors outside of the program's control, such as housing costs or access to transportation. Studies indicate that current SNAP benefits fall short of covering the cost of a moderately priced meal in 99 percent of U.S. counties.[17] Therefore, any analysis of dietary quality among SNAP recipients must account for this diversity to avoid oversimplified conclusions. See table on Page 4 showing diversity of participants.

Job loss is frequently cited as the primary reason for enrolling in SNAP, and participants often receive SNAP benefits temporarily, ranging from six to 24 months, based on their needs and external circumstances.[18] The duration of participation varies by certain characteristics, with those holding some college education and full-time employment more likely to be short-term program participants.[19] Conversely, those living below the poverty threshold, children, individuals in female-headed households, adults with less than a high school education, and those with a sick household member are often long-term participants. Consequently, any analysis of dietary intake must also consider the length of participation to accurately assess its long-term impact.

2. Accounting for Access and Geographical Diversity

Access to healthy food and experiences of food insecurity are key social determinants of health, largely shaped by local environments, including neighborhood infrastructure, accessibility, and affordability barriers.[20] Access to grocery stores that offer healthy food options is not equitably distributed across the U.S., leading to an emergence of "food deserts" in urban or suburban neighborhoods as well as in rural areas where stores are too far to be accessible.[21,22] Food deserts are more common in neighborhoods characterized by high minority populations or elevated poverty rates.[23] Conversely, food swamps

are found in urban, suburban, and rural areas, where stores prioritize cheap, calorie-dense junk foods, further limiting access to nutritious foods and contributing to obesity, particularly in communities with limited transportation and high-income inequality.[24] Accordingly, in attempting to research SNAP recipients and diet, research should consider various factors influencing the accessibility of food, beyond mere affordability. For instance, rural SNAP participants may encounter greater barriers to accessing fresh produce and nutritious foods than those in urban environments.

3. Selection Bias and Confounding Variables

Selection bias is a critical obstacle in assessing the effects of SNAP on dietary quality.[25] Households that experience the most severe food insecurity are often the most in need of assistance and are most likely to seek SNAP assistance.[26,27] These individuals often face higher levels of poverty, health challenges, and food access issues that can result in poor dietary outcomes. As a result, studies comparing SNAP recipients to nonparticipants often overlook pre-existing conditions that may contribute to poor nutrition, making it difficult to assess the true effect of SNAP.

Further complicating the evaluations, income alone cannot adequately account for disparities in SNAP benefit amounts, as recipients' benefits reflect their specific circumstances. Nonparticipants may have greater financial means or resources, leading to substantial baseline differences in food insecurity between the two groups. Therefore, comparing the diets of SNAP recipients to income-eligible nonparticipants may mask the true impact of the program.

4. Misreporting and Measurement Limitations

Another significant barrier to studying the diets of SNAP recipients is the prevalence of misreporting regarding participation in the program. Surveys that rely on self-reported data often yield unreliable information, with studies showing that as many as 19 percent to 25 percent of respondents misreport their SNAP participation.[28] Some individuals may entirely fail to disclose their participation, while a few others may inaccurately claim to be recipients when they are not.[29]

Additionally, many studies categorize SNAP participation in dichotomous measures — labelling individuals simply as recipients or nonrecipients — without accounting for the variability in benefit amounts.[30] SNAP benefits are not fixed — they fluctuate based on factors such as income, family size, and other factors. By treating SNAP participation as a binary variable, researchers and policymakers overlook the nuanced reality of the program, which can lead to misguided and erroneous conclusions about its impact on dietary outcomes. This oversimplification masks the diversity of experiences among SNAP participants and undermines the accuracy of findings related to nutrition and food security.

5. Ethical Constraints on Experimental Design

Studying the effects of SNAP through randomized controlled trials (RCTs) presents a fundamental ethical challenge. While RCTs are considered the gold standard for experimental research, it is unethical to randomly assign individuals to forgo food assistance particularly when hunger and food insecurity are at stake.[31] Consequently, most studies on SNAP rely on observational data, which inherently lack the ability to establish causality. Generally, individuals facing more hardship are more likely to self-select or choose to participate in the program.[32] However, even with self-selection, the research does not account for whether these individuals were able to overcome the various obstacles they face when applying for SNAP.[33] This limitation leads to difficulties in determining whether observed dietary differences are directly attributable to participation in the program or whether they are reflective of pre-existing conditions among participants. Consequently, this reliance on observational data can obscure a clear understanding of SNAP's true impact on food security and dietary outcomes.

Dataset on Different Characteristics[34]

STATE	ACS 2023	USDA 2023	USDA FY 2024	ACS 2023	ACS 2023	ACS 2023	ACS 2023	USDA FY 2024	ACS 2023
State	Official Poverty Rate Under 100%	% Food Insecurity	Monthly Average of SNAP Participating Households	% of SNAP House-Holds With Child/ Children	% of SNAP House-Holds With an Older Adult(s)	% of SNAP Households With Person With Disability	% of SNAP Households With a Member(s) That Worked	Average Monthly SNAP Benefit Amount	% of SNAP Households Living in Rural Counties
Alabama	16%	12%	376,039	49%	34%	47%	75%	$192.91	22%
Alaska	10%	10%	34,318	49%	35%	49%	81%	$306.18	33%
Arizona	12%	12%	454,028	54%	37%	46%	81%	$181.86	5%
Arkansas	16%	19%	126,651	48%	33%	55%	69%	$181.96	39%
California	12%	11%	3,128,471	50%	42%	44%	84%	$191.73	2%
Colorado	9%	10%	312,322	46%	37%	47%	86%	$185.81	13%
Connecticut	10%	10%	229,620	40%	43%	50%	82%	$190.19	6%
Delaware	11%	11%	59,192	52%	41%	48%	80%	$180.48	27%
District of Columbia	14%	9%	84,034	43%	37%	47%	67%	$193.47	n/a
Florida	12%	12%	1,644,204	45%	46%	44%	81%	$184.96	3%
Georgia	14%	13%	683,123	52%	38%	45%	80%	$193.04	17%
Hawaii	10%	10%	86,616	50%	50%	47%	83%	$377.11	20%
Idaho	10%	11%	65,298	52%	34%	52%	87%	$179.10	26%
Illinois	12%	12%	1,061,257	45%	37%	44%	83%	$192.41	13%
Indiana	12%	12%	291,902	51%	31%	50%	81%	$195.10	22%
Iowa	11%	10%	128,520	47%	31%	47%	85%	$169.96	39%
Kansas	11%	11%	92,484	50%	31%	53%	82%	$181.96	30%
Kentucky	16%	15%	276,406	51%	32%	54%	71%	$173.04	38%
Louisiana	19%	16%	417,696	50%	33%	46%	79%	$187.15	16%
Maine	10%	11%	101,167	34%	43%	58%	73%	$176.04	42%
Maryland	10%	10%	380,471	47%	40%	46%	82%	$180.12	5%
Massachusetts	10%	9%	678,728	40%	44%	50%	80%	$195.87	2%
Michigan	14%	13%	785,222	43%	36%	51%	79%	$173.03	17%
Minnesota	9%	9%	234,582	45%	35%	49%	86%	$157.23	23%
Mississippi	18%	16%	191,549	51%	35%	50%	74%	$182.40	50%
Missouri	12%	13%	322,031	46%	34%	54%	81%	$191.96	24%
Montana	12%	11%	41,637	42%	37%	52%	81%	$173.27	43%
Nebraska	11%	13%	76,443	49%	32%	49%	87%	$178.30	35%
Nevada	12%	13%	269,676	49%	37%	45%	87%	$165.97	8%
New Hampshire	7%	7%	42,355	45%	39%	54%	78%	$167.14	38%
New Jersey	10%	10%	434,596	47%	44%	44%	82%	$194.01	n/a
New Mexico	18%	13%	241,689	48%	35%	47%	80%	$189.86	32%
New York	14%	12%	1,707,770	38%	49%	49%	77%	$209.43	8%
North Carolina	13%	11%	705,967	50%	36%	45%	79%	$173.06	21%
North Dakota	10%	9%	24,785	46%	31%	48%	74%	$190.73	39%
Ohio	13%	13%	715,597	45%	36%	51%	78%	$190.93	18%
Oklahoma	16%	15%	334,471	52%	31%	51%	80%	$182.76	32%
Oregon	12%	13%	435,626	40%	39%	51%	83%	$175.59	16%
Pennsylvania	12%	11%	1,079,939	41%	41%	52%	79%	$177.84	14%
Rhode Island	11%	10%	90,064	37%	46%	50%	78%	$198.52	n/a
South Carolina	14%	14%	277,237	52%	38%	47%	77%	$185.35	14%
South Dakota	12%	9%	37,306	50%	33%	47%	82%	$200.00	49%
Tennessee	14%	12%	353,823	50%	35%	50%	78%	$181.79	21%
Texas	14%	17%	1,466,107	60%	33%	44%	85%	$188.19	10%
Utah	9%	12%	84,989	56%	32%	51%	85%	$188.37	13%
Vermont	10%	9%	39,520	34%	45%	57%	73%	$184.48	65%
Virginia	10%	10%	425,306	50%	37%	48%	81%	$177.75	13%
Washington	10%	10%	513,743	45%	39%	52%	84%	$180.15	10%
West Virginia	17%	14%	147,957	43%	38%	54%	67%	$169.91	38%
Wisconsin	11%	11%	371,065	43%	35%	45%	84%	$161.12	26%
Wyoming	11%	13%	13,691	50%	31%	49%	80%	$162.76	68%

Broader Impact of SNAP as an Anti-Hunger Program

While research on SNAP often emphasizes the dietary habits of participants, this narrow focus may inadvertently overlook the program's broader significance in combating food insecurity. SNAP's primary role is to provide essential support to individuals and families who are struggling to meet their basic need for food. While the average benefit of $6 per person per day is inadequate, it still is critical to helping families alleviate hunger and curb food insecurity. An increased benefit would further boost nutritional outcomes.

Conclusion

Research on the diets of SNAP recipients is complex and prone to numerous methodological challenges that can result in misleading interpretations. Factors such as selection bias, misreporting of participation, and ethical constraints in experimental design complicate efforts to accurately evaluate SNAP's impact on dietary quality. Therefore, there is a need to prioritize assessments of how effectively SNAP reduces food insecurity, rather than solely on dietary quality, which can be influenced by external access barriers. Hunger is the most immediate and damaging consequence of poverty, with profound long-term repercussions on health and well-being. Recognizing SNAP as an anti-hunger program emphasizes its vital role in preventing hunger and mitigating its associated health impacts.

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Endnotes

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