

RESEARCH THAT MATTERS

FOOD INSUFFICIENCY AMONG TRANSGENDER ADULTS During the COVID-19 Pandemic

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OVERVIEW

Higher rates of food insecurity have been observed among LGBT as compared to non-LGBT people. However little research has focused exclusively on food access for transgender people. This study aims to fill this gap and provides information about current experiences of food insufficiency—defined as sometimes or often not having enough to eat in the last 7 days—in a nationally representative household sample of transgender and cisgender people. Using data collected by the U.S. Census Bureau on the Household Pulse Survey, this study found that food insufficiency was almost two and a half times as common among transgender as cisgender people (19.9% vs. 8.3%).

Food insufficiency was much more common among some groups than others. Nearly five times as many transgender people of color as White cisgender people (28.2% vs 6.0%) experienced food insufficiency at some point during the summer or early fall of 2021. Far more transgender adults with a bachelor's degree or more experienced food insufficiency than cisgender adults with the same educational attainment (15.7% vs 2.4%, respectively).

Household Pulse Survey data were further analyzed to provide information about current socioeconomic status, food resource utilization (e.g., SNAP, charitable food resources), and self-reported reasons for insufficient food among transgender adults and their cisgender counterparts. Only 28.7% of income-eligible transgender people were enrolled in SNAP as compared to 38.5% of income-eligible cisgender peers. In addition, over twice as many transgender people as cisgender people reported other barriers to accessing food, including that they could not get out to buy food (27.7% and 12.3%, respectively). Details about study methods, as well as tables, are included in the Appendix.

INTRODUCTION

Previous research conducted with the nationally representative Gallup Daily Tracking survey found that more LGBT than non-LGBT adults did not have enough money to buy the food that they or their family needed.¹ However, these data could not be disaggregated to provide information about transgender people relative to cisgender people. In 2021, nationally representative household data about food insufficiency—defined as sometimes or often not having enough to eat in the last 7 days²—as well as sex assigned at birth and gender identity were collected, for the first time, by the U.S. Census Bureau on the Household Pulse Survey. This study utilizes these household data to provide information about experiences of food insufficiency during the COVID-19 pandemic, as well as SNAP benefit and charitable food resource utilization, separately for transgender and cisgender adults. Differences by racial minority and majority status, educational attainment, and among transgender groups are also explored.

¹ Brown, T.N.T., Romero, A.P., & Gates, G.J. (2016). *Food Insecurity and SNAP Participation in the LGBT community*. The Williams Institute, UCLA, Los Angeles, CA. <https://williamsinstitute.law.ucla.edu/wp-content/uploads/Food-Insecurity-SNAP-July-2016.pdf>; Wilson, B.D.M. & Conron, K.J. (2020). *National Rates of Food Insecurity among LGBT People: LGBT People and Covid-19*. The Williams Institute, UCLA, Los Angeles, CA;

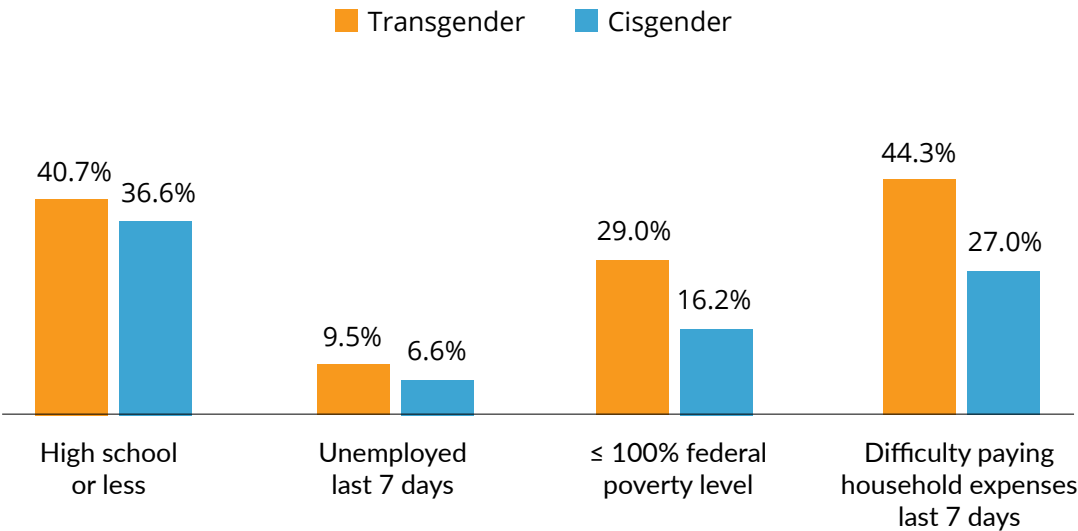
² USDA Economic Research Service. (2021). *Food Security in the U.S.: Measurement: What is Food Insufficiency?* <https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/measurement/#insufficiency> Accessed November 2021.

RESULTS

CURRENT SOCIOECONOMIC STATUS

Across several indicators of socioeconomic status, larger proportions of transgender³ adults were disadvantaged as compared to their cisgender counterparts. Nearly 40.7% of transgender adults had a high school education or less, 9.5% were in the workforce, but not working for pay in the last 7 days, nearly a third (29.0%) were living at or below the federal poverty level, and 44.3% reported difficulty paying for usual household expenses, including but not limited to “food, rent or mortgage, car payments, medical expenses, student loans, and so on” in the last 7 days.

Figure 1. Socioeconomic characteristics of transgender and cisgender participants in the Household Pulse Survey, July 21 to October 11, 2021 (N=338,013)



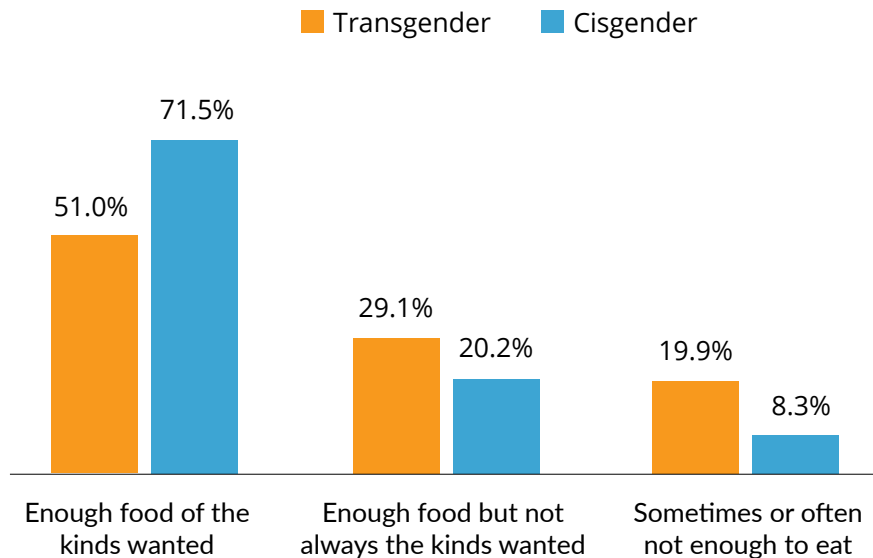
*The sample size (n=295,968) for poverty is smaller than the total analytic sample due to missing data on household income.

³ Survey respondents who selected gender identity options (male or female) that differed from their sex assigned at birth were classified as transgender. Those who selected gender identity options that were the same as their sex assigned at birth (male or female) were classified as cisgender. Please refer to the methods appendix for further detail.

FOOD INSUFFICIENCY

Food insufficiency was nearly two and a half times as common among transgender as cisgender people; 19.9% of transgender adults in the U.S. reported sometimes or often not having enough to eat in the past week, compared to 8.3% of cisgender peers.

Figure 2. Food insufficiency in the last 7 days among transgender and cisgender participants in the Household Pulse Survey, July 21 to October 11, 2021 (N=338,013)



More than one-third (34.4%) of transgender adults who earned $\leq 130\%$ of the federal poverty level⁴—the amount set by the federal government to qualify for the Supplemental Nutrition Assistance Program (SNAP) public assistance program—experienced food insufficiency in the past week. Food insufficiency was reported by more than a quarter (28.4%) of those living at 131-200% of the federal poverty level (FPL) and by almost one in ten (9.4%) transgender adults living above 200% of the FPL.⁵

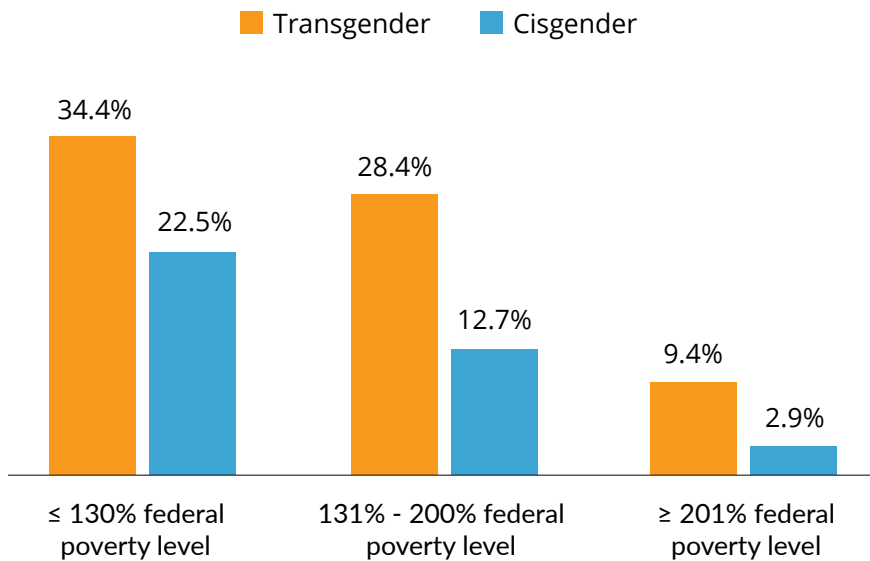
Over one-fifth (22.5%) of cisgender adults who earned $\leq 130\%$ of the federal poverty level (FPL) experienced food insufficiency in the past week. Food insufficiency was reported by more than one in ten (12.7%) cisgender adults living at 131-200% of the FPL and by few (2.9%) cisgender adults living above 200% of FPL.

At all economic levels, food insufficiency was more common among transgender than cisgender adults.

⁴ \$22,656 for a two-person household. See <https://www.fns.usda.gov/snap/recipient/eligibility>

⁵ \$35,840 for a two-person household. See <https://aspe.hhs.gov/topics/poverty-economic-mobility/poverty-guidelines/prior-hhs-poverty-guidelines-federal-register-references/2021-poverty-guidelines#thresholds>

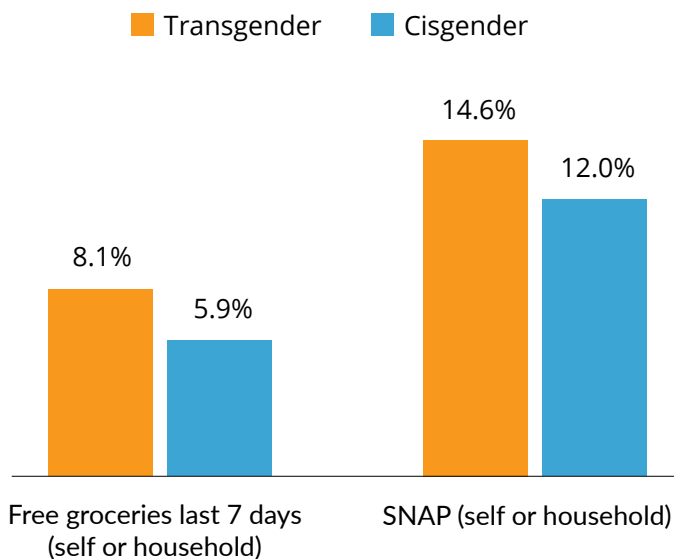
Figure 3. Food insufficiency among transgender and cisgender participants in the Household Pulse Survey, July 21 to October 11, 2021, by federal poverty level (FPL) (n=295,968)



FOOD RESOURCE UTILIZATION

Similar proportions of transgender and cisgender adults reported recent use of food resources, including charitable resources such as free groceries from food banks (8.1% and 5.9%, respectively) and the Supplemental Nutrition Assistance Program (SNAP) (14.6% and 12.0%, respectively), despite higher levels of food insufficiency among transgender adults.

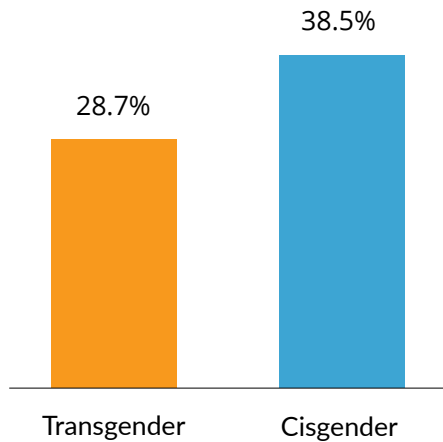
Figure 4. Use of food resources by transgender and cisgender participants* in the Household Pulse Survey, July 21 to October 11, 2021 (N=338,013)



*Differences in proportions between transgender and cisgender groups are not statistically significantly different.

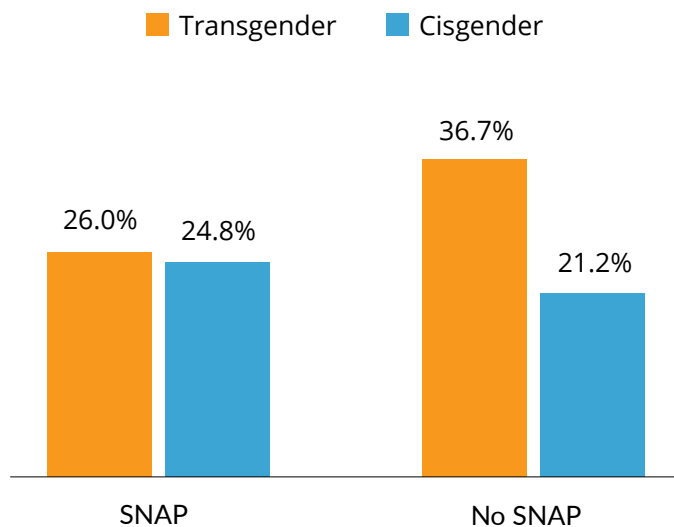
More than a quarter (28.7%) of transgender adults and 38.5% of cisgender adults living at $\leq 130\%$ federal poverty level—the amount set by the federal government to qualify for the Supplemental Nutrition Assistance Program (SNAP) public assistance program—reported that they or someone in their household are receiving SNAP.

Figure 5. Household receipt of SNAP benefits among transgender and cisgender participants in the Household Pulse Survey, July 21 to October 11, 2021, with income at or below 130% of the federal poverty level (n=295,968)



Among transgender people who were income-eligible for SNAP, food insufficiency was less prevalent among those with SNAP as compared to those without SNAP benefits (26.0% vs. 36.7%, respectively); however, these differences in proportions were not statistically different. Among income-eligible cisgender respondents, food insufficiency was slightly more common among SNAP recipients than those not receiving SNAP benefits (24.8% vs. 21.2%, respectively).

Figure 6. Food insufficiency among transgender and cisgender participants* living at or below 130% of the federal poverty level by SNAP status in the Household Pulse Survey, July 21 to October 11, 2021 (n=37,131)

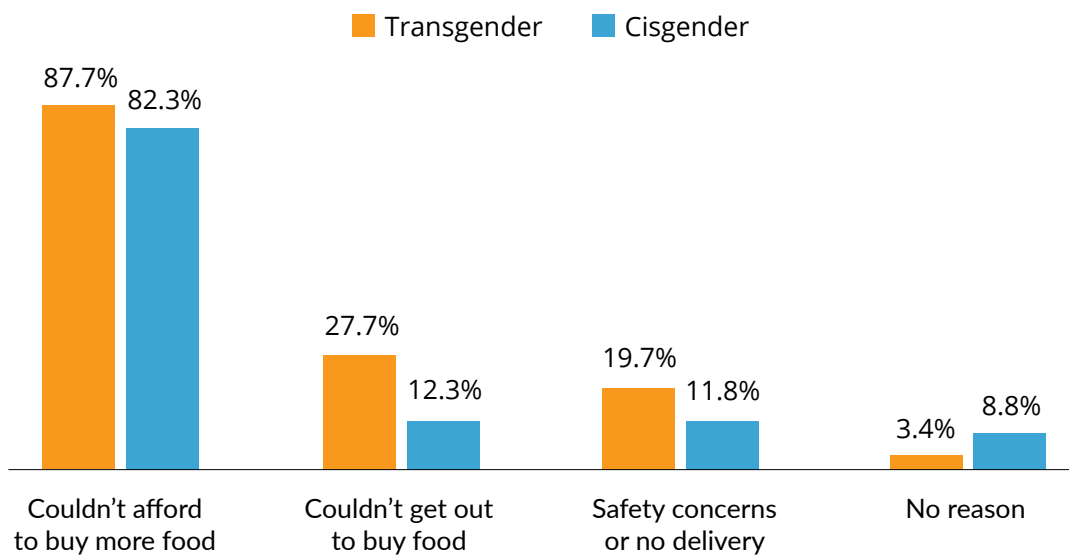


*Differences in proportions that have SNAP and who do not have SNAP among transgender and cisgender groups are not statistically significantly different.

PERCEIVED CAUSES OF FOOD INSUFFICIENCY

Most transgender (87.7%) and cisgender (82.3%) adults reported that their inability to afford more food was the cause of insufficient food in their household. Almost twice as many transgender people as cisgender people (27.7% and 12.3%, respectively) reported other barriers to accessing food, including that they could not get out to buy food for reasons such as “didn’t have transportation, have mobility or health limitations that prevent you from getting out.” Safety concerns were reported by one in five (19.7%) transgender people and more than one in ten (11.8%) cisgender people.

Figure 7. Perceived reasons for insufficient food among food insufficient transgender and cisgender participants* in the Household Pulse Survey, July 21 to October 11, 2021 (N=16,142)

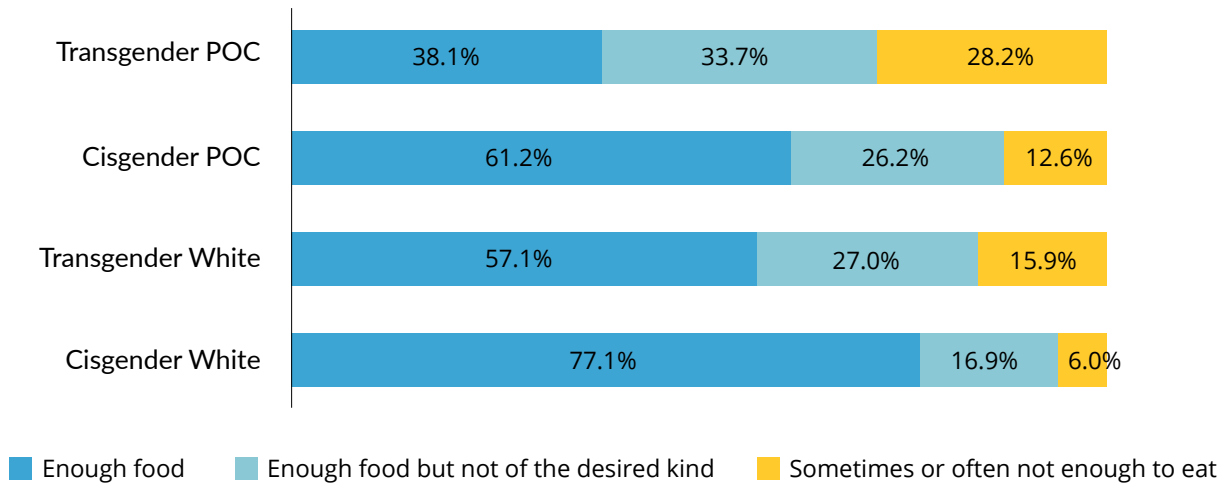


*Differences in proportions between transgender and cisgender groups are statistically significantly different for couldn't get out to buy food. All other differences in proportions are not statistically significantly different.

DIFFERENTIAL VULNERABILITY TO FOOD INSUFFICIENCY

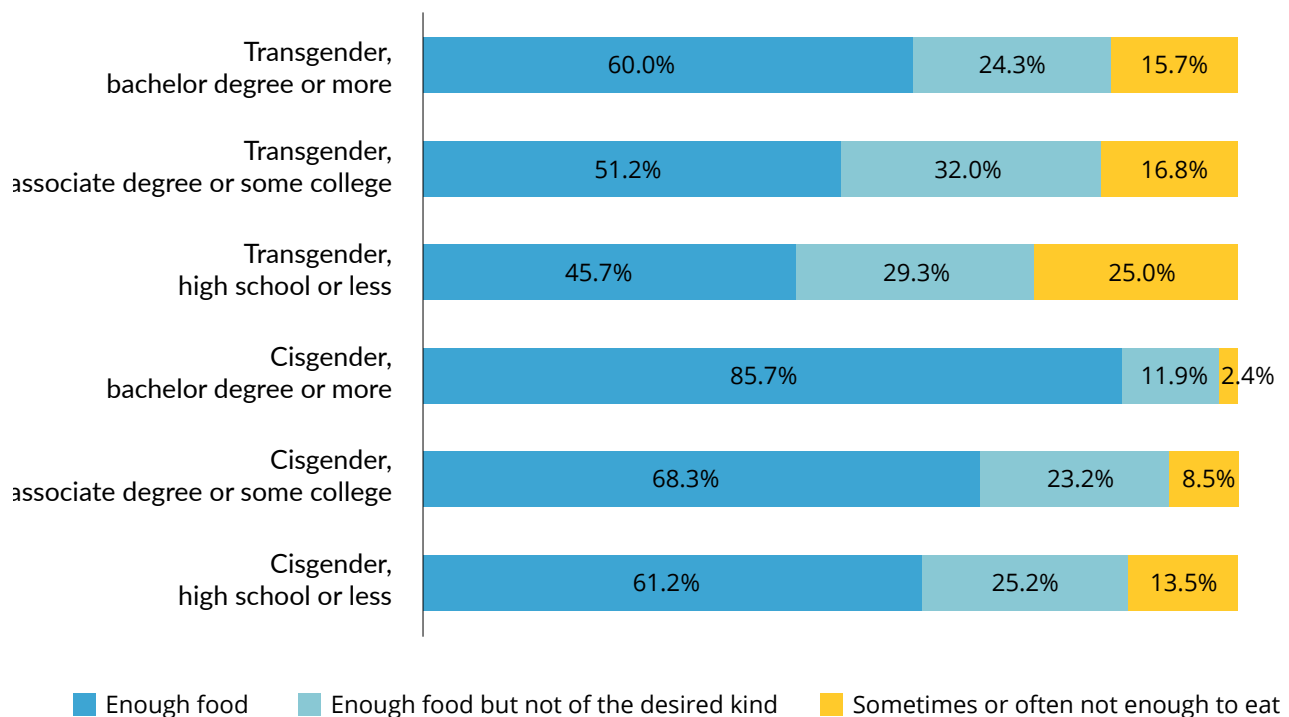
Food insufficiency varied by gender and race; more than a quarter of transgender people of color (28.2%) sometimes or often did not have enough to eat in the prior week as compared with 12.6% of cisgender people of color, 15.9% of White transgender people and 6.0% of White cisgender people. Nearly five times as many transgender people of color as cisgender White people experienced food insufficiency at some point during the summer or early fall of 2021.

Figure 8. Food insufficiency among transgender and cisgender participants in the Household Pulse Survey, July 21 to October 11, 2021, by race (N=338,013)



Food insufficiency also varied by gender and educational attainment; a quarter of transgender people with a high school degree or less (25.0%), 16.8% of those with an associate degree or some college, and 15.7% of transgender adults with a bachelor's degree or more experienced food insufficiency in the week prior to completing the Household Pulse Survey. Far more transgender adults with a bachelor's degree or more experienced food insufficiency than cisgender adults with the same educational attainment (15.7% vs 2.4%, respectively).

Figure 9. Food insufficiency among transgender and cisgender participants in the Household Pulse Survey, July 21 to October 11, 2021, by education level (N=338,013)



Information about food insufficiency among transgender, as well as cisgender people, by gender identity is provided in Table 9. Differences reported here did not reach statistical significance unless otherwise noted, in part, due to the relatively small number of transgender men and women in the sample. Nevertheless, we describe overall patterns in the findings that may be informative for future research. Food insufficiency appeared more common among transgender women (28.1%) than transgender men (14.2%) or other transgender people (19.4%). More transgender women (39.3%) and men (32.8%) reported having SNAP than other transgender people (25.2%). Not being able to get out to buy food for reasons such as “didn’t have transportation, have mobility or health limitations that prevent you from getting out” were reported by more transgender women (39.1%) and men (36.3%) than other transgender people (23.9%). Safety concerns were reported by more than one in four transgender people (26.1%) who selected transgender as a gender identity option and by far fewer transgender women (1.6%) and men (5.1%)⁶.

⁶ The differences in proportions between transgender people and transgender women and men were statistically significantly different.

DISCUSSION

Food insufficiency was nearly two and half times as common among transgender as cisgender people; 19.9% of transgender adults reported sometimes or often not having enough to eat in the past week, compared to 8.3% of cisgender adults. This disproportionality is consistent with higher rates of poverty and unemployment among transgender versus cisgender people observed in this study and as noted in prior research.⁷ Food insufficiency was also far more common among transgender people of color and those with a high school education or less as compared to those who are White, cisgender, and have more formal education—paralleling population patterns of poverty and marginalization.⁸

In this study, less than a third (28.7%) of income eligible transgender and 38.5% of cisgender peers reported that they or a household member currently received SNAP. Among transgender adults, the prevalence of food insufficiency was lower among transgender adults who reported SNAP in the household compared to those who did not (26.0% vs 36.7%), although this difference was not statistically significant, in part, due to the number of transgender people in this comparison. Findings indicate a need for further outreach and enrollment of both transgender and cisgender people in SNAP. Additionally, given fairly high levels of food insufficiency among those with SNAP, examination of benefit levels (currently linked to income and set at a maximum of \$459 per month for a household of two earning up to \$1,888 per month in pre-tax income⁹) is also warranted.

Barriers to SNAP enrollment were not assessed on the Household Pulse Survey, however, prior research indicates that barriers to obtaining identity documents that align with a person's preferred name and gender marker are obstacles to voting for transgender people, and thus, may also present obstacles to enrollment in public benefits programs.¹⁰ Few (11%) respondents to the U.S. Transgender Survey, a national community-based sample of over 27,000 transgender adults, reported that their preferred name and gender appeared on all of their identity documents, while more than two-thirds (68%) indicated that they had no identification with their preferred name and gender.¹¹ Prior negative experiences related to identity documents that do not align with one's gender presentation, including verbal harassment and being denied benefits or service¹², likely inhibit food resource-seeking. Thus, assessing and removing any identity document-related barriers to SNAP enrollment, and communicating enrollment requirements to transgender people through trusted community-based organizations, may be an avenue to reduce food insufficiency among transgender people.

⁷ James, S. E., Herman, J. L., Rankin, S., Keisling, M., Mottet, L. A., & Anafi, M. (2016). *The Report of the 2015 U.S. Transgender Survey*. National Center for Transgender Equality, Washington, DC.; Badgett, M.V.L., S.K. Choi, & B.D.M. Wilson. (2019). *LGBT Poverty in the United States: A Study of Differences between Sexual Orientation and Gender identity Groups*. The Williams Institute, UCLA, Los Angeles, CA.

⁸ James, S. E., et al. (2016); Badgett, M.V.L., et al. (2019); Pamuk, E., Makuc, D., Heck, K., Reuben, C., & Lochner, K. (1998). *Socioeconomic Status and Health Chartbook. Health, United States, 1998*. Hyattsville, Maryland: National Center for Health Statistics.

⁹ USDA Food and Nutrition Service. *SNAP Eligibility*. <https://www.fns.usda.gov/snap/recipient/eligibility>. Accessed November 2021.

¹⁰ O'Neill, K.K. & Herman, J.L. (2020). *The Potential Impact of Voter Identification Laws on Transgender Voters in the 2020 General Election*. The Williams Institute, UCLA, Los Angeles, CA.

¹¹ James, S. E., et al. (2016)

¹² James, S. E., et al. (2016)

This study also found that not being about to get out to buy food due to lack of transportation or mobility or health limitations was reported as a barrier to accessing food by more than a quarter (27.7%) of transgender people who experienced food insufficiency and more than one in ten (11.8%) cisgender people. Safety concerns were reported by one in five (19.7%) transgender people and more than one in ten (11.8%) cisgender people

Specific transportation and safety concerns (e.g., physical, psychological) were not assessed on the Household Pulse Survey; however, prior research indicates that functional limitations are more common among transgender versus cisgender people and that harassment on public transportation is also common when a person is perceived to be transgender.¹³ In addition, transportation problems impact help-seeking more often for transgender than cisgender people.¹⁴ Concerns related to COVID-19 may also have impacted the perceived safety of going to the store.

Covering delivery charges through SNAP and considering innovative models that include the delivery of medically tailored meals,¹⁵ such as those offered through state Medicaid programs,¹⁶ or grocery delivery from food banks,¹⁷ may provide additional strategies to reduce food insufficiency for transgender and other vulnerable groups that have trouble accessing food.

Relatively few transgender participants on the Household Pulse Survey reported accessing free groceries. Qualitative studies in southern California¹⁸ and the southeastern U.S.¹⁹ indicate that some transgender people feel unwelcome at religiously affiliated food pantries:

...I would try to access the church food banks, it was difficult. Like, you go in there, and they just have this look on their face of like disgust—you really don't wanna deal with them. You don't wanna deal with that. ... You already emotionally defeated going into that situation, and then to get all of that, I was like I'd rather turn around and go back, figure this out a whole 'nother way.

Alex, Los Angeles County, 39, Black/African American, pansexual transgender man²⁰

¹³ James, S. E., Herman, J. L., Rankin, S., Keisling, M., Mottet, L. A., & Anafi, M. (2016). *The Report of the 2015 U.S. Transgender Survey*. National Center for Transgender Equality, Washington, DC.

¹⁴ Babey, S. H., Wolstein, J., Herman, J. L., & Wilson, B. D. M. (February 2022). *Gaps in Health Care Access and Health Insurance Among LGBT Populations in California*. Retrieved from UCLA Center for Health Policy Research: <https://healthpolicy.ucla.edu/publications/Documents/PDF/2022/Health-Care-Access-Insurance-LGBT-policybrief-feb2022.pdf>

¹⁵ Farm Bill Law Enterprise. (2018). *Food Access, Nutrition, and Public Health*. http://www.farmbilllaw.org/wp-content/uploads/2018/03/FBLE_Food-Access-Nutrition-and-Public-Health_Final.pdf

¹⁶ NYC Food Policy Center. (2021, August). *Medically Tailored Meals Become a Covered Service Option in California*. <https://www.nycfoodpolicy.org/food-policy-snapshot-medically-tailored-meals-california-medicaid/>

¹⁷ Feeding America. (2021, July). *Feeding America Launches OrderAhead – A Convenient, Online Grocery Ordering System – To Help Eliminate Barriers to Accessing Food*. <https://www.feedingamerica.org/about-us/press-room/feeding-america-launches-orderahead>

¹⁸ Wilson, B.D.M., Badgett, M. V. L., & Gomez, A. G. H. (2020). *Experiences with Food Insecurity and Food Programs Among LGBTQ People*. The Williams Institute, Los Angeles, CA. <https://williamsinstitute.law.ucla.edu/wp-content/uploads/LGBTQ-Food-Bank-Jun-2020.pdf>

¹⁹ Russomanno, J. & Jabson Tree, J.M. (2020). Food insecurity and food pantry use among transgender and gender non-conforming people in the Southeast United States. *BMC Public Health* 20, 590.

²⁰ Wilson, B.D.M. et al. (2020)

Ensuring that non-discrimination protections on the basis of sexual orientation and gender identity are enforced in all aspects of food production to distribution (including through food banks, many of which have been religiously affiliated²¹) to SNAP enrollment is recommended. Finally, funding mechanisms that support hyper localized solutions and support programs that have experience with and are trusted by transgender people²² should be considered another potential vehicle to reduce food insufficiency among transgender people.

Given pre-COVID-19 levels of poverty among transgender people,²³ and the disproportionate economic impact burden of this pandemic on LGBT people,²⁴ it is particularly important to monitor and address challenges in access to food for this highly marginalized population. On-going monitoring of food insufficiency among transgender people, through surveys such as Household Pulse, the Current Population Survey Food Security Supplement, and the Behavioral Risk Factor Surveillance Survey is recommended.

²¹ Briefel, R., Jacobson, J., Clusen, N., Zavitsky, T., Stake, M., Dawson, B., & Cohen, R. (2003). The Emergency Food Assistance System - Findings from the Client Survey. USDA Economic Research Service; Food Assistance & Nutrition Research Program in Russomanno, J. & Jabson Tree, J.M.(2020)

²² Viveros, Moses. (2020). *For Us, By Us: A Conversation on Creating Safer, Affirming, and Inclusive Emergency Food Sites and Services for People of Color That Also Identify as a Sexual and Gender Minority*. [Master's thesis]. Falk School of Sustainability and Environment, Chatham University, Pittsburgh.

²³ Badgett, M.V.L., S.K. Choi, & Wilson, B.D.M. (2019). *LGBT Poverty in the United States: A Study of Differences between Sexual Orientation and Gender identity Groups*. The Williams Institute, UCLA, Los Angeles, CA.

²⁴ Sears, R.B., Conron, K.J., & Flores, A.R. *The Impact of the Fall 2020 COVID-19 Surge on LGBT Adults in the U.S.* 2021, The Williams Institute, UCLA Los Angeles, CA.

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SUGGESTED CITATION

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The Williams Institute is dedicated to conducting rigorous, independent research on sexual orientation and gender identity law and public policy. A think tank at UCLA Law, the Williams Institute produces high-quality research with real-world relevance and disseminates it to judges, legislators, policymakers, media, and the public. These studies can be accessed at the Williams Institute website.

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APPENDIX

This study analyzed repeated cross-sectional data²⁵ collected between July 21 to October 11, 2021 by the U.S. Census Bureau on the Household Pulse Phase 3.2 Survey²⁶ (weeks 34-39). The Household Pulse Survey was developed to assess the impact of COVID-19 on employment, food and housing security, and the physical and mental wellbeing of the U.S. population. Households were enumerated via the Census Bureau's Master Address File (MAF); email addresses and cell phone numbers were appended to create a contact sampling frame for the survey which represented 81% of households in the MAF.²⁷ Group quarters such as homeless shelters, nursing homes, and college dormitories were not sampled. On-line surveys were conducted in English and Spanish with 382,908 U.S. adults ages 18 and up. The response rate for weeks 34-39 ranged from 5.4% to 6.5%.²⁸

Questions about sex assigned at birth (What sex were you assigned at birth, on your original birth certificate?) and current gender identity (Do you currently describe yourself as male, female or transgender?) were added to the Household Pulse Survey starting in week 34 and were used to classify respondents as transgender and cisgender. Respondents who selected transgender as their gender identity were classified as transgender. In the remaining sample that selected male or female gender identity responses and whose sex was not imputed by the Census Bureau (e.g., AGENID_BIRTH=2), those who selected a gender identity (male or female) that differed from their sex assigned at birth (male or female) were classified as transgender. Respondents who selected gender identity options (male or female) that were the same as their sex assigned at birth (male or female) were classified as cisgender. Those who selected "none of these" as their response to the gender identity question were excluded from classification.

Imputed sex was not used to classify transgender and cisgender respondents given concerns about the validity of the imputed sex data. Descriptive analyses conducted by Dr. Bill Jesdale indicate that the demographic characteristics of those classified as transgender based on imputed sex look more similar to those of cisgender respondents than to those of transgender respondents who answered the sex assigned at birth question.²⁹ In addition, 171 transgender respondents who reported living in households of 10+ members were excluded from the analytic sample for this study based on descriptive analyses conducted by the Williams Institute. Our analyses suggest that these 10+ transgender households are grossly overrepresented in the sample (11.3% unweighted, 24.0% weighted) relative to cisgender households, both among cisgender LGB (1.3% weighted) and in the

²⁵ United States Census Bureau. (2021). *Household Pulse Survey Public Use File (PUF)*. <https://www.census.gov/programs-surveys/household-pulse-survey/datasets.html>

²⁶ United States Census Bureau. (2021) *Household Pulse Survey Technical Documentation*. <https://www.census.gov/programs-surveys/household-pulse-survey/technical-documentation.html#phase3.2>

²⁷ United States Census Bureau. (2021). *Source of the Data and Accuracy of the Estimates for the Household Pulse Survey – Phase 3.2*. https://www2.census.gov/programs-surveys/demo/technical-documentation/hhp/Phase3-2_Source_and_Accuracy_Week39.pdf

²⁸ United States Census Bureau. (2021). *Source of the Data and Accuracy of the Estimates for the Household Pulse Survey – Phase 3.2*. https://www2.census.gov/programs-surveys/demo/technical-documentation/hhp/Phase3-2_Source_and_Accuracy_Week39.pdf

²⁹ Jesdale, B.M. (2021). *Counting Gender Minority Populations in the Household Pulse Survey (The AGENID=2 Memo)*. National LGBT Cancer Network. <https://cancer-network.org/wp-content/uploads/2021/10/Counting-GM-People-in-Pulse-Data.pdf>

larger analytic sample (1.2% weighted), and in the US population as a whole (1.2% live in households of 7 or more.)³⁰ These respondents, identified as both transgender and living in households of 10 or more people, were also disproportionately older (48.7% 65+ weighted), living in households with 200K+ household income (25.5% weighted), and Latino/a (66.1%) as compared to cisgender respondents living in 10+ households in Pulse (31.2%, 8.6%, and 24.6%, respectively, weighted) and transgender respondents in other population-based datasets (e.g., BRFSS and TransPop³¹) Such patterns suggest the presence of mischievous³² or inattentive³³ responders. Further methodological investigation is needed to better understand Pulse response patterns—particularly as they relate to respondents classified as transgender.

Food insufficiency was assessed with a single question, “In the last 7 days, which of these statements best describes the food eaten in your household?” Using criteria articulated by the USDA,³⁴ participants who indicated that they sometimes or often did not have enough to eat were considered food insufficient. Although not a focus of this report, the USDA also considers those who had enough, but not always the kinds of food that they wanted to eat marginally food insufficient and those who reported that they had had enough of the kinds of food that they wanted to eat food sufficient.

Participant-reported annual household income range and size were used to create an ordinal measure of percentage of poverty. Annual household income was recoded to the midpoint for each income range or to the lower limit of the highest income category (\$200,000 or more). Recoded income was divided by household size-specific poverty thresholds³⁵ to obtain percentage poverty (i.e., the “ratio of income to poverty” according to U.S. Census criteria).³⁶ Respondents were then placed into one of three economic status groups: < 130% (SNAP income eligible³⁷), 131%–200%, and > 201% of the federal poverty level.

The analytic sample was limited to 338,013 survey respondents who could be classified as transgender or cisgender based on the criteria described above and who answered the Household Pulse Survey question about food insufficiency. Descriptive analyses were conducted using Stata

³⁰ U.S. Census Bureau. (2021, November). Historical Households Tables; Table HH-4. Households by size: 1960 to Present. <https://www.census.gov/data/tables/time-series/demo/families/households.html>

³¹ Meyer, I.H., Wilson, B.D.M., & O'Neill, K. (2021). *LGBTQ People in the US: Select Findings from the Generations and TransPop Studies*. Los Angeles: The Williams Institute.

³² Cimpian, J. R. & Timmer, J. D. (2019). Large-scale estimates of LGBTQ-heterosexual disparities in the presence of potentially mischievous responders: A preregistered replication and comparison of methods. *AERA Open*, 5(4), 1-35.

³³ Alvarez, R., Atkeson, L., Levin, I., & Li, Y. (2019). Paying attention to inattentive survey respondents. *Political Analysis*, 27(2), 145-162.

³⁴ USDA Economic Research Service. (2021). *Food Security in the U.S.: Measurement: What is Food Insufficiency?* <https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/measurement/#insufficiency>. Accessed November 2021.

³⁵ U S Census Bureau. *Poverty Thresholds by Size of Family and Number of Related Children Under 18 Years*. Available at: <https://www.census.gov/data/tables/time-series/demo/income-poverty/historical-poverty-thresholds.html>. Accessed November 2021.

³⁶ U.S. Census Bureau. *How the Census Bureau Measures Poverty*. Available at: <https://www.census.gov/topics/income-poverty/poverty/guidance/poverty-measures.html>. Accessed November 2021.

³⁷ USDA Food and Nutrition Service. *SNAP Eligibility*. <https://www.fns.usda.gov/snap/recipient/eligibility>. Accessed November 2021.

v15.1 statistical software. Analyses included design-based F-tests (Rao-Scott chi-square tests) of differences in proportions to assess whether outcomes varied across groups at an alpha of 0.05.³⁸ Confidence intervals (95% CI) were included to communicate the degree of uncertainty around an estimate due to sampling error.

Non-overlapping confidence intervals were deemed indicative of statistically significant differences in two proportions at an alpha of 0.05. All analyses were weighted to represent adults ages 18 and up living in U.S. households using person-level weights provided by the Census Bureau. All sample sizes (n) are unweighted.

TABLES

Table 1. Sociodemographic characteristics of transgender and cisgender participants (N=338,013) in the Census Household Pulse Survey, July 21 to October 11, 2021 (Weeks 34-39)

	TRANSGENDER N=1,222		CISGENDER N=336,791		F#
	%	95% CI	%	95% CI	P-VALUE
Age					
18-24	42.5	36.7, 48.4	7.4	7.2, 7.7	0.00
25-39	40.0	34.8, 45.3	25.8	25.5, 26.1	
40-54	9.8	7.5, 12.7	25.6	25.3, 25.9	
55-64	4.4	3.2, 6.0	17.9	17.7, 18.2	
65+	3.4	2.5, 4.7	23.2	22.9, 23.5	
Sex assigned at birth					
Male	47.9	42.4 ,53.6	48.2	47.8, 48.5	0.93
Female	52.1	46.4, 57.6	51.8	51.5, 52.2	
Gender identity					
Male	12.3	9.0, 16.5	48.2	47.8, 48.5	--
Female	12.9	9.6, 17.1	51.8	51.5, 52.2	
Transgender	74.8	69.7, 79.4	--	--	
Race-ethnicity					
White, non-Hispanic	68.1	62.5, 73.2	64.5	64.2, 64.9	0.00
Black, non-Hispanic	6.9	4.5, 10.6	10.8	10.5, 11.0	
Asian, non-Hispanic	1.6	0.9, 3.0	5.3	5.2, 5.5	
Any other race alone, or more than one race	6.2	4.4, 8.5	3.5	3.4, 3.6	
Latino/a or Hispanic	17.2	12.9, 22.4	15.9	15.5, 16.2	
Sexual orientation					
Gay or lesbian	23.7	19.5, 28.5	3.1	3.0, 3.2	0.00
Straight, that is not gay or lesbian	7.0	5.0, 9.6	90.0	89.7, 90.2	
Bisexual	37.3	31.7, 43.4	4.1	3.9, 4.2	

³⁸ J. N. K. Rao, A. J. Scott, On chi-squared tests for multiway contingency tables with cell proportions estimated from survey data. *Ann. Stat.* 12, 46–60 (1984).

	TRANSGENDER N=1,222		CISGENDER N=336,791		F#
	%	95% CI	%	95% CI	P-VALUE
Sexual orientation					
Something else	28.0	23.7, 32.7	1.3	1.2, 1.4	0.00
Don't know	4.0	2.6, 6.2	1.5	1.4, 1.64	
Education					
High school or less	40.7	34.9, 46.8	36.6	36.2, 37.0	0.00
Associates or some college	36.1	31.2, 41.4	30.5	30.2, 30.8	
Bachelors or more	23.2	19.8, 26.9	32.9	32.7, 33.2	
Employment past 7 days (work for pay or profit)					
Among those in the workforce; n=209,084					
Employed	90.5	86.5, 93.3	93.4	93.1, 93.6	<0.05
Unemployed	9.5	6.7, 13.5	6.6	6.4, 6.9	
Mean household size	3.3	3.1, 3.5	3.3	3.3, 3.3	0.79
Poverty*					
< 100% federal poverty level	29.0	24.4, 34.1	16.2	15.9, 16.6	0.00
>100% federal poverty level	71.0	65.9, 75.6	83.8	83.4, 84.1	
Difficulty with expenses past week					
Not at all or a little difficult	55.7	50.1, 61.1	73.0	72.7, 73.3	0.00
Very or somewhat difficult	44.3	38.9, 49.9	27.0	26.7, 27.3	
Region					
Northeast	14.8	11.6, 18.9	16.9	16.7, 17.2	0.32
South	35.1	29.7, 40.9	38.2	37.8, 38.5	
Midwest	22.9	18.8, 27.6	20.7	20.5, 21.0	
West	27.1	22.5, 32.3	24.2	23.8, 24.5	

CI: Confidence Interval. Bold p-values are statistically significant.

F test for test of difference in proportions.

*The sample size (n=295,968) for poverty is smaller than the total analytic sample due to missing data on household income.

Table 2. Food insufficiency, food resource utilization, and reasons for food insufficiency among transgender and cisgender participants (N=338,013) in the Household Pulse Survey, July 21 to October 11, 2021 (Weeks 34-39)

	TRANSGENDER N=1,222		CISGENDER N=336,791		F#
	%	95% CI	%	95% CI	P-VALUE
Food insufficiency in the last 7 days					
Enough food of the kinds wanted	51.0	45.4, 56.6	71.5	71.1, 71.8	0.00
Enough food but not always kinds wanted	29.1	24.5, 34.2	20.2	19.9, 20.5	
Sometimes or often not enough to eat	19.9	15.7, 24.9	8.3	8.1, 8.6	
Free groceries or a free meal last 7 days (self or household member) n=335,482					
Yes	8.1	5.8, 11.2	5.9	5.7, 6.2	0.07
No	91.9	88.8, 94.2	94.1	93.8, 94.3	
SNAP (self or household member) n=332,734					
Yes	14.6	11.0, 19.0	12.0	11.7, 12.3	0.17
No	85.4	81.0, 89.0	88.0	87.7, 88.3	
Why did you not have enough to eat? Among respondents who sometimes or often did not have enough to eat; n=16,142					
Couldn't afford to buy more food	87.7	79.1, 93.1	82.3	81.0, 83.5	0.19
Couldn't get out to buy food	27.7	17.7, 40.7	12.3	11.3, 13.3	0.00
Safety concerns	19.7	11.5, 31.7	11.8	10.8, 13.0	0.06
No reason	3.4	1.2, 9.2	8.8	8.0, 9.7	0.05

CI: Confidence Interval. Bold p-values are statistically significant.

F test for test of difference in proportions.

Table 3. SNAP benefits and food insufficiency among transgender participants (n=1,085) in the Household Pulse Survey, July 21 to October 11, 2021 (Weeks 34-39), by poverty level

	<= 130% FPL* N=325		131% - 200% FPL N=106		>=201% FPL N=654		F#
	%	95% CI	%	95% CI	%	95% CI	P-VALUE
SNAP benefits	28.7	21.5, 37.3	12.1	6.3, 22.2	7.6	3.3, 16.3	0.00
Food insufficiency in the last 7 days							
Enough food of the kinds wanted	32.4	24.2, 41.8	21.4	12.5, 34.1	67.9	60.2, 74.8	0.00
Enough food but not always kinds wanted	33.2	25.3, 42.1	50.2	32.2, 68.1	22.7	17.4, 29.0	
Sometimes or often not enough to eat	34.4	26.2, 43.7	28.4	14.5, 48.1	9.4	4.9, 17.4	

CI: Confidence Interval. FPL: Federal Poverty Level.

* < 130% FPL is the threshold for basic SNAP benefit eligibility set by the USDA

Bold p-values are statistically significant.

F test for test of difference in proportions.

Table 4. SNAP benefits and food insufficiency among cisgender participants (n=294,883) in the Household Pulse Survey, July 21 to October 11, 2021 (Weeks 34-39), by poverty level

	<= 130% FPL* N=37,096		131% - 200% FPL N=20,962		>=201% FPL N=236,825		F#
	%	95% CI	%	95% CI	%	95% CI	P-VALUE
SNAP benefits	38.5	37.5, 39.6	16.1	15.1, 17.1	3.4	3.2, 3.6	0.00
Food insufficiency in the last 7 days							
Enough food of the kinds wanted	43.7	42.6, 44.8	54.2	52.8, 55.5	83.5	83.2, 83.8	0.00
Enough food but not always kinds wanted	33.8	32.8, 34.9	33.1	31.9, 34.4	13.6	13.3, 13.9	
Sometimes or often not enough to eat	22.5	21.6, 23.4	12.7	11.8, 13.7	2.9	2.8, 3.1	

CI: Confidence Interval. FPL: Federal Poverty Level.

* < 130% FPL is the threshold for basic SNAP benefit eligibility set by the USDA

Bold p-values are statistically significant.

F test for test of difference in proportions.

Table 5. Food insufficiency in the last 7 days among transgender participants living at or below 130% of the federal poverty level (n=322) by SNAP status in the Household Pulse Survey, July 21 to October 11, 2021 (Weeks 34-39)

	SNAP N=106		NO SNAP N=216		F#
	%	95% CI	%	95% CI	P-VALUE
Enough food of the kinds wanted	27.3	14.9, 44.6	34.8	24.7, 46.5	0.13
Enough food but not always kinds wanted	46.6	31.6, 62.2	28.5	19.8, 39.0	
Sometimes or often not enough to eat	26.0	16.5, 38.5	36.7	26.4, 48.5	

CI: Confidence Interval. FPL: Federal Poverty Level.

< 130% FPL is the threshold for basic SNAP benefit eligibility set by the USDA

Bold p-values are statistically significant.

F test for test of difference in proportions.

Table 6. Food insufficiency among cisgender participants living at or below 130% of the federal poverty level (n=36,809) by SNAP status in the Household Pulse Survey, July 21 to October 11, 2021

	SNAP N=13,139		NO SNAP N=23,670		F#
	%	95% CI	%	95% CI	P-VALUE
Enough food of the kinds wanted	40.2	38.4, 41.9	45.7	44.3, 47.0	0.00
Enough food but not always kinds wanted	35.1	33.4, 36.8	33.2	31.9, 34.4	
Sometimes or often not enough to eat	24.8	23.2, 26.4	21.2	20.1, 22.3	

CI: Confidence Interval. FPL: Federal Poverty Level.

< 130% FPL is the threshold for basic SNAP benefit eligibility set by the USDA

Bold p-values are statistically significant.

F test for test of difference in proportions.

Table 7. Food insufficiency among transgender participants (n=1,222) in the Household Pulse Survey, July 21 to October 11, 2021 (Weeks 34-39), by select demographic characteristics

	ENOUGH FOOD N= 671		ENOUGH FOOD BUT NOT OF THE DESIRED KIND N=349		SOMETIMES OR OFTEN NOT ENOUGH TO EAT N=202		F#
	%	95% CI	%	95% CI	%	95% CI	P-VALUE
Age							
18-24	43.9	35.7, 52.6	44.0	34.6, 53.9	36.4	24.9, 49.8	0.45
25-39	37.7	30.8, 45.0	42.6	33.9, 51.8	42.0	29.6, 55.6	
40-54	10.0	6.8, 14.5	9.3	5.9, 14.5	9.8	5.4, 17.3	
55-64	4.5	3.0, 6.8	1.9	1.0, 3.5	7.6	4.0, 14.1	
65+	3.9	2.5, 5.9	2.1	1.0, 4.7	4.1	2.1, 7.9	
Sex assigned at birth							
Male	51.4	43.5, 59.3	39.8	31.3, 49.0	50.8	37.9, 63.5	0.18
Female	48.6	40.7, 56.5	60.2	51.0, 68.7	49.2	36.5, 62.1	

	ENOUGH FOOD N= 671		ENOUGH FOOD BUT NOT OF THE DESIRED KIND N=349		SOMETIMES OR OFTEN NOT ENOUGH TO EAT N=202		F#
	%	95% CI	%	95% CI	%	95% CI	P-VALUE
Gender identity							
Male	12.6	8.9, 17.6	14.0	7.0, 26.1	8.8	4.7, 15.7	0.56
Female	12.5	8.4, 18.3	9.9	5.8, 16.4	18.3	9.5, 32.3	
Transgender	74.8	68.1, 80.6	76.1	65.2, 84.5	73.0	59.8, 83.1	
Race-ethnicity							
White, non-Hispanic	76.2	69.6, 81.6	63.1	52.6, 72.5	54.7	41.3, 67.4	0.12
Black, non-Hispanic	5.5	2.8, 10.3	8.0	3.7, 16.6	9.2	3.7, 20.8	
Asian, non-Hispanic	1.3	0.7, 2.4	1.7	0.3, 8.0	2.6	0.9, 7.0	
Any other race alone, or more than one race	3.9	2.4, 6.2	6.8	4.0, 11.2	11.2	5.7, 20.7	
Latino/a or Hispanic	13.2	9.2, 18.7	20.4	12.2, 32.1	22.4	11.8, 38.5	
Education							
High school or less	36.5	28.0, 45.9	41.0	31.4, 51.4	51.3	36.5	0.18
Associates or some college	36.3	29.4, 43.8	39.7	31.4, 48.6	30.5	36.3	
Bachelors or more	27.2	22.1, 33.1	19.3	14.5, 25.3	18.3	27.2	
Employment past 7 days (work for pay or profit) <i>Among those in the workforce; n=856</i>							
Employed	93.5	88.3, 96.5	90.0	80.7, 95.1	84.2	73.4, 91.1	0.13
Unemployed	6.5	3.5, 11.7	10.0	4.9, 19.3	15.8	8.9, 26.6	
Poverty*							
< 100% federal poverty level	18.7	13.4, 25.5	33.5	25.1, 43.1	49.0	35.2, 63.0	0.00
>100% federal poverty level	81.3	74.5, 86.6	66.5	56.9, 74.9	51.0	37.0, 64.8	
Region							
Northeast	15.0	10.6, 20.9	12.8	8.1, 19.7	17.3	9.7, 28.9	0.60
South	35.1	27.9, 43.1	30.3	21.1, 41.4	42.3	29.6, 56.0	
Midwest	22.7	17.1, 29.5	27.3	20.1, 36.1	17.0	9.1, 29.4	
West	27.1	19.9, 35.9	29.5	22.8, 37.3	23.5	16.2, 32.8	

CI: Confidence Interval. Bold p-values are statistically significant.

[#] F test for test of difference in proportions.

*The sample size (n=1,085) for poverty is smaller than the total analytic sample due to missing data on household income.

Table 8. Food insufficiency within select demographic groups (race or education and gender) among participants (N=338,013) in the Household Pulse Survey, July 21 to October 11, 2021 (Weeks 34-39)

	ENOUGH FOOD N= 267,498		ENOUGH FOOD BUT NOT OF THE DESIRED KIND N=53,251		SOMETIMES OR OFTEN NOT ENOUGH TO EAT N=17,264		F#
	%	95% CI	%	95% CI	%	95% CI	P-VALUE
Race and gender							
White cisgender	77.1	76.7, 77.5	16.9	16.6, 17.3	6.0	5.7, 6.2	0.00
White transgender	57.1	50.7, 63.2	27.0	22.2, 32.4	15.9	11.9, 21.0	
People of color Cisgender	61.2	60.5, 61.9	26.2	25.5, 26.8	12.6	12.1, 13.2	
People of color transgender	38.1	29.3, 47.8	33.7	24.3, 44.5	28.2	19.3, 39.3	
Education and gender							
Cisgender, High school or less	61.2	60.5, 62.0	25.2	24.5, 25.9	13.5	12.9, 14.1	0.00
Cisgender, Associate or some College	68.3	67.8, 68.8	23.2	22.7, 23.6	8.5	8.2, 8.9	
Cisgender, Bachelors or more	85.7	85.4, 86.0	11.9	11.6, 12.2	2.4	2.3, 2.5	
Transgender, High school or less	45.7	35.0, 56.8	29.3	20.7, 39.7	25.0	17.4, 34.5	
Transgender, Associate or some College	51.2	43.0, 59.3	32.0	25.4, 39.4	16.8	10.4, 25.9	
Transgender, Bachelors or more	60.0	53.0, 66.7	24.3	19.0, 30.4	15.7	10.8, 22.2	

CI: Confidence Interval. Bold p-values are statistically significant. Row percentages total 100%.

F test for test of difference in proportions

Table 9. Food insufficiency, food resource utilization, and perceived reasons for food insufficiency among participants (N=331,097) in the Household Pulse Survey, July 21 to October 11, 2021 (Weeks 34-39), by gender and gender identity

	TRANSGENDER MEN N=168		TRANSGENDER WOMEN N=165		TRANSGENDER PEOPLE* N=889		CISGENDER MEN N= 136,398		CISGENDER WOMEN N=200,393	
	%	95% CI	%	95% CI	%	95% CI	%	95% CI	%	95% CI
Food insufficiency										
Enough food of the kinds wanted	52.5	36.4, 68.2	49.6	34.7, 64.5	51.0	44.6, 57.4	73.6	73.0, 74.1	69.5	69.0, 69.9
Enough food but not always kinds wanted	33.3	18.1, 52.9	22.3	13.0, 35.6	29.6	24.6, 35.2	18.4	17.9, 18.9	21.9	21.5, 22.3
Sometimes or often not enough to eat	14.2	7.5, 25.1	28.1	15.3, 45.9	19.4	14.7, 25.1	8.0	7.6, 8.4	8.6	8.3, 8.9
Free groceries or a free meal last 7 days (self or household member) <i>n=335,482</i>										
Yes	8.6	3.7, 18.9	10.9	4.1, 25.9	7.5	5.1, 10.8	5.3	5.0, 5.7	6.5	6.3, 6.8
No	91.4	81.1, 96.3	89.1	74.1, 95.9	92.5	89.2, 94.9	94.7	94.3, 95.0	93.5	93.2, 93.7
SNAP (self or household member) <i>Among income eligible; n=37,131</i>										
	n=45		n=43		n=234		n=11,649		n=25,160	
Yes	32.8	16.1, 55.5	39.3	17.3, 66.7	25.2	18.4, 33.5	32.3	30.4, 34.3	42.9	41.6, 44.1
No	67.2	44.5, 83.9	60.7	33.3, 82.7	74.8	66.5, 81.6	67.7	65.7, 69.6	57.1	55.9, 58.4
Why did you not have enough to eat? <i>Among respondents who sometimes or often did not have enough to eat; n=17,012</i>										
	n=26		n=23		n=152		n=5,651		n=11,160	
Couldn't afford to buy more food	73.1	32.7, 93.8	94.8	77.5, 99.0	87.7	77.8, 93.5	80.7	78.4, 82.7	83.7	82.3, 85.0
Couldn't get out to buy food	36.3	12.4, 69.7	39.1	12.0, 75.1	23.9	14.4, 36.9	11.8	10.2, 13.6	12.7	11.6, 13.9
Safety concerns	5.1	1.7, 14.0	1.6	0.2, 11.3	26.1	15.1, 41.1	12.2	10.3, 14.4	11.5	10.4, 12.7
No reason	0.3	0.0, 2.1	0.0	4.6	1.6, 12.5	9.2	9.2	7.8, 10.9	8.4	7.5, 9.4