

ORIGINAL RESEARCH

Perceived Discrimination Among Food Pantry Clients in Massachusetts

Cara F. Ruggiero, PhD, RD, LDN^{1,2}; Man Luo, MPH¹; Rachel M. Zack, ScD³; James P. Marriott, MS³; Catherine Lynn, MPA⁴; Daniel Taitelbaum³; Paige Palley, MBA⁵; Aprylle M. Wallace, MBA⁵; Norbert Wilson, PhD⁶; Angela Odoms-Young, PhD⁷; Lauren Fiechtner, MD, MPH^{1,8}

Accessible Version: www.cdc.gov/pcd/issues/2024/24_0009.htm

Suggested citation for this article: Ruggiero CF, Luo M, Zack RM, Marriott JP, Lynn C, Taitelbaum D, et al. Perceived Discrimination Among Food Pantry Clients in Massachusetts. *Prev Chronic Dis* 2024;21:240009. DOI: <https://doi.org/10.5888/pcd21.240009>.

PEER REVIEWED

Summary

What is already known on this topic?

Disparities in rates of food insecurity exist among socially marginalized groups in Massachusetts and nationwide. Perceived discrimination has been linked to food insecurity, physical health problems, and risk factors for diseases such as obesity, high blood pressure, depression, and substance use.

What is added by this report?

Our analysis provides preliminary evidence of perceived discrimination related to age, income, gender identity, and race at food pantries in a diverse sample of food pantry clients in Massachusetts.

What are the implications for public health practice?

Public health interventions and food assistance programs focused on improving food security may not reach maximum effectiveness without addressing discrimination.

Abstract

Introduction

Food insecurity is defined as inconsistent access to enough food to meet nutritional needs. Discrimination is associated with food insecurity and poor health, especially among racial and ethnic minoritized and sexual or gender minoritized groups. We examined the demographic associations of perceived everyday discrimination and food pantry discrimination in Massachusetts.

Methods

From December 2021 through February 2022, The Greater Boston Food Bank conducted a cross-sectional, statewide survey of Massachusetts adults. Of the 3,085 respondents, 702 were food pantry clients for whom complete data on food security were available; we analyzed data from this subset of respondents. We used the validated 10-item Everyday Discrimination Scale to measure perceived everyday discrimination and a 10-item modified version of the Everyday Discrimination Scale to measure perceived discrimination at food pantries. Logistic regression adjusted for race and ethnicity, age, gender identity, sexual orientation, having children in the household, annual household income, and household size assessed demographic associations of perceived everyday discrimination and discrimination at food pantries.

Results

Food pantry clients identifying as LGBTQ+ were more likely than those identifying as non-LGBTQ+ to report perceived everyday discrimination (adjusted odds ratio [AOR] = 2.44; 95% CI, 1.24–4.79). Clients identifying as Hispanic (AOR = 1.83, 95% CI, 1.13–2.96) were more likely than clients identifying as non-Hispanic White to report perceived discrimination at food pantries.

Conclusion

To equitably reach and serve households with food insecurity, food banks and pantries need to understand experiences of discrimination and unconscious bias to develop programs, policies, and practices to address discrimination and create more inclusive interventions for food assistance.

Introduction

Food insecurity is defined as inconsistent access to sufficient food to meet nutritional needs (1). Food insecurity exists on a continuum, starting with anxiety and progressing to reduced food intake. High food security is defined as no indication of food access challenges. Marginal food security is defined as 1 or 2 indications



The opinions expressed by authors contributing to this journal do not necessarily reflect the opinions of the U.S. Department of Health and Human Services, the Public Health Service, the Centers for Disease Control and Prevention, or the authors' affiliated institutions.

of food access challenges (eg, anxiety over food sufficiency or shortage of food in the house). Low food security is defined as reports of reduced quality, variety, or desirability of diet with little or no indication of changes in diets or food intake. Very low food security is defined as reports of multiple indications of disrupted eating patterns and reduced food intake (2). Adverse health outcomes associated with food insecurity are well evidenced, such as greater odds of hospitalization and fair or poor health among infants and toddlers (3), higher odds of obesity among children (4,5), and higher rates of type 2 diabetes among adults (6). These problems may have been exacerbated by the COVID-19 pandemic (7).

Although studies indicate that contributors to food insecurity are multifactorial, key drivers are systemic inequities in society, including structural racism, generational poverty, unconscious bias, homophobia, and transphobia across many sectors (8–11). Racial, ethnic, and socioeconomic disparities in food insecurity are longstanding, with studies indicating that groups who are socially marginalized experience higher rates of food insecurity and greater severity (ie, low or very low food security) (12) than groups that are not socially marginalized. For example, households headed by Black and Hispanic individuals, households living at or below the poverty level, and households headed by a single adult have a higher prevalence of food insecurity compared with the US population overall (13). Many disparities in food insecurity have persisted since the federal government first started measuring food insecurity 20 years ago (8). At the intersection of systemic, individual, and household factors, perceived discrimination is associated with a higher risk of food insecurity (10,14–16). Perceived discrimination is defined as a person's perception of negative attitude, judgment, or unfair treatment from others because of characteristics such as gender, race, ethnicity, and social status (17) and is linked to physical health problems and risk factors for disease, such as obesity, high blood pressure, depression, and substance use (18,19). Racism (perceived or not) is a source of acute and chronic stress for minoritized groups and may be an important mediator in the pathway from perceived discrimination to adverse health outcomes (20). Furthermore, the subjective nature of perceived discrimination prevents a person from being able to determine the stressfulness of a situation a priori (ie, perception of harm or threat) (21). Food insecurity and perceived discrimination are linked to health outcomes (18,19); however, the food banking system can help alleviate food insecurity (22). The food banking system (23) (ie, emergency food system or charitable food system) (24) is a robust network of food service models that includes food banks (organizations that source, store, and distribute food) and food pantries (community agencies where individuals pick up food at no or limited cost) (25). The Greater Boston Food Bank (GBFB) is the largest food bank in New England. This network in-

cludes 600 food pantries and serves 600,000 people per year in eastern Massachusetts (26). GBFB is a member organization of Feeding America, a network of more than 200 food banks serving 60,000 food pantries (26). GBFB aims to eliminate the root causes of food insecurity by working to promote racial, gender, and economic equity to achieve social justice. However, research on perceived discrimination experienced at food pantries is lacking and could be a barrier to minoritized populations accessing the charitable food system (27).

The objective of this secondary analysis was to measure experiences of perceived discrimination among food pantry clients in Massachusetts. We examined the associations of demographic characteristics with perceived everyday discrimination among food pantry clients and explored perceived discrimination experienced at Massachusetts food pantries.

Methods

Study design and participants

During the COVID-19 pandemic, from December 2021 through February 2022, GBFB and MassGeneral for Children administered a cross-sectional, statewide, representative survey in English of Massachusetts adults (N = 3,085 respondents). The Massachusetts Statewide Food Access Survey was developed by the National Food Access and COVID Research Team (28) and modified with input from the Health and Research Council at GBFB, which includes experts from the nonprofit, government, medical, legal, health equity, and public health sectors (26). Survey participants were recruited by Qualtrics, a survey research firm, to complete an online survey on food access and food security through the Qualtrics Panels Project. Qualtrics recruits participants meeting study inclusion criteria from many panel sources. Exact information on compensation for participants is unavailable because this information is kept confidential by Qualtrics. All recruitment, participant contact, data collection, and compensation were handled by Qualtrics directly. Qualtrics has numerous data quality checks in place (eg, removing duplicate internet protocol addresses) to ensure that only 1 survey was completed per household. GBFB and MassGeneral for Children received the anonymous data after it was collected by Qualtrics.

The objectives of the Massachusetts Statewide Food Access Survey were to identify changes in the prevalence of food insecurity and use of food assistance, document barriers to and facilitators of food pantry use and SNAP (Supplemental Nutrition Assistance Program) participation, and develop data-driven recommendations to improve food access equity through programmatic, policy, and advocacy efforts (29). Of 5,064 entrants to the survey, 4,336 participants completed the survey, and 3,085 completed surveys

were of good quality. This secondary analysis was restricted to an unweighted sample of food pantry clients with complete data on food insecurity (n = 702). This study was approved by the institutional review board at MassGeneral for Children.

Measures

Demographic questions asked survey participants to self-identify their race and ethnicity, age category, sexual orientation (30), and gender identity (30). Race and ethnicity were defined according to US Census Bureau methods (31). Hispanic ethnicity was defined as any adult identifying as Hispanic, regardless of identity with a racial group (eg, Black Hispanic was defined as Hispanic). Additionally, when possible, data were further disaggregated such that free-text responses for “other” were disaggregated and categorized into the appropriate category (eg, Brazilian or Puerto Rican was counted as Hispanic) to attempt to highlight disparities in adults identifying as Hispanic. In sensitivity analyses, we then used an aggregated variable for race and ethnicity that was consistent with the US Census Bureau method. For both variables, if a participant chose more than 2 races and did not identify as Hispanic or Latino, they were categorized as “other.” Participants were also asked to report the number of children in the household, annual household income, and household size (number of household members).

The survey asked about food insecurity and use of food assistance programs. Food insecurity during the last year was assessed by using the US Department of Agriculture’s 6-item short form of the food security survey module (32), and food insecurity was defined as having at least 2 affirmative responses (eg, often, sometimes, or yes). The 6-item measure was chosen because of its focus on adults and the study team’s desire to reduce the length of the survey. SNAP participation was assessed by using a single item that asked participants whether they had received SNAP benefits in the last year, the last 30 days, never, or used more than a year ago, but not currently using. For this analysis, respondents were considered SNAP participants if they had reported using the program in the last year or the last 30 days.

Perceived everyday discrimination was measured by using the validated 10-item Everyday Discrimination Scale developed by Williams and colleagues (20). The questionnaire first asks the question, “In your day-to-day life, how often do any of the following things happen to you?” Nine statements follow, such as “You are treated with less courtesy than other people are.” The 6 response options were almost every day, at least once a week, a few times a month, a few times a year, less than once a year, and never. Any respondent who reported almost every day, at least once a week, a few times a month, or a few times a year to any of the 9 statements was categorized as experiencing perceived everyday discrimina-

tion (19). These participants were then asked a follow-up question: “What do you think is the main reason for these experiences?” Participants could select multiple reasons from a list of 10 reasons: ancestry or national origins, gender, race, age, religion, height, weight, some other aspect of your physical appearance, sexual orientation, education or income level.

Perceived discrimination at food pantries was explored by using a modified version of the Everyday Discrimination Scale (Box). The first question was, “At a food pantry, how often do any of the following things happen to you?” The 9 statements were identical to those in the original questionnaire. Responses included all of the time, most of the time, some of the time, rarely, and never. Any respondent who reported all of the time, most of the time, or some of the time to any of the 9 questions was categorized as experiencing perceived discrimination at food pantries. Again, respondents were asked to select what they thought was the main reason for their experiences.

Box. Questions on Perceived Food Pantry Discrimination in a Survey Administered by the Greater Boston Food Bank and Mass General for Children, December 2021–February 2022^a

At a food pantry, how often do any of the following things happen to you? Response options for all questions were all of the time, most of the time, some of the time, rarely, never.

- You are treated with less courtesy than other people are
- You are treated with less respect than other people are
- You receive poorer service than other people
- People act as if they think you are not smart
- People act as if they are afraid of you
- People act as if they think you are dishonest
- People act as if they’re better than you are
- You are called names or insulted
- You are threatened or harassed

What do you think is the main reason for these experiences? (Check all that apply)

- My ancestry or national origins
- My gender
- My race
- My age
- My religion
- My height
- My weight
- Some other aspect of my physical appearance
- My sexual orientation
- My education or income level
- My mental health condition

The opinions expressed by authors contributing to this journal do not necessarily reflect the opinions of the U.S. Department of Health and Human Services, the Public Health Service, the Centers for Disease Control and Prevention, or the authors’ affiliated institutions.

□ My physical disability

^a Modified from the Everyday Discrimination Scale developed by Williams and colleagues (20).

Data analysis

We examined descriptive characteristics and bivariate associations among the exposures age, race and ethnicity, gender identity, sexual orientation, annual household income, household size, having children in the household, food insecurity, and SNAP participation. Then, logistic regression examined the adjusted associations of the exposures with perceived everyday discrimination and perceived discrimination at food pantries. Fully adjusted models included age, race, gender identity, sexual orientation, annual household income, household size, having children in the household, food insecurity, and SNAP participation. We used SAS version 9.4 (SAS Institute, Inc) for all analyses. The level of significance was set at $P < .05$.

Results

Most food pantry clients in our sample identified as non-Hispanic White (59%) and cisgender women (64%); 22% identified as Hispanic and 11% as non-Hispanic Black. Additionally, 40% were aged 18 to 34 years, 44% had children in the household, 23% identified as LGBTQ+, and 42% had an annual household income of less than \$25,000 (Table 1).

Demographic associations with perceived everyday discrimination

In adjusted models examining the association of demographic characteristics with perceived everyday discrimination (Table 2), clients aged 18 to 34 years were more likely than clients aged 65 years or older to report perceived everyday discrimination (adjusted odds ratio [AOR] = 4.27; 95% CI, 1.89–9.67). Clients identifying as LGBTQ+ were more likely than non-LGBTQ+ clients to report perceived everyday discrimination (AOR = 2.44; 95% CI, 1.24–4.79). Clients with annual household incomes of \$100,000 or more were more likely than clients with incomes of less than \$25,000 annually to report perceived everyday discrimination (AOR = 4.51; 95% CI, 1.52–13.31). Clients experiencing food insecurity (AOR = 4.49; 95% CI, 2.79–7.22) were more likely than clients not experiencing food insecurity to report perceived everyday discrimination. We found no differences in perceived everyday discrimination by race.

Demographic associations with perceived discrimination at food pantries

In adjusted models examining the association of demographic characteristics with perceived discrimination at food pantries (Table 2), clients identifying as Hispanic were more likely than clients identifying as non-Hispanic White to report perceived discrimination at food pantries (AOR = 1.83; 95% CI, 1.13–2.96). However, when we used the aggregated race and ethnicity variable, we found that clients identifying as Black were more likely than clients identifying as White to report perceived discrimination at food pantries (AOR = 1.91; 95% CI, 1.02–3.60) (Table 3). Clients with annual household incomes of \$100,000 or more were more likely than clients with incomes of less than \$25,000 annually to report perceived discrimination at food pantries (AOR = 3.53; 95% CI, 1.55–8.03) (Table 2). Clients reporting everyday discrimination were more likely than clients not reporting everyday discrimination to report perceived discrimination at food pantries (AOR = 11.34; 95% CI, 5.79–22.24) (Table 3). Of the 702 food pantry clients, 580 (83%) reported everyday discrimination and 381 (54%) reported discrimination at food pantries. The most common reasons reported were related to weight, age, race, and gender identity (Table 4).

Discussion

Our analysis supports the link between perceived everyday discrimination and food insecurity and provides preliminary evidence on perceived discrimination at food pantries in a diverse sample of food pantry clients in Massachusetts. Our results suggest that clients aged 18 to 34 years (vs aged ≥ 65 y) and clients in households in the highest income category (vs the lowest) were more likely to report perceived everyday discrimination and discrimination at food pantries. Clients identifying as LGBTQ+ (vs non-LGBTQ+) were more likely to report everyday discrimination. Furthermore, clients identifying as Hispanic were more likely than clients identifying as non-Hispanic White to report perceived discrimination at food pantries.

Our findings are aligned with other findings on gender identity and sexual orientation (33,34) and racial and ethnic (35) disparities in food insecurity rates. Our findings are also aligned with other reports of higher rates of everyday discrimination among sexual and gender minoritized groups and racial and ethnic minoritized groups (36–38). However, our findings add to this literature by focusing on perceived discrimination among food pantry clients.

Our findings on food pantry clients who identified as Hispanic are noteworthy. While data on perceived discrimination at food pantries is scant, the Hispanic population in Massachusetts has a dis-

proportionate share of health disparities, such as worse outcomes during the COVID-19 pandemic (39). The Hispanic population also experienced a disproportionate share of the effects of the pandemic, such as having inadequate sick leave or needing to reduce work hours to care for children (40). These factors could have contributed to greater perceived discrimination at food pantries and may offer one explanation as to why our findings on Hispanic food pantry clients were robust even after adjusting for covariates. Additionally, 51% of clients identifying as Hispanic in this sample noted that they were worried about documents they needed to provide at food pantries, even though documentation is not required in Massachusetts. This concern may contribute to greater levels of perceived discrimination at food pantries.

Our findings are also in agreement with other literature that documented discrimination in shopping and seeking food assistance. For example, in a qualitative study among transgender and gender-nonconforming individuals, participants feared gender-based discrimination from religious groups who organize food pantries, which kept them from seeking food assistance in local communities (41). Another qualitative study of young adults with diverse racial and ethnic backgrounds reported experiencing several forms of discrimination while shopping in food retail stores, such as excessive monitoring and verbal harassment tied to race and ethnicity and xenophobia, which influenced how their households acquired food (42).

Our finding on the association between higher income and perceived discrimination at food pantries was somewhat surprising. However, food pantry participants in households with higher incomes may have needed to use food pantries for the first time during COVID-19 pandemic, thus, they may have had a heightened sense of perceived discrimination, even though food pantry staff would not be aware of their income. Data from this sample indicate that 11% of new pantry clients in the last year had annual incomes of \$100,000 or more. This percentage is in line with national data from Feeding America, which indicated that the number of people participating in the charitable food system increased from 40 million in 2019, before the COVID-19 pandemic began, to 49 million in 2022, an increase of 22.5% (43). Thus, individuals who typically did not need food assistance before the pandemic were seeking assistance for the first time. Additionally, our findings about higher income and everyday discrimination are in line with other research showing that both income and education are directly and linearly associated with both presence of discrimination and intensity of discrimination (44).

Our results demonstrating that younger adults perceived more everyday discrimination than older adults were unexpected. While there is robust literature examining the experiences of discrimination among older adults, evidence is growing that other age groups

also experience discrimination (45). Literature on discrimination among young adults apart from race and ethnicity is limited (46); however, a study that used data from 6 waves of the Transition to Adulthood Supplement (2007–2017) of the Panel Study of Income Dynamics found that more than 90% of young adults across racial and ethnic groups reported experiencing everyday discrimination (47). Younger age groups also may be more aware of discrimination and microaggressions, and thus be more likely to report it, but more work is needed to test this hypothesis.

It is important to acknowledge that findings about perceived discrimination at food pantries among clients identifying as Black were not significant when we used a disaggregated variable for race and ethnicity, which counted adults identifying as Hispanic and 1 other racial category as Hispanic (including Black Hispanic adults). This disaggregation method also assigned free-text responses in the “other” category to the closest appropriate category consistent with US Census Bureau methods (48). Challenges remain in the disaggregation of race data, and although no one-size-fits-all approach exists to collect, analyze, and report such data, it is important to prioritize transparency and ensure that all minoritized populations are represented and visible in research (49).

Limitations and strengths

This study has several limitations and strengths. Because the statewide survey was available only in English, some barriers to and experiences with food pantries may have been underreported. Additionally, the survey was offered online only and, therefore, it was not available to individuals without access to computers or smartphones. However, data from 2021 showed that most Americans (93%) have internet access, even lower-income populations (50). The online nature of the survey also allowed participants to complete sensitive questions in the privacy of their own homes, potentially decreasing the possibility of social desirability bias. Finally, although the Everyday Discrimination Scale (32) was adapted with the help of content experts for use in food pantries, it has not undergone factor analysis. Future work will aim to conduct psychometric testing to establish reliability and validity. Strengths of the study include a diverse sample and collection of novel data on experiences of perceived discrimination among food pantry clients, thus adding to the existing literature on racial, ethnic, sexual, and gender disparities in food access.

Conclusions

Results from this secondary analysis emphasize the urgent need to address discrimination, which may contribute to inequities in the charitable food system, particularly among racial, ethnic, gender identity, and sexual orientation minoritized groups. Public health interventions and food assistance programs aimed at improving

food security may not reach maximum effectiveness without addressing discrimination. Integrating essential unconscious bias training is needed to protect racial and ethnic and gender identity and sexual orientation minoritized groups. Organizations should focus efforts on diversity, equity, and inclusion initiatives and work toward concrete solutions such as data disaggregation, which is both tangible and impactful. Researchers and practitioners at food banks and food pantries who are developing policies and programs should work with those with lived expertise to better understand the experiences and barriers caused by perceived discrimination to equitably serve all who could benefit from the charitable food assistance system.

Acknowledgments

We thank Catherine D'Amato and Carol Tienken from the Greater Boston Food Bank for their support in this work. Additionally, we thank the members of the Health and Research Council for the Greater Boston Food Bank: Tamara Baer, Pablo Buitron de la Vega, Elena Byhoff, Eileen Dern, Stephanie Ettinger de Cuba, Deborah Frank, Michael Fubini, Katie Garfield, Allen Hamdan, Barbara L'Italien, Rebekka Lee, ScD, Christopher Long, PhD, Brittany Mangini, Jacob Mirsky, Laura Perille, Kim Prendergast, Eric Rimm, Allison Salke, Megan Sandel, Alexandra Schweitzer, Richard Sheward, Laura Siller, Amy Smith, Reena I. Thadhani, Usha Thakrar, Anne Thorndike, Emily Wroe, and Ann Zacarian.

This research was funded by Stop & Shop and the Hunger to Health Collaboratory. Dr Fiechtner is supported by grant number K23HD090222 from the Eunice Kennedy Shriver National Institute of Child Health and Human Development.

The authors declared no potential conflicts of interest with respect to the research, authorship, or publication of this article. No copyrighted material, surveys, instruments, or tools were used in the research described in this article.

Angela Odoms-Young and Lauren Fiechtner are joint senior authors.

Author Information

Corresponding Author: Cara F. Ruggiero, PhD, RD, LDN, MRC Epidemiology Unit, University of Cambridge School of Clinical Medicine, Box 285, Institute of Metabolic Science, Cambridge Biomedical Campus, Cambridge, UK CB2 0QQ (cara.ruggiero@mrc-epid.cam.ac.uk).

Author Affiliations: ¹Division of General Academic Pediatrics, Department of Pediatrics, Mass General for Children, Boston, Massachusetts. ²Now with University of Cambridge School of

Clinical Medicine, Cambridge, United Kingdom. ³Business and Data Analytics Department, The Greater Boston Food Bank, Boston, Massachusetts. ⁴Communication and Public Affairs, The Greater Boston Food Bank, Boston, Massachusetts. ⁵Human Resources and Diversity, Equity, and Inclusion, The Greater Boston Food Bank, Boston, Massachusetts. ⁶Duke Divinity School, Sanford School of Public Policy, Duke University, Durham, North Carolina. ⁷Division of Nutritional Sciences, College of Human Ecology, Cornell University, Ithaca, New York. ⁸Division of Pediatric Gastroenterology and Nutrition, Mass General for Children, Boston, Massachusetts.

References

1. Nord M, Coleman-Jensen A, Andrews M, Carlson S. Household Food Security in the United States, 2009. US Department of Agriculture, Economic Research Service. November 2010. Accessed August 9, 2022. https://www.ers.usda.gov/webdocs/publications/44776/7024_err108_1_pdf
2. US Department of Agriculture, Economic Research Service. Definitions of food security. Last updated October 25, 2023. Accessed April 22, 2024. <https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-u-s/definitions-of-food-security>
3. Cook JT, Frank DA, Berkowitz C, Black MM, Casey PH, Cutts DB, et al. Food insecurity is associated with adverse health outcomes among human infants and toddlers. *J Nutr*. 2004;134(6):1432–1438. doi:10.1093/jn/134.6.1432
4. Drennen CR, Coleman SM, Ettinger de Cuba S, Frank DA, Chilton M, Cook JT, et al. Food insecurity, health, and development in children under age four years. *Pediatrics*. 2019; 144(4):e20190824. doi:10.1542/peds.2019-0824
5. Gundersen C, Kreider B. Bounding the effects of food insecurity on children's health outcomes. *J Health Econ*. 2009; 28(5):971–983. doi:10.1016/j.jhealeco.2009.06.012
6. Abdurahman AA, Chaka EE, Nedjat S, Dorosty AR, Majdzadeh R. The association of household food insecurity with the risk of type 2 diabetes mellitus in adults: a systematic review and meta-analysis. *Eur J Nutr*. 2019;58(4):1341–1350. doi:10.1007/s00394-018-1705-2
7. Leddy AM, Weiser SD, Palar K, Seligman H. A conceptual model for understanding the rapid COVID-19–related increase in food insecurity and its impact on health and healthcare. *Am J Clin Nutr*. 2020;112(5):1162–1169. doi:10.1093/ajcn/nqaa226

8. Odoms-Young A, Bruce MA. Examining the impact of structural racism on food insecurity: implications for addressing racial/ethnic disparities. *Fam Community Health*. 2018;41(Suppl 2, Food Insecurity and Obesity):S3–S6. doi:10.1097/FCH.0000000000000183
9. Bowen S, Elliott S, Hardison-Moody A. The structural roots of food insecurity: how racism is a fundamental cause of food insecurity. *Sociol Compass*. 2021;15(7):e12846. doi:10.1111/soc4.12846
10. Phojanakong P, Brown Weida E, Grimaldi G, Lê-Scherban F, Chilton M. Experiences of racial and ethnic discrimination are associated with food insecurity and poor health. *Int J Environ Res Public Health*. 2019;16(22):4369. doi:10.3390/ijerph16224369
11. Rose D. Economic determinants and dietary consequences of food insecurity in the United States. *J Nutr*. 1999;129(2S Suppl):517S–520S. doi:10.1093/jn/129.2.517S
12. Flores-Lagunes A, Jales HB, Liu J, Wilson NL. The differential incidence and severity of food insecurity by racial, ethnic, and immigrant groups over the Great Recession in the United States. *AEA Pap Proc*. 2018;108:379–383. doi:10.1257/pandp.20181106
13. Rabbitt MP, Hales LJ, Burke MP, Coleman-Jensen A. *Household Food Security in the United States in 2022*. US Department of Agriculture, Economic Research Service. October 25, 2023. Accessed January 7, 2024. <https://www.ers.usda.gov/webdocs/publications/107703/err-325.pdf?v=8123.1>
14. Tran A, Birk N, Skalaban T, Chom S. Association between perceived discrimination and food insecurity among sexual minority men. *Nutr Health*. 2023;29(2):331–338. doi:10.1177/02601060221080242
15. Harris CL, Haack S, Miao Z. Everyday discrimination is a stronger predictor of eating competence than food insecurity or perceived stress in college students amidst COVID-19. *Appetite*. 2022;179:106300. doi:10.1016/j.appet.2022.106300
16. Burke MP, Jones SJ, Frongillo EA, Fram MS, Blake CE, Freedman DA. Severity of household food insecurity and lifetime racial discrimination among African-American households in South Carolina. *Ethn Health*. 2018;23(3):276–292. doi:10.1080/13557858.2016.1263286
17. Banks KH, Kohn-Wood LP, Spencer M. An examination of the African American experience of everyday discrimination and symptoms of psychological distress. *Community Ment Health J*. 2006;42(6):555–570. doi:10.1007/s10597-006-9052-9
18. Williams DR, Mohammed SA. Discrimination and racial disparities in health: evidence and needed research. *J Behav Med*. 2009;32(1):20–47. doi:10.1007/s10865-008-9185-0
19. Michaels E, Thomas M, Reeves A, Price M, Hasson R, Chae D, et al. Coding the Everyday Discrimination Scale: implications for exposure assessment and associations with hypertension and depression among a cross section of mid-life African American women. *J Epidemiol Community Health*. 2019;73(6):577–584. doi:10.1136/jech-2018-211230
20. Williams DR, Yu Y, Jackson JS, Anderson NB. Racial differences in physical and mental health: socio-economic status, stress and discrimination. *J Health Psychol*. 1997;2(3):335–351. doi:10.1177/135910539700200305
21. National Research Council Panel on Race, Ethnicity, and Health in Later Life. *Understanding Racial and Ethnic Differences in Health In Late Life: A Research Agenda*. Bulatao RA, Anderson NB, eds. National Academies Press; 2004.
22. Ardoin TW, Perry E, Morgan C, Hymowitz J, Mercante D. The design and impact of a clinic-based community program on food insecurity, healthy eating behaviors, and mood. *Nutrients*. 2023;15(20):4316. doi:10.3390/nu15204316
23. Mossenson S, Pulker CE, Giglia R, Pollard CM. Policy approaches to nutrition-focused food banking in industrialized countries: a scoping review. *Nutr Rev*. 2023;81(10):1373–1392. doi:10.1093/nutrit/nuad004
24. Martin K, Xu R, Schwartz MB. Food pantries select healthier foods after nutrition information is available on their food bank’s ordering platform. *Public Health Nutr*. 2021;24(15):5066–5073. doi:10.1017/S1368980020004814
25. Levi R, Schwartz M, Campbell E, Martin K, Seligman H. Nutrition standards for the charitable food system: challenges and opportunities. *BMC Public Health*. 2022;22(1):495. doi:10.1186/s12889-022-12906-6
26. The Greater Boston Food Bank. Fuel growing minds. Accessed February 24, 2023. <https://www.gbfb.org>
27. Coleman-Jensen A, Rabbitt MP, Gregory CA, Singh A. *Statistical Supplement to Household Food Security in the United States in 2019*. September 2020. US Department of Agriculture, Economic Research Service . Accessed August 21, 2022. <https://www.ers.usda.gov/webdocs/publications/99289/ap-084.pdf?v=7532.4>
28. Niles MT, Beavers AW, Clay LA, Dougan MM, Pignotti GA, Rogus S, et al. A multi-site analysis of the prevalence of food insecurity in the United States, before and during the COVID-19 pandemic. *Curr Dev Nutr*. 2021;5(12):nzab135. doi:10.1093/cdn/nzab135
29. Zack R, Birk N, Weil R, Lynn CD, Taitelbaum D, Tienken C, et al. *Gaps in Food Access During the COVID-19 Pandemic in Massachusetts*. The Greater Boston Food Bank; 2021. Accessed June 12, 2023. https://www.gbfb.org/wp-content/uploads/2021/04/GBFB_Gaps_in_Food_Access_Report_Final_May_2021.pdf

The opinions expressed by authors contributing to this journal do not necessarily reflect the opinions of the U.S. Department of Health and Human Services, the Public Health Service, the Centers for Disease Control and Prevention, or the authors’ affiliated institutions.

30. Hamilton CM, Strader LC, Pratt JG, Maiese D, Hendershot T, Kwok RK, et al. The PhenX Toolkit: get the most from your measures. *Am J Epidemiol*. 2011;174(3):253–260. doi:10.1093/aje/kwr193
31. Jensen E, Jones N, Pratt JG, Orozco K, Medina L, Perry M, et al. Measuring racial and ethnic diversity for the 2020 census. US Census Bureau. August 4, 2021. Accessed April 7, 2023. <https://www.census.gov/newsroom/blogs/random-samplings/2021/08/measuring-racial-ethnic-diversity-2020-census.html>
32. US Department of Agriculture, Economic Research Service. Survey tools. Last updated October 25, 2023. Accessed October 29, 2022. <https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-u-s/survey-tools/#household>
33. Leslie IS, Carson J, Bruce A. LGBTQ+ food insufficiency in New England. *Agric Human Values*. 2022:1–16 .
34. Russomanno J, Jabson Tree JM. Food insecurity and food pantry use among transgender and gender non-conforming people in the Southeast United States. *BMC Public Health*. 2020;20(1):590. doi:10.1186/s12889-020-08684-8
35. Coleman-Jensen A, Rabbitt MP, Gregory CA, Singh A. *Household Food Security in the United States in 2021*. September 2022. Accessed November 30, 2022. https://www.ers.usda.gov/webdocs/publications/104656/err-309_summary.pdf?v=6084.6
36. Watson JM, Scarinci IC, Klesges RC, Slawson D, Beech BM. Race, socioeconomic status, and perceived discrimination among healthy women. *J Womens Health Gend Based Med*. 2002;11(5):441–451. doi:10.1089/15246090260137617
37. Barnes LL, Mendes De Leon CF, Wilson RS, Bienias JL, Bennett DA, Evans DA. Racial differences in perceived discrimination in a community population of older Blacks and Whites. *J Aging Health*. 2004;16(3):315–337. doi:10.1177/0898264304264202
38. Jackson SE, Hackett RA, Grabovac I, Smith L, Steptoe A. Perceived discrimination, health and wellbeing among middle-aged and older lesbian, gay and bisexual people: a prospective study. *PLoS One*. 2019;14(5):e0216497. doi:10.1371/journal.pone.0216497
39. Poulson M, Neufeld M, Geary A, Kenzik K, Sanchez SE, Dechert T, et al. Intersectional disparities among Hispanic groups in COVID-19 outcomes. *J Immigr Minor Health*. 2021; 23(1):4–10. doi:10.1007/s10903-020-01111-5
40. Massachusetts Department of Public Health. CCIS Spotlight: Hispanic/Latinx residents. Accessed March 15, 2024. <https://www.mass.gov/info-details/ccis-spotlight-hispaniclatinx-residents>
41. Russomanno J, Patterson JG, Jabson JM. Food insecurity among transgender and gender nonconforming individuals in the southeast United States: a qualitative study. *Transgend Health*. 2019;4(1):89–99. doi:10.1089/trgh.2018.0024
42. Larson N, Alexander T, Slaughter-Acey JC, Berge J, Widome R, Neumark-Sztainer D. Barriers to accessing healthy food and food assistance during the COVID-19 pandemic and racial justice uprisings: a mixed-methods investigation of emerging adults’ experiences. *J Acad Nutr Diet*. 2021;121(9): 1679–1694. doi:10.1016/j.jand.2021.05.018
43. Feeding America. Charitable food assistance participation. Accessed December 22, 2022. <https://www.feedingamerica.org/research/charitable-food-access>
44. Halanych JH, Safford MM, Shikany JM, Cuffee Y, Person SD, Scarinci IC, et al. The association between income, education, and experiences of discrimination in older African American and European American patients. *Ethn Dis*. 2011;21(2): 223–229.
45. Hagestad GO, Uhlenberg P. The social separation of old and young: a root of ageism. *J Soc Issues*. 2005;61(2):343–360. doi:10.1111/j.1540-4560.2005.00409.x
46. Ridgeway SO, Denney JT. A comprehensive examination of discrimination and the impact on health in young adults. *Soc Sci Med*. 2023;320:115728. doi:10.1016/j.socscimed.2023.115728
47. Lei Y, Shah V, Biely C, Jackson N, Dudovitz R, Barnert E, et al. Discrimination and subsequent mental health, substance use, and well-being in young adults. *Pediatrics*. 2021;148(6): e2021051378. doi:10.1542/peds.2021-051378
48. US Census Bureau. Racial identification for the self-reported Hispanic or Latino population: 2010 and 2020 Census. March 28, 2023. Accessed May 29, 2023. <https://www.census.gov/data/tables/time-series/demo/hispanic-origin/racial-identification.html>
49. Kroboth DM, Naumova EN, Cuevas AG, Sacheck JM, Wilson NLW, Economos CD. Use of Bland–Altman analysis to examine the racial and ethnic representativeness of study populations in community-based pediatric health research. *JAMA Netw Open*. 2023;6(5):e2312920–e2312920. doi:10.1001/jamanetworkopen.2023.12920
50. Pew Research Center. Internet, broadband fact sheet. Accessed December 22, 2022. <https://www.pewresearch.org/internet/fact-sheet/internet-broadband/#panel-480dace1-fd73-4f03-ad88-ae66e1f4217>

Tables

Table 1. Demographic Characteristics of Food Pantry Clients (N = 702) Who Responded to a Survey Administered by the Greater Boston Food Bank and Mass General for Children, December 2021–February 2022

Characteristic	No. (%) ^a
Race and ethnicity	
Hispanic ^b	153 (22)
Non-Hispanic Asian	32 (5)
Non-Hispanic Black	77 (11)
Non-Hispanic White	417 (59)
Non-Hispanic Other	23 (3)
Age, y	
18–34	284 (40)
35–54	273 (39)
55–64	90 (13)
≥65	55 (8)
Gender identity	
Cisgender man	237 (34)
Cisgender woman	447 (64)
Nonbinary/transgender	18 (3)
Sexual orientation	
Non-LGBTQ+	541 (77)
LGBTQ+	161 (23)
Have children in household	
	306 (44)
Annual household income, \$	
<25,000	298 (42)
25,000–49,999	202 (29)
50,000–74,999	103 (15)
75,000–99,999	41 (6)
≥100,000	58 (8)
Region of Massachusetts	
Boston	100 (14)
Central	98 (14)
Northeast	177 (25)
Southeast	182 (26)
Western	145 (21)

Abbreviation: LGBTQ, lesbian, gay, bisexual, transgender, queer.

^a Percentages may not add to 100 because of rounding.

^b Defined as any adult identifying as Hispanic, regardless of identity with a racial group (eg, Black Hispanic was defined as Hispanic).

Table 2. Adjusted Logistic Regression of Perceived Everyday Discrimination and Food Pantry Discrimination Among Food Pantry Clients (N = 702) Who Responded to a Survey Administered by the Greater Boston Food Bank and Mass General for Children, December 2021–February 2022

Characteristic	Perceived everyday discrimination		Perceived food pantry discrimination	
	Reporting yes, %	Adjusted OR (95% CI)	Reporting yes, %	Adjusted OR (95% CI)
Race and ethnicity^a				
Hispanic	89	1.16 (0.60–2.23)	69	1.83 (1.13–2.96)
Non-Hispanic Asian	84	1.70 (0.51–5.61)	53	1.11 (0.46–2.65)
Non-Hispanic Black	87	1.31 (0.59–2.94)	61	1.63 (0.89–2.95)
Non-Hispanic White	79	1 [Reference]	47	1 [Reference]
Non-Hispanic Other	87	1.06 (0.28–4.02)	61	1.49 (0.54–4.16)
Age, y				
18–34	90	4.27 (1.89–9.67) ^b	69	1.73 (0.80–3.73)
35–54	84	2.09 (1.00–4.35)	51	0.89 (0.42–1.88)
55–64	67	1.07 (0.50–2.29)	33	0.83 (0.36–1.91)
≥65	62	1 [Reference]	33	1 [Reference]
Gender identity^d				
Man	86	1 [Reference]	51	1 [Reference]
Woman	81	0.79 (0.48–1.28)	60	0.76 (0.52–1.12)
Sexual orientation				
Non-LGBTQ+	80	1 [Reference]	51	1 [Reference]
LGBTQ+	92	2.44 (1.24–4.79) ^b	66	1.51 (0.98–2.33)
Have children in household				
No	80	1 [Reference]	48	1 [Reference]
Yes	87	0.92 (0.52–1.62)	62	1.19 (0.77–1.84)
Annual household income, \$				
<25,000	80	1 [Reference]	54	1 [Reference]
25,000–49,999	84	1.59 (0.93–2.74)	53	0.94 (0.61–1.43)
50,000–74,999	83	1.45 (0.73–2.88)	47	0.59 (0.34–1.01)
75,000–99,999	80	1.61 (0.61–4.22)	46	0.73 (0.33–1.63)
≥100,000	91	4.51 (1.52–13.31) ^b	78	3.53 (1.55–8.03) ^b
Household size, mean (SD)	2.8 (1.5)	0.91 (0.76–1.09)	2.8 (1.5)	1.03 (0.89–1.19)
SNAP participation				
No	75	1 [Reference]	47	1 [Reference]
Yes	85	1.56 (0.94–2.61)	57	0.98 (0.63–1.51)

Abbreviations: LGBTQ, lesbian, gay, bisexual, transgender, queer; OR, odds ratio; SNAP, Supplemental Nutrition Assistance Program.

^a In this primary analysis, 32 respondents were non-Hispanic Asian, 77 non-Hispanic Black, 153 Hispanic, 417 non-Hispanic White, and 23 non-Hispanic “Other.” Hispanic was defined as any adult identifying as Hispanic, regardless of identity with a racial group (eg, Black Hispanic was defined as Hispanic). In addition, when possible, data were disaggregated such that free-text responses for “Other” were disaggregated and categorized into the appropriate category (eg, Brazilian or Puerto Rican was counted as Hispanic).

^b Significant at $P < .05$.

^c 2-level sex category was used because cell size of nonbinary/transgender was too small and model did not converge. These individuals were instead captured in the LGBTQ+ variable.

(continued on next page)

The opinions expressed by authors contributing to this journal do not necessarily reflect the opinions of the U.S. Department of Health and Human Services, the Public Health Service, the Centers for Disease Control and Prevention, or the authors’ affiliated institutions.

(continued)

Table 2. Adjusted Logistic Regression of Perceived Everyday Discrimination and Food Pantry Discrimination Among Food Pantry Clients (N = 702) Who Responded to a Survey Administered by the Greater Boston Food Bank and Mass General for Children, December 2021–February 2022

Characteristic	Perceived everyday discrimination		Perceived food pantry discrimination	
	Reporting yes, %	Adjusted OR (95% CI)	Reporting yes, %	Adjusted OR (95% CI)
Experiencing food insecurity				
No	60	1 [Reference]	26	1 [Reference]
Yes	88	4.49 (2.79–7.22) ^b	61	3.25 (1.97–5.37) ^b
Perceived everyday discrimination				
No	-	1 [Reference]	9	1 [Reference]
Yes	-	-	64	11.20 (5.72–21.90) ^b

Abbreviations: LGBTQ, lesbian, gay, bisexual, transgender, queer; OR, odds ratio; SNAP, Supplemental Nutrition Assistance Program.

^a In this primary analysis, 32 respondents were non-Hispanic Asian, 77 non-Hispanic Black, 153 Hispanic, 417 non-Hispanic White, and 23 non-Hispanic “Other.” Hispanic was defined as any adult identifying as Hispanic, regardless of identity with a racial group (eg, Black Hispanic was defined as Hispanic). In addition, when possible, data were disaggregated such that free-text responses for “Other” were disaggregated and categorized into the appropriate category (eg, Brazilian or Puerto Rican was counted as Hispanic).

^b Significant at $P < .05$.

^c 2-level sex category was used because cell size of nonbinary/transgender was too small and model did not converge. These individuals were instead captured in the LGBTQ+ variable.

Table 3. Adjusted Logistic Regression on Perceived Everyday Discrimination and Food Pantry Discrimination, by Aggregated Race Variable, Among Food Pantry Clients (N = 702) Who Responded to a Survey Administered by the Greater Boston Food Bank and Mass General for Children, December 2021–February 2022^a

Characteristic	Odds ratio (95% CI)	
	Perceived everyday discrimination	Perceived food pantry discrimination
Race		
Asian	1.36 (0.40–4.61)	0.74 (0.30–1.88)
Black	1.14 (0.50–2.56)	1.91 (1.02–3.60) ^b
Hispanic	1.15 (0.60–2.21)	1.84 (1.14–2.97) ^b
White	1 [Reference]	1 [Reference]
Other	1.96 (0.54–7.10)	1.46 (0.63–3.37)
Age, y		
18–34	4.35 (1.92–9.88) ^b	1.75 (0.81–3.80)
35–54	2.05 (0.98–4.27)	0.90 (0.42–1.91)
55–64	1.05 (0.49–2.25)	0.84 (0.36–1.92)
≥65	1 [Reference]	1 [Reference]
Gender identity^c		
Man	1 [Reference]	1 [Reference]
Woman	0.79 (0.49–1.29)	0.75 (0.51–1.11)
Sexual orientation		
Non-LGBTQ+	1 [Reference]	1 [Reference]
LGBTQ+	2.37 (1.21–4.64) ^b	1.48 (0.96–2.29)
Have children in household		
No	1 [Reference]	1 [Reference]
Yes	0.91 (0.52–1.61)	1.18 (0.77–1.82)
Annual household income, \$		
<25,000	1 [Reference]	1 [Reference]
25,000–49,999	1.58 (0.92–2.72)	0.93 (0.61–1.42)
50,000–74,999	1.46 (0.73–2.91)	0.57 (0.33–0.99) ^b
75,000–99,999	1.62 (0.62–4.25)	0.72 (0.32–1.61)
≥100,000	4.69 (1.58–13.90) ^b	3.65 (1.59–8.35) ^b
Household size, mean (SD)	0.92 (0.77–1.09)	1.04 (0.89–1.20)
SNAP participation		
No	1 [Reference]	1 [Reference]
Yes	1.56 (0.93–2.59)	0.97 (0.63–1.51)
Experiencing food insecurity		
No	1 [Reference]	1 [Reference]
Yes	4.47 (2.77–7.19) ^b	3.23 (1.96–5.34) ^b

Abbreviations: —, does not apply; LGBTQ, lesbian, gay, bisexual, transgender, queer; SNAP, Supplemental Nutrition Assistance Program.

^a In this analysis, which used an aggregated race and ethnicity variable, 28 respondents were Asian, 71 Black, 153 Hispanic, 417 White, and 33 “Other.”

^b $P < .05$.

^c 2-level sex category used because cell size for nonbinary/transgender was too small and model did not converge. Data for nonbinary/transgender were instead captured in the LGBTQ+ variable.

(continued on next page)

The opinions expressed by authors contributing to this journal do not necessarily reflect the opinions of the U.S. Department of Health and Human Services, the Public Health Service, the Centers for Disease Control and Prevention, or the authors’ affiliated institutions.

(continued)

Table 3. Adjusted Logistic Regression on Perceived Everyday Discrimination and Food Pantry Discrimination, by Aggregated Race Variable, Among Food Pantry Clients (N = 702) Who Responded to a Survey Administered by the Greater Boston Food Bank and Mass General for Children, December 2021–February 2022^a

Characteristic	Odds ratio (95% CI)	
	Perceived everyday discrimination	Perceived food pantry discrimination
Perceived everyday discrimination		
Yes	—	11.34 (5.79–22.24) ^b
No	—	1 [Reference]

Abbreviations: —, does not apply; LGBTQ, lesbian, gay, bisexual, transgender, queer; SNAP, Supplemental Nutrition Assistance Program.

^a In this analysis, which used an aggregated race and ethnicity variable, 28 respondents were Asian, 71 Black, 153 Hispanic, 417 White, and 33 “Other.”

^b $P < .05$.

^c 2-level sex category used because cell size for nonbinary/transgender was too small and model did not converge. Data for nonbinary/transgender were instead captured in the LGBTQ+ variable.

Table 4. Prevalence of Discrimination and Frequencies of Reasons for Discrimination Reported by Food Pantry Clients (N = 702) Who Responded to a Survey Administered by the Greater Boston Food Bank and Mass General for Children, December 2021–February 2022

Characteristic	Everyday discrimination, no. (%)	Discrimination at food pantries, no. (%)
Experienced discrimination in the last year and reported a reason	580 (83)	381 (54)
Reasons reported^a		
Weight	173 (30)	120 (31)
Age	169 (29)	128 (34)
Race	169 (29)	118 (31)
Gender identity	170 (29)	100 (26)
Mental health condition	162 (28)	84 (22)
Other physical discrimination	139 (24)	95 (25)
Socioeconomic status	138 (24)	76 (20)
Disability	81 (14)	55 (14)
Ancestry	68 (12)	55 (14)
Height	70 (12)	61 (16)
Sexual orientation	71 (12)	51 (13)
Religion	63 (11)	59 (15)

^a More than 1 response was permitted. Percentages are based on the number of pantry clients who reported discrimination and gave a reason (n = 580 for everyday discrimination and n = 381 for discrimination at food pantries).