

FOOD INSECURITY AND FOOD JUSTICE IN THE
RHODE ISLAND FOOD BANK

By

Hannah Lennox

Department of Health and Physical Education

Rhode Island College

2023

Abstract

In 2021, 18% of Rhode Islanders were food insecure, with a higher prevalence for Black, Latino, and Indigenous communities, as well as households with children (Rhode Island Community Food Bank, 2021). Levels of food insecurity were also heightened during the COVID-19 Pandemic both nationally, and locally, in Rhode Island. This project inquires about the experiences of food insecurity and food justice among Rhode Island residents. The purpose of this study is to understand on a deeper level the recent scope of food insecurity in Rhode Island with respect to food insecurity disparities. A secondary purpose of this project is to conduct a needs assessment of the people in RI who are food insecure to see what is missing in the current system of assistance, and in which areas individuals need or want more assistance. This study reaffirmed previous research results that people with a low income, people who are unemployed, and households with children experience higher levels of food insecurity. Moreover, the main barriers to accessing food pantries in Rhode Island are either gas prices, time, weather, or food prices. The implications of this study are that employment, income, and the size of the household are indicators of food security. Another implication is that including Spanish translation is a necessary part of analyzing and researching food insecurity in order to receive accurate and representative data.

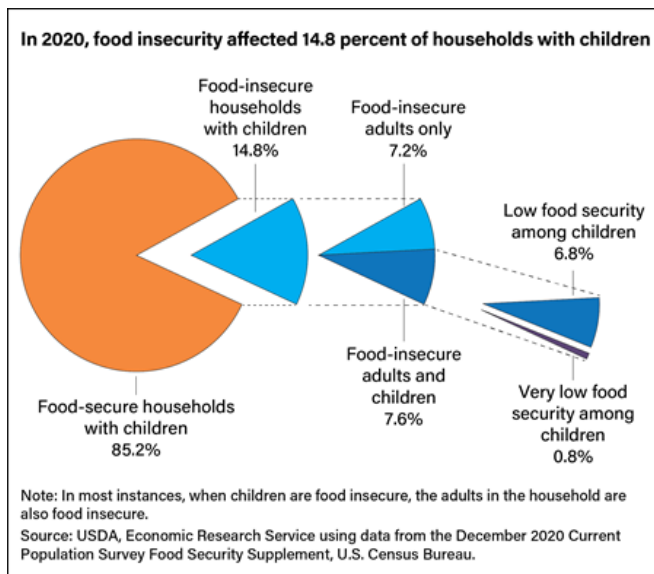
Introduction

Food Insecurity

Food insecurity is defined as a limitation of sufficient access to nutritious food, where the food is accessed in a safe way that is accepted by society (Repair the World, 2017). Food insecurity is not only a lack of food, but also the worry of not having enough food to last, not having accessible transportation to go to a grocery store or food pantry, and sacrificing balanced meals due to a lack of money (O'Neill Hayes, 2021). For the food insecure, barriers like transportation and cost make it difficult to consistently access nutritious food. Food insecurity disproportionately affects those who are homeless, live in poverty, and are unemployed (Feeding America, n.d.; Healthy People 2030, n.d.). Furthermore, it negatively affects certain groups such as Black, Latino, and Indigenous communities because of systemic racism (Feeding America, n.d.). Additionally, larger households including those with children have higher rates of food insecurity: “households with children had a substantially higher rate of food insecurity (12.5 percent) than those without children (9.4 percent)” (United States Department of Agriculture, Economic Research Service, 2022).

Figure 1.

Food insecurity for households with children in 2020.



Scope of the Problem

Approximately 50 million people in the US experience food insecurity (Sun et al., 2020). In recent years, the Coronavirus pandemic (COVID-19) has not just worsened the health of the world, but it has also exacerbated the already existing disparities and financial woes of marginalized communities and households with children. In 2021, 10.2% of US households were food insecure at some point in the year (USDA ERS, 2021), and 5.6 million households with children were food insecure in the year 2020. This was the

first increase in food insecurity in households with children since the year 2011 (Hales & Coleman-Jensen, 2022). Figure 1 from USDA ERS shows that 14.8% or 5.6 million households with children were food insecure in 2020. This figure also presents the issue of low food security among children which was 6.8% in the US in 2020 (Hales & Coleman-Jensen, 2022). This sudden increase in food insecurity in the year 2020 coincides with the COVID-19 pandemic. Researchers at NYU found that about 18 percent of households with children documented experiencing food insecurity during the COVID-19 pandemic and also that the pandemic has heightened food insecurity in general (NYU, 2021).

Health Outcomes

The negative health outcomes associated with food insecurity create the need for additional healthcare treatments. Seemingly contradictory, the individuals that are food insecure are also the ones who spend more on health care – the healthcare expenses add up to \$1,834 more than those who are food secure (Berkowitz et al., 2019). This creates a deeper level of poverty for those who are food insecure. Food insecurity is associated with negative health outcomes in many domains of health, such as mental, physical, and emotional health. One specific way that food insecurity affects one's health is through chronic illness. The food-insecure population is at an increased risk for illnesses such as diabetes, high blood pressure, and cardiovascular disease (Sun et al., 2020). Researchers have found that food insecurity is associated with other determinants of health such as poor sleep and underuse of medication due to high costs (Leung et al., 2020). Chronic illness creates the need for medical care, which can also be an area of financial distress in the US. This creates the negative cycle of deciding whether an individual will use their limited funds for food or healthcare, presenting the

problem of having to choose low-cost, less nutritious food options, which can create more health problems and chronic diseases. Leung et al. (2020) reported that 54% of participants who were food insecure had multiple chronic conditions. Additionally, the American Heart Association found that food insecurity can provoke poor health behaviors such as stress, smoking, unbalanced eating, and a lack of physical activity, which create more negative health outcomes such as heart disease (Precker, 2021).

Food insecurity is associated with negative mental health outcomes and increased psychological distress (Myers, 2020). Recently, the COVID-19 pandemic inflated poor mental health in people with food insecurities (Sundermeir et al., 2021). During the pandemic, researchers analyzed the connection between food insecurity and mental distress, and they determined that food insecurity causes higher rates of mental illness including anxiety and depression (Sundermeir et al., 2021). Correspondingly, a study conducted using answers from the Youth Risk Behavior Survey found that students who were food insecure were more at risk for feeling sad, hopeless, and considering/planning/attempting suicide compared to their food-secure peers (Brown et al., 2022). There is a dose-response relationship between food insecurity and poor mental health outcomes. Therefore, those who experience acute food insecurity also have the highest risk for mental disorders and negative mental health outcomes such as depression, anxiety, and stress (Thomas et al., 2021). Furthermore, stress levels are associated with diabetes and cardiovascular disease. This association is partially due to the fact that high levels of stress hormones cause insulin resistance, and insulin resistance causes diabetes. Additionally, stress can increase blood pressure, which can cause heart disease (Thomas et al., 2021 & American Heart Association, 2022). Ergo, food insecurity negatively affects both mental and physical health in many ways that often intertwine.

Social Implications

Researchers discovered that systemic racism and classism play a significant role in which certain groups are most likely to experience food insecurity in the US (Feeding America, n.d.). Large households with children and non-Hispanic Black households have the highest likelihood of experiencing food insecurity stemming from social injustices (Feeding America, n.d.). Food insecurity also disproportionately affects veterans, people with disabilities, immigrants, Indigenous peoples, and “people impacted by high incarceration rates” (Al Abosey et al., 2022). Researchers examined adults on probation in Rhode Island (RI) and found that their nutrition intake often included processed foods high in fat and sugar. Furthermore, most adults on probation in RI utilized Supplemental Nutrition Assistance Program (SNAP) and other supplemental programs, and they practiced cutting meals and buying groceries in bulk to save money (Dong et al., 2022). The Supplemental Nutrition Assistance Program is a program that aids people with additional money for food. Al Abosey et al. (2022) emphasize the justice aspect of food insecurity and that “Justice-impacted populations”, such as these previously mentioned groups, have a heightened risk of food insecurity as well as food insecurity-caused illness (Al Abosey et al., 2022).

Social Justice and Food Insecurity

Social justice and food justice are essential aspects of food security. Social justice is the practice of creating a fair society that works to eliminate systemic inequalities and racism (John Lewis Institute for Social Justice, n.d.). Food justice is a form of social justice and is defined as the act of communities having access to, growing, eating, and selling culturally appropriate and nutritious food, as well as respectful and fair treatment of people who work in the food system, animals, and the environment (Repair the World, 2017 & FoodPrint, 2021). When analyzing food insecurity, it is important to consider that it is a social injustice relating to systemic racism and classism.

In order to improve food security, it is imperative to acknowledge the disparities that are present. The COVID-19 pandemic has escalated these already existing disparities relating to food insecurity (U.S. Global Leadership Coalition, 2022). An article, *Unequally Vulnerable: A Food Justice Approach to Racial Disparities in COVID-19 Cases*, highlights that the US creates food injustices through racism and capitalism, which control the propagation and administration of food (Alkon et al., 2020). The authors of this article specify that a person's diet is not an individual choice as society treats it, but instead, individual food choices are at least partly made by circumstances such as social class, environment, and race (Alkon et al., 2020). This idea is related to the social-ecological model, which addresses the different areas of life that could affect one's health. These areas include societal, community, relationship, and individual health (CDC, 2022). In this case, while food choices can stem from all four of these areas, more specifically, it stems greatly from societal and individual choices. For example, someone may choose to buy an unbalanced meal for dinner which is an individual choice, however, societal factors such as food deserts and redlining in neighborhoods have a significant impact on that individual choice (Godoy, 2020). One example of what it is like to live in a food desert would be having the nearest grocery store be twice as far as the closest fast food restaurant as a recent study found about neighborhoods with predominantly Black residents in Chicago (Walsh, 2022). Another example of the effects of food deserts would be relying on corner stores and bodegas for one's main source of food which is the case for many New Yorkers (Walsh, 2022). The Rhode Island College International Nongovernmental Organization Studies Students (2022) found that the main food deserts of Rhode Island are located in South Providence, Olneyville, and Woonsocket. Furthermore, "Olneyville was considered a low income and low-access community because 33 percent of its population had no access to fresh produce within half a mile" (Rhode Island College INGOS Students, 2022). There are more food deserts in low-income areas, and areas that are highly populated by Black people (The Annie E. Casey Foundation, 2021). Researchers reported that wealthy neighborhoods have three times more supermarkets than low-income neighborhoods, White neighborhoods have four times more supermarkets than predominantly Black neighborhoods, and grocery stores in Black and African-American neighborhoods are normally smaller, and have less variety of foods (Food Empowerment Project, n.d.). This issue connects to redlining, which was the process of concentrating people of color (POC) in low-income neighborhoods that have less access to green spaces and grocery stores with

nutritious food, therefore, disproportionately affecting the health of POC (Godoy, 2020). Therefore, with these inequities already present, the COVID-19 pandemic has worsened these disparities, and it is evident that there is not a strong system that will support the food insecure as well as the essential workers who are often paid lower salaries (Alkon et al., 2020).

Who is at Risk?

There is a high prevalence of food insecurity among single parents and in the Black and Hispanic populations (USDA ERS, 2021). Some circumstances make populations more likely to experience food insecurity (risk factors), whereas other circumstances make populations less likely to experience food insecurity (protective factors). Researchers report that adolescents living in larger households and feeling unsafe in their neighborhood increases the risk of food insecurity (Mmari et al., 2021). Potential protective factors against food insecurity include having a strong support system and positive views of one's neighborhood (Mmari et al., 2021). Furthermore, during the pandemic, a study was conducted to determine who was most vulnerable to food insecurity, and it was found that Black males and females and larger households with children were more likely to be food insecure (ASN Staff, 2022). A common theme present in research is that POC and large households are disproportionately at risk of experiencing food insecurity. Additionally, 80% of people who use SNAP are either currently working or are unable to work because they are too young, too old, or have disabilities (Food Research & Action Center, 2020). This disproves the notion that people can simply work harder to survive, because households with people working more than one job are found to be 43% more likely to experience food insecurity than households with people working one full-time job (Coleman-Jensen, 2012). The primary issue causing food insecurity is not the lack of work but the social barriers that create economic inequities.

Rhode Island and Food Insecurity

The RI Food Bank reported in 2021 that 18% (one in six households) of Rhode Islanders were food insecure, with a higher rate for households with children (one in four households). Furthermore, there is a distinct racial and ethnic disparity among people in RI regarding food insecurity with Black and LatinX households having a 34% prevalence of food insecurity, which is more than double the percentage of food insecurity in White households (14%) (Rhode Island Community Food Bank, 2021). Additionally, similar to other areas of the US, food insecurity increased to 25% in RI during the year 2020, when the COVID-19 pandemic began (Rhode Island Community Food Bank, 2021). Approximately 30% of households who receive SNAP benefits are households with children in them (Feeding America, n.d.). Because of this, there is an advocacy coalition called Nourish RI that is fighting to enact a Retail SNAP Incentive Program that would give SNAP recipients a 50% discount on fresh produce when buying from any retail store (Rhode Island Public Health Institute, 2022). This policy has already been shown to be beneficial because the Rhode Island Public Health Institute has tried it on a smaller scale with the use of *Food on the Move*, a mobile produce market that runs year-round and gives a

50% discount on the produce they sell for SNAP recipients (Rhode Island Public Health Institute, 2022). This project seeks to better understand the experiences of food-insecure residents of RI regarding food insecurity and food justice.

Methods

Participants

This project utilized a convenience sample. Eligibility criteria included anyone leaving one of the five preapproved food pantries (located in Newport, North Kingstown, Warwick, Cranston, and Woonsocket) supplied by the RI Food Bank for the purpose of receiving food. The participants who were eligible spoke and understood English, were capable of consenting to the informed consent document, possessed adequate English literacy to complete the survey, and were between the ages of 18-89 years old. Eligible participants were approached after leaving the food pantry and asked if they would be willing to participate in a 20-minute survey about their experiences with the food pantry. Individuals that were willing to participate were taken through the informed consent process. Upon completion of the survey, each participant then received a \$5 gift card to Walmart as compensation for their time. Data was collected on the first 50 eligible participants willing to participate over the course of June and July of 2022. The food pantries were visited on weekdays. The North Kingstown food pantry was visited on a Thursday at 10 am, Warwick was visited on a Wednesday at 10 am, Woonsocket was visited on a Wednesday at nine am, Newport was visited on a Monday at 10:30 am, and Cranston was visited on a Wednesday at five pm.

Demographic survey

The demographic section of the survey consisted of nine multiple-choice questions. The topics included: age, sex, racial and ethnic identity, highest level of education, employment status, number of adults in the household, number of children in the household, and household income level. Each question included a “Prefer not to answer” option. For the demographic questions, the response options were categorical, and included as many options as was appropriate for the question. For instance, when asked, “What ethnic group do you identify with?”, the options included, “Hispanic/Latino/Spanish”, “Non Hispanic/Latino/Spanish”, or “Prefer not to answer”. In order to conduct statistical analysis, the data were further collapsed into smaller categories. Such as the age options being collapsed from six categories to two categories: a. 18-24 years, b. 25-34 years, c. 35-44 years, and so on. Versus, 18-44 (Young adults) and 45-65 and older (Older adults). The complete survey is attached in Appendix A.

Insecurity survey

The food insecurity section included eight multiple-choice questions adapted from the original USDA U.S. Household Food Security Survey Module (USDA Economic Research Service, 2012). Questions that related to this project – such as food insecurity questions for adults in the household and children in the household, skipping other similar questions to avoid

redundancy – were chosen from the USDA survey by the researcher. The questions chosen asked about having enough food, worrying about running out of food, running out of food, affording balanced meals, skipping meals, relying on low-cost foods for children, non-balanced meals for children, and children not eating enough. The response options for this section were mostly a four-point Likert scale, which included the response options of, “Often true”, “Sometimes true”, “Never true”, or “Don’t know or refused” after being asked a question about how often they experienced some form of food insecurity. Similar to the demographic section, the data were collapsed to conduct the statistical analysis. Questions such as the one regarding the worry of running out of food, which originally had four options were collapsed into three options. The choices were changed from “Often true, Sometimes true, Never true, or Don’t Know or Refused” to “Worried, Not worried, or No answer”. The complete survey is attached in Appendix A.

Food Justice survey

The qualitative section of the project consisted of partially open-ended, researcher-created questions focused on food justice. There were eight short answer questions that participants of the survey could answer with as much detail as they wanted. The questions asked about the availability of culturally appropriate foods, what they wish was provided at the food pantry regarding their culture, the length, means, and barriers to transportation, frequency of utilizing the pantry, choice of foods, consideration of their choices, and where else do they typically shop for foods. The purpose of the food justice portion was to qualitatively assess similarities and differences in the guest's perspectives about issues surrounding food justice when utilizing pantries supplied by the RI Food Bank. The complete survey is attached in Appendix A.

Statistics

The demographic data of this project was analyzed using count and percentage calculations. To determine whether someone was above or below the Federal Poverty Level, the participant’s household income levels and the number of people in the household were analyzed against poverty levels in Rhode Island. All categorical response options were collapsed into meaningful smaller categories. For example, the demographic question about age initially included six options not including the prefer not to answer option. In order to conduct the exploratory chi-square analysis between the demographic data and the food insecurity data, those six options were collapsed into two (young adults and older adults) not including the prefer not to answer option. The exploratory chi-square analysis was conducted by analyzing all of the collected demographic data against all of the food insecurity data. All statistics were conducted with the statistical package SPSS version 26. The significance level was set at .05.

In order to analyze the qualitative food justice data, the researcher counted the repeated responses and found the major percentages and common themes. For instance, for the question, “Do you find the foods at the food pantry to be culturally appropriate to you?”, 97% or 33 out of 34 participants who answered, responded “yes” there are culturally appropriate foods available at the pantry. There were 78% of participants who lived 5-15 minutes away from their food pantry.

Out of 45 participant responses, 33 answered that they either look for freshness, health, and/or nutrition when choosing their foods at the pantry. These are examples of how the qualitative data was analyzed and computed. It is the same way the demographic data was initially interpreted – with simple count and percentage calculations.

Results

Demographics

The sample of this project consisted of 50 participants, of which 76% were 45 years or older. The percentage of White and female participants was 68%, and 44% of participants were Non-Hispanic, Latino, or Spanish. The highest education level for 56% of the participants was a high school diploma or below and 66% were unemployed. The number of participants who lived in multiple adult households was 58%. Lastly, 66% of participants lived below the federal poverty level. Refer to table 1 for the complete set of demographic data.

Food Insecurity

While 64% of participants answered they have enough to eat, 68% answered that they worry about having enough to eat before their food ran out. Seventy-six percent of participants said that they cannot afford to buy balanced meals, and 50% of participants have cut the size of their meals or skipped meals in the past year because there wasn't enough food. Refer to tables 2a and 2b for the complete set of insecurity data. Table 2a is the raw data from the food insecurity surveys, while table 2b has data that was intentionally collapsed for the purpose of conducting chi-square tests.

Table 1.

Demographic Data

	TOTAL PARTICIPANTS (n=50)
Age	N (%)
18 – 44 (Young adults)	12 (24)
45 and older (Older adults)	38 (76)
No answer	0
Sex	
Female	34 (68)
Male	16 (32)
No answer	0
Race	
White	34 (68)
POC	8 (16)
No answer	8 (16)
Ethnicity	
Hispanic/Latino/Spanish	10 (20)

Non-Hispanic/Latino/Spanish	22 (44)
No answer	18 (36)
Education	
High school diploma and below	29 (58)
Some College and above	18 (36)
No answer	3 (6)
Employment status	
Employed	9 (18)
Not employed	33 (66)
Student	2 (4)
No answer	6 (12)
Adults in Household	
Single adult	16 (32)
Multiple adults	29 (58)
Other	3 (6)
No answer	2 (4)
Children in Household	
No kids	25 (50)
Kids	22 (44)
No answer	3 (6)
Household Income Level	
Less than \$10,000	23 (46)
\$10,000 to \$40,000	18 (36)
\$40,000 and above	1 (2)
No answer	8 (16)
Poverty Level	
Above FPL	8 (16)
Below FPL	33 (66)
No answer	9 (18)

Table 2a.*Uncut Insecurity Data*

	TOTAL PARTICIPANTS (n=50)
Enough to eat	N (%)
Enough of the kind of foods we want	17 (34)
Enough but not always the kind of foods we want	15 (30)
Sometimes not enough to eat	5 (10)
Often not enough to eat	2 (4)
No answer	11 (22)

Worry about having enough to eat	
Often true	16 (32)
Sometimes true	18 (36)
Never true	7 (14)
No answer	9 (18)
Food not lasting	
Often true	19 (38)
Sometimes true	18 (36)
Never true	8 (16)
No answer	5 (10)
Not affording balanced meals	
Often true	16 (32)
Sometimes true	22 (44)
Never true	5 (10)
No answer	7 (14)
Cut the size of/Skipping meals	
Yes	25 (50)
No	15 (30)
No answer	10 (20)
Relying on low-cost child meals	
Often true	13 (26)
Sometimes true	15 (30)
Never true	6 (12)
No answer	16 (32)
Unbalanced child meals	
Often true	6 (12)
Sometimes true	19 (38)
Never true	12 (24)
No answer	13 (26)
Not enough child meals	
Often true	7 (14)
Sometimes true	16 (32)
Never true	13 (26)
No answer	14 (28)

Table 2b.*Cut Insecurity Data*

	TOTAL PARTICIPANTS (n=50)
Enough to eat	N (%)
Enough to eat	32 (64)
Not enough to eat	7 (14)
No answer	11 (22)
Worry about enough to eat	
Worried	34 (68)
Not worried	7 (14)
No answer	9 (18)
Food not lasting	
True	37 (74)
Never true	8 (16)
No answer	5 (10)
Not affording balanced meals	
True	38 (76)
Never true	5 (10)
No answer	7 (14)
Cut the size of/Skipping meals	
Yes	25 (50)
No	15 (30)
No answer	10 (20)
Relying on low-cost child meals	
True	28 (56)
Never true	6 (12)
No answer	16 (32)
Unbalanced child meals	
True	25 (50)
Never true	12 (24)
No answer	13 (26)
Not enough child meals	
True	23 (46)
Never true	13 (26)
No answer	14 (28)

Significant chi square statistics were found relating to age, ethnicity, employment, and income regarding experiencing food insecurity. It was found that older adults (45 years +) were more likely to answer that their children were not eating enough because they couldn't afford enough food $X^2 (2, N = 50) = 7.314a, p = .026$. It was also found that Non-Hispanic participants were more likely to answer that they are worried about their food running out before getting money to buy more $X^2 (4, N = 50) = 14.239a, p = .007$. Furthermore, it was found that Non-Hispanic people were more likely to answer that their children were not eating enough $X^2 (4, N = 50) = 10.209a, p = .037$. Next, people who are unemployed had higher rates of answering that they are worried about running out of food $X^2 (6, N = 50) = 22.641a, p = .001$. (See table 3).

Table 3.*Employment and Worry Crosstable*

Employment	Worry about running out of food	Not worried about running out of food	No answer	Total
Employed	7	1	1	9
Unemployed	25	6	2	33
Student	0	0	2	2
No answer	2	0	4	6
Total	34	7	9	50

People who are unemployed also had higher rates of food not lasting versus people who are employed and students $X^2 (6, N = 50) = 13.451a, p = .036$. Participants with a household income of \$40,000 and below had higher rates of answering that they worry about food running out than those with a household income of \$40,000 and above $X^2 (6, N = 50) = 32.444a, p = .000$. Those with a household income of \$40,000 and below also had higher rates of food not lasting than those with higher household incomes – especially those who had a household income of less than \$10,000 $X^2 (6, N = 50) = 15.724a, p = .015$. More people with a household income of less than \$10,000 experienced not being able to afford balanced meals than others $X^2 (6, N = 50) = 18.717a, p = .005$. Lastly, participants who had a household income of less than \$10,000 also had higher rates of skipping or cutting meals than those with higher household incomes $X^2 (6, N = 50) = 17.295a, p = .008$. (See table 4).

Table 4.*Income and Skipping Meals Crosstable*

Household Income	Skipping/Cutting size of meals	Not skipping/cutting the size of meals	No answer	Total
Less than \$10,000	16	5	2	23
\$10-40,000	6	9	3	18
\$40,000 and above	1	0	0	1
No answer	2	1	5	8
Total	25	15	10	50

Food insecurity question one (which asked if the participant had enough food in the household in the last 12 months) received contradictory answers to the rest of the survey. The statistics show that the majority of participants who are unemployed answered that they did have enough food in the household within the last 12 months $X^2(6, N = 50) = 15.845a, p = .015$. The same was true for participants with household incomes of \$40,000 and below $X^2(6, N = 50) = 20.793a, p = .002$. However, the rest of their answers presented other signs of food insecurity, such as a worry about food lasting, skipping meals, and not being able to afford balanced meals.

Food Justice

In reviewing the trends and patterns of participant responses to the short answer questions surrounding food justice it was evident that many participants shared similar responses. For example, in response to the question, “Do you find the foods at the food pantry to be culturally appropriate to you?” The majority of respondents answered affirmatively, with only one participant who answered “No”. There was one participant who suggested having more meats and vegetables available. The time frame for how long it takes them to get to their pantries varied from five minutes to two hours, but most of the participants lived between 5-15 minutes away from their pantries. In response to the question, “Are there any barriers (obstacles) that make it hard for you to get here?”, most people said no, but some participants had barriers that included gas prices, working six days a week, and weather. The frequency of visiting a pantry varied from weekly to twice a month. Many participants visit once a month. In regards to consideration of their food choices, the majority of the participants consider freshness, as well as health and nutrition when selecting food items from the pantry. Lastly, Walmart, Stop and Shop, and Dave’s Fresh Marketplace were popular responses among participants in regard to where else they shop to get food in addition to the food pantry. Overall, the needs of the participants include accessible transportation, time, and in one case, more meat and vegetables available to them. In discussing with the participants outside of the survey, a common theme among them was that food stamps tend to only last for half of the month, and the prices of many things, including food, have risen

so they need to use food pantries as a supplementary tool to have enough food throughout each month.

Discussion

This study assessed food insecurity and food justice experiences among people who utilize food pantries supplied by the RI Food Bank. Surveys were conducted among five different cities in RI – Newport, North Kingstown, Warwick, Cranston, and Woonsocket. These pantries were all visited from June - July 2022 during weekdays, mostly in the morning time.

The novel findings from this study observed that Non-Hispanic participants were more likely to answer that they are worried about their food running out before getting money to buy more. Non-Hispanic people were also more likely to answer that their children were not eating enough. There were no significant connections in the data between race and food insecurity. The possible reason for the lack of representation in the data is that the majority of the participants who surveyed were White (68%), and Non-Hispanic (44%). Also, one of the eligibility criteria for the surveys is that they needed to speak and understand English. If the surveys were conducted with a larger, more representative sample, it is probable that the results would more accurately reflect what previous research found regarding the connection between ethnicity, race, and food insecurity.

Previous research highlights a common theme of racial disparities concerning food insecurity that the new findings of this study did not find. Black, Latino, and Indigenous communities are disproportionately affected by food insecurity because of systemic racism (Feeding America, n.d.). In the U.S., there is a higher prevalence of food insecurity among single parents and in the Black and Hispanic populations (USDA ERS, 2021). Specifically, in RI, Black and LatinX households have a 34% prevalence of food insecurity compared to the 14% prevalence of food insecurity that White households have (Rhode Island Community Food Bank, 2021).

The current findings are in agreement with previous literature in regard to unemployment, low income, and children in the household. The current study found that people who are unemployed are more worried about running out of food and have higher rates of their food not lasting. Additionally, those with a lower income (\$40,000 and below) experienced more worry about food running out, higher rates of food not lasting, not being able to afford balanced meals, and having to cut the size of or skip meals. Lastly, it was found that children of older adults are not eating enough because they cannot afford enough food. These results agree with previous findings that people in low-income households and in poverty disproportionately experience food insecurity (Feeding America, n.d.). Additionally, current findings are supported by literature which states that households with children are disproportionately affected by food insecurity (USDA ERS, 2022).

Another important finding suggests the majority of participants who are unemployed and participants with household incomes of \$40,000 and below responded that they did have enough food in the household within the last 12 months. However, the rest of their answers presented other signs of food insecurity. These findings might be due to the fact that the majority of

participants who were surveyed were unemployed (66%) and had a household income of \$40,000 and below (82%).

Limitations to this study include the Food Insecurity question one; the findings may be inaccurate due to a confusing way of wording the question. This question is a limitation because most participants answered that they do have enough food while also exhibiting signs of food insecurity in other areas of the survey like having concerns about food lasting or not affording balanced meals. However, another possible reason for these responses may be that the participants did understand the question, which means that they do have enough food, but maybe it isn't nutritious. It could be an issue of quantity versus quality. The participants could have the quantity of food they need, but it also could be of poor quality, or not very nutritious. Another limitation of this project was not having a Spanish version of the survey or being able to translate the survey into Spanish for the Latinx community. Furthermore, most of the survey questions were categorical in nature, which limited the statistical analysis. The convenience sample could also be considered a limitation of the project because the participants were individuals who could travel to a food pantry. Lastly, the sample was 50 participants, and if a bigger sample was gathered then there might have been more accurate representations of RI as a whole. Recommendations to address these limitations in further research include finding or writing a more universally comprehensible survey to use, so the participants can answer consistently and accurately. Secondly, having a Spanish speaker on the team would allow researchers to recruit and include a more diverse pool of participants. Next, writing more continuous and qualitative questions on the food insecurity and food justice portion of the survey would be helpful in creating a more advanced and in-depth analysis. Finally, simply having a larger sample size to work with would help get a more accurate representation of RI.

The future direction for research on this topic could consist of surveying different areas of RI that weren't surveyed the first time, such as Providence, Central Falls, and Pawtucket. It would also be beneficial to learn about the quality vs. quantity of the food people have in RI. This would provide a deeper understanding of the kinds of food people have access to and buy, versus solely asking if they have enough. In order to research the quality vs. quantity of the food people are eating in Rhode Island, it is imperative to understand what people define as "quality food". Additionally, it might be useful in the future to learn about people's experiences with the *Food on the Move* program, and if that is helpful to them. Greater knowledge is needed to understand what kind of assistance program is most helpful to people experiencing food insecurity, whether that be food pantries, a program like *Food on the Move* that includes financial incentives, SNAP, or other assistance programs. Finally, future research could address health policies and what is missing in the law regarding food insecurity.

References

- Al Abohy, J., Grossman, A., & Dong, K. R. (2022). Determinants and Consequences of Food and Nutrition Insecurity in Justice-Impacted Populations. *Current nutrition reports, 11*(3), 407–415. <https://doi.org/10.1007/s13668-022-00421-4>
- Alkon, A. H., Bowen, S., Kato, Y., & Young, K. A. (2020). Unequally vulnerable: a food justice approach to racial disparities in COVID-19 cases. *Agriculture and human values, 37*(3), 535–536. <https://doi.org/10.1007/s10460-020-10110-z>
- American Heart Association. (2022, June 2). *Chronic stress can cause heart trouble*. <https://www.heart.org/en/news/2020/02/04/chronic-stress-can-cause-heart-trouble#:~:text=Stress%20may%20lead%20to%20high,cardiovascular%20events%2C%22%20Schiffirin%20said>.
- ASN Staff. (2022, June 15). *Researchers identify groups most vulnerable to food insecurity during pandemic*. American Society for Nutrition. <https://nutrition.org/researchers-identify-groups-most-vulnerable-to-food-insecurity-during-pandemic/>
- Berkowitz, S. A., Basu, S., Gundersen, C., & Seligman, H. K. (2019, July 11). *State-level and county-level estimates of health care costs associated with food insecurity*. Centers for Disease Control and Prevention. https://www.cdc.gov/pcd/issues/2019/18_0549.htm
- Blue Cross NC. (2020, September 30). *Fighting for food security with Rafi-USA*. Point of Blue. <https://blog.bcbsnc.com/2020/09/fighting-for-food-security-with-rafi-usa/>
- Brown, A. D., Seligman, H., Sliwa, S., Barnidge, E., Krupsky, K. L., Demissie, Z., & Liese, A. D. (2022). Food Insecurity and Suicidal Behaviors Among US High School Students. *The Journal of school health, 92*(9), 898–906. <https://doi.org/10.1111/josh.13199>
- Centers for Disease Control and Prevention. (2022, January 18). *The social-ecological model: A framework for prevention*. Centers for Disease Control and Prevention. <https://www.cdc.gov/violenceprevention/about/social-ecologicalmodel.html>
- Coleman-Jensen, A. (2012). *Food insecurity more common for households with nonstandard work arrangements*. USDA ERS - Food Insecurity. <https://www.ers.usda.gov/amber-waves/2012/june/food-insecurity/#:~:text=Households%20with%20members%20holding%20down,members%20in%20full%2Dtime%20jobs>.

Dong, K. R., Chen, X., Stopka, T. J., Must, A., Beckwith, C. G., & Tang, A. M. (2022). Food Access, Dietary Intake, and Nutrition Knowledge of Adults on Probation. *Journal of nutrition education and behavior*, 54(6), 510–520.

<https://doi.org/10.1016/j.jneb.2021.12.004>

Feeding America. (n.d.). *Hunger in America*. <https://www.feedingamerica.org/hunger-in-america>

Feeding America. (n.d.). *Hunger in Rhode Island*.

<https://www.feedingamerica.org/hunger-in-america/rhode-island>

Feeding America. (n.d.). *What is food insecurity?*

<https://www.feedingamerica.org/hunger-in-america/food-insecurity>

Fernandez, T., Godwin, A., Doyle, J., Verdin, D., & Boone, H. (2016). *More comprehensive and inclusive approaches to demographic data collection*. Purdue University.

<https://docs.lib.purdue.edu/cgi/viewcontent.cgi?article=1059&context=enegs>

Food Empowerment Project. (n.d.). *Food deserts*.

<https://foodispower.org/access-health/food-deserts/>

Food Research & Action Center. (2020, December 7). *What every elected official should know about hunger*. <https://frac.org/every-candidate-know-hunger>

Godoy, M. (2020, November 19). *In U.S. cities, the health effects of past housing discrimination are plain to see*. NPR.

<https://www.npr.org/sections/health-shots/2020/11/19/911909187/in-u-s-cities-the-health-effects-of-past-housing-discrimination-are-plain-to-see>

Hales, L., & Coleman-Jensen, A. (2022, February 7). *Food insecurity for households with children rose in 2020, disrupting decade-long decline*. USDA ERS - Child Food Insecurity.

<https://www.ers.usda.gov/amber-waves/2022/february/food-insecurity-for-households-with-children-rose-in-2020-disrupting-decade-long-decline/#:~:text=The%20percent%20of%20U.S.%20households,a%20decade%2Dlong%20downward%20trend.>

Healthy People 2030. (n.d.). *Food Insecurity*.

<https://health.gov/healthypeople/priority-areas/social-determinants-health/literature-summaries/food-insecurity#cit10>

Hunger Hike. (n.d.). *Quotes about hunger*. <https://www.hungerhike.org/quotes-about-hunger/>

John Lewis Institute for Social Justice. (n.d.). *Our Definition of Social Justice*.

<https://www.ccsu.edu/johnlewisinstitute/terminology.html>

- Legal Information Institute. (2022). *Redlining*. Legal Information Institute.
<https://www.law.cornell.edu/wex/redlining>
- Leung, C. W., Kullgren, J. T., Malani, P. N., Singer, D. C., Kirch, M., Solway, E., & Wolfson, J. A. (2020). Food insecurity is associated with multiple chronic conditions and physical health status among older US adults. *Preventive medicine reports*, 20, 101211.
<https://doi.org/10.1016/j.pmedr.2020.101211>
- Luiselli, C. (2020, June 16). *Food security in the face of the COVID-19 pandemic*. UNDP.
<https://www.undp.org/latin-america/blog/food-security-face-covid-19-pandemic>
- Myers C. A. (2020). Food Insecurity and Psychological Distress: a Review of the Recent Literature. *Current nutrition reports*, 9(2), 107–118.
<https://doi.org/10.1007/s13668-020-00309-1>
- Mmari, K., Smith, A., Gross, S., & Marshall, B. (2021). Risk and protective factors associated with adolescent food insecurity in Baltimore. *Journal of Urban Health: Bulletin of the New York Academy of Medicine*, 98(2), 296–307.
<https://doi.org/10.1007/s11524-020-00488-w>
- NYU. (2021, September 22). *Covid-19 pandemic exacerbated food insecurity, especially in families with children*.
<https://www.nyu.edu/about/news-publications/news/2021/september/pandemic-food-insecurity.html>
- O'Neill Hayes, T. (2021, March 4). *Food insecurity and food insufficiency: Assessing causes and historical trends*. American Action Forum.
<https://www.americanactionforum.org/research/food-insecurity-and-food-insufficiency-assessing-causes-and-historical-trends/>
- Precker, M. (2021, September 22). *Food insecurity's long-term health consequences*.
<https://www.heart.org/en/news/2021/09/22/food-insecuritys-long-term-health-consequences>
- Rhode Island College INGOS Students. (2022). *RIC Food Justice Project*. Rhode Island College.
<https://www.ric.edu/food-justice>
- Rhode Island Community Food Bank. (2021, November 22). *Status report on hunger*.
<https://rifoodbank.org/what-we-do/status-report-on-hunger/#:~:text=Among%20all%20households%20in%20Rhode,with%20children%3A%20one%20in%20four.>
- Rhode Island Public Health Institute. (2022). *Nourish RI 2022 - Rhode Island Public Health Institute*. <https://riphi.org/nourish-rhode-island/>

Safe States. (n.d.). *Socio-ecological model for Driver Safety - Safe States Alliance*.

<https://www.safestates.org/page/SRPFSEM>

Sundermeir, S. M., Wolfson, J. A., Bertoldo, J., Gibson, D. G., Agarwal, S., & Labrique, A. B. (2021). Food insecurity is adversely associated with psychological distress, anxiety and depression during the COVID-19 pandemic. *Preventive medicine reports*, 24, 101547.

<https://doi.org/10.1016/j.pmedr.2021.101547>

Sun, Y., Liu, B., Rong, S., Du, Y., Xu, G., Snetselaar, L. G., Wallace, R. B., & Bao, W. (2020). Food Insecurity Is Associated With Cardiovascular and All-Cause Mortality Among Adults in the United States. *Journal of the American Heart Association*, 9(19), e014629.

<https://doi.org/10.1161/JAHA.119.014629>

The Annie E. Casey Foundation. (2021, February 14). *Exploring America's food deserts*.

<https://www.aecf.org/blog/exploring-americas-food-deserts>

Thomas, M. K., Lammert, L. J., & Beverly, E. A. (2021, July 5). *Food Insecurity and its Impact on Body Weight, Type 2 Diabetes, Cardiovascular Disease, and Mental Health*. National Center for Biotechnology Information.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8255162/>

USDA Economic Research Service. (2012). *U.S. Household Food Security Survey Module*.

<https://www.ers.usda.gov/media/8271/hh2012.pdf>

USDA ERS. (2021). *Food Security and Nutrition Assistance*.

<https://www.ers.usda.gov/data-products/ag-and-food-statistics-charting-the-essentials/food-security-and-nutrition-assistance/#:~:text=The%20prevalence%20of%20food%20insecurity.had%20very%20low%20food%20security.>

USDA ERS. (2022, September 7). *Key Statistics & Graphics*.

<https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-u-s/key-statistics-graphics/>

USDA Economic Research Service. (2012). *U.S. Household Food Security Survey Module*.

<https://www.ers.usda.gov/media/8271/hh2012.pdf>

USGLC. (2022, May 10). *Covid-19 brief: Impact on food security*.

<https://www.usglc.org/coronavirus/global-hunger/>

UT Southwestern Medical Center. (2021, April 21). *Consistent use of food pantries needed to address food insecurity, related health issues*.

<https://www.utsouthwestern.edu/newsroom/articles/year-2021/food-pantries-needed-to-address-food-insecurity.html>

Walsh, O. (2022, February 22). *Food Deserts: What They Are and What Causes Them*. The Human League.

<https://thehumaneleague.org/article/food-desert#:~:text=Somebody%20living%20in%20a%20food,a%20car%20to%20get%20there.>

Appendix A

Demographic, Food Insecurity, and Food Justice Survey

PART 1*Demographic Questions:*

Please circle your response to the following questions about your age, race and ethnicity, employment, and other household factors. Please remember that you are free to skip any questions you are uncomfortable answering.

1. What is your age?
 - a. 18-24 years
 - b. 25-34 years
 - c. 35-44 years
 - d. 45-54 years
 - e. 55-64 years
 - f. 65 years and older
 - g. Prefer not to answer

2. What is your sex?
 - a. Female
 - b. Male
 - c. Nonbinary
 - d. Prefer not to answer

3. Which racial group do you identify with?
 - a. American Indian or Alaska Native
 - b. Black or African American
 - c. White
 - d. Asian
 - e. Middle Eastern or North African
 - f. Native Hawaiian or Other Pacific Islander
 - g. Another race that is not listed _____
 - h. Prefer not to answer

4. What ethnic group(s) do you identify with?
 - a. Hispanic/Latino/Spanish
 - b. Non Hispanic/Latino/Spanish
 - c. Prefer not to answer

5. What is your highest level of education?
 - a. Did not finish high school
 - b. High school diploma
 - c. Some college
 - d. Associate's degree (2 years of college)
 - e. Bachelor's degree (4 years of college)
 - f. Other _____
 - g. Prefer not to answer

6. What is your employment status?
- a. Employed full-time
 - b. Employed part-time
 - c. Student
 - d. Not employed
 - e. Prefer not to answer
7. Including yourself, how many adults live in your household?
- a. 1
 - b. 2
 - c. 3
 - d. Other _____
 - e. Prefer not to answer
8. How many children live in your household?
- a. 0
 - b. 1
 - c. 2
 - d. 3
 - e. Other _____
 - f. Prefer not to answer

9. What is your household income level?
- a. Less than \$10,000
 - b. \$10,000 to \$20,000
 - c. \$20,000 to \$30,000
 - d. \$30,000 to \$40,000
 - e. \$40,000 to \$50,000
 - f. \$50,000 to \$60,000
 - g. Other _____
 - h. Prefer not to answer

Food Security Questions Adapted from USDA:

Please circle your response to the following question about the food eaten in your household in the last 12 months.

1. Which of these statements best describes the food eaten in your household in the last 12 months: —enough of the kinds of food (I/we) want to eat; —enough, but not always the kinds of food (I/we) want; —sometimes not enough to eat; or, —often not enough to eat?
- [1] Enough of the kinds of food we want to eat
 - [2] Enough but not always the kinds of food we want
 - [3] Sometimes not enough to eat
 - [4] Often not enough to eat
 - [] Don't know or Refused

For these statements, please check your response to whether the statement was often true, sometimes true, or never true for (you/your household) in the last 12 months

2. The first statement is “(I/We) worried whether (my/our) food would run out before (I/we) got money to buy more.” Was that often true, sometimes true, or never true for (you/your household) in the last 12 months?

Often true

Sometimes true

Never true

Don't know or Refused

3. “The food that (I/we) bought just didn't last, and (I/we) didn't have money to get more.” Was that often, sometimes, or never true for (you/your household) in the last 12 months?

Often true

Sometimes true

Never true

Don't Know or Refused

4. “(I/we) couldn't afford to eat balanced meals.” Was that often, sometimes, or never true for (you/your household) in the last 12 months?

Often true

Sometimes true

Never true

Don't Know or Refused

5. In the last 12 months, since last (name of current month), did (you/you or other adults in your household) ever cut the size of your meals or skip meals because there wasn't enough money for food?

Yes

No

Don't Know

For these statements, please check your response if the statement was OFTEN true, SOMETIMES true, or NEVER true in the last 12 months for (your child/children living in the household who are under 18 years old).

6. "(I/we) relied on only a few kinds of low-cost food to feed (my/our) child/the children because (I was/we were) running out of money to buy food." Was that often, sometimes, or never true for (you/your household) in the last 12 months?

Often true

Sometimes true

Never true

Don't Know or Refused

7. "(I/We) couldn't feed (my/our) child/the children) a balanced meal, because (I/we) couldn't afford that." Was that often, sometimes, or never true for (you/your household) in the last 12 months?
- Often true
- Sometimes true
- Never true
- Don't Know or Refused
8. "(My/Our child was/The children were) not eating enough because (I/we) just couldn't afford enough food." Was that often, sometimes, or never true for (you/your household) in the last 12 months?
- Often true
- Sometimes true
- Never true
- Don't Know or Refused

PART 2

Social/Food Justice Questions

Now, please answer this series of open-ended questions. Please answer with as much detail as possible, and remember you can always choose to not answer a question.

1. Do you find the foods at the food pantry to be culturally appropriate to you?
 - a. IF YES (affirmative): Can you give examples of some of these foods? And are there any foods you still wish they provided?

b. IF NO: What do you wish they provided?

2. How long does it take you to get here? And by what means of transportation do you use?

3. Do you feel it is difficult for you to get here?

4. Are there any barriers (obstacles) that make it hard for you to get here?

5. How often do you come to the food pantry?

6. What kind of foods do you typically get here? And why?

7. What things do you consider when choosing foods?

- Freshness
- Shelf life (how long it lasts)
- Health and nutrition
- Ease of preparation/how long it takes to cook
- Taste
- Other _____

8. Is there anywhere else that you regularly shop to get food? If so, where?