The Association between Sufficient Variety of Food Received by Adults at Mission Bells Food Pantry and their Employment Status

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A Food Pantry Consumer Satisfaction Survey and Report

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Background

Food insecurity can be defined as the limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways (US Department of Agriculture, USDA). In other words, an individual is food-insecure when they don't have reliable access to sufficient, affordable, and nutritious foods. According to Feeding America, 44 million people in the United States are food insecure, 13 million of which are children (1 in 5 children). In 2022, 49 million people turned to food assistance for extra help. Whilst food insecurity does not necessarily cause hunger, hunger is a possible outcome of food insecurity (Carlson, S.J. et al.). There are various causes of food insecurity namely socioeconomic factors, agricultural practices, and global trends. As a result, food insecurity is experienced by people in every community in the United States, however, people in rural communities and the South are more likely to lack access to enough food due to factors like unemployment, poverty, and rising cost of living.

Texas is one of ten states alongside Arkansas, Mississippi, Louisiana, South Carolina, Oklahoma, West Virginia, Kentucky, Alabama, and Missouri, with the highest percentages of American households who experienced hunger in 2023 (USDA, 2023). Food pantries, food banks, and community organizations have stepped in to reduce food insecurity by helping people access affordable, nutritious food for themselves and their families. There is a need to investigate how effective these food resource centers are in meeting the needs of the population who need their services. In this project, I developed a food bank consumer satisfaction survey and report for Mission Bells Food Pantry, located in Houston, Texas, where I interned. The aim of the research is to gauge the level of satisfaction users have with the food pantry in terms of its

service offerings, how they (users) are treated, quality of food, and its impact on their households.

This project addresses three MPH foundational competencies namely:

1. MPH 07: Assess population needs, assets and capacities that affect community health.
2. MPH 04: Interpret results of data analysis for public health research, policy or practice.
3. MPH 09: Design a population-based policy, program, project, or intervention.

The final product for all three foundational competencies is this paper – Mission Bells Food Pantry Consumer Satisfaction Survey and Report.

Introduction

Mission Bells Food Pantry is one of 60 food pantries or food banks serving the Houston area (causeiq.com, 2024), and one of 138 food resource centers in the Greater Houston Area (United Way of Greater Houston, 2024). It is a 100% volunteer-based ministry, which through networking and developing partnerships with organizations and donors, is able to provide assistance to those with food insecurity in the communities of Fort Bend and Harris counties. It serves the local community free food on Tuesdays and Saturdays between the hours of 9am and 11am.

Since opening its doors in 1982, it has served 1 million pounds of food to 100, 000 individuals with 3, 500 volunteer hours. It is a partner of the Houston Food Bank, where it

receives food at a reduced price. Mission Bells Food Pantry is supported by the local community, businesses and churches.

Objective

The objective of this study is to explore the association between sufficient variety of food received at the food pantry and employment status of its customers, while controlling for age, gender, race, number of visits, and household size.

Methods: Data Collection

Primary data was collected from Mission Bells Food Pantry customers through hard copies of questionnaires and translated into three languages namely English, Spanish and Vietnamese, to cater for the diverse racial makeup of the customer demographics. The questionnaire had 18 questions representing 18 variables, and the population of interest, namely the customers at the food pantry, are adults 18 years and older. A total of 114 questionnaires were completed by the respondents. Questions asked include demographic and satisfaction level questions, some of which include, age, race, food quality, food variety sufficiency, location convenience, hours of operation, and recommendation to others in need.

Due to the presence of missing values in some variables ranging from 2 in Age, to the 7 in Sufficient_Food_Received, the final dataset contained 88 respondents or 77.2% of the original data set, which had complete data for all variables combined together.

Methods: Model

The research objective for this study is to investigate the association between sufficient food variety received and employment status, and the model can be summarized as follows:

Sufficient_Food_Received = f(Employment_Status, Age, Gender, Race, No_of_Visit, Household_No)

Sufficient_Food_Received represents whether the respondent received a sufficient variety of food items to meet their household needs (1 = Yes, 2 = No); Employment_Status is the respondent's employment status (1 = Employed Full-time, 2 = Employed Part-time, 3 = Unemployed, 4 = Retired, 5 = Student); Age represents the respondent's age (1 = 18-24, 2 = 25-34, 3 = 35-44, 4 = 45-54, 5 = 55-64, 6 = 65 and over); Gender represents the respondent's sex (1 = Female, 2 = Male, 3 = Other); Race is the respondent's race (1 = Non-Hispanic White, 2 = Black/African American, 3 = Asian, 4 = American Indian/Alaska Native, 5 = Other); No_of_Visit represents the number times respondent visits the food pantry (1 = Weekly, 2 = Every two weeks, 3 = Monthly, 4 = Less than Monthly); and Household_No represents the number of people living in respondent's household (1 = Live Alone, 2 = 2-3, 3 = 4-5, 4 = 6-7, 5 = 8 or more).

Methods: Statistical Analysis

The statistical analysis performed in this study consists of both tests of association and logistic regression. Pearson Chi-Squared tests of association will be performed between the control variables and the exposure variable and are presented in Table 1 along with univariate statistics. Similar tests will be performed between the control, exposure, and outcome variables,

and are presented in Table 2 along with univariate statistics. Logistic regression is used to estimate adjusted odds ratios (and their 95% confidence intervals) for the outcome variable (Sufficient_Food_Received) with respect to the exposure variable (Employment_Status) and control variables (Age, Gender, Race, No_of_Visit, Household_No), presented in Table 3. All statistical analysis is conducted using SAS.

Results

Of the 114 respondents, 88 (77.2%) had complete data for this study. The demographic characteristics of this population are compared in Table 1 with respect to the exposure variable, employment status (Employment_Status).

Of the entire population, 5.7% were between 25 and 34 years old, 10.2% were between 35 and 44 years old, 15.9% were between 45 and 54 years old, 29.5% were between 55 and 64 years old, 35.2% were aged 65 and older, 35.2% were male, 2.3% were neither male nor female, 55.7% were Black/African American, 18.2% were Asian, 15.9% were American Indian/Alaska Native, 1.1% had other race, 12.5% visited the food pantry every two weeks, 5.7% visited the food pantry monthly, 1.1% visited less than monthly, 44.3% had a household number of 2 to 3, 26.1% had a household number of 4 to 5, 14.8% had a household number of 6 to 7, and 3.4% had a household number of 8 and above. 10.2% were employed full-time, 35.2% were employed part-time, 21.6% were unemployed, 22.7% were retired, and 10.2% were students.

There were proportionately more participants aged 55-64 than expected who were employed full-time (44.4%, $p<0.0001$), and employed part-time (38.7%, $p<0.0001$) compared to other age categories.

Table 1. Characteristics of 88 Mission Bells Food Pantry Participants by Employment Status Category

	Population		Employed Full-time		Employed Part-time		Unemployed		Retired		Student		
Variable	N	%	n	%	n	%	n	%	n	%	n	%	p value *
	88	100.0%	9	10.2%	31	35.2%	19	21.6%	20	22.7%	9	10.2%	
Age													
18-24	3	3.4%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	3	33.3%	
25-34	5	5.7%	2	22.2%	2	6.5%	1	5.3%	0	0.0%	0	0.0%	
35-44	9	10.2%	1	11.1%	4	12.9%	4	21.1%	0	0.0%	0	0.0%	
45-54	14	15.9%	2	22.2%	10	32.3%	1	5.3%	0	0.0%	1	11.1%	
55-64	26	29.5%	4	44.4%	12	38.7%	5	26.3%	4	20.0%	1	11.1%	
65+	31	35.2%	0	0.0%	3	9.7%	8	42.1%	16	80.0%	4	44.4%	<.0001
Gender													
Female	55	62.5%	5	55.6%	22	71.0%	12	63.2%	13	65.0%	3	33.3%	
Male	31	35.2%	4	44.4%	8	25.8%	7	36.8%	7	35.0%	5	55.6%	
Other	2	2.3%	0	0.0%	1	3.2%	0	0.0%	0	0.0%	1	11.1%	0.4288
Race													
Non-Hispanic White	8	9.1%	1	11.1%	1	3.2%	0	0.0%	3	15.0%	3	33.3%	
Black/African American	49	55.7%	3	33.3%	25	80.6%	11	57.9%	7	35.0%	3	33.3%	
Asian	16	18.2%	4	44.4%	2	6.5%	4	21.1%	4	20.0%	2	22.2%	
American Indian/Alaska Native	14	15.9%	0	0.0%	3	9.7%	4	21.1%	6	30.0%	1	11.1%	
Other	1	1.1%	1	11.1%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0.0029
No. of Visit													
Weekly	71	80.7%	7	77.8%	25	80.6%	17	89.5%	16	80.0%	6	66.7%	
Every Two Weeks	11	12.5%	2	22.2%	4	12.9%	2	10.5%	2	10.0%	1	11.1%	
Monthly	5	5.7%	0	0.0%	2	6.5%	0	0.0%	1	5.0%	2	22.2%	
Less than Monthly	1	1.1%	0	0.0%	0	0.0%	0	0.0%	1	5.0%	0	0.0%	0.5598
Household No.													
Live Alone	10	11.4%	0	0.0%	1	3.2%	3	15.8%	6	30.0%	0	0.0%	
2-3	39	44.3%	6	66.7%	14	45.2%	7	36.8%	10	50.0%	2	22.2%	
4-5	23	26.1%	2	22.2%	11	35.5%	3	15.8%	3	15.0%	4	44.4%	
6-7	13	14.8%	1	11.1%	5	16.1%	5	26.3%	0	0.0%	2	22.2%	
8+	3	3.4%	0	0.0%	0	0.0%	1	5.3%	1	5.0%	1	11.1%	0.0689

* p values based on Pearson chi-square test of association

There were proportionately more participants aged 65 and older than expected who were unemployed (42.1%, p<0.0001), retired (80%, p<0.0001), and reported being student (44.4%, p<0.0001) compared to other age categories. There were proportionately more females than expected who were employed full-time (55.6%, p=0.4288), employed part-time (71%, p=0.4288), unemployed (63.2%, p=0.4288), and retired (65%, p=0.4288), but more males than expected who reported being students (55.6%, p=0.4288), compared to other gender categories. With respect to race, there were proportionately more Asians than expected who were employed full-time (44.4%, p=0.0029) but more Blacks/African Americans than expected who were employed part-time (80.6%, p=0.0029), unemployed (57.9%, p=0.0029), and retired (35%, p=0.0029) compared to other race categories. Those who reported being students were tied for top place between Non-Hispanic Whites and Blacks/African Americans (33.3%, p=0.0029) compared to other race categories.

There were proportionately more participants who visited the food pantry weekly than expected that were employed full-time (77.8%, p=0.5598), employed part-time (80.6%, p=0.5598), unemployed (89.5%, p=0.5598), retired (80%, p=0.5598), student (66.7%, p=0.5598) compared to others who visited the food pantry less frequently. With respect to household size, there were proportionately more participants who lived in a household of 2 to 3 than expected who were employed full-time (66.7%, p=0.0689), employed part-time (45.2%, p=0.0689), unemployed (36.8%, p=0.0689) and retired (50%, p=0.0689) but there were proportionately more participants who lived in a household of 4 to 5 than expected who reported being students (44.4%, p=0.0689).

The demographic characteristics of this population are compared in Table 2 with respect to the outcome variable, sufficient variety of food received (Sufficient_Food_Received).

Table 2. Characteristics of 88 Mission Bells Food Pantry Participants by Sufficient Food Received.

Variable	Population		Sufficient Food Received - No		Sufficient Food Received - Yes		p value *
	N	%	n	%	n	%	
	88	100.0%	14	15.9%	74	84.1%	
Employment Status							
Employed Full-time	9	10.2%	2	14.3%	7	9.5%	
Employed Part-time	31	35.2%	9	64.3%	22	29.7%	
Unemployed	19	21.6%	1	7.1%	18	24.3%	
Retired	20	22.7%	1	7.1%	19	25.7%	
Student	9	10.2%	1	7.1%	8	10.8%	0.0991
Age							
18-24	3	3.4%	0	0.0%	3	4.1%	
25-34	5	5.7%	2	14.3%	3	4.1%	
35-44	9	10.2%	1	7.1%	8	10.8%	
45-54	14	15.9%	3	21.4%	11	14.9%	
55-64	26	29.5%	4	28.6%	22	29.7%	
65+	31	35.2%	4	28.6%	27	36.5%	0.6348
Gender							
Female	55	62.5%	8	57.1%	47	63.5%	
Male	31	35.2%	6	42.9%	25	33.8%	
Other	2	2.3%	0	0.0%	2	2.7%	0.6942
Race							
Non-Hispanic White	8	9.1%	1	7.1%	7	9.5%	
Black/African American	49	55.7%	8	57.1%	41	55.4%	
Asian	16	18.2%	3	21.4%	13	17.6%	
American Indian/Alaska Native	14	15.9%	2	14.3%	12	16.2%	
Other	1	1.1%	0	0.0%	1	1.4%	0.9834
No. of Visit							
Weekly	71	80.7%	10	71.4%	61	82.4%	
Every Two Weeks	11	12.5%	1	7.1%	10	13.5%	
Monthly	5	5.7%	3	21.4%	2	2.7%	
Less than Monthly	1	1.1%	0	0.0%	1	1.4%	0.0457
Household No.							
Live Alone	10	11.4%	1	7.1%	9	12.2%	
2-3	39	44.3%	5	35.7%	34	45.9%	
4-5	23	26.1%	6	42.9%	17	23.0%	
6-7	13	14.8%	2	14.3%	11	14.9%	
8+	3	3.4%	0	0.0%	3	4.1%	0.5764

* p values based on Pearson chi-square test of association

Overall, 84.1% of the population said that they received sufficient food variety. There were proportionately fewer aged 25-34 (4.1% vs 5.7%; p=0.6348) and 45-54 (14.9% vs 15.9%; p=0.6348) than expected who said they received sufficient food variety. There were proportionately fewer males than expected who said they received sufficient food variety (33.8% vs 35.2%; p=0.6942).

With respect to race, there were proportionately fewer Asians (17.6% vs 18.2%; p=0.9834) and Blacks/African Americans (55.4% vs 55.7%; p=0.9834) than expected who said they received sufficient food variety. There were proportionately fewer monthly visitors to the food pantry than expected who said they received sufficient food variety (2.7% vs 5.7%; p=0.0457), and proportionately fewer participants who lived in a household of 4 to 5 than expected who said they received sufficient food variety (23% vs 26.1%; p=0.5764). With respect to the exposure variable employment status, there were proportionately fewer part-time employees than expected who said they received sufficient food variety (29.7% vs 35.2%; p=0.0991).

Adjusted odds ratio for sufficient food received with respect to the exposure and control variables obtained from the logistic regression are presented in Table 3.

Table 3. Logistic regression analysis comparing the adjusted odds ratio of Sufficient Food Received in 88 Mission Bells Food Pantry participants.

Variable	Sufficient Food Received - No		Sufficient Food Received - Yes		OR*	95% CI
	n	%	n	%		
	14	15.9%	74	84.1%	-----	-----
Employment Status						
Employed Full-time	2	14.3%	7	9.5%	-----	-----
Employed Part-time	9	64.3%	22	29.7%	1.541	0.134 - 17.684
Unemployed	1	7.1%	18	24.3%	0.096	0.003 - 2.937
Retired	1	7.1%	19	25.7%	0.015	<0.001 - 1.350
Student	1	7.1%	8	10.8%	0.038	<0.001 - 4.006
Age						
18-24	0	0.0%	3	4.1%	-----	-----
25-34	2	14.3%	3	4.1%	>999.999	<0.001 - >999.999
35-44	1	7.1%	8	10.8%	>584.805	<0.001 - >999.999
45-54	3	21.4%	11	14.9%	>999.999	<0.001 - >999.999
55-64	4	28.6%	22	29.7%	>999.999	<0.001 - >999.999
65+	4	28.6%	27	36.5%	>999.999	<0.001 - >999.999
Gender						
Female	8	57.1%	47	63.5%	-----	-----
Male	6	42.9%	25	33.8%	2.377	0.410 - 13.762
Other	0	0.0%	2	2.7%	<0.001	<0.001 - >999.999
Race						
Non-Hispanic White	1	7.1%	7	9.5%	-----	-----
Black/African American	8	57.1%	41	55.4%	0.49	0.022 - 10.792
Asian	3	21.4%	13	17.6%	1.132	0.049 - 26.305
American Indian/Alaska Native	2	14.3%	12	16.2%	0.153	0.002 - 10.935
Other	0	0.0%	1	1.4%	<0.001	<0.001 - >999.999
No. of Visit						
Weekly	10	71.4%	61	82.4%	-----	-----
Every Two Weeks	1	7.1%	10	13.5%	0.638	0.038 - 10.849
Monthly	3	21.4%	2	2.7%	91.266	1.732 - >999.999
Less than Monthly	0	0.0%	1	1.4%	<0.001	<0.001 - >999.999
Household No.						
Live Alone	1	7.1%	9	12.2%	-----	-----
2-3	5	35.7%	34	45.9%	0.875	0.026 - 29.820
4-5	6	42.9%	17	23.0%	1.754	0.045 - 68.859
6-7	2	14.3%	11	14.9%	1.668	0.027 - 102.696
8+	0	0.0%	3	4.1%	<0.001	<0.001 - >999.999

* 95% confidence intervals are for reported odds ratios.

Those aged 25 to 34, 45 to 54, 55 to 64, and 65 and above had much higher odds (1000 times) of receiving sufficient food variety than those aged 18 to 24, after controlling for gender, race, number of visits, household size, and employment status (OR>999.999; 95% CI = <0.001 – >999.999). Those aged 35 to 44 had higher odds (about 585 times) of receiving sufficient food variety than those aged 18 to 24, after controlling for gender, race, number of visits, household size, and employment status (OR>584.805; 95% CI = <0.001 – >999.999). Males had higher odds (about 2.4 times) of receiving sufficient food variety than females, after controlling for age, race, number of visits, household size, and employment status (OR=2.377; 95% CI = 0.410 – 13.762). Other gender had much lower odds (less than one-thousandth) of receiving sufficient food variety than females, after controlling for age, race, number of visits, household size, and employment status (OR<0.001; 95% CI = <0.001 – >999.999).

With respect to race, Blacks/African Americans had about half the odds (0.49 times) of receiving sufficient food variety as Non-Hispanic Whites, after controlling for age, gender, number of visits, household size, and employment status (OR=0.49; 95% CI = 0.022 – 10.792). Asians had a bit higher odd (1.132 times) of receiving sufficient food variety than Non-Hispanic Whites, after controlling for age, gender, number of visits, household size, and employment status (OR=1.132; 95% CI = 0.049 – 26.305). American Indians/Alaska Natives had lower odds (0.153 times) of receiving sufficient food variety than Non-Hispanic Whites, after controlling for age, gender, number of visits, household size, and employment status (OR=0.153; 95% CI = 0.02 – 10.935). Other race had much lower odds (less than one-thousandth) of receiving sufficient food variety than Non-Hispanic Whites, after controlling for age, gender, number of visits, household size, and employment status (OR<0.001; 95% CI = <0.001 – >999.999).

Those who visited the food pantry every two weeks had lower odds (0.638 times) of receiving sufficient food variety than those who visited weekly, after controlling for age, gender, race, household size, and employment status (OR=0.638; 95% CI = 0.038 – 10.849). Those who visited the food pantry monthly had higher odds (over 91 times) of receiving sufficient food variety than those who visited weekly, after controlling for age, gender, race, household size, and employment status (OR=91.266; 95% CI = 1.732 – >999.999). Those who visited the food pantry less than monthly had much lower odds (less than one-thousandth) of receiving sufficient food variety than those who visited weekly, after controlling for age, gender, race, household size, and employment status (OR<0.001; 95% CI = <0.001 – >999.999).

Those with a household size of 2 to 3 had lower odds (0.875 times) of receiving sufficient food variety than those who live alone, after controlling for age, gender, race, number of visits, and employment status (OR=0.875; 95% CI = 0.026 – 29.820). Those with a household size of 4 to 5 had higher odds (1.754 times) of receiving sufficient food variety than those who live alone, after controlling for age, gender, race, number of visits, and employment status (OR=1.754; 95% CI = 0.045 – 68.859). Those with a household size of 6 to 7 had higher odds (1.668 times) of receiving sufficient food variety than those who live alone, after controlling for age, gender, race, number of visits, and employment status (OR=1.668; 95% CI = 0.027 – 102.696). Those with a household size of 8 and above had much lower odds (less than one-thousandth) of receiving sufficient food variety than those who live alone, after controlling for age, gender, race, number of visits, and employment status (OR<0.001; 95% CI = <0.001 – >999.999).

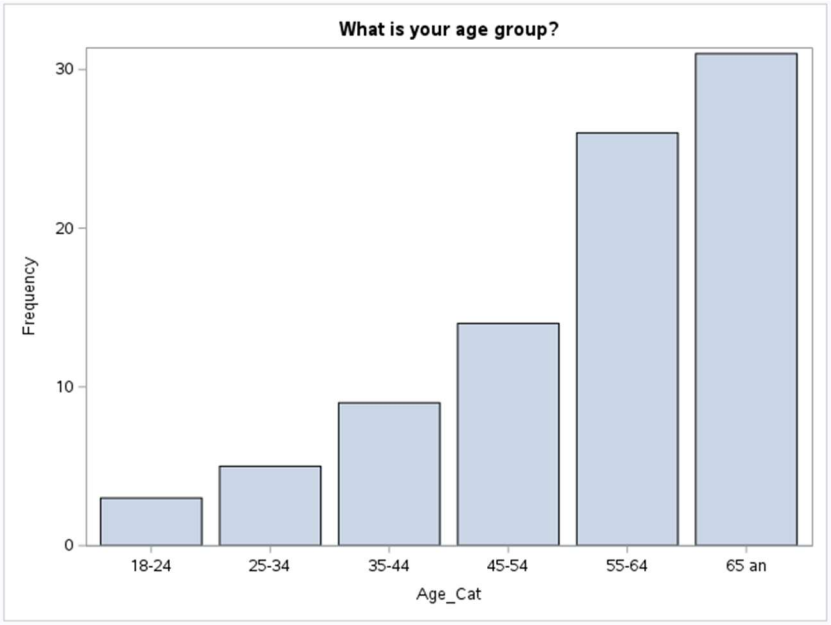
With respect to the exposure variable employment status, those employed part-time had higher odds (1.541 times) of receiving sufficient food variety than those employed full-time, after controlling for age, gender, race, number of visits, and household size (OR=1.541; 95% CI

= 0.134 – 17.684). Those unemployed had lower odds (about one-tenth or 0.096 times) of receiving sufficient food variety than those employed full-time, after controlling for age, gender, race, number of visits, and household size (OR=0.096; 95% CI = 0.003 – 2.937). Those retired had lower odds (0.015 times) of receiving sufficient food variety than those employed full-time, after controlling for age, gender, race, number of visits, and household size (OR=0.015; 95% CI = <0.001 – 1.350). Those who were students had lower odds (0.038 times) of receiving sufficient food variety than those employed full-time, after controlling for age, gender, race, number of visits, and household size (OR=0.038; 95% CI = <0.001 – 4.006).

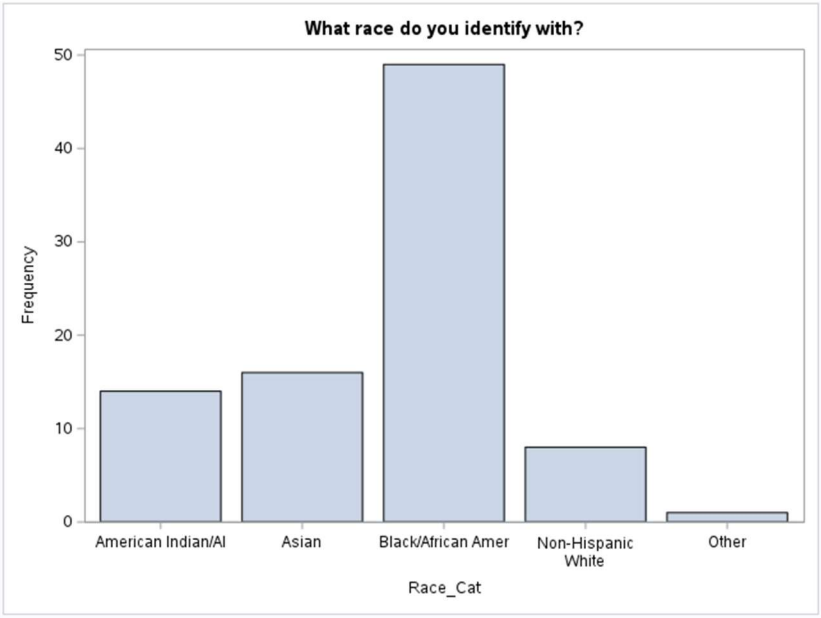
Only the odds ratio of those who visit the food pantry monthly compared to weekly visitors is statistically significant (OR=91.266; 95% CI = 1.732 – >999.999), all other odds ratios are not statistically significant.

Results: Descriptive Statistics

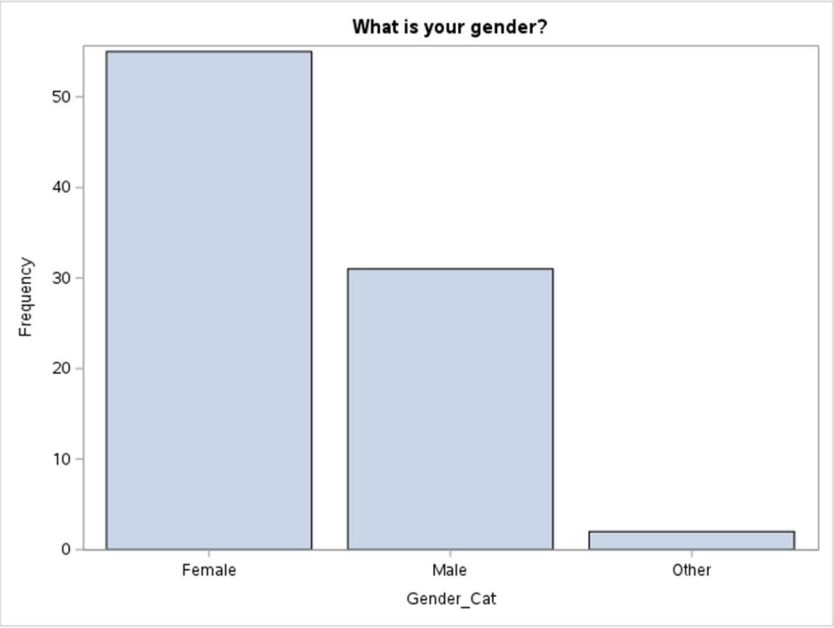
Exploratory data of the 88 respondents for each question (variable) in the survey is shown below.



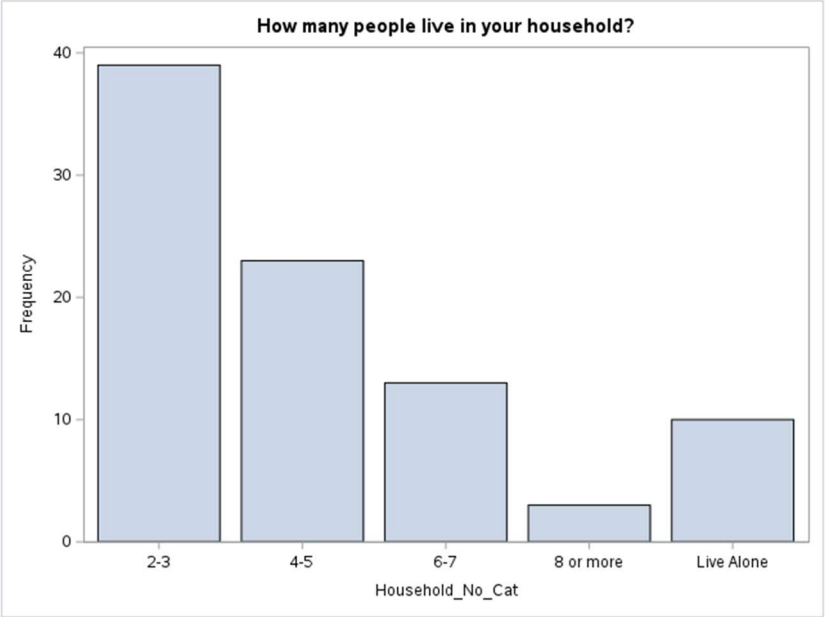
The most common age category was 65 and older (35.2%); the least was 18-24 (3.4%).



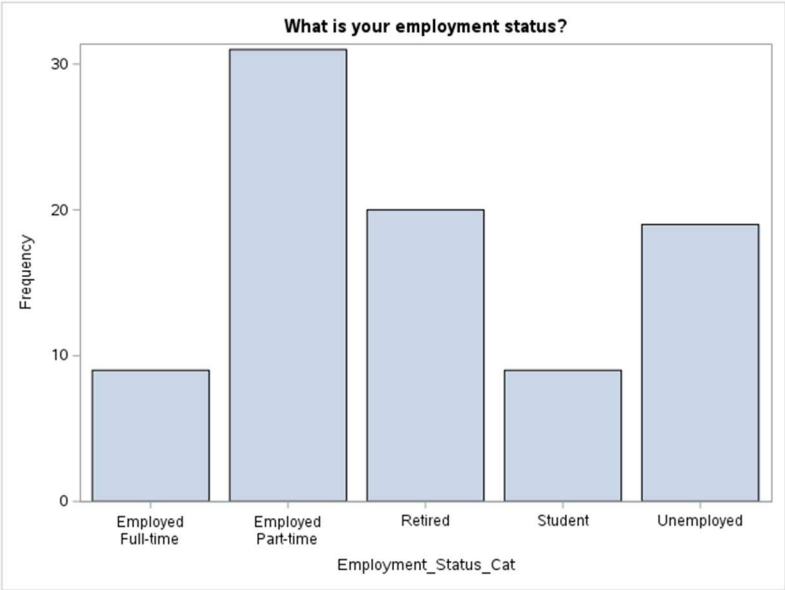
Black/African Americans had the most common race category (55.7%).



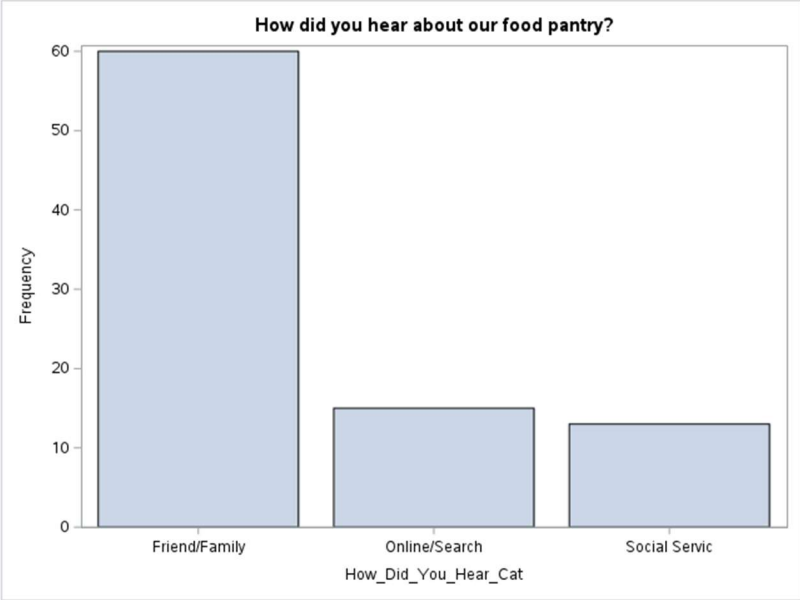
There were more females (62.5%) than other gender categories.



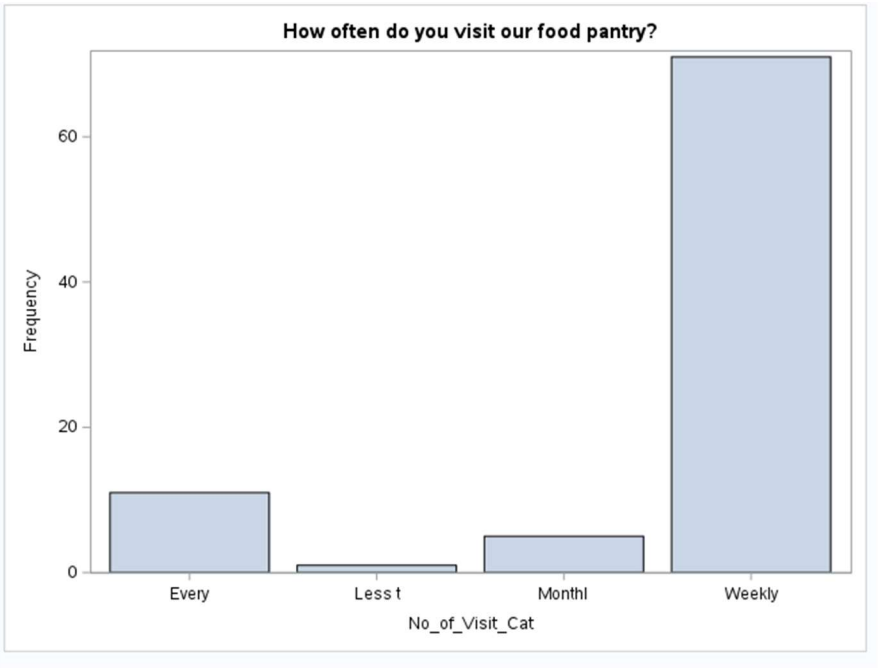
More participants had 2-3 people living in their household (44.3%).



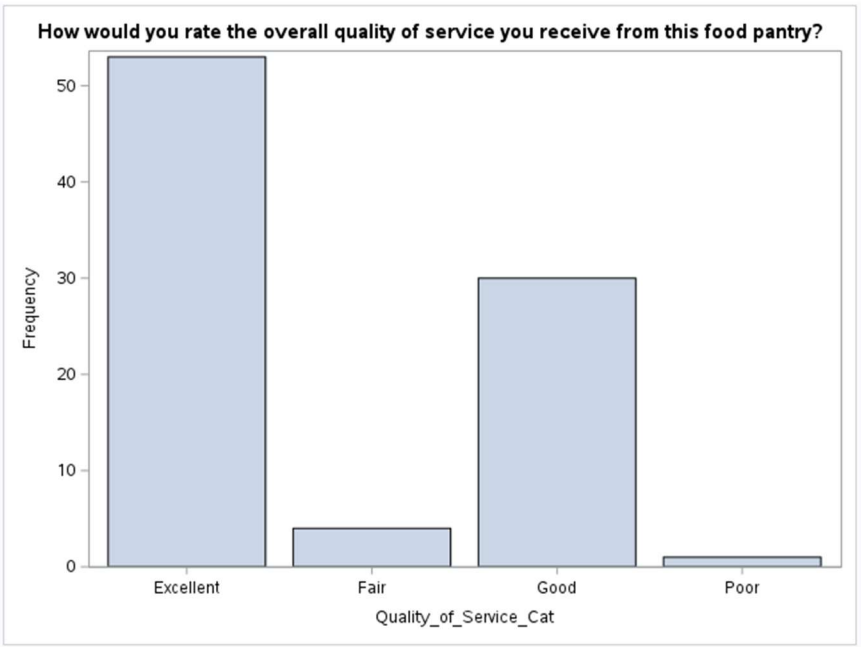
Far more respondents were employed part-time (35.2%) than retired (22.7%) or unemployed (21.6%).



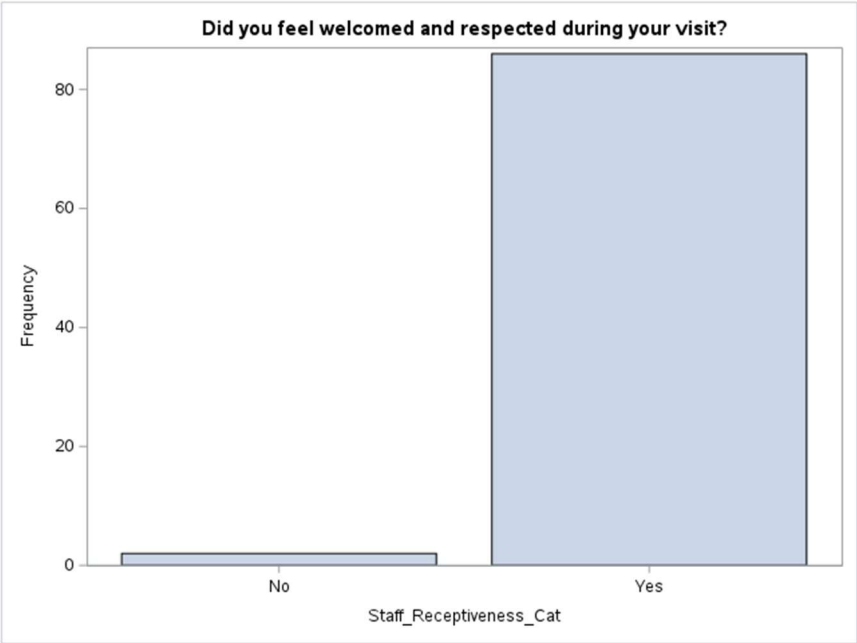
Most people got to hear about the food pantry from family and friends (68.2%).



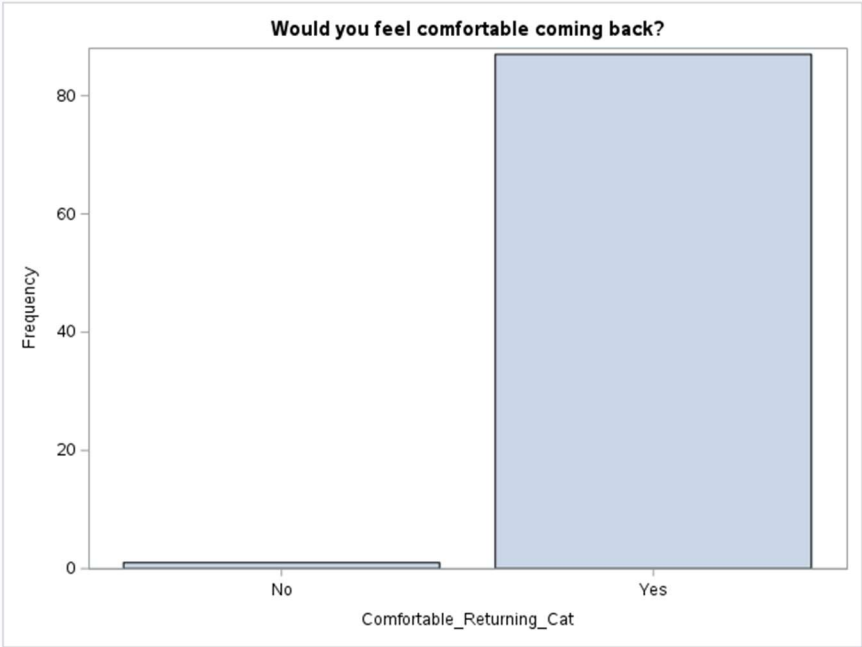
80% of respondents visit the food pantry weekly.



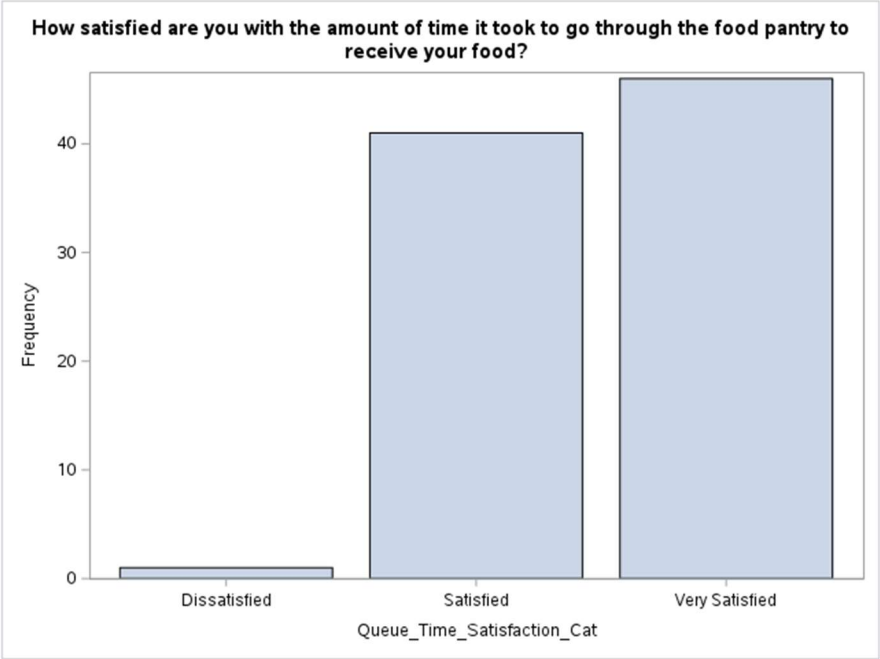
94.3% of respondents rate the overall quality of service received at the food pantry as excellent (60.2%) or good (34.1%).



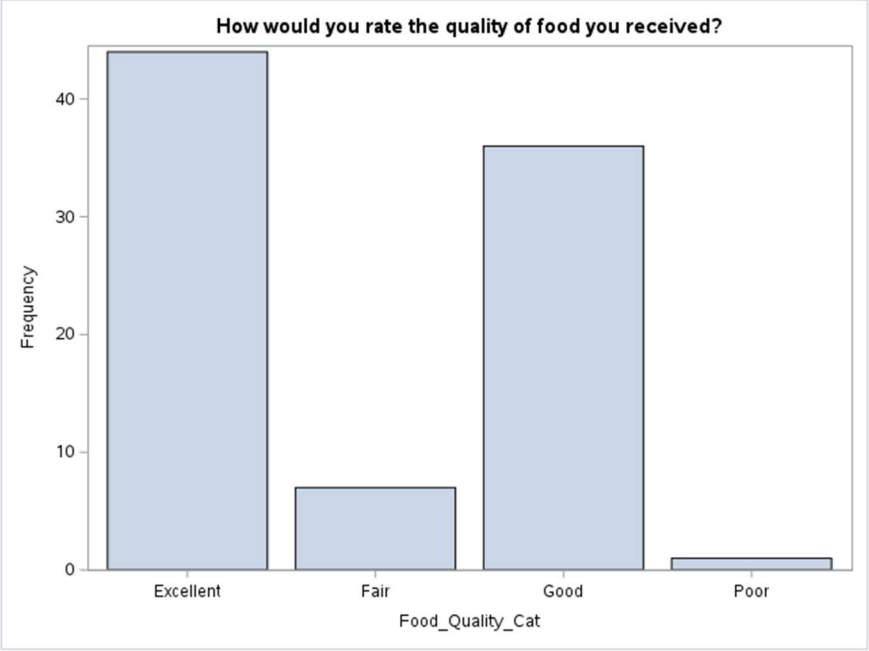
97.7% of respondents felt welcome at the food pantry when they visited.



98.9% of respondents feel comfortable coming back.



Slightly more respondents felt very satisfied (52.3%) with the time it took to go through the food pantry vs those satisfied (46.6%)



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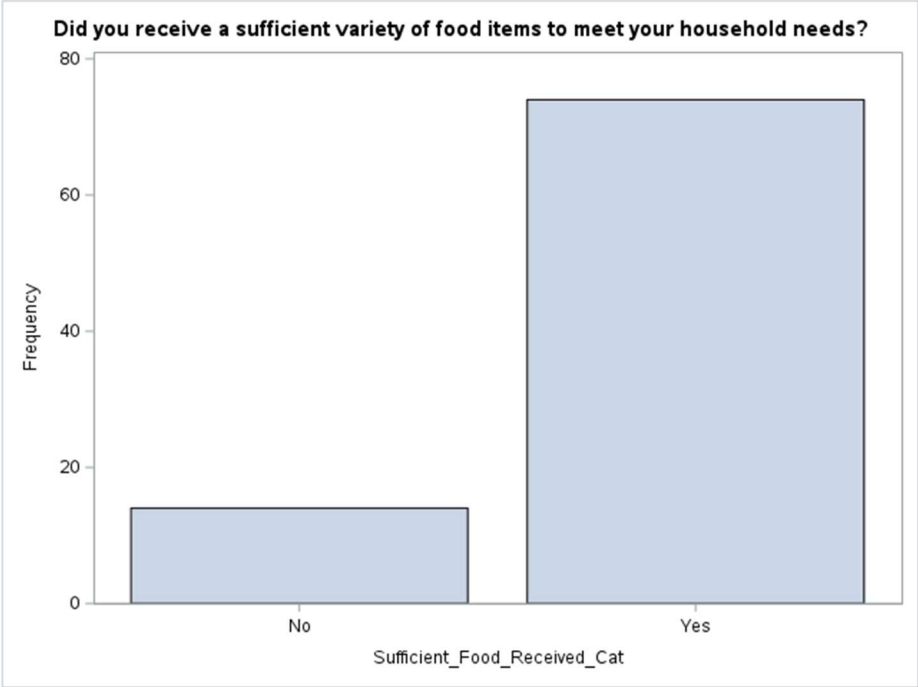
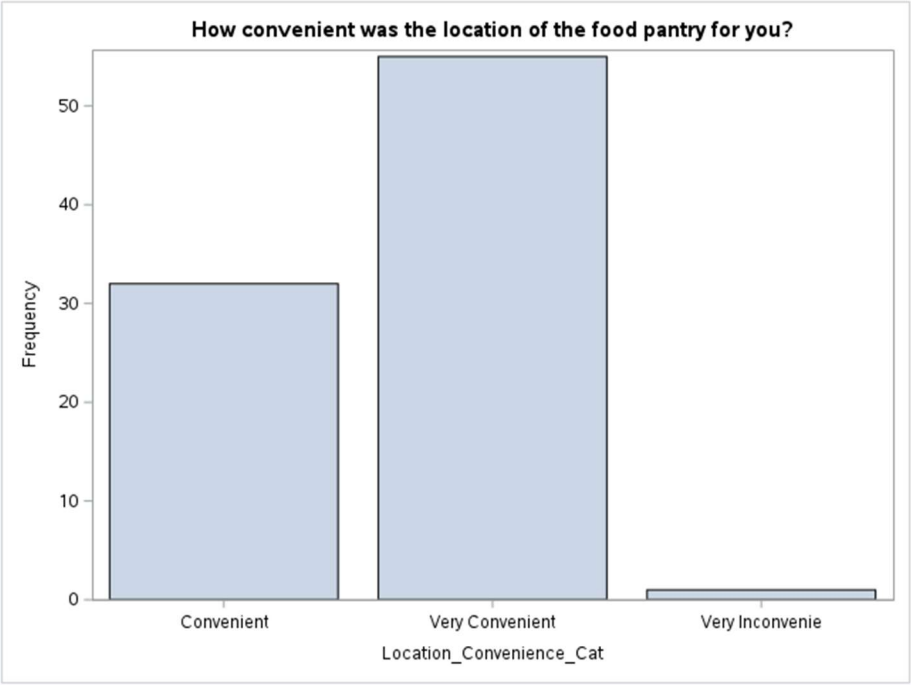
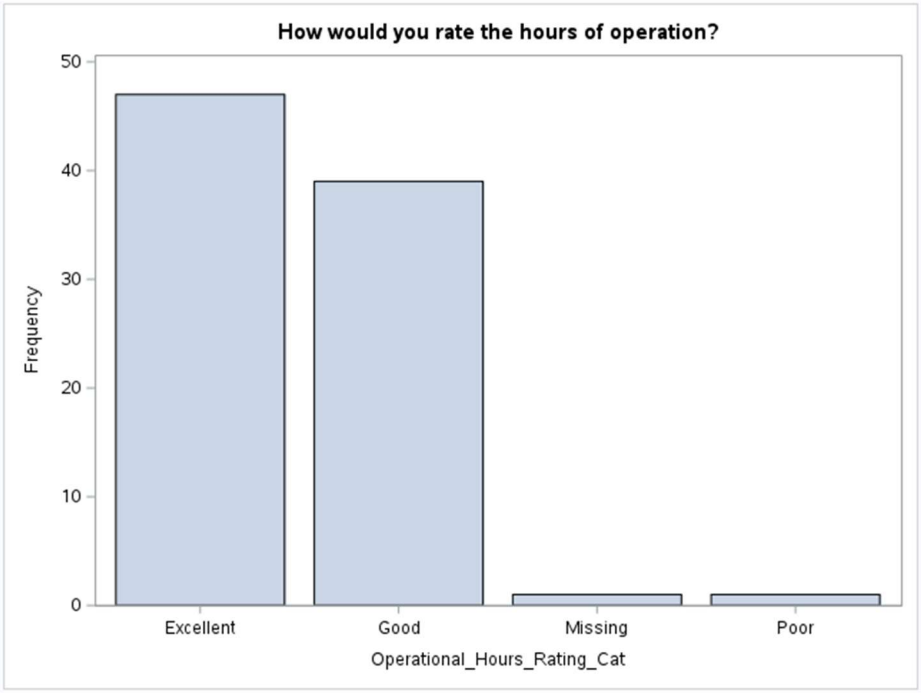
90% of respondents rated the food quality as either good (40.9%) or excellent (50%).



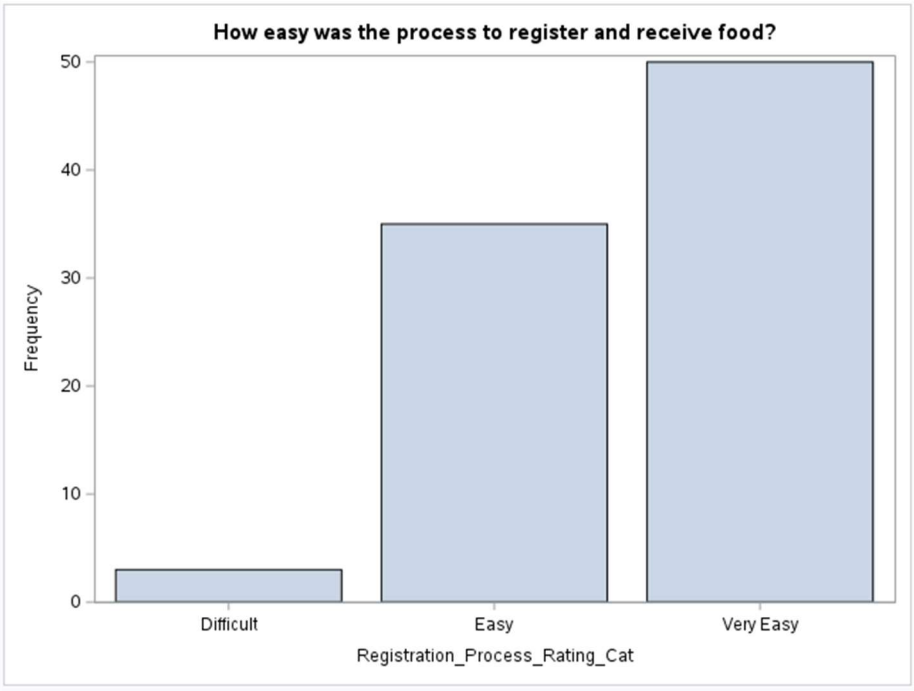
84% of respondents said they received a sufficient variety of food at the pantry.



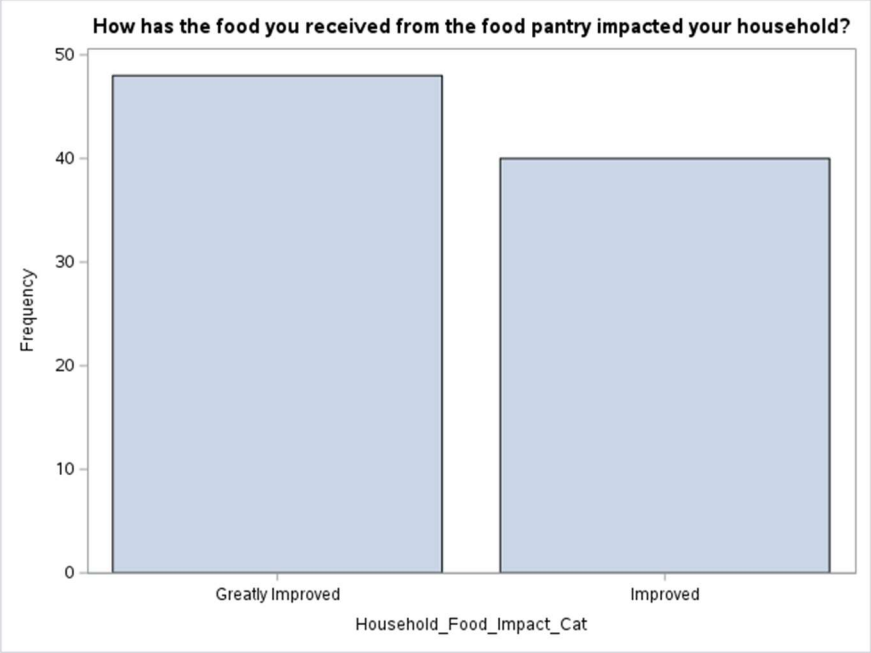
More respondents said the location of the food pantry was very convenient for them (62.5%).



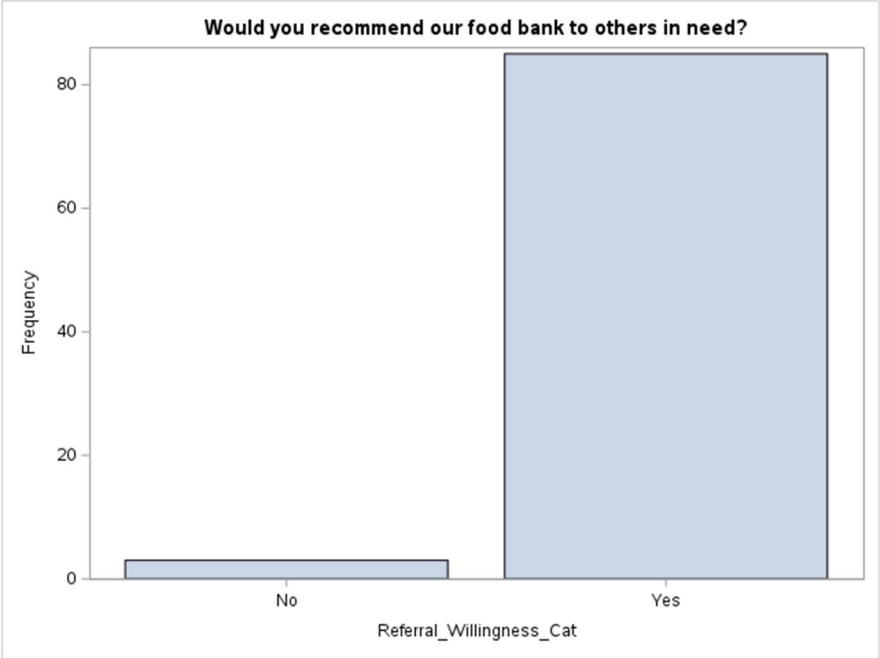
A combined 97.7% rated the hours of operation as either good or excellent.



3.4% felt that the registration process was difficult, others thought it was easy or very easy.



All respondents (100%) agreed that the food received from the food pantry either improved (45.5%) or greatly improved (55.5%) food security in their household.



96.5% of respondents said they would be willing to recommend Mission Bells food bank to others.

Strength and Limitations

Strengths

This study was based on primary data that the author got by creating a survey of questionnaires in three languages namely English, Spanish, and Vietnamese, catering for the diverse demographic of people who patronized the food pantry. The data was well-curated and collected over 3 days. Of 114 respondents that filled the questionnaires, 88 had complete data useful for the analysis, representing 77.2% of the data collected. Subsequently, the data with missing values were dropped so as not to cause a bias in the results. This provides confidence that we have leveraged a significant sample that may well represent the entire population of interest.

Limitations

Data validity is based on the participants' self-reported responses and as a result, is dependent on how truthfully they answered. The criteria for this study reduced the number of participants from 114 to 88 (loss of 22.8%). Overall, the size of the population was small, considering that the variables had multiple categories (e.g. exposure variable, Employment_Status). As a result, some categories had little to no values in them with cell counts of less than 5, this has a potential to affect the validity of some statistical results like chi-square and the model fit.

Recommendation 1

Intervention Plan to Improve Consumer Satisfaction (MPH 09)

To improve overall consumer satisfaction at Mission Bells Food Pantry, areas for improvement need to be enhanced, while maintaining or further boosting existing high satisfaction levels. Key areas for improvement include food quality (90.9%), food variety (84%) and quality of service (94.3%) as they were all below 95%.

1. **Food Quality Improvement Plan**

Objective: Enhance the quality of food provided to achieve a satisfaction rate closer to 100%

Actions:

1. **Supplier Partnership Program:** Establish partnerships with local farmers, grocery stores, and suppliers to ensure fresh and high-quality food.
2. **Nutritional Training:** Provide training for staff on proper food handling and storage techniques to maintain food quality.
3. **Feedback Mechanism:** Implement a feedback system where clients can rate the food quality weekly and provide suggestions for improvement.

Measurement: Track changes in food quality satisfaction through regular surveys and feedback forms.

2. **Food Variety Enhancement Program**

Objective: Increase the variety of food to meet the diverse dietary needs and preferences of clients.

Actions:

1. **Diverse Menu Planning:** Develop rotating menus that include a wide range of food items, catering to various dietary needs.
2. **Community Garden Initiative:** Start a community garden to grow fresh vegetables and herbs, involving clients and volunteers in the process.
3. **Recipe Sharing and Cooking Classes:** Provide recipes and cooking classes to help clients make the most of the food provided, encouraging the use of diverse ingredients.

Measurement: Monitor satisfaction with food variety through bi-monthly surveys and track participation in cooking classes.

3. **Service Quality Enhancement Program**

Objective: Further enhance the quality of service provided by staff.

Actions:

1. **Customer Service Training:** Conduct advanced customer service training sessions for staff. Focusing on empathy, communication, and problem-solving skills.
2. **Volunteer Program:** Recruit and train additional volunteers to assist during peak hours, ensuring personalized attention and reducing wait times.
3. **Recognition Program:** Implement a recognition program for staff and volunteers who consistently provide excellent service.

Measurement: Evaluate the impact through periodic client satisfaction surveys and internal assessments.

1) **Implementation Plan:**

2) **Phase 1: Preparation (Months 1-2)**

    a) Conduct initial staff and volunteer training sessions.

    b) Establish supplier partnerships and initiate the community garden.

    c) Develop menus and plan cooking classes

3) **Phase 2: Pilot Programs (Months 3-6)**

    a) Launch food quality and variety programs on a small scale

    b) Roll out the first series of cooking classes and community events.

    c) Start collecting feedback from clients.

4) **Phase 3: Full Implementation (Months 7-12)**

    a) Expand successful pilot programs to full scale.

    b) Regularly update and refine programs based on feedback and survey results.

    c) Continue training and community engagement efforts.

5) **Phase 4: Evaluation and Adjustment (Ongoing)**

    a) Conduct bi-annual evaluations of all programs.

    b) Adjust strategies based on feedback and effectiveness.

    c) Report outcome to stakeholders and clients to maintain transparency and trust.

Expected Outcomes:

1. Increased satisfaction with food quality and variety.
2. Enhanced overall service quality.
3. Higher levels of client engagement and community involvement.
4. Improved client feedback mechanisms and responsiveness.

Recommendation 2

Intervention Plan to Improve Consumer Satisfaction: Logistic Regression Analysis Results

Based on the insights on odds ratios derived from Table 3 interpretation (logistic regression analysis), regarding the association between sufficient variety of food received and employment status, while controlling for age, gender, race, number of visits, and household size, the following are recommended to improve consumer satisfaction and ensure sufficient food variety at Mission Bells Food Pantry:

1) **Targeted Support for Younger Age Groups (18-24)**:
    a) Develop programs specifically targeting younger clients, such as educational workshops on cooking and meal planning to make the most of available food variety.
    b) Enhance outreach efforts to ensure young clients are aware of the variety of food options available.
2) **Gender-Sensitive Approaches**:
    a) Address the unique needs of individuals who identify as other genders through tailored programs and resources.
    b) Ensure that the food pantry environment is inclusive and welcoming for all gender identities.
3) **Race-Sensitive Approaches**:
    a) Implement culturally relevant food options and programs to cater to the dietary preferences of diverse racial groups, particularly focusing on Blacks/African Americans and American Indians/Alaska Natives.

b) Engage with community leaders from different racial groups to better understand and address their specific needs.

4) **Optimizing Visit Frequency**:
   a) Encourage more frequent visits to the food pantry to improve food variety sufficiency.
   b) Consider implementing a scheduled visit system to manage food distribution more effectively and ensure variety.
5) **Household Size Considerations**:
   a) Provide additional support for larger households (8+ members) to ensure they receive sufficient food variety.
   b) Offer larger quantities or more diverse food packages for bigger households to meet their needs better.
6) **Employment Status-Sensitive Programs**:
   a) Develop specific programs for unemployed, retired, and student clients to ensure they receive adequate food variety. This could include partnerships with local organizations to provide additional resources and support.
   b) Offer job training or employment assistance programs to help unemployed clients improve their economic status and food security.
7) **Continuous Feedback and Improvement**:
   a) Establish a continuous feedback mechanism to gather insights from clients on food variety and quality; use this information to make ongoing improvements.
   b) Regularly review and update the food pantry's offerings based on client feedback and changing needs.

By implementing these recommendations, Mission Bells Food Pantry can address the identified disparities and improve the overall sufficiency of food variety for all its clients.

Conclusion

The objective of this study is to investigate the effectiveness of food resource centers in meeting the needs of the population they serve using Mission Bells Food Pantry, a local food pantry in Houston, Texas as a case study. I developed a consumer satisfaction survey and report for the food pantry and addressed three MPH foundational competencies namely: MPH 07: assessing population needs, assets and capacities that affect community health; MPH 04: interpreting results of data analysis for public health research, policy or practice; and MPH 09: designing a population-based policy, program, project or intervention

The 18-question survey asked questions about consumer satisfaction levels, and the study quantified the relationship between employment status and sufficient food received at the food pantry while controlling for age, gender, race, number of visits, and household size. Insights were obtained and recommendations for improving consumer satisfaction levels were proffered. Adopting these recommendations would ensure population needs are better met, food security is enhanced, and public health is improved.

Despite the current study's findings, there is plenty of room for future research. Suggestions include using a much larger sample size, and conducting research on multiple food pantries, with a view to finding patterns germane to individual locations and regional clusters.

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