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UNIVERSITY OF CALIFORNIA SAN DIEGO

Assessing the Association Between Food Insecurity and Institutional Mistrust in Spanish-
Speaking Households During COVID-19

A Thesis submitted in partial satisfaction of the requirements
for the Master

of

Public Health

by

Mirella Orozco

Committee in charge:

Professor Rebecca Fielding-Miller, Chair
Professor Richard Garfein
Professor Argentina Servin

2023

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University of California San Diego

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ABSTRACT OF THE THESIS

Assessing the Association Between Food Insecurity and Institutional Mistrust in Spanish-Speaking Households During COVID-19

by

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Master of Public Health

University of California San Diego, 2023

Professor Rebecca Fielding-Miller, Chair

During the COVID-19 pandemic, institutional mistrust impacted vulnerable populations, exacerbating disparities in social services. Many Spanish-speaking Hispanic/Latinos experienced food insecurity during the pandemic due to loss of income and ineligibility for support. Our objective was to determine what structural and demographic factors were associated with food insecurity among Spanish-speaking households and whether mistrust in institutions is associated

with food insecurity. A survey was sent to parents of students from 32 schools in San Diego County. The level of mistrust ranged from 11 (trust a great deal) to 44 (not at all). We used a logistic regression model to assess the association between food insecurity and institutional mistrust by language participants chose to complete the survey. Among 1,331 participants, 32% (n=422) completed the survey in Spanish. Overall, 27.6% experienced food insecurity. Spanish-speaking participants experienced more food insecurity than English-speaking participants (41.7% vs. 21.0%, $p < 0.05$). English-speaking participants had significantly higher institutional mistrust scores than Spanish-speaking participants. However, in our logistic regression model, the effect of food insecurity on institutional mistrust was significantly stronger for Spanish-speaking participants compared to English-speaking participants (aOR = 1.09, 95% CI 1.03 - 1.15). This stems from systemic factors such as immigration-related issues, discrimination, and lack of resources in their language, which impacts their ability to utilize services. Food insecurity among Spanish-speaking populations requires a multifaceted and culturally responsive approach that prioritizes building trust, increasing access to resources, and promoting community engagement.

CHAPTER 1: INTRODUCTION

Coronavirus Disease 2019 (COVID-19) was discovered in December 2019 in Wuhan, China, which evolved into an infectious outbreak and has quickly spread into a pandemic.¹ Most people with COVID-19 infection have mild symptoms, but some individuals become severely ill, especially those with underlying health conditions. COVID-19 affects everyone, and it is known that certain environments and activities increase the risk of COVID-19 infection. COVID-19 disproportionately impacts racial and ethnic minorities causing racial and health disparities among vulnerable populations.² A report found that the Hispanic/Latino population had the second-highest cumulative age-adjusted infection rates by race/ethnicity from 2020 to 2022 at almost 22,000 per 100,000.³ In addition, the Hispanic/Latino population had an age-adjusted mortality rate of 466 per 100,000.³ In 2020, Hispanics/Latinos accounted for 39% of California's population and 52% of infections.⁴ Hispanic/Latinos in the U.S. have been disproportionately affected by the COVID-19 pandemic. Though they face a greater risk of COVID-19 infection and mortality, the pandemic has greatly affected their employment earnings and financial security during this unprecedented time.⁴

Essential workers, outside of healthcare, are those who conduct a range of services and operations in industries to maintain critical infrastructure and functions for the United States (U.S.).⁵ Essential workers are described as those who work in food and agriculture, energy, transportation of goods, industrial, commercial, and residential services.⁶ Most of those in these high-risk of COVID-19 infection jobs continued working in their physical environment and in constant contact with others throughout the COVID-19 pandemic.⁷

Of Hispanic/Latino adults at high risk for severe illness, 65% lived in households with at least one worker who could not work from home, compared to 57% among Black adults and

47% in White adults.⁸ Spanish-speaking individuals with limited English proficiency and poorer health literacy had reduced access to high-quality public health information and medical care during the COVID-19 pandemic.⁹ Nearly 72% of Hispanics/Latinos speak a language other than English at home, and 30% state they are not fluent in English.⁴ A study found that people whose preferred language is not English have a threefold greater risk of testing positive for COVID-19 regardless of age, race/ethnicity, geography, or social factors.¹⁰

During the COVID-19 pandemic, the seasonally adjusted unemployment rates increased from 4% to 18.1% among Hispanics/Latinos.¹¹ Hispanic/Latinos had a 14.2% increase in unemployment, while White Americans only experienced a 10.8% increase in 2020.¹¹ The Hispanic/Latino unemployment rate was higher than their white counterparts during the beginning stages of the COVID-19 pandemic.¹¹ To address the prevailing financial insecurity experienced by individuals at the onset of the pandemic, the U.S. implemented a series of pandemic-driven programs and policies aimed at delivering targeted relief and support. However, many of these programs were not easily accessible to vulnerable populations such as undocumented Hispanic/Latino residents.

Policies Implemented During the COVID-19 Pandemic

California's COVID-19 Rent Relief program provides up to 18 months of rent and utility bills assistance. A study by the University of California, Los Angeles, found that low-income Hispanic/Latino renters in California were greatly underrepresented among households that applied for and received rent assistance throughout the COVID-19 pandemic.¹² In California, 48% of distressed White renters applied for rent relief, while only 39% of distressed Hispanic/Latino renters applied.¹² Among renters who applied, 21% of White renters received rent relief, while only 14% of Hispanic/Latino renters received rent relief.¹² There are stark

differences among different races. The potential barriers mentioned were language barriers and poor internet connection since the application is online. It may discourage individuals from applying out of apprehension that it could potentially impact their legal status.

The U.S. Treasury Department, the Bureau of the Fiscal Service, and the Internal Revenue Service provided three different direct relief payments to individuals and families to keep U.S. residents safe at work and home without the financial burden.¹³ In March 2020, the first payment of \$1,200 was disbursed to eligible adults, and \$500 was given to the parents or guardians of children under 17 who qualified.¹³ The next payment was approved in late December 2020, which provided payments of up to \$600 per adult for eligible individuals and up to \$600 for each child under age 17.¹³ In early March 2021, the American Rescue Plan Act of 2021 provided Economic Impact Payments of up to \$1,400 for eligible individuals or \$2,800 for married couples filing jointly, plus \$1,400 for each qualifying dependent, including adult dependents.¹³

Though the direct relief payments to individuals and families were an attempt to keep them safe during the pandemic, many were ineligible. The payments required recipients to have a valid social security number (SSN) and a bank account for the direct deposit and must have filed taxes the previous year. Many Hispanic/Latino non-citizens did not qualify for financial relief.¹⁴ Nearly 6.2 million essential workers were not eligible for CARES Act relief payments, including 1.2 million U.S. children living below the poverty level.¹⁴ A study found that Hispanic/Latino and Asian households were less likely than other races and ethnicities to have received stimulus payments during the first phases of the disbursement.¹⁵ This placed many of these households with children at greater risk of experiencing poverty, housing insecurity, and food insecurity.

Barriers to receiving relief payments could include a lack of internet access, limited English proficiency, and not having an SSN, which were common in Hispanic/Latino households.

The Families First Coronavirus Response Act (FFCRA) and the Coronavirus Aid, Relief, and Economic Security (CARES) Act provided flexibility for states' unemployment insurance (UI) benefits to many workers due to the COVID-19 pandemic.¹⁶ The CARES Act states are authorized to extend Unemployment Insurance (UI) benefits by up to 13 weeks and UI benefits of \$300 weekly federal enhancement of benefits until March 14, 2022.¹⁷ However, similarly to the direct relief payments, Hispanic/Latino workers faced barriers to UI benefits.

The Hispanic/Latino unemployment rate peaked at 18.5% in April 2020, shortly after closures in response to the outbreak.¹⁸ Although unemployment has declined since then, the rate has not returned to pre-pandemic levels as of 2021, when it often stayed under 5%.¹⁹ Many of these individuals reported having difficulty collecting UI.¹⁹ Another study found that Hispanic/Latino workers were the most severely impacted among all races, and 23.4% of displaced workers without UI were Hispanic.²⁰ This may be due to similar barriers such as internet access, limited English proficiency, and requiring valid documentation for applying for UI.

Institutional Mistrust and Language Barriers During the COVID-19 Pandemic

During the COVID-19 pandemic, institutional mistrust profoundly impacted vulnerable populations.^{21,22} Institutional mistrust refers to a lack of confidence or a level of skepticism towards various institutions, such as government bodies, public organizations, or healthcare systems.²³ Hispanics/Latinos who have limited English proficiency have faced discrimination, had feelings of distrust in healthcare and institutional settings, and faced poorer health outcomes than non-Latino Whites.²⁴

The language barrier and a lack of culturally sensitive information and assistance hindered their ability to access accurate and timely information about the virus, preventive measures, testing, and services during the COVID-19 pandemic.²⁵ A study found that many Hispanic/Latinos received COVID-19 news from Spanish-language news stations and from social media; however, their level of trust varied by their sources.²⁵

The mistrust further exacerbated existing disparities in healthcare access and accessing social services. During the first day of California's stay-at-home order, the U.S. Immigration and Customs Enforcement (ICE) raided immigrant communities.²⁶ This led to heightened anxiety, confusion, and a higher risk of exposure and infection among these communities.²⁶ This mistrust in institutions and concerns of jeopardizing or losing their ability to apply for citizenship prevented individuals from accessing services.

Food Insecurity During the COVID-19 Pandemic

Food insecurity is defined as having limited or uncertain availability of nutritious and safe food or the limited ability to acquire adequate food.²⁷ Food insecurity was heightened during the COVID-19 pandemic. After March 2020, a study found that 31% of Hispanic/Latino households reported very low food security compared to non-Hispanic/Latino White households.¹⁸ Families with school-aged children were responsible for replacing school meals at home while relying on government assistance programs such as Supplemental Nutrition Assistance Programs (SNAP) or the Maintaining Essential Access to Lunch for Students (MEALS) Act that provided school meals to students during remote learning.¹⁸ Hispanic/Latino households faced several food challenges during this time. Many Hispanic/Latino children had limited access to the MEALS Act due to the parents working non-flexible, low-wage jobs without the option to work remotely and drive up to pick up the school lunches from the

designated areas.¹⁸ Furthermore, many Hispanic/Latino families do not collect SNAP benefits due to being fearful of affecting their immigrant status or not having the proper documentation or internet access to apply for benefits. The U.S. Department of Homeland Security (DHS) issued a final rule on public charge, a test for individuals applying for permanent residence, visa, or admission to enter the U.S. and whether they are likely to depend on government support in the future.²⁸ The public charge rule caused confusion and fear among immigrant families, including those who would not be subject to the rule due to language barriers, limited access to information, and the potential for misinterpretation or rumors. Though language barriers are common themes when observing Spanish speakers, their level of trust in institutions has not been previously considered, and how that impacts their level of food security.

Aim of the study

The aim of this study is to determine whether mistrust in institutions is associated with food insecurity after controlling for potential confounders among Spanish-speaking households. We sought to measure the association between mistrust and food security, testing our hypothesis that there was a significantly different relationship between the two factors for Spanish and English speakers. Spanish language may be an effect modifier on the association between food insecurity and institutional mistrust as it can be a proxy for many factors (e.g., acculturation, migration, access to resources, or fear of deportation). Assessing the impact of food insecurity among Spanish-speaking households during the COVID-19 pandemic and their level of trust in institutional entities will be essential to develop and expand resources in Spanish to mitigate food insecurity among this vulnerable population as the pandemic ends and Spanish speakers receive the disparities continue to progress.

CHAPTER 2: METHODS AND PROCEDURES

2.1 Setting and Sample

Safer at School Early Alert (SASEA) is a program at UC San Diego that help monitor the spread of COVID-19 and prioritizes students returning safe to school in San Diego County. SASEA school sites included 32 childcare and K-8 schools across four San Diego County school districts. Three classrooms were randomly selected each month from each site, and students were provided flyers to invite their parents/guardians to participate in an online self-administered survey. Parents/guardians were entered into a raffle for a \$250 gift card for participating. Students were incentivized to participate with a \$100 pizza gift card to the class with the highest rates. Flyers were printed in English and Spanish. The flyers contained a link to complete the survey online and a phone number to call if the participant preferred to complete the survey by phone. A trained bilingual research assistant conducted the surveys over the phone. All participants consented, the schools gave permission, and the University of California San Diego Institutional Review Board approved the study protocol. Survey data was collected between November 2021 through May 2022.

2.2 Measures and Variables

Participants were asked to provide their highest level of education completed, total household income, and levels of trust in institutions on an ordinal scale. The parent's age, the number of people living in the household, and the number of rooms in their home (not including the kitchen) were measured by participants responding to the question using a numeric text box. Participants were asked to identify their ethnicity as non-Hispanic/Latino, Hispanic/Latino, or

“prefer not to answer.” Participants were also asked to identify their gender as female, male, or “prefer not to answer.”

A measure of household crowding was computed by dividing the number of people in the participant’s household by the number of rooms in their home. The U.S. Census defines overcrowding as one occupied by 1.0 persons or more per room (excluding bathrooms and kitchens), and more than 1.5 persons per room are considered severely overcrowded in California.²⁹ We used these values to define the level of overcrowding in this study.

Primary Outcome

The dependent variable was created to measure food insecurity. Participants were asked the following prompt, “*The COVID-19 pandemic has caused challenges for people, whether they get COVID-19 or not. In the past 6 months, have you or your family experienced... Getting enough food to eat,*” and participants responded on an ordinal scale (1)No, not a challenge, (2)Yes, a minor challenge; and (3)Yes, this is a major challenge. A binary variable was created as not being food insecure (no, not a challenge) and being food insecure (yes, a minor/major challenge).

Primary Predictor

Participants were asked to report their trust in their church, government officials, public schools, newspapers, pharmaceutical companies, television news, the police, news websites, U.S. Immigration and Customs Enforcement and U.S. Customs and Border Protection, the county board of supervisors, and the University of California San Diego. For example, the participants were asked the following prompt, “*Below is a list of institutions in American society. Please indicate how much confidence you, yourself, have in each one... Your church,*” and participants responded on an ordinal scale from (1)great deal, (2)a fair amount, (3)not much, and (4)not at all.

The institutional mistrust scores were calculated by adding all trust measures ranging from 11 (trust a great deal) to 44 (do not trust at all). Institutional mistrust scores were the main primary exposure variable.

2.3 Missing Data

Missing data were identified by examining the completeness of each covariate in the dataset. Of the 1,331 participants included in the study, 26% had missing data for at least one variable. To address the issue of missing data, we conducted a sensitivity analysis of each variable (institutional mistrust, age, gender, annual household income, and education level) between those with and without missing data and found no difference between the groups.³⁰ This suggests the missing data will not significantly impact our study's findings as it is the data are not missing in a way that systematically affects our outcome.

2.4 Statistical Analyses

We completed chi-square analyses and Student's t-tests to determine demographic differences among participants who completed the survey in Spanish and English. We then ran a bivariate analysis to assess the association between food insecurity and the variables of interest and assess differences using chi-square analyses. In addition, we performed a bivariate logistic regression analysis using unadjusted models to examine the relationship between food insecurity and institutional mistrust based on the survey language (Spanish vs. English). The regression analysis was then repeated, adjusting for confounders. We believed language could be an effect modifier; thus, we stratified our data by language and included an interaction term for language in our regression analysis. All statistical analyses were performed using RStudio version 1.4.1717.

CHAPTER 3: RESULTS

3.1 Descriptive Results

Table 1 shows the unadjusted study sample characteristics by the whole sample and stratified by Spanish and English survey participants. There were 1,331 SASEA participants, and 32% (n = 422) completed the survey in Spanish. Of all participants, 27.6% experienced food insecurity (n = 367). Spanish survey participants experienced higher levels of food insecurity than English survey participants (41.7% vs. 21.0%, $p < 0.05$). Additionally, English survey participants had significantly higher institutional mistrust scores than Spanish survey participants (27.41 vs. 25.01, $p < 0.05$).

Overall, 88.9% of Spanish survey participants identified as Hispanic/Latino, while 54.8% of English survey participants identified as Hispanic/Latino. Most participants identified as female (76.0%), and the mean age was 36.5 years old. English survey participants were more likely to have a bachelor's degree (14.9% vs. 13.0%, $p < 0.05$) or a graduate degree (6.6% vs. 1.4%, $p < 0.05$) compared to Spanish survey participants. The number of household members (5.0 vs. 4.6, $p < 0.05$) and household crowding (2.4 vs. 1.9 persons per room, $p < 0.05$) were higher among participants who completed the survey in Spanish compared to English. Table 1 demonstrates the count of participants who selected "prefer not to answer" and missing data for ethnicity, gender, the highest level of education completed, and income, but it is not included in the t-tests and chi-square tests for the p-value.

Table 1. Participant Characteristics by Language Used to Complete Survey

Variable	Spanish (n=422) n (%)	English (n=909) n (%)	Total (n=1,331) n (%)	p-value*
<i>Food Insecurity</i>				<0.05
Food Insecure	176 (41.7)	191 (21.0)	367 (27.6)	
Not Food Insecure	174 (41.2)	450 (49.5)	624 (46.9)	
Missing	72 (17.1)	268 (29.5)	341 (25.6)	
<i>Institutional Mistrust Scores</i>				<0.05
(Mean±SD)	25.01±6.9	27.4±7.1	26.56±7.1	
Missing	72 (17.1)	267 (29.4)	340 (25.5)	
<i>Ethnicity</i>				<0.05
Hispanic/Latino	375 (88.9)	498 (54.8)	873 (65.6)	
Not Hispanic/Latino	14 (3.3)	311 (34.2)	325 (24.4)	
Prefer not to Answer	20 (4.7)	48 (5.3)	68 (5.1)	
Missing	13 (3.1)	52 (5.72)	66 (5.0)	
<i>Gender</i>				0.47
Female	346 (82.0)	666 (73.3)	1,012 (76.0)	
Male	54 (12.8)	90 (9.9)	144 (10.8)	
Prefer not to answer	4 (1.0)	13 (1.4)	17 (1.3)	
Missing	18 (4.3)	140 (15.4)	159 (12.0)	
<i>Age</i>				0.06
(Mean±SD)	37.1±6.7	36.2±8.0	36.5±7.6	
Missing	91 (21.6)	139 (15.3)	231 (17.4)	
<i>Education Level</i>				<0.05
Some High School	98 (23.3)	63 (6.9)	161 (12.1)	
High School or Equivalent	158 (37.4)	331 (36.4)	489 (36.7)	
Bachelor's Degree	55 (13.0)	135 (14.9)	190 (5.0)	
Graduate Degree	6 (1.4)	60 (6.6)	66 (5.0)	
Missing	105 (24.9)	320 (35.2)	426 (32.0)	
<i>Annual Household Income</i>				<0.05
Less than \$15,000	58 (13.7)	79 (8.7)	137 (10.3)	
\$15,000 - \$19,999	35 (8.3)	46 (5.1)	81 (6.1)	
\$20,000 - \$24,999	50 (11.8)	37 (4.1)	87 (6.5)	
\$25,000 - \$34,999	56 (13.3)	73 (8.0)	129 (9.7)	
\$35,000 - \$49,999	46 (10.9)	91 (10.0)	137 (10.3)	
\$50,000 - \$74,999	25 (5.9)	89 (9.8)	114 (8.6)	
\$75,000 - \$99,999	2 (0.5)	53 (5.8)	55 (4.1)	
\$100,000 and above	3 (0.7)	45 (5.0)	48 (3.6)	
Prefer not to Answer	43 (10.2)	78 (8.6)	121 (9.1)	
Missing	103 (24.4)	318 (35.0)	422 (3.7)	
<i>Number of People in Household</i>				<0.05
(Mean±SD)	5.0±1.0	4.6±1.4	4.8±1.4	
Missing	20 (4.7)	135 (14.9)	156 (11.7)	
<i>People Per Room</i>				<0.05
(Mean±SD)	2.4±1.0	1.9±0.9	2.1±0.9	
Prefer not to Answer	37 (8.8)	254 (27.9)	292 (21.9)	

*p-values come from chi-square statistics for categorical variables and t-tests for continuous variables. Missing variables are not included in the calculation of p-values.

English survey participants demonstrated overall higher levels of institutional mistrust compared to Spanish speakers (mean difference = 2.40, 95% CI 1.49 - 3.30, $p < 0.05$). Furthermore, English survey participants were statistically significantly more likely to mistrust churches ($p < 0.05$), government officials ($p < 0.05$), public schools ($p < 0.05$), newspapers ($p = 0.02$), pharmaceutical companies ($p < 0.05$), television news ($p < 0.05$), police ($p < 0.05$), U.S. Immigration and Customs Enforcement (ICE) and U.S. Customs and Border Protection (CBP) ($p < 0.05$), the county board of supervisors ($p < 0.05$), and the University of California San Diego ($p < 0.05$) compared to Spanish survey participants shown in Figure 1.

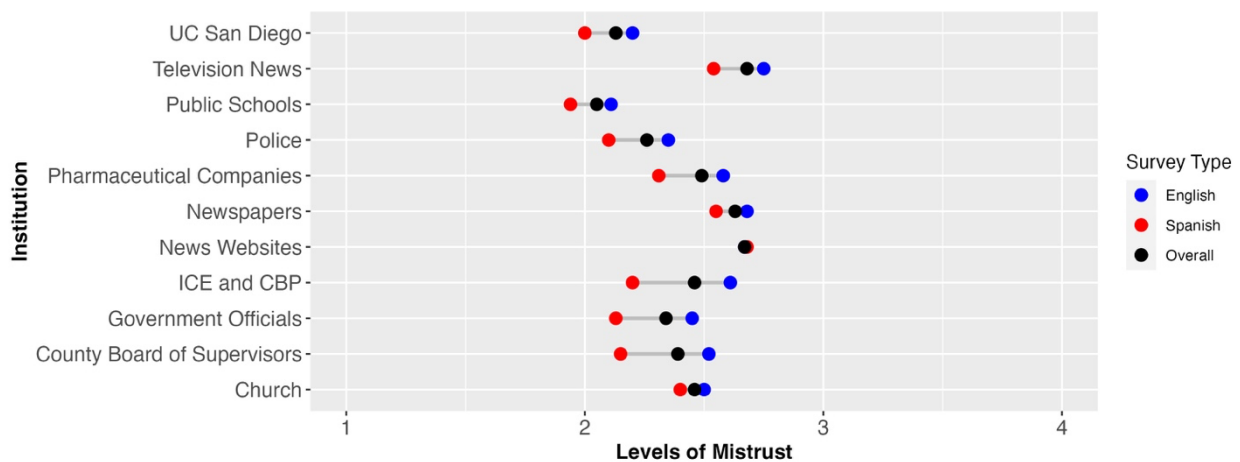


Figure 1. Level of Mistrust in Institutions by Survey Language
ICE and CBP: U.S. Immigration and Customs Enforcement (ICE) and U.S. Customs and Border Protection (CBP).

3.2 Bivariate Analysis of Food Insecurity Stratified by Survey Language

Among Spanish survey participants, a higher prevalence of food insecurity was associated with a higher score of having institutional mistrust (mean score 25.9 vs. 24.1, $p < 0.05$), older age (37.3 vs. 36.5, $p < 0.05$), lower household income ($p < 0.05$), a higher number of people in the household (5.1 vs. 4.9, $p < 0.05$), and having more people per room (2.5 vs. 2.3, $p < 0.05$)

compared to participants who were not food insecure (Table 2). No association was found with ethnicity or gender.

Among English survey participants, a higher prevalence of food insecurity was associated with older age (36.9 vs. 36.4 years old, $p<0.05$), lower educational attainment ($p<0.05$), lower household income ($p<0.05$), a higher number of people in the household (4.7 vs. 4.6, $p<0.05$), and having more people per room (2.0 vs. 1.8, $p<0.05$) compared to participants who were not food insecure (Table 2). No association was found with ethnicity, gender, or institutional mistrust after accounting for language.

Table 2. Bivariate Analysis of Variables Associated with Food Insecurity Among Survey Participants

Variable	<i>Spanish</i>		p-value*	<i>English</i>		p-value*
	Food Insecure (n=176) n (%)	Not Food Insecure (n=174) n (%)		Food Insecure (n=191) n (%)	Not Food Insecure (n=450) n (%)	
<i>Institutional Mistrust Scores</i> (Mean±SD)	25.9±6.6	24.1±7.0	<0.05	27.2±6.9	27.5±7.2	0.22
<i>Ethnicity</i>	157		0.07			0.22
Hispanic/Latino	89 (89.2)	164 (94.3)		125 (65.5)	269 (59.8)	
Non-Hispanic/Latino	7 (4.0)	1 (0.6)		53 (27.8)	149 (33.1)	
Missing	12 (6.8)	9 (5.2)		13 (6.8)	32 (7.1)	
<i>Gender</i>	144		0.14			1.00
Female	81 (81.8)	156 (89.7)		162 (87.6)	382 (87.6)	
Male	28 (15.9)	18 (10.3)		23 (12.4)	54 (12.4)	
Missing	4 (2.3)	-		6 (3.1)	14 (3.1)	
<i>Age (Mean±SD)</i>	37.3±6.7	36.48±6.5	<0.05	36.9±8.6	36.4±7.7	<0.05
<i>Education Level</i>						
Some High School			<0.05			<0.05
High School or Equivalent	44 (25.0)	43 (24.7)		24 (12.6)	32 (7.1)	
Bachelor's Degree	68 (38.6)	77 (44.3)		95 (49.7)	202 (44.9)	
Graduate Degree	25 (14.2)	25 (14.4)		29 (15.2)	101 (22.4)	
Missing	3 (1.7)	3 (1.7)		12 (6.3)	25 (10.0)	
Missing	36 (20.4)	26 (14.9)		31 (16.2)	70 (15.6)	
<i>Annual Household Income</i>			<0.05			<0.05
Less than \$15,000	32 (18.2)	22 (12.6)		30 (15.7)	43 (9.6)	
\$15,000 - \$19,999	14 (8.0)	14 (8.1)		19 (10.0)	23 (5.1)	
\$20,000 - \$24,999	26 (14.8)	20 (11.5)		13 (6.8)	20 (4.4)	
\$25,000 - \$34,999	21 (11.9)	28 (16.1)		24 (12.6)	42 (9.3)	
\$35,000 - \$49,999	16 (9.1)	27 (15.5)		32 (16.8)	49 (10.9)	
\$50,000 - \$74,999	11 (6.3)	12 (6.9)		17 (8.9)	63 (14.0)	
\$75,000 - \$99,999	1 (0.6)	1 (0.6)		10 (5.2)	42 (9.3)	
\$100,000 and above	-	3 (1.7)		4 (2.1)	40 (8.9)	
Missing	55 (31.3)	47 (27.0)		42 (22.0)	128 (28.4)	
<i>Number of People in Household</i> (Mean±SD)	5.1±1.5	4.9±1.4	<0.05	4.7±1.5	4.6±1.4	<0.05
<i>People per Room</i> (Mean±SD)	2.5±1.0	2.3±0.7	<0.05	2.0±0.9	1.8±0.8	<0.05

*p-values come from chi-square statistics for categorical variables and t-tests for continuous variables.

3.3 Logistic Regression Analysis of Variables Associated with Food Insecurity

Logistic regression analysis revealed that survey language was a significant predictor for food insecurity (Table 3). The Spanish language was significantly associated with food insecurity (OR 2.38, 95% CI: 1.82 - 3.12); however, when adjusting for other variables, the Spanish language was a protective variable for food insecurity (adjusted Odds Ratio [aOR] = 0.20, 95% CI: 0.05 - 0.82). However, the institutional mistrust score was insignificant (aOR 0.99, 95% CI: 0.96 - 1.02) after controlling for all other variables in the model. The aOR of 0.20 for food insecurity and language indicates that, compared to English-speaking households, Spanish-speaking households have 80% lower odds of experiencing food insecurity. Educational attainment (aOR 0.73, 95% CI: 0.58 - 0.91) and number of people per room (aOR 1.31, 95% CI: 1.08 - 1.59) were all associated with food insecurity. In both analyses, institutional mistrust scores, ethnicity, household income, and number of household members were not associated with food insecurity.

The interaction between the survey language and institutional mistrust scores was also significant (aOR = 1.09, 95% CI 1.03 - 1.15), shown in Table 3. Food insecurity was associated with higher institutional mistrust among participants who took the survey in Spanish, but this association was not observed among those who took the survey in English (Figure 2).

Table 3. Logistic Regression Analysis of Factors Associated with Food Insecurity (n=708)

Variable	Unadjusted OR (95% CI)	Adjusted OR (95% CI)
Spanish Language	2.38 (1.82 - 3.12)	0.20 (0.04 - 0.83)
Institutional Mistrust	1.00 (0.98 - 1.02)	0.99 (0.96 - 1.02)
Language x Institutional Mistrust	1.05 (1.01 - 1.09)	1.09 (1.03 - 1.16)
Hispanic/Latino (Ethnicity)	1.00 (0.99 - 1.00)	1.00 (0.99 - 1.01)
Education Level	0.70 (0.58 - 0.84)	0.73 (0.58 - 0.91)
Annual Household Income	1.00 (0.99 - 1.00)	1.00 (0.99 - 1.00)
Number of People in Household	1.09 (1.00 - 1.20)	1.04 (0.92 - 1.16)
People Per Room	1.44 (1.23 - 1.68)	1.31 (1.08 - 1.59)

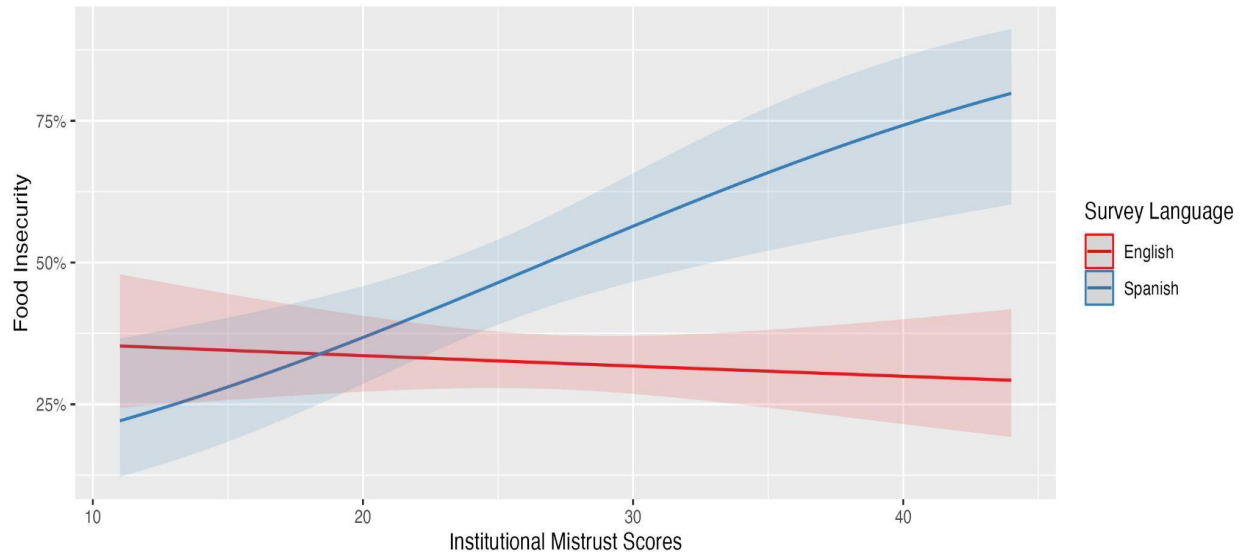


Figure 2. Interaction Between Food Insecurity and Institutional Mistrust Scores

CHAPTER 4: DISCUSSION

Our study found institutional mistrust is associated with higher food insecurity for Spanish speakers but not among English speakers. Other characteristics associated with food insecurity included the parent's education level and the number of people per room. The parent's age, ethnicity, household income, and the number of people in the household were not found to be significant after adjusting for covariates. Food insecurity is a complex issue with unique challenges affecting millions of individuals and families in the U.S., particularly among Spanish-speaking households.

Studies have shown that Hispanic/Latino immigrant families are more likely to have social networks and community support.^{31,32} Similar to our findings, these potential cultural differences may contribute to differences in community support-seeking behaviors, such as participating in food banks. In addition, several food distribution organizations in San Diego during this time focused on distributing food to neighborhoods with higher levels of poverty and higher COVID-19 case rates, including low-income, Spanish-speaking communities.³³ Thus, these resources during the height of the pandemic could have impacted our findings.

There are potential reasons why Spanish-speaking individuals had higher levels of institutional mistrust and were more at risk for food insecurity than English-speaking individuals. This mistrust can stem from historical and systemic factors such as immigration-related issues, the ongoing marginalization and discrimination Hispanic/Latino communities have faced, and lack of access to resources and information, which can negatively impact their ability to access and utilize essential services and resources.³⁴

Immigration-related issues are an important factor in which there may be higher institutional mistrust and food insecurity among Spanish-speaking households. For example, the federal government's response to the pandemic, including the distribution of stimulus checks and vaccine distribution, was criticized for being inadequate and not reaching vulnerable populations, including Hispanic/Latino communities, further heightening the mistrust of government institutions.³⁵ Undocumented Hispanic/Latinos also face additional barriers due to their legal status as it limits their ability to advocate for their right and access to important services and resources due to reluctance or fear of accessing programs and services.³⁵

In addition, anti-immigration policies, like the criminalization of migration, the enforcement of deportation, and the difficulty of gaining citizenship, have all resulted in increased marginalization among this population.³⁶ Studies have found that Hispanic/Latino immigrants in states with higher levels of deportation were less likely to enroll their children in social services and avoid routine activities, such as shopping for food.³⁷ Furthermore, undocumented Hispanic/Latino communities are often subjected to workplace discrimination and exploitation, including low wages, long hours, and unsafe working conditions.³⁶ These experiences could increase the lack of trust in U.S. institutions and increase hesitancy to seek services because of the potential risk of jeopardizing their citizenship application or being singled out for deportation.

Spanish-speaking Hispanic/Latinos may face linguistic barriers when accessing government and institutional services. They may have difficulty communicating with staff, especially during emergency situations, resulting in misunderstandings, delays, or even denial of services. A study found that U.S. immigrants may be eligible for social services and benefits, but may not begin or complete the application process due to misunderstanding instructions, are

unable to complete lengthy applications, provide supporting documentation, or may experience irregular phone service, which could delay or terminate their application.³⁸

These experiences can lead to exclusion and distrust of institutions. A key factor is understanding what the Hispanic/Latino community wants to see from institutions. In order to address mistrust of institutions and the government, programs must involve community participation and engagement, as well as culturally appropriate messaging and outreach. For example, the Community Action Partnership (CAP) in San Diego completed a community needs assessment in 2023 to identify and assess the needs and priorities among low-income communities to improve San Diego residents' quality of life.³⁹ This needs assessment will help capture and inform a future plan for programs and services tailored to the needs of the community.

Providing a safe, transparent, and welcoming environment is essential to build that trust between institutions and vulnerable populations. Training staff at these institutions to be more culturally aware and competent in the native languages of these populations and what needs should be addressed is the best approach to bridging the gap. In turn, families with limited English or Spanish language only will feel less of a burden and reduce their feelings of discrimination when seeking support.⁴⁰ Staff who is aware of situations like immigration status and what benefits are available will help engage the community to seek more support and receive quality care.

4.1 Limitations

There are several limitations to this study that should be considered when interpreting the results. Firstly, we did not collect data on whether participants received CalFresh benefits, which could confound the relationship between food insecurity and institutional mistrust. Furthermore,

SASEA could have oversampled some communities since high infection rates and low-income communities were prioritized. The sample was focused on communities near the U.S./Mexico border and communities more likely to have low-income English-speaking families and schools enrolled in the SASEA program. In addition, the study's cross-sectional design prevents us from assessing the sequence in which institutional mistrust and food insecurity occurred. Similarly, it limits our ability to generalize the results to other populations. Future research could address these limitations using longitudinal designs and collecting data on relevant confounding variables.

4.2 Conclusion

Addressing food insecurity among Spanish-speaking individuals requires a multifaceted and culturally responsive approach that prioritizes building trust, increasing access to resources, and promoting community engagement and participation. By implementing policy actions that consider the unique challenges faced by this population, we can work towards creating a more equitable food system for underserved communities.

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