Prevalence, Perceptions, and Recommendations for Addressing Student Food Insecurity: A Mixed-Methods Investigation

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Background: College and university students in the United States (U.S.) experience a higher level of food insecurity than the national average. However, food insecurity among international students has not been studied enough, which is a gap as these groups may experience heightened barriers to accessing enough nutritious and culturally appropriate foods and are not eligible for government aid.

Objective: The study aimed to investigate food insecurity, obstacles, and solutions related to food resources among international students during the COVID-19 pandemic.

Study Design, Setting, and Participants: An mixed explanatory methods research design was used. An online Qualtrics 30-item survey, including the U.S. Department of Agriculture’s Six-Item Short Form Food Security Module and sociodemographic questions (e.g., age, race, ethnicity, living status), was developed to assess the food security status of the students. Food security status was asked during the COVID-19 (March 2020- March 2021) and present status when taking the survey (July 2021- July 2022). Convenience sampling was used to distribute surveys through social media, flyers, and student organization campaigns. Follow-up semi-structured interviews were conducted with interested participants to investigate experiences with food insecurity barriers and possible solutions. Inferential statistics and inductive coding were utilized to analyze the collected data.

Measurable Outcome/Analysis: Interviews were transcribed and analyzed using a five-step thematic analysis approach: familiarization with the data, initial coding, generation of themes, refinement, and finalized themes.

Results: Participants discussed the physical resources provided by WIC, including infant formula, informational pamphlets, and breast pumps, however resources were often insufficient. WIC provided professional support, such as lactation consultants and nutritionists. Participants noted that WIC promoted breastfeeding infants and supported mothers in transitioning their infants to formula and solid foods. However, participants had wanted more information about different types of formulas and autonomy in choosing the formula for themselves.

Conclusion: Young mothers with a history of maltreatment are challenged with providing food for their infants. Mothers find both physical resources and professional consultants at WIC. Findings suggest that young mothers and professionals who support them find WIC to be sufficient in meeting the needs of young mothers and their infants, however there is room for improvement.

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Promoting Food Security Before, During, and After Disasters: Resources to Help Build Food System Resilience

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Background: Disasters around the globe threaten food security, impacting access, availability, and medical and nutritional utilization and accessibility. Disasters present an opportunity for local governments and others to examine the state of the food system and how it can be transformed to provide sustainable, healthy, and just food for all. Food system resilience provides a lens for examining how disasters impact nutrition and food security and methods to equip food system actors for disruptions.

Objective: To develop a guide to build knowledge, capacity, and motivation of local governments and others to prepare for, respond to, and recover from food system disruptions.

Study Design, Settings, Participants: We developed the guide with a Community of Practice (CoP) involving participants from five U.S. cities. Through a year-long series of facilitated conversations, city representatives and Johns Hopkins researchers co-developed food system resilience resources.

Measurable Outcome/Analysis: We used a mixed-method embedded intervention design to evaluate the CoP. We collected pre-intervention survey data (April

Continued on page 40
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2020 and post-intervention survey data (December 2020) and interview data (January 2021).

**Results:** The guide, *Food System Resilience: A Planning Guide for Local Governments*, helps food system actors develop strategies that improve food security despite disruptions. It accomplishes this goal by providing users with six modules and twelve interactive tools. The guide also highlights practical insights from peers, and an equity-centered approach. Key findings from the CoP evaluation include an increase in participants’ food system resilience knowledge and skills.

**Conclusion:** Food system resilience, food security, and nutrition education are key pillars for a system to prepare for and withstand disruptions, and the guide works to improve all three. Equity and social justice are vital in this work, and both are central to the guide. This work helps the field of nutrition education and behavior integrate evidence about the nascent but growing field of food system resilience. It also helps to better understand how to build the capacity of food system actors for transformative change.

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**Resources, Constraints, and Food Security Management and Coping Strategies for Latino/a Parents and Caregivers in Texas**

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**Background:** The U.S. Latino/a population is a large and fast-growing population in the country, which has experienced a disproportionate burden of food insecurity compared with the national average. There is a need to understand how Latino/a parents use different strategies to maintain food security.

**Objective:** To understand the food security management and coping strategies of Latino/a households through in-depth interviews.

**Study Design, Settings, Participants:** A qualitative study with remote in-depth interviews, conducted in Texas (Oct. 2021-Aug. 2022), with Latino/a parents and caregivers living in Central Texas. Trained interviewers used an interview guide (≈75 minutes/interview). Data came from a multi-site study with cognitive and exploratory interviews related to food insecurity.

**Measurable Outcome/Analysis:** Interviews were recorded and transcribed verbatim. Data analysis was completed through transcript review, summary sheets, coding, and peer-debriefing. A codebook was developed based on prior experience, the literature, and rounds of initial coding and discussion. The goal of analysis was to identify common patterns and develop themes and subthemes.

**Results:** Twenty Latino/a parents and caregivers completed interviews (16 female and 4 male participants). Most participants were Mexican heritage and spoke primarily English (3 Spanish speakers). Overall, participants described similar food security management and coping strategies, despite differences in life course experiences or household characteristics. Inflation and rising food prices, the COVID-19 pandemic, and global events affected food choices and access to food assistance. Strategies included limiting or rationing food, skipping meals, value food shopping strategies, food assistance from food pantries/banks, churches, and federal food assistance programs, such as SNAP or WIC. Some participants described challenges accessing federal food assistance programs, such as eligibility restrictions.

**Conclusion:** External factors exacerbated food insecurity, but community resources, like food banks/food pantries, and federal programs, like SNAP or WIC, were important to maintain food security. Given reauthorization of important nutrition policies, this study contributes additional evidence for strengthening nutrition and food assistance programs. Future work is needed to understand how management or coping strategies for Latino/a households.

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**Results of a Behavioral Nutrition Program for Mexican-Heritage Children in the Lower Rio Grande Valley of Texas**

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**Background:** Systemic, structural, and social factors negatively influence nutrition for Latino/a children, and there are racial/ethnic disparities in dietary intake of fruits and vegetables (FV) and body mass index (BMI). The ¡Haz Espacio para Papí! (HEPP, Make Room for Daddy!) program was a father-focused, family-centered program to support nutrition and physical activity in Mexican-heritage families.

**Objective:** Examine the effects of a behavioral nutrition program on dietary intake of FV and BMI for Mexican-heritage children.

**Study Design, Settings, Participants:** A modified stepped-wedge design was used to evaluate the program, which was conducted from summer 2019 through winter 2020, in five neighborhood clusters along the Texas-Mexico border. Children were 9-11 years at enrollment. Promotoras led in-person group sessions with experiential nutrition education and measurements at pre-test, post-test (6 weeks), and maintenance (3-4 months after post-test).

**Measurable Outcome/Analysis:** Promotoras measured height and weight and used the Veggie Meter® to collect instant skin carotenoid scores (SCS) as a biomarker for dietary FV intake. A SAS macro calculated age- and sex-