

THE URI FREE FARMERS' MARKET AND FOOD ACCESS AMONG
COLLEGE STUDENTS

BY MARIA MEOLA

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OF

Maria Meola

APPROVED:

Thesis Committee:

Major Professor

Sarah Amin and Amanda Missimer

Kathleen Gorman

Isaac Agbemaflle

Brenton DeBoef

DEAN OF THE GRADUATE SCHOOL

UNIVERSITY OF RHODE ISLAND

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ABSTRACT

Background: Campus-based programs to promote food access have become more prevalent on college campuses due to rising food insecurity among students. Despite this, there is a notable gap in qualitative research investigating students' experiences regarding food access and intervention acceptability. In 2021, the University of Rhode Island (URI) Free Farmer's Market (FFM) was developed to promote student access to produce from URI campus farms. **Objective:** This study aims to assess student perceptions surrounding use and acceptability of the URI FFM and also understand the role this plays in student changes to food access throughout the semester. **Study Design, Settings, Participants:** A cross-sectional mixed methods approach was used in which participants completed a 17-item "Market Reach" survey assessing demographic information and program acceptability. An "interview" survey was used to assess demographics, campus resource utilization, and food security status. Semi-structured interviews addressed produce utilization, food resource management, perceived acceptability of cooking space, and suggestions for future participant needs. During the 2022 FFM, 96 participants were willing to be contacted and 23 completed the survey and participated in an interview. **Measurable Outcome/Analysis:** Survey responses were analyzed using descriptive statistics. Interviews were transcribed and a codebook was constructed using an inductive and deductive approach based on interview domains and research team discussions. A thematic analysis was used to identify preliminary themes. **Results:** Of the 878 participants that completed the Market Reach survey (72% female, 73% White, and 77% undergraduate student) 108 were contacted and 23 completed an interview. Of these 23 participants (84% female, 73% White, 73% undergraduate) 56% indicated having some form of food insecurity

based on the USDA 6-item screener (score 2-6= food insecurity). Themes include Food Access Changes Throughout the Semester, Motivation to Participate, Participant Need for Nutrition Education, Positive Free Farmers' Market Perceptions, and Potential Future Changes Based on Student Need. **Conclusion:** By evaluating students' attitudes and experiences, this research informs strategies for improving food access within the URI community and methods of assessment for future studies. Specifically, these findings highlight the diverse challenges students face regarding food access, underscoring the necessity for food and nutrition education interventions to address their multifaceted needs effectively.

PREVIEW

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PREFACE

This thesis was prepared according to the University of Rhode Island graduate school Manuscript Thesis Format and follows the author guidelines for *The Journal of Nutrition Education and Behavior*. Upon submitting this thesis to the graduate school, the manuscript may be submitted for publication.

PREVIEW

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PREVIEW

CHAPTER 1

MANUSCRIPT

“The URI Free Farmers’ Market and Food Access Among College Students”

By

Maria Meola¹

Amanda Missimer, PhD, RD, LDN²

Kathleen Gorman, PhD³

Isaac Agbemaflle, PhD⁴

Sarah Amin, PhD, MPH⁵

¹ Department of Nutrition, Fogarty Hall, University of Rhode Island, Kingston RI
(maria_meola@uri.edu)

² Department of Nutrition, Fogarty Hall, University of Rhode Island, Kingston RI
(amanda_missimer@uri.edu)

³ Department of Psychology, University of Rhode Island, Kingston RI.
(kgorman@uri.edu)

⁴ Department of Nutrition, Fogarty Hall, University of Rhode Island, Kingston RI
(isaac.agbemaflle@uri.edu)

⁵ Department of Nutrition, Fogarty Hall, University of Rhode Island, Kingston RI
(sarah_amin@uri.edu)

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INTRODUCTION

The image of a traditional college student has shifted over the last 50 years to reflect more diverse demographic and lifestyle characteristics within the population.¹ Today's college student can be from any financial bracket with a myriad of associated limitations to academic and professional success. With this, limited access to food has become a rising concern for college campuses. Food access is defined as the ability to obtain food, and encompasses physical access, such as distance to a store or the number of stores in a given area, as well as economic access to individual-level resources, such as personal income and availability of transportation.² Food insecurity is defined as, limited or uncertain access to nutritionally adequate and safe food or ability to acquire acceptable foods in socially acceptable ways due to a lack of money or other resources.³ The prevalence of food insecurity on college campuses is estimated to be 12.5-84%. This wide range indicates a lack of consistent evaluation across institutions. According to Nikolaus et al., 41%⁴ of college students report experiences with food insecurity.

The connection between food access and food insecurity is important as food insecurity arises from limited food access. Therefore, addressing issues of food access is crucial in the ongoing discussion of food insecurity within college students. Research indicates that students faced with challenges to food access are more likely to encounter mental and physical health disparities as a result of limited access to food.⁴ Additionally, this situation negatively impacts grade point average and academic goals.⁵ Despite this, there are few studies that assess the impact and acceptability of campus-based programs and interventions that address food access,

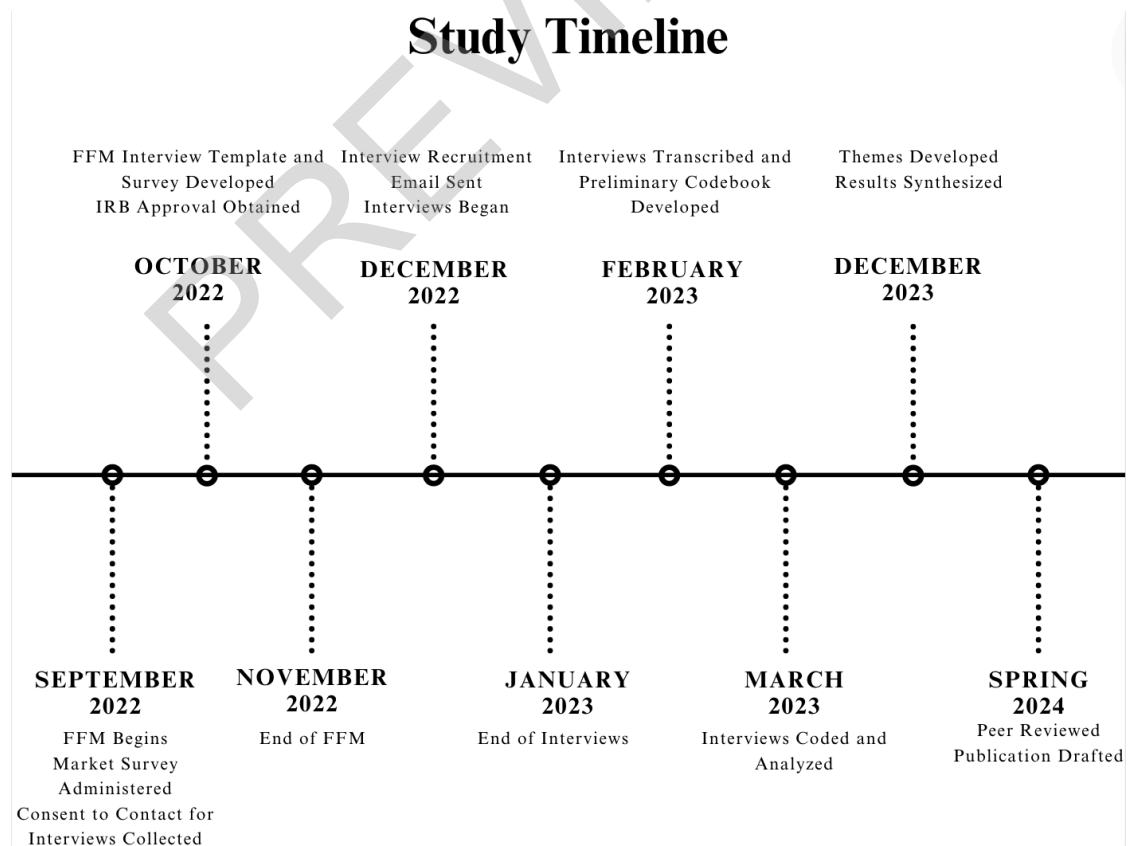
program acceptability, and food resource management (ie. a set of techniques surrounding adequate selection of foods).⁶ A novel ‘free’ farmers’ market is a campus-based initiative aimed at improving food access among college students by utilizing a localized food system which mobilizes produce to the center of campus. However, there is a lack of qualitative research on how programs like the Free Farmers’ Markets are implemented, as well as student acceptability and use of these types of programs, given that this type of intervention is emerging on college campuses. The University of Rhode Island (URI) Free Farmers’ Market (FFM) is a campus-based approach that was piloted in 2021 and has been delivered in the fall of each year since. The aim of this research is to assess the perceptions of food access, food resource management, and program acceptability of college students who attended the FFM.

METHODOLOGY AND PROCEDURES

Study Design

A general “Market Reach” survey was distributed to capture FFM reach through a series of questions regarding demographics, campus resource use, food security status, and program acceptability. A cross-sectional mixed methods study was used to gain a more robust understanding of student experiences and program acceptability of the URI FFM, produce use, food resource management, food security status, and need among students through the use of a seventeen-question “Pre-Interview” survey and 20-30 minute virtual semi-structured interview.

Study Timeline



Participant Recruitment

This study included URI students, staff, and community members that have attended the FFM at least once during the Fall 2022 semester, which is hosted once per week at various locations throughout campus. The participants were recruited through the Market Reach survey distributed to everyone attending the FFM. Volunteers at the market distributed Quick Response (QR) codes for the Market Reach survey that assessed FFM user demographics, repeat visits, food security status, program acceptability. Within this survey was an option to provide their email address with consent to be contacted for interview recruitment. Those that provided their email address were contacted to complete a survey to determine study eligibility and schedule an interview. To qualify for this study, all participants must be above the age of eighteen and have provided consent to be contacted. Prior to the interviews, participants reviewed the consent with the study administrator before agreeing to participate in the study and have the interview recorded.

Instruments

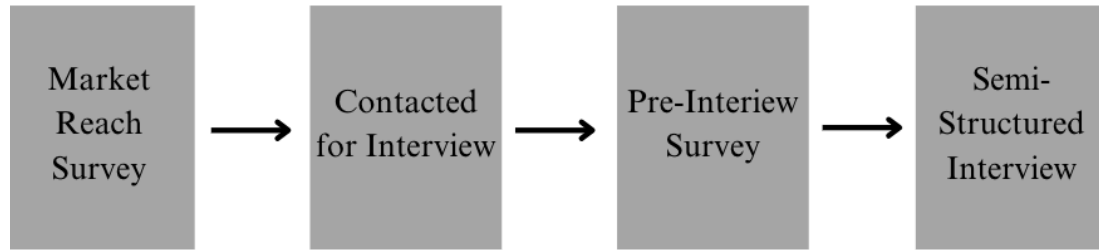
Market Reach Survey: Participants completed a brief 16-item (5-10 minute) online survey on the platform Qualtrics.⁷ Qualtrics is a platform used to design and administer surveys that can be accessed on any computer or mobile device. Questions regarding demographics, campus resource use, and program acceptability were asked in this survey. Participation in Pell Grant and federal work study was used as a proxy for student socioeconomic status. A validated two item food security screening tool was used to measure food security status and responses were measured on a Likert

scale of frequency with response options of “often true”, “sometimes true”, and “never true”.⁸ The full Market Reach Survey can be found in Appendix C. Within the Market Reach survey, program acceptability was measured through four questions with five response options on a likert scale. The survey asked participants to rank how much they agree or disagree with the following statements: “The FFM meets my approval”, “The FFM is appealing to me”, “I like the FFM”, “I welcome the FFM”. Response options included: “Completely disagree”, “disagree”, “Neither disagree nor agree”, “Agree”, “Completely agree”. This scale is a validated tool that measures Acceptability of Implementation (AIM), Intervention Appropriateness (IAM), and Feasibility of Intervention Measure (FIM).¹¹ The acceptability construct was used to determine program acceptability. Due to challenges in accurate identification number entry among Market Reach survey participants, individual level data cannot be determined. At the end of the Market Reach survey, participants were asked to provide their email address if they would like to be contacted to discuss their experience at the FFM. Those that consented to be contacted were then emailed the “Pre-Interview” survey.

Pre-Interview Survey: Prior to participating in interviews, participants completed a brief 17-item (5-10 minute) online survey on the platform Qualtrics. The survey asked questions regarding demographics and campus resource use. Also included was a modified version of the U.S. Household Food Security Survey Model (HFSSM) Six-Item Short Form. This validated survey was modified by the research team to describe a recall time frame of the “past semester” rather than the “past twelve

months” to ensure it captures short-term food security during the student’s time in school, as students' level of food access can vary greatly during their time outside of the typical school semester.⁹ The HFSSM contains six questions, some of which contain responses measured on a Likert scale of frequency with response options of “often true”, “sometimes true”, and “never true”. Other questions contain simple “yes” or “no” response options.¹⁰ At the end of the Pre-Interview survey, participants had the option to schedule a virtual interview. The full Pre-interview survey can be found in Appendix D.

Semi-Structured Interview: The semi-structured interview template was designed to inquire about participant experiences with the FFM and food access on campus. The research team developed the interview template along with the input from faculty and staff with expertise in food insecurity, food access and nutrition with college-aged students. The interview template addressed the following domains across six questions: types of food taken home from the market and how it is used, food resource management, need for nutrition education, and any additional resources participants would like to see included in the future. To assess produce use, a schematic was displayed during the interview depicting an example 25%, 50%, 75%, and 100% of a typical bag of produce that a participant would receive from the FFM in a given week. Participants were asked how much of their typical weekly FFM bag they ate, donated, and threw away. The research team conducted several rounds of pretesting of the interview template with a similar audience prior to beginning data collection. The full interview template can be found in Appendix E.



Data Collection

The Market Reach survey was distributed by FFM volunteers during the time of the market via QR code. Participants were asked to complete the Market Reach Survey while waiting in line for the FFM. Market Reach survey and Pre-interview survey data was collected through Qualtrics. With a goal of completing twenty-five interviews, multiple recruitment emails containing the Pre-Interview survey were sent to those who consented to be contacted over several weeks. Interviews were scheduled as recruited participants completed the Pre-interview survey until multiple recruitment efforts had been done and saturation was reached at twenty-three interviews. Participants were compensated with a \$25 dollar gift card for completing the survey and participating in the interview. The interviews occurred on Zoom and lasted for approximately twenty to thirty minutes. Three members of the research team conducted the interviews with participants including a nutrition faculty member, graduate student research assistant, and undergraduate student research assistant. The interview audio files were de-identified prior to transcription and verified through Zoom and backup recording methods such as iPhone voice memo recording and a digital voice recorder. Interviews were transcribed by the researcher and a trained undergraduate research assistant from January-February 2023.

Data Analysis

Descriptive statistics of the participants were analyzed from both the Market Reach survey and Pre-interview survey responses through Qualtrics. In the Market Reach Survey program acceptability data was only analyzed from those who reported being repeat users, as those who reported being first time users would not yet have used the FFM at the time of taking the survey, because it was taken by participants while standing in line waiting for the FFM. In the Market Reach survey, responses to the two-item food security screener of “Often True” or “Sometimes True” were considered an affirmative response. An affirmative response on either item was considered to be positive for food insecurity. In the Pre-interview survey, responses to the HFSSM six-item questionnaire were analyzed using affirmative responses of “often true”, “sometimes true”, or “yes”. Zero to one affirmative responses indicate high or marginal food security, two to four affirmative responses indicate low food security, and five to six affirmative responses indicate very low food security.

A codebook that specifies each code name and definition was developed to analyze the interview data based on discussions with the research team as data was being collected. Codes were initially constructed deductively based on interview questions and initial research discussions surrounding responses that surfaced during the interviews.^{12,13} The interview transcripts were subjected to a thematic analysis using inductive and deductive approaches.¹⁴ Coders met weekly as transcripts are coded to identify any new codes that emerged throughout the coding process, apply these to previous transcripts, and discuss themes. A minimum of two independent coders are necessary to ensure intercoder reliability (ICR).¹⁵ Thus, two members of the