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GRADUATE STUDENT EXPERIENCES WITH FOOD INSECURITY

by

Melanie Ibarra

A Thesis

Submitted to the
Educational Services and Leadership
College of Education
In partial fulfillment of the requirement
For the degree of
Master of Arts in Higher Education
at
Rowan University
July 1, 2023

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Dedications

I first dedicate this thesis to the participants of this study. Your vulnerability, honesty, and willingness to share your experiences are not going unnoticed. Thank you dearly.

I also dedicate this study to all food-insecure higher education students. You are not going unnoticed as you continue to create strides through a system that creates barriers and tries to halt your success.

This study is also dedicated to current scholars, administrators, workers, and people continuing to fight against food insecurity and create equitable food access for all. Your dedication and work are not going unnoticed.

Acknowledgments

I would like to acknowledge my family, friends, and loved ones who have believed in me through and through. To my parents, Rebeca and Luis, thank you for your hard work, dedication, unconditional love, and support, te quiero mucho. To my sister Emily, thank you for supporting me through life and letting me talk your ear off, I love you and am proud to be your hermanita. To my best friends and my forever Floopy Goobers, thank you for your unconditional friendship through the many years, love you, girls. To Adam, thank you for your true tenderness and love, consistently believing in me when I did not believe in myself, I love you dearly. I am eternally grateful to Dr. Lezotte for your patience and un-wavered assistance. My thesis class, thank you for making this process a lot less lonely, I am proud of us! To everyone I have met within the SJICR, Dom, Tara, Candice, Alo, and Shirley thank you for supporting me and loving me, I appreciate you all. To the CPS within CHSS, Patrick & Dr. Fleming thank you for mentoring me and caring for my academic and professional development, increasing my awareness of the many resources and programs allowing me to pursue and finish my degree. Thank you to Dr. Dale for continuing to remember me and look out for me even after just taking 2 courses with you. And I would like to acknowledge my extended family, I love you all and am grateful for your support and love throughout my life.

I am no one without you all, thank you so much.

Abstract

Melanie Ibarra
GRADUATE STUDENT EXPERIENCES WITH FOOD INSECURITY
2022-2023

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Master of Arts in Higher Education

This research study aimed to examine and analyze food-insecure graduate student experiences at Rowan University. Graduate student experiences are often left out of current literature and this study was conducted to uncover and discuss how food insecurity affects this population and provide recommendations through nuanced food-insecure graduate student experiences. This study used a qualitative phenomenological approach including semi-structured interviews with five participants. A thematic analysis was used to categorize the findings of five themes: Stigma, Academic Engagement, Physical and Mental Health, Coping Mechanisms, and Food Resources. The findings of this study allowed for the transition into further recommendations for practice and research within Rowan University and other higher education institutions.

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Chapter 1

Introduction

Many college and university students across the United States are struggling to access adequate and nutritional food every day (El Zein et al., 2018). The U.S. Department of Agriculture (2022) characterizes a person as food secure if they survey in the “High Food Security” and “Marginal Food Security” range, and food insecure if they survey between, “Low Food Security,” and “Very Low Food Security.” Coffino et al. (2021) describes the prevalence of food insecurity among undergraduate students to be between 13% to 60%, surpassing the national average of 11.5%. However, undergraduate students are not the only ones experiencing food insecurity. Graduate students are also at increased risk for food insecurity because of greater financial responsibilities and fewer financial assistance opportunities (Coffino et al., 2021). Additional factors can also increase a student's likelihood of experiencing food insecurity. Demographic information such as race, ethnicity, housing status, and familial education can also be sources of increased risk of food insecurity (El Zein et al., 2019). Despite these recognized correlations, graduate students' experiences with food insecurity remain understudied (Coffino et al., 2021; Mallinson, 2020).

Statement of the Problem

Food insecurity is not an uncommon problem in the public sector, nor is it unseen on various college campuses. While some states and campuses are beginning to address the problem, students, especially graduate students, are commonly neglected both in research processes and through context-specific support systems (Sackey et al., 2021). As stated previously, graduate students can experience greater financial strain and in

conjunction undergo academic and health concerns (Coffino et al., 2021). These risks should pose a concern to higher education administrators and institutions. Further research states that current support systems implemented on campuses (such as food pantries) are not being used due to stigma and access concerns (El Zein et al., 2018). Higher education institutions must begin to develop contextual research on groups frequently underrepresented in current research such as graduate students and propose accessible and effective solutions for food insecure students.

Significance of the Problem

Food insecurity is a growing public health problem for college students (Payne-Sturges et al., 2018). An increasing number of studies have documented a high prevalence of food insecurity on college and university campuses across the United States, thus being associated with numerous poor health and academic outcomes (Raskind et al., 2019). The rate of food insecurity among college students is estimated to be approximately 43%; this is significantly higher than the national average of 11.1% of households (Reeder, 2020). Graduate students are an understudied population concerning their food security status; if they are included in a representative sample, it is usually to yield a sample of the entire campus (Mallinson, 2020). This research is aiding with understanding the gap in graduate student experiences with food insecurity, which in turn will assist higher education institutions with implementing adequate resources.

Purpose of the Study

The purpose of this qualitative study is to understand graduate student experiences with food insecurity at a public, predominantly white, medium-sized institution in suburban South Jersey. The Council of Graduate Schools (2021) reported

that U.S. graduate school applications increased nationally by 7.3% compared to the previous year. With increased graduate student enrollment and limited resources for food access within higher education institutions, this study will examine the experiences of graduate students and the effects of food insecurity. This study will expand on the current literature surrounding food insecurity and higher education and focus on graduate student livelihood, academic performance, well-being, and future recommendations for food assistance.

Assumptions and Limitations

The researcher assumes all participants provided truthful responses about their experiences with food insecurity. A limitation of this study includes limited representation among participants regarding the diversity of race, age, housing status, etc. This can hinder the understanding of student experiences from a diverse student population. Another limitation can be the number of participants in the study. The smaller population sample limited the data collected in understanding graduate student experiences. The results of this study at Rowan University may also not be generalizable to other institutions as food insecurity status and experiences are heavily dependent on various institutional and personal contexts.

Operational Definitions of Important Terms

There are four Measures when defining Food Security and Food Insecurity (U.S. Department of Agriculture, 2022).

1. High Food Security: there have been “no reported indications of food-access problems or limitations,” (USDA, 2022, n.p.).

2. Marginal Food Security: “one or two reported indications – typically of anxiety over food sufficiency or shortage of food in the house. Little or no indication of changes in diet or food intake,” (USDA, 2022, n.p.).
3. Low Food Security: “reports of reduced quality, variety, or desirability of diet. Little or no indication of reduced food intake” (USDA, 2022, n.p.).
4. Very Low Food Security: “reports of multiple indications of disrupted eating patterns and reduced food intake” (USDA, 2022, n.p.).

Research Questions

The graduate student experience regarding food insecurity is underrepresented in current research, and this study aims to provide answers to understanding this dilemma.

The research questions guiding this study are:

1. How do graduate students perceive food insecurity as affecting their academic performance?
2. How do graduate students perceive food insecurity influencing their mental and physical health?
3. How do graduate students cope when dealing with food insecurity?
4. What perceptions do food-insecure graduate students hold about food assistance resources?

Organization of Remaining Chapters of Study

Chapter 2 provides a review of the literature that includes information about food insecurity within higher education institutions including demographic information, and the repercussions of food insecurity. The stigma surrounding food access, coping mechanisms, and information on resource barriers are also included.

Chapter 3 explains the process and approach to the research study. This chapter gives an overview of who is the targeted population of this study, how this study will take place, how data will be collected during the study, and how the data will be analyzed.

Chapter 4 reflects the findings of this study through thematic structures of food insecurity among graduate students. It discusses the similarities and nuanced differences of graduate students' food insecure experiences uncovered through interviews with participants.

Chapter 5 contains the summary of the study and further discusses the relationship between previous literature and current study findings. Recommendations for practice and future research are also defined through the reflections of participant interviews and further findings. This chapter also contains the overall conclusion of the entire study.

Chapter 2

Review of the Literature

Language Context

Providing context for the inconsistent language used throughout this review, The U.S. Department of Agriculture (2022) provides 4 measurements when defining Food Security and Food Insecurity. Food Security includes, “High Food Security” and “Marginal Food Security.” High Food Security means that there have been “no reported indications of food-access problems or limitations.” Marginal Food Security is defined as “one or two reported indications – typically of anxiety over food sufficiency or shortage of food in the house. Little or no indication of changes in diet or food intake.” While Food Insecurity includes “Low Food Security” and “Very Low Food Security.” Low Food Security is defined as, “reports of reduced quality, variety, or desirability of diet. Little or no indication of reduced food intake.” Very Low Food Security is described as, “reports of multiple indications of disrupted eating patterns and reduced food intake.” Previous literature depending on the author uses either the general titles or subtitles to describe a student's range of food security/insecurity. This chapter synthesizes some of the prevalent literature on food insecurity, particularly among U.S. college students.

Food Insecurity in the United States

Food insecurity is not a new phenomenon in the United States. Over the past 20 years household food insecurity has affected between 10% to 15% of households nationwide (Reeder et al., 2022). About one-third of this population would be considered “Very Low Food Security” (Gundersen, 2013). Certain demographic information has correlated to a greater chance of experiencing food insecurity including race, age, and

household makeup (Reeder et al., 2022). In addition, home ownership and education level also affect the likelihood of one being food insecure (Gundersen, 2013). Food insecurity also leads to other effects such as poor mental health, poor physical health, and other negative outcomes (Reeder et al., 2022).

United States Food Insecurity Demographics

In 2021, 6.4% of U.S. households had low food security and 3.8% had very low food security (Coleman-Jensen et al., 2022). Food insecurity disproportionately affects members of underrepresented minority groups and low-income households (Larson & Story, 2011). Black and Hispanic households experience food insecurity at double the rate of those that are headed by non-Hispanic white people (Larson & Story, 2011). Rates of food insecurity in households with children was 12.5% which was higher than the national average in 2021 at 10.2% (Coleman-Jensen et al., 2022). Additionally, households without children are experiencing food insecurity at increasing rates (Balistreri, 2016). Coleman-Jensen et al., (2022) also states that households below the poverty line have higher rates of food insecurity.

Food insecurity also varies by location. This is due to various components such as availability, access, utilization, and stability (Janda et al., 2022). Access as defined by Janda et al., (2022) states, “Access consists of access to safe foods geographically and economically, and to culturally relevant foods.” Predominately low-income and minoritized communities had lower and limited food access than advantaged, non-Hispanic White communities (Beaulac et al., 2009). Low-income households in the United States with annual household incomes of less than \$20,000 are reported to shop at

grocery stores less frequently than households with incomes over \$20,000 (Lyonnais, et al., 2020).

United States Food Security Resources

There are two primary modes of food assistance in the United States including the federal Supplemental Nutrition Assistance Program (SNAP) and community-based food assistance resources including food pantries, soup kitchens, community gardens, etc. (Patterson et al., 2020). SNAP provides nutrition benefits and support for low-income individuals and families through state eligibility requirements (U.S. Department of Agriculture, 2023). SNAP helps about 45 million low-income Americans, nearly half of them children, pay for food each month. It also covers agricultural programs such as crop insurance and land-conservation measures (Bleich et al., 2017). In New Jersey, a household of one must make below \$2,096 a month to be eligible for SNAP benefits, while each additional household member includes an additional \$728 (New Jersey Department of Human Services, 2023). Community-based food resources, also described as charitable food assistance (CFA) by Fan et al., (2021), may serve as the sole food acquisition resource or a supplemental resource for those who are eligible for SNAP. Households with more children, lower levels of food security, lower income, and less access to a vehicle are more likely to use CFAs, as this is an important food security coping strategy for low-income households (Fan et al., 2021). Households and individual recipients of SNAP also use CFAs more often as their SNAP benefits fall. As found by Fan et al., (2021), 67.9% of CFA clients used CFA programs starting on day 11 or later since SNAP benefits were distributed to complement the use of SNAP.

Higher Education Food Insecurity Demographics

Food insecurity among college students affects all races and ethnicities. What has been found was that students who identify as African American, Black, other, or Hispanic/Latino are at higher rates and at greater risk of being or becoming food insecure regardless of the academic year (El Zein et al., 2019). Undergraduate students who receive the Pell Grant as a form of financial aid are also more likely to suffer from food insecurity (El Zein et al., 2018). Similarly, undergraduate and graduate students who receive general financial aid are at higher risk for marginal food security (Soldavini et al., 2019). Gains et al. (2014) also add that students who are financially independent or receive some sort of food assistance are at significantly greater risk for food insecurity. Thus, complementing these findings, students who receive financial support from home or their parents have greater protection against food insecurity (Payne-Sturges et al., 2017). El Zein et al. (2019) also found that students whose parents had a high school degree or less were also at greater odds of being food insecure. Understanding how these themes intersect is important because it uncovers the potential predictors of student food insecurity (Payne-Sturges et al., 2017).

Repercussions of Food Insecurity

Food insecurity affects students' health as well as their academic performance (Zein et al., 2019; Payne-Sturges et al., 2017; Henry, 2017). Zein et al., (2019) found that undergraduate students reported having poorer mental and physical health, including poorer sleep quality, disordered eating behavior, and greater perceived stress. Graduate students who had low food security were also found to have elevated levels of depression, anxiety, and stress (Coffino et al., 2020). What was found in both Zein et al.

(2019) and Henry (2017) was that students' academic performance declined as a result of food insecurity. Zein et al. (2019) found that students who considered themselves food insecure were more likely to have a lower GPA than those who were considered to be food secure.

In response to food insecurity and health, Henry (2017) mentioned that students reported a lack of energy and concentration resulting in missed classes and dropping grades. Students also reported financial difficulties relating to food insecurity and academic success, such as choosing between work or going to classes. Compromising other resources such as not paying certain bills to be able to pay for food also led to stress and declining health and academics (Henry, 2017). Food insecurity also resulted in a lack of participation in extracurricular and outside activities for students (Henry, 2017). Exercising, participating in clubs, social networking, and participating in leisurely activities were found to be difficult to manage for students who were deemed food insecure (Henry, 2017). Similar to students missing classes, work schedules interfered with being able to participate in activities because of the need for capital to buy groceries. Lack of energy because of lack of food was also a cause for decreased participation (Henry, 2017). The negative repercussions of food insecurity are important in understanding students' outcomes and the risk of degree incompleteness (Payne-Sturges et al., 2019).

Coping Mechanisms and Stigma

Students who are suffering from food insecurity may or may not have options when it comes to finding resources on campus. There is limited research on institutionally provided food resources and their effectiveness (Davis et al., 2018). Schools across the

U.S. are trying to establish food pantries, but the number of students who use those food pantries as a means of food access remains low. As studied at the University of Florida, 70% of students surveyed across all academic years knew about a food pantry on campus, but only about 15.6% of students used the pantry for its resources (El Zein et al., 2018). Out of all the students surveyed, about a third of students used the food pantry as a sole source of food acquisition. Students who were considered food insecure were also more likely to describe barriers when trying to use the food pantry. Those students described stigma and embarrassment as one of the highest barriers when trying to use the food pantry. The next barrier was insufficient information on eligibility or how to use the food pantry and inconvenient hours (El Zein et al., 2018). Similarly, Huelskamp et al. (2021) found that the largest number of students at a southeastern university said that employment would be the most helpful form of support and that a food pantry was one of the weakest forms of support. In contrast, as mentioned, students working while at risk of food insecurity affected their health and academic standing (Henry 2016).

SNAP and College Students

Overall SNAP enrollment has risen nationally, though many college students cannot apply for SNAP benefits because of policies that exclude them from eligibility (Dickinson, 2022). Eligibility includes enrolling more than half-time and meeting an exemption, which can include age, income, ability, or caregiver status (United States Department of Agriculture, 2023). Only 43% of college students who are eligible for SNAP are enrolled in the program, this may be due to the extensive eligibility policies, stigma, and politics of student's deservingness (Dickinson, 2022).

The benefits of SNAP on college campuses are also not well understood due to a lack of research, but as example, various University of California (UC) campuses work with their local counties and UC administration to provide students with support in eligibility inquiries and applying for SNAP also known as CalFresh in California (Loofbourrow et al., 2023). Loofbourrow et al. (2023) observed that SNAP (CalFresh) benefited students during uncertain times of food security such as during the beginning of the COVID-19 pandemic. It also served as a moderator for positive GPA outcomes despite increased food insecurity. As Dickinson, (2022) finds that their low student enrollment for SNAP benefits, Loofbourrow et al. (2023) conveys the importance of SNAP for college students and institutional support in navigating SNAP eligibility and application processes.

Conclusion

This chapter provides contextual language and literary background on food insecurity and focuses on the problem within higher education institutions. The research discussed the demographics of U.S. food insecurity as well as resources. The negative effects of food insecurity including academics, mental and physical health, coping mechanisms, and stigma were also described. College student use and barriers to food resources were included as well. Food insecurity among graduate students is an understudied population (Mallinson, 2020), in which this study will bring greater insight into the problem within that student population. The next chapter will describe my research design in detail.

Chapter 3

Methodology

This study was designed to acknowledge the experiences of graduate students struggling with food insecurity. The methodology was a qualitative research approach. This allowed for the greatest collection of experiences from this specific population of students. Using a phenomenological approach, semi-structured interviews were used to gain an understanding of students' experiences and challenges dealing with food access, what resources students are using on campus, and what future resources students might benefit from. The population for this research study was graduate students enrolled at Rowan University in Glassboro, New Jersey, during the 2022-2023 academic year.

The research questions that guided this study:

1. How do graduate students perceive food insecurity as affecting their academic performance?
2. How do graduate students perceive food insecurity influencing their mental and physical health?
3. How do graduate students cope when dealing with food insecurity?
4. What perceptions do food-insecure graduate students hold about food assistance resources?

Population & Sample

Rowan University's graduate student population for the 2022 – 2023 academic year was approximately 4,300 (Rowan University, 2022). The target population for this study was graduate students over the age of 18 who were enrolled in a graduate program

at Rowan University during the 2022-2023 academic year. Graduate programs include master's degree programs, professional degree programs, and doctoral degree programs.

Intake surveys were reviewed and categorized as *Food Secure* or *Food Insecure*. Students who self-identified as food insecure through the intake survey were able to participate in the interview portion of the research study. Participants were given informed consent before completing the intake survey as well as before I conducted semi-structured interviews.

Context of the Study

This study was conducted at Rowan University's main campus in Glassboro, New Jersey, and included Rowan School of Osteopathic Medicine (Rowan SOM) and Cooper Medical School of Rowan University (CMSRU). Rowan University is a public research institution in southern New Jersey, with a total population of about 22,000 students, both undergraduate and graduate students (Rowan University, 2022). Of the 22,000 students, there are about 4,300 graduate students. There are 48 master's degrees, two professional degrees, and nine doctoral degrees at Rowan University.

Rowan University has a few resources in place designated for food-insecure college students. The SHOP is Rowan University's on-campus food pantry and resource center. It is located on Rowan's main campus and offers free and confidential support services that can connect students with appropriate campus and community resources (Rowan University, 2023). Rowan University also has a Donated Meals Program, providing several meals each semester for students with demonstrated financial needs who are facing food insecurity on campus. This program provides a limited number of meal swipes to students and does not include Rowan Bucks or Dining Dollars. Rowan

Bucks and Dining Dollars are monetary funds stored on student accounts via a student's ID card that can be used on purchases on Rowan University campuses and at limited stores and restaurants in the surrounding community. Students must use all of the provided meal swipes to be able to make an additional request (Rowan University, 2023). Additionally, Rowan University has the Fresh for All Program, which provides free fresh fruits and vegetables to students and community members every Friday from 10 a.m. - 11 a.m. on Rowan's main Glassboro campus (Rowan University, 2023).

Methodological Approach and Design

This study used a qualitative phenomenological approach. The use of a qualitative study is appropriate for understanding the complexity of human emotions, thinking, and behavior (McMillan, 2016). This will allow graduate students to relay their experience with food insecurity in their own words and will provide this study with ample data to understand food insecurity among these students. A phenomenological study design "describes, clarifies, and interprets the everyday life experiences (what are called lived experiences) of participants to understand the "essence" of the experience as consciously perceived by and described by the participants" (McMillan, 2016, pg. 344). Using a qualitative phenomenological approach is an appropriate research method because it will allow me to gain a greater understanding of college student life experiences, specifically among food-insecure graduate students.

Semi-structured interviews were used to conduct this research and were transcribed to produce a textual transcript for analysis. Semi-structured interviews allow for important topics to be covered but also give respondents the freedom to elaborate on their experiences (McMillan, 2016).

Procedure

I utilized Rowan University Announcer as well as graduate student email lists from each respective college to email current Rowan University graduate students. This allowed students the opportunity to express their interest in participating in this study and participate in the intake survey portion before being contacted for an interview. Interested students were instructed to complete an intake survey that collected basic participant information as well as information on food security status through self-identification. The self-identified food security status portion included five survey questions used to assess food security status. No data collected from the intake survey were analyzed for this research study. It was only used to gauge eligibility criteria for interviews. To be eligible for the interview portion of this study students had to meet the following criteria:

- Currently enrolled at Rowan University in a graduate program
- Deemed Food Insecure, through an intake survey
- Adult (18 years or older)
- Willingness and interest to share their experiences

Graduate students who complete the initial survey and were deemed eligible through the status of *food insecure* were then invited to participate in virtual semi-structured interviews. The virtual interviews were semi-structured as mentioned previously and delved into the student's personal and academic experiences of being food insecure while being a graduate student at Rowan University. These interviews also allowed students the opportunity to express their lived experiences, difficulties, and coping strategies as well as resources they think would be helpful at Rowan University. Potential participants were informed that this is a voluntary study and that they have the

right to stop the interview at any time for whatever reason. A list of on-campus as well as community food resources was also given to interview participants post-interview.

Interview participants were also provided with a \$25 gift card for participating. Because incentives were limited and to reduce the possibility of skewed data, the incentive was not advertised in the intake survey but was offered to students who volunteered and completed an interview.

Data Collection

There is a limited amount of research conducted on graduate students experiencing food insecurity. This study utilized a qualitative phenomenological study approach to find important information on graduate student experiences dealing with food insecurity. This was an appropriate research method because it provided an understanding of an understudied population.

After approval from the Institutional Review Board, interviews were conducted virtually in one-on-one sessions. Semi-structured interviews were used to allow students to elaborate on their experiences while also granting me the opportunity to ask follow-up questions as well as receive further clarification if needed. Participants were interviewed for a minimum of 30 minutes or up to one hour and 30 minutes. Students selected a time for an interview and each interview was conducted through Zoom and recorded for transcription purposes.

Data Analysis

Student interviews were recorded for transcription and data was analyzed using standard qualitative data analysis techniques. I thoroughly identified themes, patterns, and relationships through textual coding (McMillan, 2016). Themes and patterns were

organized into groups and sections and then summarized. The research questions used for this study provided a foundation for uncovering findings through the data. All data found in this study were stored in a personal, locked computer, were only accessed by me, the researcher, and were destroyed upon study completion.

Chapter 4

Findings

Profile of the Population

The participants in these interviews were currently enrolled graduate students at Rowan University who were deemed food insecure through an eligibility survey. Through the eligibility survey, I was able to use judgment sampling methods in collecting participants for interviews. If the participants were deemed food insecure through my survey, I reached out to them for qualitative interviews. I used non-random sampling methods which allowed me to choose a “representative” sample of food-insecure graduate students (McMillan, 2016). Through Rowan University IRT I was able to gain access to the email list of all graduate students enrolled at Rowan University, totaling just over 4,400 students. All graduate students were sent an email asking to participate in the eligibility survey deeming food security status. Just under 250 graduate students completed the initial survey and 47 students stated they were interested in participating in a follow-up interview. Of those 47 survey respondents about 15 students were eligible to participate in a follow-up interview. This study gained a total of five participants in the follow-up qualitative interviews. Before beginning the interview, a verbal consent form was read to the participant which allowed me to record and transcribe the interview for a later transcription. Pseudonyms also known as fake names were created to protect the identity of the participants in this research study.

Analysis

A phenomenological approach was used during this qualitative study and a thematic analysis was used to uncover common patterns and themes within the data (Ryan & Bernard, 2003). Themes that were found throughout graduate student experiences included Stigma, Academic & Social Engagement, Mental & Physical Health, Coping Mechanisms, and Inadequate Food Resources. These five themes are pertinent to understanding graduate student experiences when struggling with food insecurity.

Stigma

Food insecurity and resource acquisition tend to be a topic or struggle many people keep private. Participants shared their experiences and thoughts about their food security status and the feeling of stigma or embarrassment tied to being food insecure and the use of food resources. All five participants recalled feeling the stigma of their food insecure status at some point during their current state of food insecurity. Two participants, Elle and Tavon, explained how the stigma of their food insecure status intertwines with gender. Elle, a master's student, explains the feeling she and her husband felt when coming to terms with their food insecure status, "We, for a really long time, like didn't want to, like, I guess, admit to people that we were struggling." Elle further goes on to talk about traditional gender roles and how they have played into the stigma and worry about the perceptions of others knowing their food insecurity status. Elle states:

There's that but there's just the stigma, I think, falls as a family, but a lot on a husband it's like, society says he should be providing, he should be working a

nine to five, he should be you know, exhausted when he comes home from work, you know. I should be making dinner when we come home, like, you know, all the stereotypical stuff. But like, none of that is reality. And so, you don't ever want to come off like he's not providing like that. I don't want anybody to think that. Me saying that I'm not able to afford, you know, a full grocery list or better food, I don't want anybody to think that. Because he's doing his best he's doing the things that he can. So, I think there's fear in that.

Elle describes her fear further. Stating that she worries about how her family, especially her father, would react if they found out about her and her husband's food and financial insecurity. The worry she has stems from her father and how he might view her husband because of society's traditional gender roles. Will her father view her husband as an inadequate "provider" in the household because of their food and financial insecurity? She explains that her family might be extremely supportive and have no negative feelings but, the stigma surrounding food insecurity especially as a married couple, brings about her feelings of worry.

Similarly, Tavon, a first-year doctoral student describes the stigma he has had to face as a single father providing for his family, and how he has to navigate being food insecure and feeding his children: "I think the stigma for my kids, though, was a big fight. Because for me, I'm 38, and I was like, listen, it is what is. For them, it was just like, oh my god, we don't want this food like can we just go to the market?" When I followed up with Tavon on how being a single father plays into the stigma, he unpacks the social and cultural norms of fatherhood as a Black single father and how it has played

a role in his perception of himself and his ability to provide food for himself and his children:

I think culturally, right, I think being Black, I think there are some generational norms that you adopt, right? Like those masculinity politics of like, you are a man, and this is what you're supposed to do. You know, you're a dad, and this is what that means. I do think they come into play often, in my mind, I don't think my kids feel that way. I just think they're like, you're my parent, and you're supposed to eat. But I think for me, it is just kind of like you're a man and you're supposed to provide for your family, and not being able to do so. Is kind of shaming, right? Um, I don't often feel that way, though, because I'm always able to provide at least for my kids. But I do think there have been times yes. Where I've been like, this is hard. I'm not doing a good job. Like I should be able to, you know, give them this and I can't. But yeah, my kids are good. They don't make me feel like it. I'm sure they talk about it, just not where I'm at.

The social and cultural norms of what it means to be “a man” and a “provider” were prevalent nuances in participants feeling the stigma surrounding their food insecure status. In addition, one participant shared the feeling of stigmatization and use of food resources was tied to her hometown and how others perceive people from her town due to it being a lower-income neighborhood. Lorena, a first-year master’s student described how the stigma she feels is tied to her hometown Newark, NJ:

I think for me, specifically, being from the city of Newark, you already felt that stigma of like, well, you’re already used to getting handed stuff. Because ideally in Newark, a lot of, if not, I think a good 70 to 74% of the families that live there

live off of food stamps, EBT and SNAP. So, they're given groceries, right? And people have this idea of like, well you're from this place where you're given these things, or you've had these outlets where you're given things and you don't understand how it is to work hard.

She then goes on to describe how that perception of people from Newark and the stigma of being food insecure makes her reluctant to be open to some people about her academic scholarship and food insecurity:

Especially if people find out that I don't pay for my schooling. Like, for the majority of my academics, like people really have had some sort of like pity in a sense, because you're getting funded to go to school. So, on top of that, being food insecure like, you're like a charity case sometimes, if that makes any sense. And literally, like, I've been told that I've been a charity case, because I'm from Newark, and I got into school because they want to diversify Rowan's campus.

The stigma of how others will perceive a person who is food insecure tends to be a major theme followed by shame or embarrassment in their struggle. The miseducation and false perceptions of others also seemed to fuel the stigma participants faced when coming to terms with their food insecure status.

Academic and Social Engagement

Participants shared their experiences with academic and social engagement while food insecure. Most participants stated that their food insecure status has not affected their academic performance in terms of grade or credit acquisition. All participants stated that they were doing very well in school but their food insecure status has decreased their ability to do their schoolwork or be active in other extracurricular activities. Elle states:

I value education a lot, but it definitely still plays into like certain moments where I'm like, yeah, no, I just don't want to. There's also the side of like, sometimes there's been times where we have like, realized that like, we don't really have the money to like, grab something quick for dinner, even just like something cheap. And so sometimes we'll go and we'll DoorDash to get extra money, even if it's 20 bucks in like an hour or so that allows us to get some fast food on the way. And so that indirectly affects academic progress because it's time away from when I could be doing schoolwork, but the necessity at that moment is that I need to go get something to eat like we have to eat dinner. And so instead of doing schoolwork, I go do the thing that will get me extra funds to then, you know, get the food.

Another participant Milagros, a second-year master's student stated:

I don't know if it (food insecurity) has affected my academic performance. But there are times where I would have like to be further involved with some of like the University's programs like attending certain events. And I can't always do that because I have to prioritize accessing food.

Limited finances, which are a precursor to being food insecure, play a large role in the ability to keep up with academics. Additionally, having limited access to food might not directly affect all student grades but can definitely cause other stressors leading to limited time focus on academics or decreased ability to pursue extracurriculars. While participants did not mention lower grade points due to their food insecure status, food insecurity can definitely affect a student's participation and academic focus.

Mental & Physical Health

Food insecurity can affect a student's mental and physical health. Participants shared the ways that their food insecure status has affected them both mentally and physically and how the two can be interconnected. Milagros shares her experience on how her hunger and mental state intertwine:

One of the things that I have noticed is my perception of hunger is really off. Because, like, sometimes I go through a day, and it's the end of the day, and I'm like, oh, I didn't eat, like all I had was water. It's just like forgetting. And then, I've noticed that like, oh, I may push through the hunger and then, I won't feel it anymore. And then like, I won't realize I'm hungry unless my stomach is literally growling. And then, it comes to the point where my body may be physically hungry, but I don't have the motivation to eat. So, then I have to force myself to just munch on something to get my appetite going.

Lorena shares her experience on how food insecurity affects her mental state as well as her physical health as someone who has experienced weight loss surgery:

Like I said, feeling very overwhelmed. Because for example, like my bill like, I'm worrying about paying my bill for school, and actually getting groceries for myself. And then on top of that is just like the simple fact that for example, like I had weight loss surgery, and I'm open about it. So, I have to make sure that I have to be eating little stuff, most of the time. So, me forgetting to eat, is just like, my vitamins go down and I have to take supplements.

Limited access to food and limited financial resources affects students' perceptions of hunger. As Milagros and Lorena mentioned, little appetite or forgetting to

eat was a big issue within their mental and physical wellness. Being subject to and continuously eating decreased or smaller meals has an adverse effect on bodily hunger and function. Participants have undergone long periods of decreased food availability that their body and mind no longer long for adequate food intake.

Another student, Shreya, a second-year master's student as well as an international student, described her decreased mental health due to not being able to access traditional foods from her home country of India:

Emotionally? Yes, it has. Like food insecurity and also the kinds of food that you eat. Like when I mentioned I'm an international student, I couldn't get a chance to eat the kind of food I was used to eating so that affected my emotional well-being.

I used to miss the food from home, and I used to miss back home.

Shreya also continued with how her limited food access affected her physical well-being, by stating "Physical well-being was like, sometimes I ate just to fill myself up and I didn't even care if this food is like, you know, had has good calories or not. Is it healthy or not? I just ate it to fill myself." Limited resources and access to food affects graduate student well-being both mentally and physically. All students mentioned that receiving adequate financial and food resources for all students could have a positive effect on their mental and physical wellness.

Coping Mechanisms

How do students deal with their food insecure status? Students may have limited support systems and limited access to adequate resources but some students find support through others who understand their experience. Participants shared their own mechanisms for coping with food insecurity. Elle and Lorena both described coping with

their food insecure status by sharing their experiences with loved ones. Elle stated that she and her husband cope with their food insecure status together. One way she describes is changing their food even slightly which creates a sense of variety in their meals:

I guess like, a way to cope with it is like, sure, we only can have, you know, we make an abundance of pasta and we eat it for three days straight, but maybe he'll like try to like to kind of cope with it. Like, he'll try to like jazz it up. So maybe like, it's just regular spaghetti noodles but, if you keep on playing, you can kind of like almost make it like a lo mein, if you add the spices and things like that. A big thing that we'll do is we'll make like a big pot of like white rice. But using leftover rice to make fried rice is better than just trying to make it plain rice.

Elle goes on to describe how being able to have each other is another way to cope with their food insecurity. Lorena had similar coping mechanisms. When asked the same question about how she copes with her food insecure status. Lorena states:

I feel like it actually made one of my friendships closer because like, she's also from a marginalized city and also has certain health restrictions the university can't give her. So, I remember this one time we had this conversation, because she was like, honestly, like, I haven't been eating because eating something from school is gonna make me even more sick than I am. That's like, the first time we were really really open about something that was like, beyond passing. Like how we are mentally, and emotionally. And like, that's a real thing. I think that kind of stepped up to her even being more vocal about it to like her other friends. And like just growing that community of people who like could talk about it and know you're not the only one who's going through it. You're not the only one that's

going at night hungry and just thinking damn like I had nothing to eat the entire day.

Lorena described that sense of community. It has caused her to be more open and vocal about her food insecure status among her friends and others. Being able to talk about food insecurity with others who understand the struggle has allowed students to feel supported and seen.

Inadequate Food Resources

When participants were asked about what food resources were available to them on campus, some knew of a variety of resources and have used them. Shreya for example has used Rowan University's The SHOP or on-campus food pantry very frequently. But, she describes the struggle in finding certain food items and spices she uses in most of her everyday foods which have led her to have to go off campus in search of the nearest Indian grocery store which she states "is not close to here." Shreya does not have a car which creates an even bigger barrier when in need of groceries. When asked about how that makes her feel she stated, "Yeah, it's frustrating. It's more frustrating when you know, when you know, you're running low on things. And then you have to decide the day, which time, and which day others are going so that I can go with them." Lorena's response was similar in wanting greater food diversity in The SHOP:

At least for me, like as a Latina, I'm not asking for like, expensive Goya or Iberia products but like, more of like that distinction than just getting Goya beans, if I was able to make recipes from back home where I could make myself a pot of arroz con glandules, like those little things.

Shreya further explains that she usually goes grocery shopping with friends who have been a great support, but reexamines the culture shock when first coming to the U.S. When asked about what resources the university provided her with when first coming to Rowan University she described that most of her information about where to get groceries and what food options are available came from talking with other international students:

So I was mostly with other international students, I was mostly with the people who are like from my region. So, somewhere, we all discussed about this, we all discussed about what are the areas here where we can go and do food shopping, and then we also talked about how the Indian store is not close to here. So, we all used to make plans that, okay, three or four of us could go together, share cab money, go there, get the food, get the resources that we need, and come back like that. So that was like the situation in the beginning.

Similarly, Milagros describes using The SHOP frequently as well as Rowan University's Fresh for All which distributes fresh produce to students and community members every Friday. Though these resources have been of assistance to her, other resources are not as satisfactory. Milagros describes the underwhelming response from an administrator when reaching out for assistance through Rowan University's Donated Meals Program, a program that allows students to apply for donated meal swipes that can be used for campus dining:

In the past, I was referred to the donated meals program. So, I was given meal swipes that way once and when I like tried to reapply for that, um, the response was, "Is this out of convenience?" Like the response was, "All right, we have to

meet to make sure that like this isn't something out of convenience, that you actually need this.” So that just put me in, like, in a weird spot.

We discussed further the response from the administrator, and she expressed how reaching out for help takes a lot of courage. Students should feel supported rather than discouraged to seek assistance in times of need, especially for necessities like food and financial resources.

I asked participants what resources they think Rowan University could implement to better adequately support graduate students struggling with food insecurity. Some participants including Lorena expressed that they believe the university is doing good in terms of making resources available, “I’m gonna be honest, I feel like Rowan actually has done a really good job when it comes to food insecurity.” But when asked about what resources could be implemented, all participants thought of ways Rowan University could assist graduate students more adequately. Shreya and Lorena expressed their need and desire for greater diversity in food and ingredients at The SHOP. Elle also expressed the possibility of increased evening hours due to graduate students having many late-night classes. Milagros called for increased administrative support for resources such as the Rowan University community garden as well as increased education and destigmatization of using food resources and redirecting the conversation to include knowledge about food waste and conservation. Tavon voiced the possibility of a separate graduate student email announcer, allowing for more focused information about graduate students and the resources available for them. Tavon also emphasized the importance of data collection as he shared his experience of taking surveys in undergrad surrounding needs and resources.

While Rowan University is making progress to curb the ongoing food insecurity within its student population, more can be done. As expressed by participants, greater cultural diversity in food resources, increased education for both administration and students, and more streamlined advertising could normalize the conversation surrounding food insecurity and make students more comfortable in seeking assistance.

Chapter 5

Summary, Discussion, Recommendations, and Conclusions

Summary of the Study

Food insecurity affects many people including college and university students. This study focused on the experiences of food-insecure graduate students at Rowan University because of the lack of research surrounding the graduate student population. It aimed to uncover how food insecurity affects graduate student academia, health, and participants' perceptions of stigma and resource acquisition. This study also focused on the adequacy of Rowan University resources and proposed support resources for food-insecure graduate students.

Five participants who were deemed food insecure by an eligibility survey were interviewed for this study. The survey was shared through email to all graduate students within Rowan University's main campus, School of Osteopathic Medicine, and Cooper Medical School of Rowan University. When deemed eligible and if participants were interested in a follow-up interview, they were contacted via email to schedule an interview session. All interviews were conducted through Zoom and transcribed for analysis, codes and themes were used to organize findings. Indirect and direct quotes were used from the interviews to magnify real student perceptions and experiences with food insecurity, allowing the reader to gain authentic information from those experiencing this struggle.

Discussion of Findings

This study was able to support previous literature within the literature review surrounding the effects and experiences of food-insecure students within higher education. While the

literature review focused on general food insecurity and undergraduate food insecurity, graduate students face similar effects and negative experiences when dealing with food insecurity.

Regarding academic performance, while not directly affected in terms of grade and credit acquisition, food insecurity was a barrier to participating in extracurriculars and school assignment materials. Participants are faced with economic barriers; this barrier is one reason participants need to acquire food resources and/or work longer hours. As in Henry (2017), participants also expressed the necessity of working longer or odd hours and the impact that has on academic engagement. The need to work long hours takes time away from being able to participate in desired extracurricular activities or takes away time in completing coursework. This stressor, while not directly affecting participants' grades within this study, certainly limits academic engagement and can have adverse effects on the academic performance of other graduate students.

Physical and mental health was affected by food insecurity among graduate student participants. Participants shared how food insecurity has made them lack the feeling of hunger and mentally unaware of their hunger. Disordered eating habits were an effect of being food insecure (Zein et al., 2019). Participants mentioned that they would "forget to eat," and shared that because their dysfunctional eating would sometimes force themselves to eat just to fuel their body. International students also have more complex nuances because of the lack of food from their culture and home country. The lack of diversity and representation of food and food resources within the institution and the surrounding community caused negative feelings and a longing for home. The

interconnectedness of food insecurity's effect on graduate student mental and physical health are important in distinguishing ways to support graduate student success.

The stigma surrounding food insecurity was shared by all participants. Supporting El Zein et al., (2018), feelings of shame, worry, and coming to terms with their food insecurity status were all ways in which the negative stigma attached to food insecurity manifested. Participants felt shame and worry based on firstly being food insecure but described nuances through the complexities of gender and race within the stigma surrounding food insecurity. Societal expectations as a man and as a Black man were discussed in participant answers when asked about the stigma attached to their food insecure status. Generalized perceptions about people from certain towns and demographics also played into the stigma felt by participants. How others would perceive a financially and food insecure man or a person from a marginalized low-income community affected how participants saw themselves and their food insecure status. It also affected how open and honest they are with possible support systems and acquiring food resources.

Participants shared their coping mechanisms for dealing with their food insecurity. This study found that students use other students, friends, and partners as a way to cope with their food insecure status. Feeling a sense of community was extremely important for participants to feel hopeful about their situation and allowed them to be more open about their struggle with food insecurity. What was also found was that participants may also use creative cooking methods to “change” the food they are eating. Creating pasta into a lo mein or white rice into fried rice allowed for students to feel a sense of food freedom. El Zein et al. (2018) mentioned that students use food pantries

available through their institution. Likewise, participants in this study mentioned their use of institutional resources. Rowan's The SHOP was a resource most participants used; other resources were also used but not as consistent as the on-campus food pantry.

Participants also had many ideas for future resources Rowan University could implement to combat the epidemic of food insecurity among graduate students and undergraduate students alike. Participants mentioned including diverse products in The SHOP which would make it more adequately accessible for culturally diverse and international students who cannot get traditional products at local grocery stores. Also mentioned were increased hours and evening hours, making it more accessible for graduate students who usually have evening classes. Similarly, El Zein et al. (2018), included inaccessible hours as a barrier for students using institutional food pantries. An increase in administrative knowledge, and competency, regarding food insecurity would be essential in student support especially when students reach out to use institutional resources. Rowan University shifting the conversation of food insecurity to include normalized discussion and educating students on food and waste conservation would also be beneficial to lessen the stigma and increase education throughout the Rowan community.

Recommendations for Practice

Study participants have included ideas for resources on Rowan University's campus to assist in food security for food-insecure graduate students and the Rowan community alike. Recommendations are as follows:

1. Making The SHOP more accessible and increasing healthy and inclusive food products within the SHOP and throughout Rowan's food options. Currently, The

SHOP does not have widely accessible hours for most graduate students. Having evening hours of operation and even weekend hours may allow graduate students to access this resource more easily. The SHOP should also increase fresh food options as well as culturally diverse food products and spices. Students may be able to obtain products from their respective cultures and feel a sense of home away from home. This allows students from culturally diverse backgrounds, including international students, to be able to feel represented through the foods and products available to them. Students would not have to spend time, energy, and money to find and pay for these products outside of the campus community, as one student recalled spending a considerably large amount of money on Uber rides to and from the Indian store to find adequate food products. This recommendation can increase accessibility and availability which can further assist students financially and emotionally.

2. Provide additional shuttle bus stops and locations through the Shopping Shuttle.

Shuttles to nearby cultural food stores such as Latin, Indian, African, and Asian food stores can serve many students including international students whose food products might not be easily accessible at the nearest local grocery or big box stores, thus, accommodating any dietary and cultural food needs. Providing additional shuttles and shuttle-stops also serves as transportation to these stores for students, including international students who might not have any means of transportation. Increasing shuttle stops may also curb the fear students may have of taking the shuttle and having to walk home. One student recalled being afraid to take the shopping shuttle due to the late-night hours and distance of the shuttle drop-off to her home. If the shopping shuttle had similar stops to the internal campus shuttle, more students might

- be willing to use it as a resource as it would stop closer to their residence. This can also help with accessibility issues for those who might not be able to carry groceries and other items bought at a very far distance.
3. Create other sustainable food programs for students to use. This can include end-of-the-day meal donations. Rowan University, like many other institutions with large food services, throws away copious amounts of food left over at the end of every day. Allowing students to come into the cafeterias regardless of a meal plan to take the leftover food can be a great way to create less food waste and also keep students from going hungry. This potential late-night meal program can also allow graduate students to be able to participate as most graduate student courses take place in the evening. Most participants stated limited accessibility due to ineffective hours as being a barrier to using most campus-wide resources.
 4. Increase administration and faculty's knowledge and competency surrounding the topic of institutional food insecurity. Students should not be worried about how the administration and faculty will respond to their outreach for help. Administration and faculty should be aware of the magnitude of food-insecure students on campus and should be equipped with the tools to respond to and support students. Training and proactive outreach and assistance should be within the administration and faculty's toolbox. No student should be met with hostility or inappropriate responses when asking for help surrounding academics, emotions, food, and essential resources.
 5. Destigmatizing food security status and resource acquisition. In addition to educating administration and faculty on the subject of institutional food insecurity, students should be educated alongside. Students facing food insecurity should be comfortable

to freely discuss their food security status and needs without the fear of judgment from peers. Educating students on the subject of food insecurity and making data on how prevalent it is public, can help destigmatize the topic throughout the campus community. Students may feel empowered to openly discuss their food security status as well as mobilize to find ways to support one another. Another outcome of educating the Rowan community will be students might not feel as embarrassed or worried to use the resources available to them. Rowan University could also host open forums allowing students to voice their concerns and ideas for resolving the epidemic of food insecurity throughout the campus.

Recommendations for Future Research

Recommendations for future research on food-insecure graduate students can include narrowing the population focus on specific identities or demographics. Narrowing down the population for further study can increasingly highlight specific nuances of how certain identity labels and demographics play a role in experiencing food insecurity. Race, ethnicity, citizenship/immigration status, age, and housing status are a few identity labels that could narrow down further research populations. Furthermore, I suggest including institutions within urban or rural areas. Distance from a grocery store and other institutional resources may point to other graduate student experiences with food insecurity.

Conclusions

Rowan University is not exempt from its graduate students facing food insecurity. Food insecurity can have many effects on student life experiences including academic and social engagement and mental and physical health. Food insecurity also has a

negative stigma attached to it, causing graduate students to feel shame and embarrassment and overall affect their perception of themselves. Graduate students have found support from one another and people close to them to find community in the shared experience of dealing with food insecurity.

Institutions should look at this community and increase knowledge both at the administrative and student level. This can open up doors for conversations surrounding the problem, and divert the negative stigma attached to being food insecure or using food security resources. This will allow for the increase in adequate and equitable resources that graduate students may benefit from as well as ways to combat and eradicate food insecurity on the respective campus.

References

- Balistreri K. S. (2016). A decade of change: Measuring the extent, depth, and severity of food insecurity. *Journal of family and economic issues*, 37(3), 373–382. <https://doi.org/10.1007/s10834-016-9500-9>
- Beaulac, J., Kristjansson, E., & Cummins, S. (2009). A systematic review of food deserts, 1966-2007. *Preventing chronic disease*, 6(3), A105.
- Bleich, Sara, Rimm, Eric & Brownell, Kelly. (2017). U.S. nutrition assistance, 2018 - modifying SNAP to promote population health. *New England Journal of Medicine*, 376, 1205-1207. <https://doi.org/10.1056/NEJMp1613222>
- Coffino, J. A., Spoor, S. P., Drach, R. D., & Hormes, J. M. (2021). Food insecurity among graduate students: prevalence and association with depression, anxiety and stress. *Public Health Nutrition*, 24(7), 1889-1894. 10.1017/S1368980020002001
- Coleman-Jensen, Rabbitt, M., Gregory, C., & Singh, A. (2022). Household food security in the United States in 2021. *Amber Waves*.
- Council of Graduate Schools Issues Report Entitled 'Graduate Enrollment and Degrees: 2010 to 2020'. (2021). *Targeted News Service* <https://search.proquest.com/docview/2597718208>
- Davis, H., Sisson, S.B., & Clifton, S. (2021). A call for evidence to support food security interventions on college campuses. *Journal of American College Health*, 69:6, 693-695, DOI: 10.1080/07448481.2019.1705829
- Dickinson, M. (2022). SNAP, campus food insecurity, and the politics of deservingness. *Agric Hum Values* 39, 605–616. <https://doi-org.ezproxy.rowan.edu/10.1007/s10460-021-10273-3>
- El Zein, A., Mathews, A. E., House, L., & Shelnett, K. P. (2018). Why are hungry college students not seeking help? Predictors of and barriers to using an on-campus food pantry. *Nutrients*, 10(9), n/a. <http://dx.doi.org/10.3390/nu10091163>
- El Zein, A., Shelnett, K. P., Colby, S., Vilaro, M. J., Zhou, W., Greene, G., Olfert, M. D., Riggsbee, K., Jesse Stabile Morrell, & Mathews, A. E. (2019). Prevalence and correlates of food insecurity among U.S. college students: a multi-institutional study. *BMC Public Health*, 19, n/a. <http://dx.doi.org/10.1186/s12889-019-6943-6>
- Fan, Gundersen, C., Baylis, K., & Saksena, M. (2021). The use of charitable food assistance among low-income households in the United States. *Journal of the Academy of Nutrition and Dietetics*, 121(1), 27–35. <https://doi.org/10.1016/j.jand.2020.07.026>
- Gaines, A., Robb, C. A., Knol, L. L., & Sickler, S. (2014). Examining the role of financial factors, resources and skills in predicting food security status among college students. *International Journal of Consumer Studies*, 38(4), 374-384. 10.1111/ijcs.12110

- Gundersen, C. (2013). Food insecurity is an ongoing national concern. *Advances in Nutrition*, 4(1), 36-41. 10.3945/an.112.003244
- Henry, L. (2017). Understanding food insecurity among college students: experience, motivation, and local solutions. *Annals of Anthropological Practice*, 41(1), 6-19. 10.1111/napa.12108
- Huelskamp, A., Waity, J., & Russell, J. (2021). Effects of campus food insecurity on obesogenic behaviors in college students. *Journal of American College Health*, 69(5), 572-575. 10.1080/07448481.2019.1684298
- Janda, K. M., Ranjit, N., Salvo, D., Hoelscher, D. M., Nielsen, A., Casnovsky, J., & van den Berg, A. (2022). Examining geographic food access, food insecurity, and urbanicity among diverse, low-income participants in Austin, Texas. *International Journal of Environmental Research and Public Health*, 19(9), 5108. <https://doi.org/10.3390/ijerph19095108>
- Larson, N.I. & Story, M. T. (2011). Food insecurity and weight status among U.S. children and families: A review of the literature. *American Journal of Preventive Medicine*, 40(2), 166–173. <https://doi.org/10.1016/j.amepre.2010.10.028>
- Loofbourrow, B. M., Jones, A. M., Martinez, S. M., Kemp, L. C., George, G. L., & Scherr, R. E. (2023). Understanding the role of calfresh participation and food insecurity on academic outcomes among college students during the covid-19 pandemic. *Nutrients*, 15(4), NA. <https://link-gale-com.ezproxy.rowan.edu/apps/doc/A743253998/AONE?u=rowan&sid=bookmark-AONE&xid=391ae62c>
- Lyonnais, M. J., Rafferty, A. P., Pitts, S. J., Blanchard, R. J., & Kaur, A. P. (2020). Examining shopping patterns, use of food-related resources, and proposed solutions to improve healthy food access among food insecure and food secure eastern North Carolina residents. *International Journal of Environmental Research and Public Health*, 17(10), 3361. doi:<https://doi.org/10.3390/ijerph17103361>
- Mallinson, D. J. (2020). Food insecurity among public administration graduate students. *Teaching Public Administration*, 39(1), 67-83. 10.1177/0144739420935964
- McMillan, J. (2016). *Fundamentals of educational research* (7th ed.). Pearson.
- New Jersey Department of Human Services. (2023). Who is Eligible for SNAP?. *NJ SNAP* . <https://www.nj.gov/humanservices/njsnap/apply/eligibility/>
- Payne-Sturges, D. C., Tjaden, A., Caldeira, K. M., Vincent, K. B., & Arria, A. M. (2018). Student hunger on campus: food insecurity among college students and implications for academic institutions. *American Journal of Health Promotion*, 32(2), 349-354. 10.1177/0890117117719620

- Patterson, J. G., Russomanno, J., & Jabson Tree, J.,M. (2020). Sexual orientation disparities in food insecurity and food assistance use in U.S. adult women: National health and nutrition examination survey, 2005–2014. *BMC Public Health*, 20, 1-11. doi:<https://doi.org/10.1186/s12889-020-09261-9>
- Raskind, I. G., Haardörfer, R., & Berg, C. J. (2019). Food insecurity, psychosocial health and academic performance among college and university students in Georgia, USA. *Public Health Nutrition*, 22(3), 476-485. doi:<https://doi.org/10.1017/S1368980018003439>
- Reeder N, Tapanee P, Persell A, Tolar-Peterson T. Food insecurity, depression, and Race: correlations observed among college students at a university in the Southeastern United States. (2020). *International Journal of Environmental Research and Public Health*, 17(21):8268. <https://doi.org/10.3390/ijerph17218268>
- Reeder, N., Tolar-Peterson, T., Bailey, R. H., Cheng, W., & Evans Jr, M. W. (2022). Food insecurity and depression among US adults: NHANES 2005–2016. *Nutrients*, 14(15), 3081. doi:<https://doi.org/10.3390/nu14153081>
- Rowan University. (2023). The Shop. <https://sites.rowan.edu/theshop/>
- Rowan University. (2022). Facts at a glance. *Fast Facts / Rowan University*. <https://sites.rowan.edu/fastfacts/>
- Ryan, G. W., & Bernard, H. R. (2003). Techniques to identify themes. *SAGE Publications*. 10.1177/1525822x02239569
- Sackey, J. D., Pike, K., Rothpletz-Puglia, P., Brody, R., Touger-Decker, R. (2021). Food insecurity among health sciences graduate students at a large northeastern university. *Journal of Nutrition Education and Behavior*, 53 (5), 428-433. Fada.1-s2.0-S1499404620307077-main10.1016/j.jneb.2020.11.003
- Soldavini, J., Berner, M., & Da Silva, J. (2019). Rates of and characteristics associated with food insecurity differ among undergraduate and graduate students at a large public university in the Southeast United States. *Preventive Medicine Reports*, 14, 100836. <https://doi.org/10.1016/j.pmedr.2019.100836>
- U.S. Department of Agriculture. (2023). Students. *Food and Nutrition Service U.S. Department of Agriculture*. <https://www.fns.usda.gov/snap/students>
- U.S. Department of Agriculture. (2022). Food security in the U.S. *USDA Economic Research Service*. <https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-u-s/>

Appendix
IRB Approval Letter



DHHS Federal Wide Assurance Identifier: FWA00007111
Rowan IORG/IRB: Glassboro/CMSRU
IRB Chair Person: Dr. Ane Johnson
IRB Director: Eric Gregory
Effective Date: January 18, 2023

Notice of Approval - Initial

Study ID: PRO-2022-286
Title: Graduate Student Food Insecurity
Principal Investigator: Stephanie Lezotte
Study Coordinator: Melanie Ibarra
Co-Investigator(s): Melanie Ibarra
Sponsor: Internal

Submission Type: Initial
Submission Status: Approved

Approval Date: January 18, 2023
Expiration Date: January 17, 2024
Approval Cycle: 12 months
Continuation Review Required: Yes
Closure Required: Yes

Review Type: Expedited
Expedited Category: 6. Collection of data from voice, video, digital, or image recordings made for research purposes.
7. Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

Pregnant Women, Human Fetus, and Neonates Code: N/A
Pediatric/Children Code: N/A
Prisoner(s) – Biomedical or Behavioral: N/A

ALL APPROVED INVESTIGATOR(S) MUST COMPLY WITH THE FOLLOWING:

1. Conduct the research in accordance with the protocol, applicable laws and regulations, and the principles of research ethics as set forth in the Belmont Report.
- 2a. Continuing Review: Approval is valid until the protocol expiration date shown above. To avoid lapses in approval, submit a continuation application at least eight weeks before the study expiration date.
- 2b. Progress Report: Approval is valid until the protocol expiration date shown above. To avoid lapses, an annual progress report is required at least 21 days prior to the expiration date.
- 3a. Expiration of IRB Approval: If IRB approval expires, effective the date of expiration and until the continuing review approval is issued: All research activities must stop unless the IRB finds that it is in the best interest of individual subjects to continue. (This determination shall be based on a separate written request from the PI to the IRB.) No new subjects may be enrolled and no samples/charts/surveys may be collected, reviewed, and/or analyzed.
- 3b. Human Subjects Research Training: Proper training in the conduct of human subjects research must be current and not expired. It is the responsibility of the Principal Investigator and the investigator to complete training when expired. Any modifications and renewals will not be approved until training is not expired and current.
4. Amendments/Modifications/Revisions: If you wish to change any aspect of this study after the approval date mentioned in this letter, including but not limited to, study procedures, consent form(s), investigators, advertisements, the protocol document, investigator drug brochure, or accrual goals, you are required to obtain IRB review and approval prior to implementation of these changes unless necessary to eliminate apparent immediate hazards to subjects. This policy is also applicable to progress reports.
5. Unanticipated Problems: Unanticipated problems involving risk to subjects or others must be reported to the IRB Office (45 CFR 46, 21 CFR 312, 812) as required, in the appropriate time as specified in the attachment online at: <https://research.rowan.edu/officeofresearch/compliance/irb/index.html>
6. Protocol Deviations and Violations: Deviations from/violations of the approved study protocol must be reported to the IRB Office (45 CFR 46, 21 CFR 312, 812) as required, in the appropriate time as specified in the attachment online at: <https://research.rowan.edu/officeofresearch/compliance/irb/index.html>
7. Consent/Assent: The IRB has reviewed and approved the consent and/or assent process, waiver and/or alteration described in this protocol as required by 45 CFR 46 and 21 CFR 50, 56, (if FDA regulated research). Only the versions of the documents included in the approved process may be used to document informed consent and/or assent of study subjects; each subject must receive a copy of the approved form(s); and a copy of each signed form must be filed in a secure place in the subject's medical/patient/research record.
8. Completion of Study: Notify the IRB when your study has been completed or stopped for any reason. Neither study closure by the sponsor nor the investigator removes the obligation for submission of timely continuing review application, progress report or final report.
9. The Investigator(s) did not participate in the review, discussion, or vote of this protocol.
10. Research protocol and study documentation and instruments is approved as of the Approval Date on this letter. All final approved versions of the study documentation, including but not limited to the protocol, advertisements and recruitment instruments, pre-screening instruments, surveys, interviews, scripts, data collection documents, all manner of consent forms, and all other documentation attached to this submission are approved for final use by the investigators up to the expiration date listed above (Expiration Date) in this letter.
11. Letter Comments: There are no additional comments.
12. **NJDOH Approved Studies:** IRB approval granted per the Data Use Agreement. Upon receipt of the fully executed Data Use Agreement (DUA) from NJDOH, the Principal Investigator is responsible for ensuring an electronic, fully signed DUA is emailed to the Rowan University IRB.

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