A STUDY OF A ONE WORLD EVERYBODY EATS CAFÉ AND HOW IT AFFECTS FOOD INSECURITY AND A SENSE OF COMMUNITY IN COLLEGE STUDENTS

by

Lori A. Borchers

Bachelor of Science, Nursing, 1991
The University of Kansas
Lawrence, Kansas

Master of Science, Nursing 1997
Georgia State University
Atlanta, Georgia

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DEDICATION

To Mom and Dad, you always packed a cooler of food for me to take back to KU after a visit home. You understood about food insecurity, long before there were people doing dissertations on the subject.

To Joann, thank you for the many times you talked with me about my parents. You always told me that people are never really gone if someone still remembers them. I hope you've met up with my parents and all of you are enjoying having a beer or a glass of wine, sitting by the lake, and listening to your song.

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ABSTRACT

A STUDY OF A ONE WORLD EVERYBODY EATS CAFÉ AND HOW IT AFFECTS FOOD INSECURITY AND A SENSE OF COMMUNITY COLLEGE STUDENTS

by

Lori A. Borchers

Doctor of Education, 2021, Texas Christian University

Don Mills, Ed.D., Distinguished Professor of Educational Leadership

For more than a decade, food insecurity rates among college students at all kinds of institutions have been higher than that of the general population of the United States. Far from simply being hungry, food insecure students feel shame and stigma because of their predicament, often withdrawing from social life with food secure friends. Ultimately their studies suffer, and colleges become concerned not just because of their academic performance, but because these food insecure students become more likely to withdraw for the college altogether.

This dissertation examines the impact of a One World Everyone Eats café on the food insecurity of college students. While food pantries and other methods exist to distribute food to college students, the One World Everyone Eats café follows a philosophy of seven core values. Among these values is that people who eat at the café pay only what they can afford for a meal, volunteers contribute time and labor to run the café, and the community is encouraged to work and dine. In this way, people who are food secure and food insecure cannot be readily distinguished from each other in the café. This kind of welcoming environment, forming a distinct community within the café, can serve to erase the isolation and stigma that food insecure students feel. Surveys show the value that students place on both the food they receive at the café

as well as the sense of community that the develop from eating and volunteering at the café. The results of this study provide a basis for more research at other cafés and eating establishments, and provide possible approaches for college administrators to alleviate food insecurity among their students.

CHAPTER ONE: INTRODUCTION

Being able to attend college is a dream many students have had since they were small children. Visions of what campus life will be like are often idealistic. Prospective students imagine themselves attending classes, meeting new friends, and attending campus events like sporting events. The vision that the students create for themselves is often one-sided with only the more interesting or positive aspects of college in sight. The reality of figuring out how to pay for everyday living expenses such as food and housing rarely enters the prospective students' minds until they get to campus. The realities of college expenses have far outpaced what even a working college student can afford and affect not just the idealized vision of college, but academic performance itself (Cady, 2016; Goldrick-Rab, Broton, et al., 2015). From 1980 to 2004, the cost of tuition increased an average of 7% each year, which far out-paced the Consumer Price Index (CPI) for food and energy components (Bundick & Pollard, 2019). Beginning in 2005, however, the cost of tuition stabilized to approximately a 2% annual increase (Bundick & Pollard, 2019). Since the great recession of 2008, states have drastically cut back funding for public universities (Clelan & Kofoed, 2017; Mitchell et al., 2016). When states cut back funding, the public university confronts two options: either raise revenue (usually through an increase in tuition) or cut spending. Therefore, even with modestly rising college costs, students are finding it harder to afford college (Webber, 2017). If they can pay the tuition, books, and other fees, that often leaves very little money for basic needs such as food and housing (Mortensen, 2014). Private colleges are also not immune to problems with funding. Over the last two decades private colleges have continued to raise tuition, matching or exceeding percentage increases in public college tuition (Ma et al., 2019). In the last decade, compared to the general

population's homelessness and food insecurity rate, college students have had a huge increase in both numbers. (Gundersen & Ziliak, 2015).

One of the consequences of rising college costs is increased food insecurity among college students. Freudenberg, Goldrick-Rab, et al. (2019) summarized how the present economics of college have contributed to the problem of food insecurity and coined the phrase the "new economics of college" (p. 1652). Freudenberg, Goldrick-Rab et al. (2019) believe five trends have driven the rise in food insecurity among college students. The first trend is more non-traditional students are entering college including students from lower income families. The second trend is that college has become more expensive in the last 30 years. The third trend is that the Pell Grant has not kept pace with the demands of increased students and college costs. The fourth trend is minimum wages have not kept pace with inflation, therefore making it harder to pay for college by working while attending school. The fifth trend shows that colleges have decreased funding for higher education.

Food insecurity has been a well-documented problem on college campus for approximately the last ten years. Chaparro et al. (2009) published one of the first studies on food insecurity which found that at the University of Hawaii, 21% of students were food insecure and 24% of students were at risk for food insecurity. Since that study was published, different studies have shown similar results at other public universities ranging from 14% to 59% (Patton-Lopez, 2014; Morris et al., 2016; Gaines et al., 2014; el Zein et al., 2019; Miller et al., 2019). Private universities and community colleges are not immune to the student food insecurity problem.

Community colleges seem to have higher rates of food insecurity compared to 4-year public universities. Their rates range from 39% to 56% (Maroto et al., 2015; Freudenberg, Manzo, et al., 2011; O'Neill, 2019).

Private universities also have students who are affected by food insecurity. Food insecurity impacts social behavior and academic achievement. Allen and Alleman (2019) found that students who were food insecure were less likely to participate in social and academic activities which resulted in exclusion for those students. Hickey et al. (2019) found that students' academic and athletic performance suffered as a result of hunger.

The literature on food insecurity on college campuses is clear. Food insecurity is a problem and it affects a large portion of the student body regardless of the college setting.

Sense of community is a phrase that is often used by colleges to describe student life. However, it is more than a catch phrase. There are different definitions of sense of community but for this study I will use "a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that member's needs will be met through their commitment to be together" (McMillan & Chavis, 1986, p 9).

Colleges often want to promote a psychological sense of community among their students (McDonald, 2002; Spitzberg & Thorndike, 1992). This has many benefits for the college, one of those benefits is student retention. McCarthy et al. (1990) found that interventions to help students improved a students' sense of community. Berger (1997) found that positive outcomes for students were associated with high levels of psychological sense of community. Jacobs and Archie (2008) found that sense of community had a significant positive influence on a student's intent to return.

Colleges have consistently strived to increase a students' sense of community. This concern about improving sense of community has led to a variety of studies that involve researching sense of community. Devlin et al., (2008) and Bronkema and Bowman (2017) researched sense of community related to residence hall designs. Both studies found improved

sense of community in designs that encouraged students to leave their rooms and interact with other students in common areas. Breunig et al. (2010) found that a significant increase in sense of community among students as a result of participation in outdoor pursuit trips. Hutson et al. (2012) found that outdoor education programs often involve a feeling of "getting back to basics" including the need for participants to work together to travel safely, manage through poor weather and physical challenges, find shelter, and prepare food. Phipps et al. (2015) found that intramural sports activities provided a sense of community for freshman and sophomore students. This effect was reduced for juniors and seniors because they had found other means to satisfy their sense of community. Foli et al (2013) found that sense of community was improved among nursing students by interaction with peers and their community. Students also felt an increase of sense of community when they had opportunities to benefit themselves and the community and when they were able to share common interest and values. Berryhill and Bee (2007) reported that demographic variables, Big Five personality characteristics and involvement in campus life are variables that have predicted higher levels of psychological sense of community. The common thread that comes through all of these research studies and that is student interaction with others is an important driver for improved psychological sense of community.

The community café offers the potential to reduce student food insecurity while providing student involvement for an improved sense of community. Community cafes, or pay-what-you-can restaurants, operate under a variety of philosophies and guidelines. For this study, however, I will specifically examine only One World Everybody Eats (OWEE) cafés (https://www.oneworldeverybodyeats.org). The OWEE cafes included in this study operate under a uniform set of guidelines which ensures consistency between each café. The cafes offer

the student a chance to pay-what-they-can afford for a meal and the opportunity to volunteer to serve others.

I am presenting dissertation research of which there will be five chapters. Chapter 1 will in broad terms describe the issue of food insecurity on college campuses and present background information on student psychological sense of community. A brief description of the community café will be given. I will then provide a succinct problem statement, purpose, and research questions, followed by a description of the significance that food insecurity has on the students and why this is an important issue for colleges to address. This is followed by definitions for this research effort, and a description of the Sense of Community Ecological Framework. Chapter 2 provides a more detailed description of food insecurity, its prevalence across an array of colleges and universities throughout the United States, and the problems that can result from student food insecurity. It provides an overview of how colleges are attempting to address this issue and describes the pay-what-you-can café as another possible solution, and as a means of providing the benefit of a sense of community. Chapter 3 describes the methods this project will use for gathering data about students who patronize a pay-what-you-can café as well as the students who volunteer to work there. This includes both the survey form for determining the level of food insecurity for a student and the survey for measuring their sense of community. Chapter 4 will be the results from conducting these surveys on a college campus. Chapter 5 will discuss the results and provide recommendations for future research.

Statement of the Problem

Food insecurity is a well-documented problem on college campuses (Goldrick-Rab, Baker-Smith et al., 2019; Bruening et al., 2017). The lack of nutritious food impacts student achievement. This means students have less learning, reduced grades, and an increased chance of dropping out of college without earning a degree (Goldrick-Rab, Broton, et al., 2015; Cady,

2016). As food-insecure students cannot take full advantage of the opportunities that college offers, the money from families and financial aid is wasted. Surveys indicate 30-40% of the student population are food insecure (Bruening et al., 2017). The high percentage of food insecure students is a possible threat to not only students but the success of the college as well. .

Very little research has documented the impact of community cafes on food insecurity. In my search I have been unable to locate studies that have addressed if a community café can aid in affecting food insecurity and sense of community among undergraduate students. However, researchers have started to call for campus administrators to be creative in their problem-solving initiatives when dealing with food insecurity issues. In particular, these scholars are encouraging universities to work with community partners to develop solutions to food insecurity. Cady (2014) states "Actions taken once an assessment is completed may vary from linking food insecure students into existing community programs to developing human services embedded within the college or university" (p. 269). Abu and Oldewage-Theron (2019) recommend "university administration should recognize and leverage the fact that addressing campus food insecurity contributes to addressing food insecurity in the larger community. Students are part of communities, thus innovative funding approaches should involve public and private community partners" (p. 751). Regan (2020) stated "research will need to continue to bring together the institution, the individual, and the interventions … to understand how these efforts are ameliorating material insecurity among students." (p. 10). Camelo and Elliott (2019) state "universities are situated within broader communities and should collaborate with existing programs, such as grassroots food movements and local government programs" (p. 315). Henry (2017) called for "assessment and evaluation of local solutions to food insecurity among college students" (p. 17). A community café, often called a pay-what-you-can café as it lets the person

dining pay what he or she can afford, is a local, community-based means of providing meals to those who are food insecure. Linking food insecure students to this means of obtaining meals would be one solution that should be researched. An added benefit of the pay-what-you-can concept is that food insecure students would be indistinguishable from others in the café who could not pay the full price of a restaurant meal. As Morris et al (2016) notes, "erasing the stigma surrounding the students in need of food assistance and providing support for those striving to get an education is paramount" (p. 381). The students would not have any stigma attached to their inability to pay for a meal, as expectations for them are no different than those in the community who choose to dine at the café.

Research that has been done related to sense of community has been focused on campus living, campus activities, and adjustment to college (Bronkema & Bowman, 2017; Devlin, et al. 2008; Walker & Raval, 2017). In addition, sense of community research has also focused on specific groups of students such as first-generation, ethnic groups, and commuter students (Williams & Ferrari, 2015; Berryhill & Bee, 2007; Wiseman, et al. 2004). Calls for future research include examining social interactions and how that relates to sense of community.

Sriram et al., (2020) noted that "researchers can investigate to what extent social interactions influence academic interactions…"(p. 605). Jacobs and Archie (2008) cite the "need for future studies that will be able to identify additional factors that can positively influence sense of community" (p. 284). Brown and Burdsal (2012) "The relationship of sense of community to student satisfaction should be explored to understand how sense of community may influence the college student experience in various ways" (p. 447). While there is not a direct call for research about sense of community related to a community café, it is clear that future research is needed on the impact of social interactions on sense of community for students.

Purpose of the Research

The purpose of this study is to determine if a community café affects college students' food insecurity and college students' sense of community when eating at or volunteering at a community café. This research will address the unexplored combination of how a community café can simultaneously address student food insecurity and students' sense of community. This research will contribute to the literature on students' food insecurity and students' sense of community.

Research Questions

How does a community café affect a college student's food security?

How does a college student's sense of community change when eating or volunteering at a pay-what-you-can café?

Significance of the Study

While I have been unable to locate specific calls for additional research related to pay-what-you-can cafes and food insecurity among college students, I have found several studies that call for additional research or promote solutions which align with the guidelines of the OWEE community café.

Cady (2014) calls for linking the result of food insecurity assessments to existing community programs or developing new programs which should be embedded within the college or university. Chen, Clayton, and Palmer (2015) note that food security is a community issue, not just an individual issue. Accordingly, the real solution to food insecurity involves not just giving food to those that are hungry, but addressing access to food in a sustainable fashion that considers community needs and the local economy. This mirrors the OWEE value which allows for a community-led approach to solving food insecurity. This research project, therefore, will

document one link between the food insecurity of students and how the community café offers both food and a place for interaction between students and the community.

An OWEE cafe, allows guests to pay what they can afford for a meal. No guest is turned away if they are unable to pay for a meal. A community café provides a model of addressing food insecurity, but with the flexibility for it to be tailored to draw from local food resources and local volunteer labor. Its place on or near a campus allows it to be tailored to suit the population and, therefore, can serve both food-secure and food-insecure guests. It would allow food-insecure students to dine with others without standing out as being in need. This study should provide the first look at determining if the community café does in fact provide community inclusion for the food-insecure students.

Given the lack of research data on the impact of community cafés on food insecurity and sense of community, the measurable data from this study would allow campus administrators and café operators to judge for the first time how much impact this kind of café has on its local community.

Definition of Terms

Community Café – Also known as a Pay-What-You-Can restaurant, patrons pay what they can afford for a meal. No patron is turned away if unable to pay for a meal. Some community cafes are members of the One World Everybody Eats (OWEE) network of community cafes.

Food Insecurity - The United States Department of Agriculture (USDA) defines food security as "access by all people at all times to enough food for an active, healthy life" (Coleman-Jensen et al., 2019, p. 2). The determinant of food insecurity is if "households were, at

times, unable to acquire adequate food for one or more household members because they had insufficient money and other resources for food" (Coleman-Jensen et al., 2019, p. 6).

Food Security Survey Module (FSSM) – A survey developed by the United States Department of Agriculture that consists of a series of questions that determines the food security of a respondent's household.

One World Everybody Eats (OWEE) - A network of pay-what-you-can community cafes (One World Everybody Eats, 2020). These cafes operate under seven core principles. The first principle is the cafes are run as a social enterprise. The primary goal is to feed all people. The second principle is guests can choose to pay what they can afford. This makes the café open to all people regardless of their ability to pay. The third principle is that guests can choose what they want to eat, and the portion size. This helps to reduce food waste and promote equal treatment among all patrons. The fourth principle is that everyone is welcome. Those in need and those wanting to help are invited to the restaurant. Many cafes have a community table where patrons of any means can sit together and enjoy a meal. The fifth principle is providing space for community. OWEE envisions each community coming together to develop a community-led approach to food security. The sixth principle is opportunity to volunteer. Volunteers are used to the widest extent possible, allowing for more scratch-made recipes, which in turn reduce food costs. The seventh principle is excellent food. These cafes believe everyone should have access to healthy and nutritious food. The cafes make a consistent effort to offer locally grown and sustainably raised or caught ingredients. Purchasing food locally keeps communities stronger.

Psychological Sense of Community Scale - The Psychological Sense of Community Scale (Jason et al., 2015) measures an individual's sense of community from an ecological

perspective. It consists of nine Likert statements that are grouped together in three groups, macrosystem, microsystem, and self/individual system.

Assumptions

One assumption is the community café that will be the subject of the study will be following the OWEE core principles. Another assumption is that the students who go to the community café will be there either to eat a meal or volunteer to work at the café. Additionally, it is assumed that the students have no impediments to visiting the café, and that the café will be in operation over the course of its stated hours of business.

Even though this is a mixed-methods study there are some philosophical assumptions that will be made. Creswell and Poth (2018) describe the epistemological approach with "researchers trying to get as close as possible to the participants being studied" (p.21). This approach applies in this study, because we want to learn how the students feel regarding their sense of community, including belongingness and inclusion.

Theoretical Framework

Two theoretical frameworks guide this study. A food security framework will be described first. A description of the psychological sense of community framework will follow.

Food Security Theoretical Framework

Scanlan (2003) described seven different theoretical perspectives on explaining food security theory. These perspectives include: neo-Malthusian, human ecology, modernization, dependency/world system, urbanization, social stratification, and militarization. Of these seven theoretical perspectives, urbanization and social stratification are the most applicable to communities in the United States. Urbanization theoretical perspective reflects that development favors the economic elites in urban areas. This leaves rural areas at a disadvantage and unable to participate in decisions that affect the food system and distribution of wealth. Social stratification

theory includes poverty, race, class, and gender which all contribute to barriers of access to food and distribution. Both the urbanization and social stratification theory perspectives are addressed when describing community food security.

Fisher (2002) identified six principles with which to structure community food security efforts. The first principle was focus on food needs of low-income communities. The second principle was broad goals. This includes focusing on community development and the environment. The emphasis was placed on preserving community farming and limiting harm to the environment. The third principle focuses on community, not just for the production of food but also its distribution. The fourth principle concerns self-reliance rather than emergency food relief. The fifth principle relates to local agriculture, making it a community-responsive food system. It emphasizes the importance of meeting farmers' needs and developing stronger ties between farmers and consumers. The last principle draws on diverse inputs from both individuals and agencies.

Based on these principles, Hamm and Bellows (2003) defined community food security as "a situation in which all community residents obtain a safe, culturally acceptable, nutritionally adequate diet through a sustainable food system that maximizes community self-reliance and social justice" (p. 37).

These perspectives on food security attempt to address not just the hunger of individuals, but instead draw upon the strength of a community to address the food security of that community. The pay-what-you-can café is but one localized solution to hunger. Likewise, One World Everyone Eats (OWEE) cafés are but individual locales that feed the hungry, but their seven operating principles align themselves with the principles that Fisher (2002) presented. In

this respect, the OWEE cafes attempt to provide a locally supported, sustainable, and environmentally compatible solution toward food security.

Pay-what-you-can restaurants are gaining in popularity (Judkis, 2017; Kaplan, 2015). The most well-known principle of this movement is that patrons pay what they can afford; no one will be turned away if they are unable to pay for a meal.

A wide variety of restaurants could operate under the pay-what-you-can principle, including for-profit restaurants in a limited fashion. One World Everybody Eats (OWEE), however, is a network consisting of a subset of these pay-what-you-can community cafes. These cafes operate under seven core principles (One World Everybody Eats, 2020). The first principle is the cafes are run as a social enterprise. The primary goal is to feed all people. The second principle is patrons can choose to pay what they can afford. This makes the café open to all people regardless of their ability to pay. The third principle is that guests can choose what they want to eat, and the portion size. This helps to reduce food waste and promote equal treatment among all patrons. The fourth principle is that everyone is welcome. Those in need and those wanting to help are invited to the restaurant. Many cafes have a community table where patrons of any means can sit together and enjoy a meal. The fifth principle is providing space for community. OWEE envisions each community coming together to develop a community-led approach to food security. The sixth principle is opportunity to volunteer. Volunteers are used to the widest extent possible, allowing for more scratch-made recipes, which in turn reduce food costs. The seventh principle is excellent food. These cafes believe everyone should have access to healthy and nutritious food. The cafes make a consistent effort to offer locally grown and sustainably raised or caught ingredients. Purchasing food locally keeps communities stronger.

Psychological Sense of Community Theoretical Framework

Understanding human interaction is complex because it relates to both self and environment. Sarason was the first to propose a psychological sense of community, defined as "the perception of similarity to others, an acknowledged interdependence with others, a willingness to maintain this interdependence by giving to or doing for others what one expects from them, the feeling that one is part of a larger dependable and stable structure (Sarason, 1974, p. 157)." Approximately 10 years later, McMillan and Chavis (1986) produced a more practical definition of sense of community that contains four elements. The researchers defined sense of community as "a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that member's needs will be met through their commitment to be together" (McMillan & Chavis, 1986, p 9). McMillan and Chavis (1986) identified the following four elements that constitute a sense of community:

> Our proposed definition has four elements. The first element is membership. Membership is the feeling of belonging or of sharing a sense of personal relatedness. The second element is influence, a sense of mattering, of making a difference to a group and of the group mattering to its members. The third element is reinforcement: integration and fulfillment of needs. This is the feeling that members' needs will be met by the resources received through their membership in the group. The last element is shared emotional connection, the commitment and belief that members have shared and will share history, common places, time together, and similar experiences. (p. 9)

Campus administrators have been encouraged to promote a psychological sense of community among the student body to promote academic success and student retention. McCarthy et al. (1990) found that:

> Interventions to prevent or decrease burnout should not only focus on individual students (i.e., improving their coping skills) but should also include students' college community. In particular, this study suggests that physical, social, and organizational structures that affect students' experience of Need Fulfillment and Shared Emotional Connection should be investigated (p. 215).

Beyond academics, the psychological sense of community is important for deeper social interactions among students. Siriam, et. al. (2020) notes that:

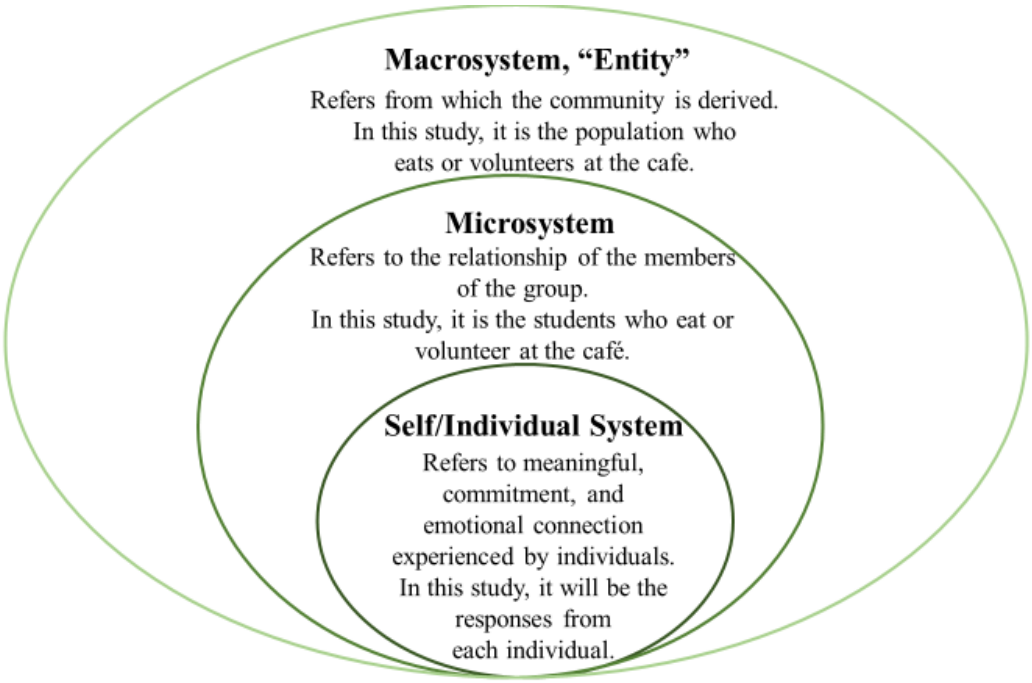
> Peer mentors, resident assistants, peer tutors, peer orientation leaders, and similar leadership roles can help connect students to one another. Those connections that could be categorized as purely social are also important for students' psychological sense of community. Such social connections may be the necessary precursors to deeper life interactions. Social interactions among students are important in and of themselves, but they could also be helpful in laying the groundwork for deeper life interactions among students. Students connect on a social level or a deeper level with frequent interactions; therefore, higher education leaders could reflect on how to create smaller communities on their campuses that would foster repeated encounters among students. (p. 604)

The pay-what-you-can restaurant could provide one of those smaller communities for student interaction, especially for students who have self-segregated because of food insecurity.

The four elements that make up the proposed definition of sense of community (McMillan and Chavis, 1986) are helpful in understanding what someone might feel as part of a community, however, there are different levels of community to which an individual might belong that need to be considered. Using Ecological Systems Theory, Bronfenbrenner (1979) looked at environmental influences in a hierarchical sense. Jason et al. (2015) used the concept of Bronfenbrenner's theory, in combination with Sarason' s theory, to develop a three-factor psychological sense of community scale. Figure 1.1 shows the application of this ecological system framework to the community café. The influences of the broad community of those who eat and volunteer at the community café, their relationships of the individuals in that community to each other, and what that means to individual students are illustrated in this linked fashion. Surveys of the students will show if the items in this framework contribute to their sense of community.

Figure 1.1

Community Café Ecological Framework



Summary

Food insecurity has been a growing problem on college campuses in the United States, ultimately affecting the physical and mental well-being of students and playing a role in reduced numbers of students graduating. Food insecurity can also impact a students' sense of community. This study will measure the impact of an OWEE community café on both food insecurity and sense of community for college students who either eat or volunteer at one. This study will provide data about the impact of the OWEE community café on students who volunteer and eat the cafe, which could benefit other researchers and university administrators as they attempt to find ways to address food insecurity and improve a student's sense of community.

CHAPTER TWO: LITERATURE REVIEW

This chapter will introduce the definition of food insecurity and how the United States government measures it. Data on food insecurity in the general population and on college campuses follow. The effects of being food insecure while in college will be addressed. An Ecological Systems Theory will be presented. I will present a description of the community café which operates on seven core values.

Food Insecurity in the United States

The Federal Government's first attempt to address hunger in the United States came in 1933 as part of the Agriculture Adjustment Act during the Great Depression (Caswell & Yaktine, 2013). The government bought crops farmers could not sell and distributed them among hunger relief agencies. In 1943, this program ended and the efforts by the federal government to address both hunger and agriculture no longer continued because of the economic boom associated with World War II. In the 1960s, the government began to address hunger and agriculture overproduction in the United States and started the food stamp program. Anyone could buy the stamps but low-income buyers could receive additional, free food stamps. Under these circumstances, the government's first priority was to help the agricultural industry, and addressing hunger was a secondary concern.

In the 1970s, the purchase requirement was discontinued and instead eligibility requirements were put in place to allow only low-income individuals to participate. In the early 80s there were cuts in the program which resulted in a subsequent rise of hunger in the United States (Caswell & Yaktine, 2013).

The food stamp program continued to evolve. In the late 80s some funding was restored and additional changes were made in the early 2000s to combat fraud and increase eligibility to

qualified immigrants and children. The program went from stamps to an electronic benefit card. In 2008, the food stamp program changed to the Supplemental Nutrition Assistance Program (SNAP).

Hunger is often thought of as an invisible issue. Because the United States is a first-world, prosperous country that exports food, it is often easy to deny that there might be citizens with food insecurity issues. The United States government is one of only two governments (the other, Australia) that has not passed a resolution regarding the Right to Food (Chilton & Rose, 2009).

Food insecurity still exists in the United States despite localized and national efforts. Even though there are federal programs aimed at helping with food insecurity, the problem still exists because it fails to be a priority for the majority of people in the United States.

The United States Department of Agriculture (USDA) defines food security as "access by all people at all times to enough food for an active, healthy life" (Coleman-Jensen et al., 2019, p. 2). Food insecurity is defined as "households were, at times, unable to acquire adequate food for one or more household members because they had insufficient money and other resources for food" (Coleman-Jensen et al., 2019, p. 6).

The government measures food insecurity rates on an annual basis. The Economic Research Service (ERS) of the USDA uses the Food Security Supplement to the Current Population Survey (CPS) to collect these data. The CPS includes "about 50,000 households and is representative, at state and national levels, of the civilian, non-institutionalized population of the United States" (Coleman-Jensen et al., 2019, p. 2). The Food Security Survey Module (FSSM) is a series of questions that determines the food security of the respondent's household. The number of questions is determined by the kind of household that is answering the survey. If

the household has children, then they will complete the 18-item survey. If the household has only adults, then a ten-item FSSM (FSSM-10) can be used. If completing either of these surveys is burdensome for the respondent, a surveyor can use a six-item FSSM. The FSSM categorizes each household as either food secure (high food security or marginal food security), or food insecure (low food security or very low food security) (Coleman-Jensen et al., 2019).

In 2019, the prevalence of food insecurity in the United States was 10.5% (Coleman-Jensen et al., 2020). This was a decline and matched the pre-recession, 2007 level. More than one in ten citizens in the United States is food insecure, yet the food insecurity rate among college students is four in ten students (Bruening, et al., 2017; Nazmi et al., 2019).

Researchers have called for additional research on food insecurity among college students as well as actions to address hunger. Bruening et al. (2017) stated:

> More research is needed among representative samples to understand which students are at greatest risk of FI, and to understand how FI changes over time. Studies with rigorously designed interventions are needed so that resources can be targeted to the interventions most effective at improving rates of FI. (p. 1789)

Researchers are also calling for creative ways that help address food insecurity. “Higher education institutions must assess and, if present, acknowledge the problem of food insecurity among college students and take creative policy and programmatic steps to mitigate its consequences” (Nazmi, et al. 2019).

Food Insecurity on College Campuses

This section will cite papers which show that food insecurity affects students at all categories of universities. While studies covered a variety of institutions, food insecurity appears to impact students based more on their economic status and background rather than the characteristics of the school they attend. An extensive nationwide survey is conducted annually

on this topic and it shows that food insecurity is a prevalent problem (Goldrick-Rab, Baker-Smith, et al., 2019).

Over the last decade, a number of studies show widespread food insecurity among college students in the United States (Bruening et al., 2017; El Zein et al., 2011, Freudenberg, Manzo et al., 2011; Goldrick-Rabb, Baker-Smith et al., 2019; Morris et al., 2016; Nazmi et al., 2019). Critics point out, however, that some of these studies have a low response rate, and therefore are not representative of the student population that they are attempting to measure (A. Coleman-Jensen, personal communication, February 25, 2020). Nikolaus et al. (2019) noted that food insecurity estimates for college are inconsistent across a range studies because some surveyed students over a 12-month period versus a nine-month or shorter time frame, and frequently students were misclassified between low and very low food insecurity. Nonetheless, the results still indicated that college student food insecurity is an important issue and when compared to the general population continues to be much higher. Nazmi et al. (2019) conducted a systematic literature review on the prevalence of food insecurity among college students. The researchers found eight studies that met their inclusion criteria, which included studies using the USDA FSSM. The unweighted mean food insecurity prevalence was 43.5% across all the studies. The researchers acknowledged their findings were significantly higher than the general population. Lastly, some researchers questioned the applicability of the survey tool for a college student population. Nikolaus et al. (2019) found college students appear to answer the questions on the FSSM questionnaire differently than the general population. The researchers were unable to determine why there is variation among college students' answers compared to the general population. The researchers recommended additional qualitative studies to determine how food insecurity is assessed for college students. Even though critics have these concerns, anecdotal

evidence, such as the increase in the number of food pantries on college campuses since 2012, indicates increased need for affordable food options for students (College and University Food Bank Alliance, 2020). The surveys that are cited below show the prevalence of food insecurity, use the FSSM in an acceptable manner, and use a large enough sample of students to show the prevalence of food insecurity on their campus.

Four-Year Public Universities

Food insecurity on college campuses is a relatively recent phenomenon. The first published study of this phenomenon was Chaparro et al. (2009). In this study, they sampled non-freshman students (*n*=441) at the University of Hawaii. Chaparro et al. (2009) used the 10-item FSSM. Their results indicated that 21% of students were food insecure and 24% of students were at risk for food insecurity. Students who identified as Hawaiians and Pacific Islanders, Filipinos, and mixed race were all at an increased risk of food insecurity compared to Japanese students. Their results also indicated those students who lived on campus, or off campus with roommates were significantly more likely to be food insecure compared to students who lived with their parents or relatives. The authors theorized that since the students were living with their parents or relatives, they spend less on housing, and therefore have more money to spend on food.

Patton-Lopez et al. (2014) found that 59% (*n*=354) of college students at a rural mid-size university in Oregon were food insecure in the previous year. The researchers also found that poor health, being employed, and having an income of less than $15,000 per year were associated with food insecurity while having a GPA of greater than or equal to 3.1 was inversely associated with food insecurity.

Morris et al. (2016) surveyed four public university campuses in Illinois. They found 35% (*n*=1,882) of the students were food insecure. This study also looked at the relationships between race, grade point average, loan use, and living location and found there were significant

relationships between those variables. African Americans were found less food secure and more food insecure than other groups. Students with a grade average of 3.0 or higher were more likely to be food secure. Students who took out loans to pay for college or used other means that required repayment were more likely to be food insecure that students who did not receive financial support that required repayment. Students who lived with parents or guardians were more likely to be food secure, whereas those that lived off-campus alone or with roommates were more likely to be food insecure.

Gaines et al. (2014) found 14% (*n*=557) of students at the University of Alabama were food insecure. What is interesting about this study is it took place after a natural disaster occurred in the area. Because of that event, 42% of the students surveyed reported they had experienced some type of exogenous shock, which is associated with an increased risk for food insecurity.

El Zein et al. (2019) surveyed only freshman students (*n*=855) across eight public universities. Their data showed 19% were food insecure and another 25.3% were at risk for food insecurity. Students who lived off campus, received a Pell grant, identified as a racial minority, did not participate in a meal plan, or reported a parental education of high school or less were more likely to be food insecure. An interesting finding also indicated that more than half of the students were aware of the on-campus food pantry, but only 22% reported that they would use it.

Miller et al. (2019) found 44% of students (*n*=1,096) at Kansas State University were food insecure. This sample primarily included undergraduate students but did have a small percentage of graduate students.

In summary, the research on food insecurity on four-year public universities is well established, but it is hard to make a generalization from the studies due to the different sample

populations and methods that were used. It is not always clear if the sample population was representative of the college or university population. The time period that students are asked whether they were food insecure or not is not consistent across the surveys. It is especially hard to understand the significance of the studies that sampled first year students since it was unclear whether the researchers accounted for first year requirements such as students being required to live on campus and have a meal plan.

Community Colleges

Much like the public four-year universities, community colleges are not immune to issues of food insecurity. In fact, these colleges tend to serve students who might be more in need compared to students at a four-year university. Maroto et al. (2015) studied two different community college locations. One location was in an affluent, suburban area in Maryland. The second location was in a low-income, urban area of Maryland. The average of students experiencing food insecurity at the two locations was 56% (n=301), with the urban location being only slightly higher (60%) than with the suburban location (53%). The researchers also found that students who lived alone or were a single parent were at a higher risk of being food insecure. Students who identified as African-American or multiracial also showed an increased risk for food insecurity. All food insecure students were more likely to report a lower GPA than those who were food secure.

Freudenberg, Manzo, et al. (2011) measured food insecurity in undergraduate students throughout the City University of New York (CUNY) system. The survey was sent to all undergraduate students in the CUNY which included community colleges and four-year colleges. A representative sample was obtained (n=1,086). The researchers did not use the USDA FSSM but instead developed four questions based on the USDA food insecurity definition. The findings indicated 39% of CUNY students were food insecure at some point over the last 12 months.

Black and Latino students were more likely to report food insecurity than White and Asian students. Students who had a household income of less than $20,000 a year were more than twice as likely to report food insecurity as those with household incomes over $50,000 a year. Students who were working more than 20 hours a week and supporting themselves financially were more likely to be food insecure.

O'Neill (2019) measured food insecurity at a California community college (*n*=656). The survey was sent online to all students who were enrolled for the Spring 2016 semester. Results from the study indicated that 58% of students were food insecure; of those students, 26% were classified as low food insecurity and 32% were very low food insecurity. Interestingly, sharing meals was a protective factor against food insecurity. The study also showed that predictors of food insecurity to be students who struggled with nutrition before college and those that had mental health problems.

Private Universities and Minority Serving Institutions

Food insecurity is not just found in public two- and four-year colleges and universities, it is also seen at private colleges and universities. Allen and Alleman (2019) designed a qualitative study that explored the effects of food insecurity on students' academic performance and social experiences at a private affluent university. Food insecurity often prevented students from social and academic participation that other students enjoyed, increasing the impact of exclusion.

Another study took place at a small private liberal arts college. Hickey et al. (2019) found that students' academic and athletic performance was affected by hunger. What is unique about this study is that the researchers developed their own questions related to hunger based on the literature. Approximately 35% of students (*n*=371) reported either their athletic or academic performance suffered as a result of hunger. When asked about resources, students reported they were more likely to use on-campus resources than those in the community.

Very little research has been done on food insecurity among students in Minority Serving Institutions (MSI). Ilieva et al. (2019) designed a mixed-methods study that occurred in a community college that is predominantly a Hispanic Serving Institution (HSI). Accessibility to affordable, nutritious food on the urban campus was the primary driver for food insecurity among surveyed students. (*n*=50).

Combination of Two- and Four-Year Colleges

The largest study of food insecurity to date was done by the Hope Center at Temple University (Goldrick-Rab, Baker-Smith, et al., 2019). This annual survey covers not only food insecurity but also housing insecurity. The most recent data were collected in the fall of 2018 and was published in spring of 2019. The authors sent surveys to 123 two- and four- year colleges (*n*>85,000). For the students who were at two-year colleges, the data showed 47% of students were food insecure. Of those 47%, 19% were considered low food security and 28% were very low food security. For the students who were at four-year colleges, the data showed 42% of students were food insecure, with 18% considered low food security and 24% very low food security. The survey results indicated basic needs such as food are more pronounced among non-traditional, older students. Another important finding from the study showed students in general were not applying for public assistance even though the students qualified. For food insecurity to be decreased on college campuses, utilization of these federal programs is a must. The public assistance programs such as Supplemental Nutrition Assistance Program (SNAP) and Women, Infants, and Children (WIC) have typically not been utilized by college students.

Effects of Being Food Insecure

Food insecurity not only has a physiological impact on students, it also curtails students' academic performance, limits their social relationships, negatively affects mental health, and promotes negative perceptions of educational institutions at large.

Academics

Van Woerden et al. (2018) studied first-year college students (*n*=591) and found the GPA of students who were food insecure was negatively affected, regardless of their original socioeconomic background before college. 59% of the food insecure students achieved at least a "B" grade point average, but models used in the study suggest that 72% of these same students could have achieved that level of performance had they been food secure. Allen and Alleman (2019) designed a qualitative study (*n*=10) and found students' academics were often sacrificed and sometimes interrupted as a result of their food insecurity and their need to work. Ilieva et al. (2019) showed that not only does food insecurity impact students' ability to perform academically, it also undermines their trust in the college institution. Martinez, Frongillo et al. (2020) found that food insecurity among students was related to reduced GPA both directly from lack of food and indirectly through mental health issues.

Social

Allen and Alleman (2019) showed food-insecure students self-excluded from social activities, especially those that centered around food, which made them feel less involved in their campus communities. Even though students benefited from many on-campus support services, the cost of food insecurity was ultimately time, which reduced their on-campus involvement.

Meza et al. (2019) reported seven psychosocial effects of food insecurity, one of which was an inability to develop meaningful social relationships. The researchers noted:

> "Students experiencing food insecurity were often left out or were unable to participate in important social gatherings involving food and thus missed a critical piece of the college experience. Situations in which other students would offer to pay for them reinforced their embarrassment, leading some students to stop attending social events." (p. 1715)

Henry (2017) found that food insecure students limited their activities outside of the classroom. Another researcher found that "hunger may impact students' abilities to engage fully

in the academic experience (i.e., missing out on extracurricular)" (Hickey et al., 2019, p. 242). Researchers conducted 11 focus groups interviews (*n*=82) at UCLA of which the respondents felt that "they missed out on social opportunities, such as dining with peers" (Watson et al., 2017, p. 137). In summary, being food insecure limits a student's ability to fully participate in campus activities.

Stigma

Henry (2017) found that students felt that the stereotype of the poor starving college student was normal, therefore students who were food insecure reported that they felt shame and guilt when they asked others for assistance. Other researchers had similar findings. For example, "on occasions when friends visited around meal times, food-insecure students did not want to be embarrassed by not being able to provide food or even by the appearance of having no food in their kitchens" (Allen & Alleman, 2019, p. 61). Stebleton et al., (2020) discussed how students feel shame because of they are food insecure.

Mental Health

Another possible consequence of food insecurity includes mental health issues (Pryor et al., 2016). The authors found that food insecurity occurs simultaneously "with depression, suicidal ideation and substance abuse problems in young adulthood." This could be one of several factors detrimental to college-age students. Another study (Meza et al., 2019) linked psychosocial issues, such as sadness, fear, and stress in addition to poor academic performance to food insecurity. Stebleton et al., (2020) found that students had anxiety related to being food insecure which in turn impacted their physical and mental well-being.

In summary, beyond basic hunger, food insecurity contributes to reduced academic achievement, affects mental health, and impedes social interaction for the college student. The

stigma around being a food insecure student is real and another burden a student has to bear as they attempt to complete college work.

Ecological Systems Theory

Bronfenbrenner was a developmental psychologist who became frustrated with limitations of research in psychology in the 1970s. The author was critical of the limited ways research was being conducted in the study of child development (Rosa & Tudge, 2013). Bronfenbrenner expanded on the work that Brim (1975) had done, which studied macrostructure influences on child development. The author took Brim's definitions and terminology of microstructure, mesostructure, and macrostructure and applied the terms to an ecological system. This produced the concepts of microsystem, mesosystem, exosystem, and macrosystem. Bronfenbrenner's theory continued to evolve, and believed:

> The ecology of human development involves the scientific study of the progressive, mutual accommodation between an active, growing human being and the changing properties of the immediate settings in which, the developing person lives, as this process is affect by relations, between these settings, and by the larger context within which the settings are imbedded (Bronfenbrenner, 1979 p. 22).

Bronfenbrenner defines microsystem as "a pattern of activities, roles, and interpersonal relations experienced by the developing person in a given setting with particular physical and material characteristics" (Bronfenbrenner, 1979 p.22). A mesosystem "comprises the interrelations among two or more settings in which the developing person actively participates (such as, for a child, the relations among home, school, and neighborhood peer group; for an adult, among family, work, and social life)" (Bronfenbrenner, 1979 p. 25). An exosystem "refers to one or more settings that do not involve the developing person as an active participant, but in which events occur that affect or are affected by, what happens in the setting containing the developing person" (Bronfenbrenner, 1979 p. 26). The macrosystem "refers to consistencies, in

the form and content of lower-order systems (micro-, meso-, and exo-) that exist or could exist, at the level of the sub-culture or culture as a whole, along with any belief systems or ideology underlying such circumstances" (Bronfenbrenner, 1979 p. 26).

Bronfenbrenner applied the Ecological Systems Theory to child development, and it has since been applied to many other disciplines. The field of nursing has utilized this theory. Steele et al. (2011) developed and tested a comprehensive measure of nurses' perceptions of ten types of barriers to adjusting pediatric weight. The measure they developed was based on Bronfenbrenner's Ecological Systems Theory, and includes subscales addressing nurses' perceptions of skills-based, job-related, and societal barriers. Graves and Sheldon (2017) used Bronfenbrenner's Ecological Systems Theory as a framework to develop strategies for effective recruitment of African American children and adolescents for research. Social work has also applied the theory to advance social work initiatives. Greenfield (2011) applied his theory to conceptualize "aging in place" programs. Boon et al. (2012) used the theory to model community resilience to natural disasters. Zhang (2018) used the model to guide his research in learning how best to advise international community college students. Bluteau et al. (2017) applied the model to online education. In summary, this ecological model is applicable to numerous fields of study and it provides an excellent explanation of the influence of social environment on an individual's life.

As shown in the previous section, food insecurity can impact the social relationships of college students. Jason et al. (2015) developed a sense of community scale that was built on ecological systems theory of which Bronfenbrenner was one of the pioneers. Jason et al. (2015) used an ecological framework to develop a three-factor psychological sense of community scale.

Applying that scale to students who experience an increase in food security can determine if these affected students also experience an increased sense of community.

Educational Leaders Respond to Food Insecurity

The culture of the organization is an important but often overlooked part of a campus. Campus culture can be assessed through different lenses. For the purposes of this chapter, campus culture will be evaluated using the leadership lens. Schein (2004) writes about organizational culture and leadership and describes the most important lesson that he learned was that culture is deep and pervasive. Culture according to Schein (2004) is also complex. Schein (2004) describes three levels of culture: artifacts, espoused beliefs and values, and underlying assumptions. Before individuals can address food insecurity on their campus, leaders need to look at their own campus culture to understand the current culture in which they work on a daily basis.

Awareness of food insecurity on college campuses is a relatively new phenomenon that arose approximately in the last 10 years. It has since gained traction and the significance of the problem cannot be ignored since it is present on a variety of college campuses. Even though it is a well-documented problem, the culture of the campus leadership can have a strong impact on how and when food insecurity is addressed.

Over the last decade, higher education leaders are slowly starting to realize the prevalence of food insecurity on their college campuses. Some leaders are acting to address both hunger and the broader problems attributed to it.

In 2009, CUNY Chancellor Goldstein said:

> One of the saddest moments that I have experienced recently occurred at a Council of Presidents meeting when some presidents indicated to me and other members of the chancellery that more and more students appear on their campuses are hungry. They have not had breakfast or may have missed a meal the night before. In light of the difficult

> economic times facing low-income students, I have asked the office of student affairs to develop…programs to focus on issues of hunger, nutrition, and homelessness. (Freudenberg, Manzo et al., 2011, p. 2)

In response to the Chancellor's direction, Freudenberg, Manzo et al. (2011) conducted a survey among students of the CUNY that focused on hunger, homelessness, and psychological well-being.

California State University (CSU) Chancellor White commissioned a study on food and housing security among CSU students in 2015. Data were collected not only from the students, but also from the faculty, staff, and administrators regarding how they would classify someone being food insecure or homeless (Martinez, Maynard et al, 2016).

Oftentimes campus leaders are reluctant to change until they are forced by students. Even then, the leadership response might be minimal at best. Recent events at the University of Kentucky are an excellent example of how campus leadership can be slow to address food insecurity on campus.

University of Kentucky

University of Kentucky is a four-year public university. The university recently completed a survey of over 2,000 students which showed that 43% of students suffered from food insecurity (Blackford, 2019). However, when commenting on the survey, a UK spokesman seemed to want it both ways. He responded by saying that the survey was helpful but cautioned about drawing conclusions since it was not a random sample. However, an author who was involved in the survey said that it was a representative sample of the student population. Several months after the survey was made public, University of Kentucky students went on a hunger strike to force the administration to address food insecurity on their campus (Patel, 2019). In response to the hunger strike, University President Capilouto questioned the survey results but nevertheless relented and announced more support for students' basic needs. In April 2019, the

University of Kentucky opened a café where students can get a balanced meal for $1 (Stephens, 2019).

It is interesting to analyze the events on the University of Kentucky campus through a cultural lens. Referring to the concept of three levels of culture (Schein, 2004), understanding the basic underlying assumptions that the campus leadership held about food insecurity is an important first step. Without knowing more than what is publicly available, I wonder if there are two primary groups whose basic underlying assumptions are completely opposite. The first group, the research team, has a basic underlying assumption that research indicates food insecurity is a big problem on college campuses, and they probably recognized that their campus is not immune to that same problem. That is why the study author was quick to point out that it may not have been a random sample but it was representative of the demographics of the undergraduate student body. The administration leaders are the second group. Their basic underlying assumption might be that there is only a minimal amount of food insecurity on the college campus. This is illustrated by the President's initial questioning of the survey results and also how the spokesman seemed to downplay the results since it was not a random sample.

The concept of espoused beliefs and values (Schein, 2004) helps to draw a connection between basic underlying assumptions and artifacts. These are typically written down and might be found in strategies, goals, or mission statements. When President Capilouto responded to the students' hunger protest, he said that he would create a full-time staff position to help oversee and plan efforts to support basic needs on campus. However, with over 30,000 undergraduate students enrolled (The University of Kentucky, 2020) how can only one person be responsible for this effort? This is a perfect example of how the espoused beliefs and values of the University are incongruent with what is really being done. Schein (2004) states that "beliefs and values at

this conscious level will predict much of the behavior that can be observed at the artifacts level (p. 29)". An illustration of this is the opening of the community café. The café operates only 4 hours a day, Monday-Friday and is closed during recess between semesters. The café is addressing a need, but it is a small, limited-time response. The overall culture of the University of Kentucky's leadership team's response to food insecurity seems to be mixed. The leadership team may have had some basic underlying assumptions about the problem, and because of those assumptions they were slow to act. Looking at the espoused beliefs, values and artifacts that are in place, the leadership team has responded but it is in a very small, specific way. Their leadership team can say they are working to address food insecurity, but when analyzing it through a cultural lens, its effort is minimal at best.

Amarillo College

On the opposite end of the spectrum is Amarillo College. Amarillo College is a 2-year community college. Within the last decade, the college has worked to create a culture of caring through their No Excuses Poverty Initiative. Amarillo College sees food insecurity as part of a larger issue, which is poverty. Over time, the college developed an integrated approach and the leaders felt that if poverty was addressed the students would succeed (Cady et al., 2019).

When looking at the level of cultures and how Amarillo College changed into a culture of caring, one should first consider the underlying basic assumptions of different stakeholders in the organization. However, this is hard to do because one of the initial steps Amarillo College took was their willingness to retrospectively look at students' success rates along with the barriers to graduation. After this step, Amarillo College held sessions to disseminate the information gathered to the faculty and staff, and professionals were brought in to dispel myths about student poverty. This helped to mitigate any previous underlying basic assumptions about food

insecurity and student poverty that campus employees may have held. In essence, this was an essential first step in order to "clear the slate" for an entire cultural shift on campus.

The next steps that Amarillo College took were to embed the No Excuses Poverty Initiative in all aspects of campus life (Cady et al., 2019). All foundational documents associated with the College were revised to reflect the new initiative. New policies were developed to address the different processes that would be put into place as a result of this initiative. The No Excuses Poverty Initiative was truly implemented into all areas of the campus, including being part of "staff and faculty recruitment efforts, ensuring buy-in before the employee is hired" (Cady et al., 2019). Schein (2004) states "if the espoused beliefs and values are reasonably congruent with the underlying assumptions, then the articulation of those values into a philosophy of operating can be helpful in bringing the group together serving as a source of identity and core mission." Amarillo College's actions match the current recommendations for all colleges and universities to ensure that basic needs are central in all policies (Goldrick-Rab, Baker-Smith, et al., 2019).

According to Schein (2004), artifacts at the surface level include everything we can see, hear, or feel. Schein (2004) also says that the processes by which behavior is made routine, organizational description, and charts are helpful to understanding the culture. One of the most visible buildings on Amarillo College is the Advocacy and Resource Center (ARC). This center houses the Adult Students Program, the Amarillo College Clothing Closet, the Amarillo College Food Pantry, and Social Services (Amarillo College, 2020). Cady et al. (2019) stated:

> The ARC is located in the center of campus so all students can find it. By placing the ARC in a public space, Amarillo College leadership openly acknowledges the challenges students face and encourages everyone to creating a welcoming environment for all students while also working to reduce stigma and shame. (p. 5)

Some caution about interpreting artifacts is required. Schein (2004) notes that an important point about studying artifacts is that they are easy to observe but hard to decipher. For instance, at Amarillo College, the ARC center is located in the center of campus. However, some faculty members are pushing back and wondering if the college is doing too much to help students and therefore losing the primary mission of the university, the education of students. Those faculty members might look at the ARC center with an entirely different lens then other faculty members who agree with the mission therefore making the interpretation of the ARC hard to decipher.

Six Cultures of the Academy

According to Bergquist and Pawlak (2008) there are six different cultures of the academy: collegial, managerial, developmental, advocacy, virtual, and tangible. Most campuses will have a melting pot of all of the cultures, but it is still important for leaders to understand the different cultures and identify the most prevalent culture that exists in their environment. Each of the cultures have different attributes that can be helpful in resolving the challenge of food insecurity on college campuses.

Collegial Culture

The collegial culture is the oldest type of culture and its roots can be traced back to the origins of North American higher education. In the current climate, the collegial culture still is considered dominant in many of the colleges and universities. In this culture, faculty autonomy, faculty research, and a strong academic discipline that is rooted in science is valued. This type of culture is prevalent in the large mega-universities found throughout America today. Institutional change and power are found in committee work to the university and through leadership by serving as a chairperson for university wide committee groups. In this type of culture, tenured faculty are most valued.

When seeking to resolve the challenges of food insecurity on college campuses, there are several attributes from the collegial culture that are helpful. First, faculty in this culture are data- and research-driven. The phenomenon of food insecurity is relatively new and like the President of the University of Kentucky, not all academic leaders have bought into the idea that it is a problem, much less a problem on their campus. Having faculty with the autonomy to design large-scale studies will contribute to the growing body of evidence that food insecurity is a real problem and needs to be addressed. Faculty from this culture could be also be extremely influential in resolving food insecurity problems if they are on the influential committees or if they are chairing a university-wide work group. Those individuals have cultural power and often have a direct line to the leadership team. What those individuals say or do will speak volumes compared to other points of view on campus.

Managerial Culture

Similar to the collegial culture, the managerial culture has been present in higher education throughout the twentieth century (Bergquist & Pawlak, 2008). A faculty member or leader from this type of culture will value efficiency and competency. Value is placed on measurable outcomes for students and faculty. There are clear lines of authority and an individual becomes more influential not only by moving up through the chain of command but also by being held accountable for the performance of their department. Individuals from this culture are also generally fiscally conservative.

Individuals that work in the managerial culture have several attributes that would be helpful in resolving food insecurity. First, these individuals will approach any possible solution with outcomes in mind. The outcomes would need to be measurable, documented, and shared. Faculty and leaders from the managerial culture would work well with individuals from the collegial culture group since both groups value data, research, and outcomes. Another key

attribute these individuals possess is that they are generally fiscally conservative. They will probably approach all possible solutions with an eye for reducing costs or saving money. The solution to reduce food insecurity might cost money, but these individuals may be swayed with savings or reducing costs in other areas. For example, there may be less money spent on academic support services since studies show that being food insecure has a negative impact on academic performance (Hickey et al., 2019) and (Camelo & Elliott, 2019) and (Maroto et al., 2015).

Development Culture

The developmental culture grew out of the student movements of the 1960s. Faculty and academic leaders felt that student life needed to be improved and attention turned back to the development of the whole student, not just academic development. This was essentially the beginnings of the modern student development theorists. Faculty and leaders from this culture value teaching and learning. These individuals put teaching and learning above research or other scholarly activities. Individuals in this culture value openness and strive for meaning in the work they do. These individuals value working in groups and strive for a consensus on understanding of the problem and developing solutions for the problem.

Attributes from this culture are many. A leader from this culture will bring in multiple individuals from different disciplines to work on the food insecurity problem. They will guide the group so that all opinions are heard and they will work to build support among members at each stage of the process. In addition, these individuals will strive to put the student perspective first. Schein (2004) discusses how the developmental leader will constantly ask, “What is it we want to do in this organization?” (p. 108) By asking this question and keeping the student perspective in mind, according to Schein (2004) “the developmental leader stays away from

personal issues and power struggles that often preoccupy faculty and administrators in the other cultures." (p. 108)

Advocacy Culture

Advocacy culture shares some of the same roots as developmental culture. Individuals that approach issues using the advocacy culture lens also value consensus-building along with hearing all opinions equally. These individuals are concerned about equal and fair treatment for all involved and strive to create policies that are fair and unbiased. Individuals in the advocacy culture subscribe to the idea that they are there to serve others. These individuals value equity and egalitarianism above all else.

Individuals that work primarily in the advocacy culture frame will be the ones that are most invested in solving food insecurity problems on campus. They will take the lead on working on the problem, since they will always be working with the idea that food is for everyone because that is equal and fair. These individuals will also involve the community outside of campus which will in turn create service-learning opportunities for students. Leaders and faculty members will strive to be "of service" to others, instead of focusing on individual accolades that might be given to someone in a collegial culture. Current research reflects the need for the university to address students' basic needs such as food and housing. When that is done it benefits both the student and the university (Broton & Goldrick-Rab, 2016). This comprehensive support is what is needed in order to foster a low-income, first-generation, first-year student's sense of belonging on the college campus (Means & Pyne, 2017). Goldrick-Rab, Baker-Smith et al., (2019) recommended that colleges and universities appoint a director that oversees student wellness and basic needs. In addition, they recommend advancing cultural changes on campus.

Virtual Culture

As technology changed throughout the last part of the 20th century and the beginning of the 21st century, a new virtual culture emerged. Individuals from this culture value the flexibility and openness that can be gained from the virtual environment. These leaders are focused on the greater good and understand that they have the ability to impact a greater number of people. These leaders value a global perspective and will offer students a chance to study abroad.

Individuals who have the virtual culture point-of-view will probably work well with the leaders from the advocacy and developmental cultural view point. All three cultural groups value input from different groups. In the virtual culture, openness is gained through the internet and social media. The leaders' frame of reference will be much larger and they will understand the bigger perspective of food insecurity on college campuses not just in America but also on international campuses as well. Current research recommendations (Goldrick-Rab, Baker-Smith et al., 2019) include that colleges and universities engage community organizations in the private sector to proactively address issues with food insecurity.

Tangible Culture

Individuals who have the tangible culture point of view have a strong sense of community and tradition. These leaders place value on face-to-face education and appreciate the history, aesthetics, and symbols that are found on college campuses. Individuals value stability and their decisions are grounded in reality.

In looking at the issue of food insecurity on college campuses, leaders with a tangible culture viewpoint would be valuable in designing a new space to either feed or set up a food pantry for students. They might value bringing together students for meals, and in having students share in the experience of preparing and serving food to others. This can also lead to the students sharing in their experiences and cultures through this hands-on service.

Application of the Cultures of the Academy

Sara Goldrick-Rab has been an outspoken leader on food and housing issues for college students since the early 2000s. Her interest began in these issues began when she became involved in the Wisconsin Scholars Longitudinal Study (WSLS) (Goldrick-Rab, 2016). In 2013, Goldrick-Rab founded the Wisconsin HOPE Lab. Its goal was to improve outcomes in post-secondary education. The lab produced multiple reports on food and housing insecurity in higher education (Broton & Goldrick-Rab, 2016; Broton, Frank, et al., 2014; Goldrick-Rab, Broton, et al., 2015). Goldrick-Rab closed the lab in 2018 to open the HOPE Center for College, Community, and Justice at Temple University in Philadelphia (The Hope Center for College, Community, and Justice, 2020). The HOPE Center is responsible for the #realcollege survey, which is the largest study of basic needs among college students. The study reached 86,000 students at 123 two- and four-year institutions in 2018 (Goldrick-Rab, Baker-Smith, et al., 2019). Goldrick-Rab's work reflects the developmental culture perspective as she looked at needs of the students that were not normally addressed by school administration, yet the lack of housing and food was having an impact on student life and academic performance as a whole.

In 2014, the president and chancellors of the University of California launched their Global Food Initiative, drawing on the research strengths of the schools to find solutions to the food insecurity of its students. Over four million dollars was allocated to all ten campuses over the course of three years. Campuses were free to allocate the funds as each saw fit to address their specific food insecurity problems. Some funds went to creating or improving existing university-run food pantries, while in other cases the emphasis was on educating students about and providing healthier food options. In other cases, the funding was a means to provide to outside sources, and in that sense was leveraging what was locally available (Martinez, Maynard et al., 2016 p. 3). In these cases, the actions of the president of the University of California

system reflected the Developmental Culture view in helping the students, yet an Advocacy Culture perspective was allowed for each campus as it found locally viable and desirable solutions.

Student-Driven Solutions

In some cases, students have actively addressed the problem of food insecurity on their own campuses. Some of these grassroots movements have grown into large, nation-wide organizations.

The College University Food bank Alliance (CUFBA) is a professional organization of campus-based programs which focus on a variety of student poverty and health issues, including food insecurity. CUFBA was co-founded by the Michigan State Food Bank and the Oregon State University Food Pantry in 2012 (College and University Food Bank Alliance, 2020). By 2016, 300 schools had become members (Cady, 2016). They eventually partnered with the HOPE Center for College, Community, and Justice in 2017, and have continued to grow to include more than 700 members (College and University Food Bank Alliance, 2020).

Swipe Out Hunger was founded by students at the University of California Los Angeles in 2010. The fundamental concept was to allow students who had unused meals on their college meal plans to donate those meals to fellow students in need. Now including 110 colleges and universities, the donated meals are now converted to cash to serve both needy student meal plans as well as support campus food pantries. The network expanded by 82% in the 2018-2019 school year (Swipe Out Hunger, 2020).

Food Recovery Network has adopted the strategy of cutting food waste at college campuses. Students started the organization in 2011, redirecting food from campus cafeterias that would have gone to waste donated to local nonprofit organizations that were fighting hunger. By

2013 this had expanded into a professional nonprofit organization. It now included 230 chapters in 46 stated and the District of Columbia (Food Recovery Network, 2017).

Students at the University of Kentucky protested when their university president doubted the reliability of a survey that found 43% of the respondents were food insecure (Blackford, 2019). About 300 students limited their diet, including a half-dozen who completely gave up eating until the university met their demands for opening up a basic-needs center on campus, creating a donor-supported fund to assist students with finding food and housing, and employee to manage the center (Patel, 2019). This was part of the Basic Needs Campaign, which made eight demands of the administration. In April 2019, the university converted one of its existing cafes into a dining location that sells meals for one dollar, four hours each weekday (Fink, 2019).

Pay-What-You-Can Restaurant Model

There are very few research studies that have been done on pay-what-you-can restaurant models. May (2014) did a qualitative study which explored how a community café is operated, and how resources, volunteers, and pricing mechanism are managed by non-profit leaders in order to sustain the model. The author determined that "the model is operated by cutting costs, managing expenses in creative ways, and obtaining extra income through fundraising in order to compensate for the anticipated shortfall in revenue that results from allowing people to pay whatever they can for a meal (May, 2014, p. 189). Shreeve (2017) found that pay-what-you-can restaurants' organizational rhetoric impacts low-income groups' participation in the community and sense of belonging.

In the location that I have chosen for this study, the pay-what-you-can restaurant is a five-minute walk from a four-year university. The pay-what-you-can restaurant has a large number of students who are serve as either guests and/or volunteers. To date, there has been no research

study that has looked at the interactions between pay-what-you-can restaurants and college students.

In conclusion, food insecurity rates for college students exceed those of the general population of the United States. Food insecurity detrimentally impacts student performance and exacerbates mental health problems. While various college and student-led organizations have started to address these issues, the pay-what-you-can restaurant model has started to gain acceptance in communities throughout the country and might also play a role in stemming food insecurity and providing additional benefits for students.

CHAPTER THREE: METHODS

Research Questions

The aim of this study was to answer two research questions. The first research question was, how does a community café affect a college student's food security? The second research question was, how does a college student's sense of community change when eating or volunteering at a pay-what-you-can café?

Hypothesis

My hypothesis for research question number one was that a community café positively affects a college student's food security. My hypothesis for research question number two was that a college student's sense of inclusion is positively affected by eating or volunteering at a pay-what-you-can café.

Research Design

This study used an established food security survey appended with open-ended response questions, and Likert-scale sense of community survey. Creswell and Clark (2018) recommend that researchers choose from three core designs when contemplating a study. These core designs will help guide the researcher by providing a framework and logic to implement the research methods to ensure high quality results (Creswell & Clark, 2018). For this study, the convergent design framework was chosen. Creswell and Clark (2018) state the convergent design framework is used "when the researcher intends to bring together the results of quantitative and the qualitative data analysis so they can be compared or combined" (p. 65).

Population/Sample

Due to the COVID-19 pandemic, F.A.R.M. Café was closed to dine-in guests throughout the fall 2020 semester. The population pool was limited due to F.A.R.M. Café being closed for

dine-in service. Because of this I relied on the volunteer coordinator to help send out the link to the anonymous survey via email. The original population for this study included anyone who was on the volunteer list at F.A.R.M. Café regardless of whether they were a student, recent graduate, or a non-student. However, the response rate was low even with additional reminders sent by the volunteer coordinator at F.A.R.M. Cafe. Two faculty members at a college close to F.A.R.M. Café helped to publicize the survey, specifically targeting groups of students who were familiar with F.A.R.M. Café. In addition, my advisor recommended including two additional OWEE café sites in the population pool.

The final sample consisted of students, recent graduates, and non-students from three different OWEE cafés.

The survey remained open for a period of 6 weeks from August 19, 2020 through September 30, 2020.

Procedure

Boone, NC

Due to the pandemic, I worked directly with the volunteer coordinator at F.A.R.M. Café to distribute the link to the anonymous survey. The volunteer coordinator sent the link out through her volunteer database multiple times. In addition, I talked with two faculty members at a college close to F.A.R.M. Café who distributed the link to the anonymous survey among student groups they knew were familiar with F.A.R.M. Café.

Fort Worth, TX

I contacted a board member of Taste Community Restaurant in Fort Worth, TX, to inquire if they would be willing to help publicize the survey. The board member agreed and they were sent the link to the anonymous survey.

Raleigh, NC

I contacted the Executive Director of A Place at the Table in Raleigh, NC to inquire if they would be willing to help publicize the survey. The Executive Director agreed and was sent the link to the anonymous survey which in turn she forwarded to her volunteer coordinator so that it could be sent out to the volunteer database.

In addition, each of the three café sites were sent business cards that had a QR code which linked to the survey. Due to the pandemic, the three café locations were all in different stages of service. However, they were open for take-out meals and each location was encouraged to include a business card with each take-out meal.

Instruments

Survey design was considered when determining the order of the questions. Jones et al., (2013) discussed the need for placing easier important questions at the beginning of the survey. In my survey this was the USDA Adult Food Survey Security Module. This questionnaire was designed for the general population and the questions were both easy to understand as well as very important. The middle part of the survey was the Psychological Sense of Community Scale (Jason et al., 2015). This consisted of nine Likert statements that were grouped together. Jones et al., (2013) state that common themes should be in the middle of surveys. The last part of the survey included the demographic questions. Jones et al (2013) stated that the demographic questions should be at the end and the questions should be arranged in a logical order including having questions on the same topic close together. At the end of the demographic section were four free-response questions. These free-response questions were purposely put at the end of the survey in case the participant chooses not to answer them.

USDA Adult Food Survey Security Module

The USDA Adult Food Survey Security Module, 10-item survey was used (Appendix A). This survey was chosen because it can be used for households with or without children. The survey began with an optional question which is often used in conjunction with a question about income. The question was:

"Which of these statements best describes the food eaten in your household in the last 30 days?"

a. Enough of the kinds of food I want to eat
b. Enough but not always the kinds of food I want to eat
c. Sometimes not enough to eat
d. Often not enough to eat
e. Don't Know or Refused

If a respondent answered, "Enough of the kinds of food I want to eat," and had an income at least twice of the poverty threshold, the respondent could skip to the end of the survey and they were classified as food secure. Given that this was only an initial question to screen for food secure individuals and it was not part of the overall calculation of the Adult Food Security Scale score, I chose not to include it in this survey.

The next three questions of the Adult Food Survey Security Module measured a respondent's ability to buy food to meet their needs. Respondents stated whether each of the three statements were often true, sometimes true, never true, did not know if true, or they refused to answer. The statements were:

"I worried whether my food would run out before we got money to buy more;" "The food that I bought just didn't last and we don't have money to get more;" and "I couldn't afford to eat balanced meals." If a respondent answered with "often true" or "sometimes true" to one or more of the questions, the survey continued to the Adult Stage II. If the respondent answered "never

true" or "don't know" or "refused" to all three of the questions, the respondent could skip to the end of the survey and their results were not included.

The Adult Stage II part of the survey consisted of as many as five questions. The first question of this section was, "In the last 30 days, did you ever cut the size of your meals or skip meals because there wasn't enough money for food?" If the respondent answered "yes," then the next question was, "How often did this happen?" The respondent could choose "almost every day," "three or more days," or "only one or two days." For the purposes of scoring, "three or more days" and "almost every day" was an affirmative response. The remaining four questions in the survey could be answered as "yes," "no," or "don't know." The questions were:
"In the last 30 days, did you ever eat less than you felt you should because there wasn't enough money for food?", "In the last 30 days, were you ever hungry but didn't eat because there wasn't enough money for food?", and "In the last 30 days, did you lose weight because there wasn't enough money for food?" If the respondent answered "yes" to any of the questions in the Adult Stage II section, the survey continued to the Adult Stage III section. If the respondent answered "no" or "don't know" to all of the questions, the respondent could skip to the end of the survey.

The last section is the Adult Stage III section which consisted of two questions. The question was "In the last 30 days, did you ever not eat for a whole day because there wasn't enough money for food?" If the respondent answered "yes," then they were asked the follow-up question, "In the last 30 days how often did this happen?" The answers the respondent could choose were "almost every day," "three or more days," "only one or two days," and "don't know".

All of the responses of "yes", "often", "sometimes", "almost every month" and "some months but not every month" were coded as affirmative. The sum of affirmative responses was

the household's raw score on the Adult Food Survey Security scale. Zero affirmative responses indicated that an individual had high food security. One or two affirmative responses indicated that an individual had marginal food security. Three to five affirmative responses indicated that an individual had low food security. Six to ten affirmative responses indicated very low food security.

Psychological Sense of Community Scale

The Psychological Sense of Community Scale (Jason et al., 2015) measured an individual's sense of community from an ecological perspective. It was based on Bronfenbrenner's ecological systems theory. The idea of a sense of community can be assessed using three ecological perspectives that align with Bronfenbrenner's ecological systems theory. The first ecological perspective, which is also the broadest, is the macrosystem. The macrosystem refers to the community or entity. In this study, the macrosystem was the population of individuals who eat or volunteer at the community café. The second ecological perspective, which has a smaller focus, is the microsystem. In this perspective, the relationships of the members of the group are what is important. In this study, the microsystem was made up of students who eat at or volunteer at the community café. The last ecological perspective is the self or individual system. In the individual system, the meaningful, commitment, and emotional connections that individuals experience are what is important. In this study, the individual system was each respondent who has completed the survey.

The Psychological Sense of Community Scale (Jason et al., 2015) had nine Likert statements. The macrosystem, microsystem, and individual system each contained three statements. The participant chose from one of the following categories for each statement: strongly disagree, disagree, slightly disagree, slightly agree, agree, and strongly agree.

Demographics and Open-Ended Response Questions

This section of the survey began with four demographic questions. Participants were asked to identify their age, race, gender, and college level. A blank at the end of this section allowed the participant to write in their major. The next section of the survey had questions specifically related to the community café. The café name was purposefully left off this example, but when it was distributed to the participants it had the F.A.R.M. café name on the survey. The participants were asked how they found out about the café, and how long ago they started eating or volunteering at the café. The participants were also asked to choose what the best thing was about eating at the café. With these three questions, there were five different answer choices and an open-ended response for each question. The next question asked the participant if they volunteered. The answer choices were yes or no. The participant was then asked what their main reason was for volunteering. There were five answer choices along with an open-ended response. The participants were then asked which food pantries they used. There were four responses, of which the last response was, "I don't use a food pantry." The last multiple question asked the participant where they lived. There were four responses along with an open-ended response.

The last section of the survey had four open-ended questions. The first question asked the participant to evaluate the café in relation to other dining options available on campus to students. The second question asked the participant to evaluate the café in relation to other volunteer opportunities available on campus to students. The third question asked the participant to name what and where they would go to eat if the café was not there. The last question asked the participant if they felt the café provides a sense of community and how that compared to other groups in which they have participated in the past.

Analysis

The survey was available using Qualtrics software. The data analysis was blinded. Primary analysis focused on descriptive statistics that I used to describe the characteristics of the sample population. From the USDA Adult Food Survey Security Module, I identified the percentages of people who were classified into the four categories: high food security, marginal food security, low food security, and very low food security.

I investigated possible correlations between demographic data and the raw food security score using the Pearson correlation coefficient. The Psychological Sense of Community Scale provided data on the macrosystem, microsystem, and the individual sense of community. In the survey, the independent variables were time from first visit to the cafe until filling out the survey and the USDA food security score. Numerical values assigned to the responses on the sense of community survey allowed a correlation analysis with the independent variables, using the Pearson correlation coefficient. For the open-ended response questions, I used content coding to look for commonalities and trends among the responses.

Threats to Validity

Creswell and Clark (2018) state that researchers must evaluate validity threats based on the type of design that is used. There are four main validity threats when using a convergent design (Creswell & Clark, 2018, p. 251). I will address each validity threat separately.

The first validity threat is "not using parallel concepts in data collection for both the quantitative and qualitative databases" (Creswell & Clark, 2018, p. 251). To minimize this threat, I had an open-ended response question, "Does _____cafe provide a sense of community to you?" which addresses the same concept of sense of community that the Psychological Sense of Community Scale addresses. Another way I attempted to minimize this threat was to use the

USDA Food Security Survey Module along with asking the question, “Which food bank or pantry do you use?” Both the survey and the question measure the same concept.

The second validity threat is “having unequal quantitative and qualitative sample sizes” (Creswell & Clark, 2018, p. 251). To minimize this threat, I had only one sample in which all the participants took the same survey.

The third validity threat is “keeping results from the different databases separate” (Creswell & Clark, 2018, p. 251). To minimize this threat, I compared qualitative and quantitative analysis side by side.

The fourth validity threat is “failing to resolve disconfirming results” (Creswell & Clark, 2018, p. 251). I did not need a different analysis to help explain the disconfirming results.

External validity refers to whether or not a study can be generalized to a larger audience. For this study, the external validity was low. There was no guarantee that the sample population had the same demographic characteristics as the population at the four-year public university that was close by. In addition, one of the defining characteristics of the community café is that each café is designed to meet its community’s needs so it is hard to generalize from one OWEE café to another. This study was only a one-time snapshot of students, recent graduates, and non-students who have eaten or volunteered at a OWEE café and cannot be generalized to other community cafes or other student populations.

Additional threats included being unable to carry out the study due to unforeseen natural occurrences such as a high percentage of flu cases or a natural disaster. Either of those events could shut down the university, which would severely limit the number of students that eat or volunteer at the café. Potentially F.A.R.M. café could close or reduce its hours even if the university is open.

Finally, this researcher joined the board of One World Everybody Eats in January 2020 and is still currently a board member.

CHAPTER FOUR: RESULTS

In this chapter, I will be discussing the results of the surveys. Sixty-six respondents completed the surveys. Of those respondents, 36 were current students or a recent spring 2020 graduates. 30 respondents were not students or recent graduates. Throughout this chapter, the term students will refer to current students and spring 2020 graduates. Because of concerns of the low number of respondents, it was decided that the survey would be available to any volunteer or guest at Taste Community Restaurant in Fort Worth, TX and A Place at the Table in Raleigh, NC, in addition to the original site of F.A.R.M. Café in Boone, NC. Qualtrics software program recorded the geographical location of the respondent for all complete surveys. If the survey was incomplete, after one week, Qualtrics recorded the answers, however the software did not record the geographical location (Qualtrics Help Line, personal communication, January 30, 2021). Of the 36 student respondents, nine did not have their location recorded. One student respondent was from the Fort Worth, TX area and 26 student respondents were from the Boone, NC area. Of the 30 non-student respondents, 20 did not have their location recorded. Two non-student respondents were from the Fort Worth, TX area, five non-student respondents were from the Boone, NC area and three non-student respondents were from the Raleigh, NC area.

In the descriptive statistics section, I divided the data into two groups, current student and non-students. In the inferential statistics section, too few non-students fully completed the survey for statistical analysis, therefore only student data are considered. For the last section, I included the data from both the student and non-student groups that were collected through the open-ended survey questions. All of the open-ended survey question answers were from respondents in Boone, NC., indicating that they were guests or volunteers at F.A.R.M. Café.

Descriptive Statistics

Demographics of Students

Of the students that responded, eight identified as male, 21 identified as female, and seven student respondents chose not to answer the gender question. 27 students identified themselves as white, one student identified as Asian, and one student identified as multi-ethnic. The remaining students chose not to disclose their ethnicity. 18 of the students reported their age as 20 or 21. four students were between 22-24, and three students were between 18-19. There were four students who were 25 and older. Seven students did not answer the age question. No freshman students completed the survey. Two students reported that they were sophomores. 23 students reported that they were either junior or senior students. Three students reported themselves as graduate students. Eight students did not answer the question about their academic class status. 29 students reported that they live off-campus in either a house or apartment. Seven students did not answer the housing question.

The majority of student respondents were female and in their third or fourth year of college. The survey was conducted in the fall semester, which might explain the lack of freshman respondents, as these students would have had only a few weeks to learn about F.A.R.M. Café while adjusting to college. In addition, due to the pandemic F.A.R.M. Café remained closed to volunteers, so students new to the university had not had the opportunity to volunteer and therefore were not able to participate in the survey.

Minority students are not well represented in the responses, but this also reflects the racial identity of the student body, which is 83% white, 5.62% Hispanic or Latino, 3.76% Black or African American, 3.48% Two or more races, 1.69% Asian, and less than 1% for each group of Asian Americans, American Indian or Alaska Native, Pacific Islanders or Native Hawaiian (Data USA, 2020). All of the students who responded about housing, live off campus. If

freshman students had participated in the survey, they may have provided information about food security for on-campus housing residents, as freshman students are required to live in on-campus housing.

Demographics of Non-Students

For the non-students, five respondents identified as male, 10 identified as female, and 15 respondents chose not to answer the gender question. For the non-students, 15 respondents identified as white, the remaining non-student respondents did not disclose their ethnicity. 11 respondents identified as 35 or older, two respondents identified as 22-24 years old, one non-student as 18-19 years old, and one as 25-30 years old. Half of the non-students did not respond to the question about their age. For the non-students, there was a respondent for each of the sophomore, junior, and senior categories, but six respondents did not answer the question about their academic classification status. See Table 4.1 for more information.

Table 4.1
Descriptive Statistics

Category	Students	Non-Students
Total Respondents	36	30
Gender		
Male	8	5
Female	21	10
No Answer	7	15
Race/Ethnicity		
White	27	15
Asian	1	-
Multi-Ethnic	1	-
No Answer	7	15
Age		
18-19 years	3	1
20-21 years	18	-
22-24 years	4	2
25-30 years	1	1
31-34 years	1	-
35+ years	2	11
No Answer	7	15
Academic Classification		
Freshman	-	-
Sophomore	2	-
Junior	12	1
Senior	11	1
Graduate	3	1
No Answer	8	7
Housing		
Off-Campus Apartment	21	1
Off-Campus House	8	4
No Answer	7	25
Geographical Location		
Fort Worth, TX	1	2
Boone, NC	26	5
Raleigh, NC	0	3
Unknown	9	20

Food Security of Sample

All of the respondents completed the 10-item U.S. Adult Food Security Survey Module. This survey consists of ten questions. Each affirmative answer such as “yes”, “often”, “sometimes”, “almost every month”, and “some months but not every month” is recorded as a one point. The sum of these points indicates the food security status of the individual. A raw score of zero indicates high food security among adults. A raw score of one or two indicates marginal food security among adults. A raw score of three, four, or five indicates low food security among adults. A raw score of six or higher indicates very low food security among adults. Individuals that score in either the high food security or marginal food security are considered food secure. Individuals that score in either the low food security or very low food security are considered food insecure.

Food Security of Students

Out of the 36 students, 17 students were classified as high food security and six students were classified as marginal food security, for a total of 23 food secure students. Five students were classified as low food security and eight students were classified as very low food security, for a total of 13 food insecure students, which is 36% of the student respondents. Table 4.2 summarizes the academic classification status of students who are food insecure.

Of the students who were classified as either low food security or very low food security, three students were juniors, six were seniors, three were graduate students, and one respondent did not identify their academic classification status. 11 of the 13 food insecure students started eating or volunteering at the café at least 22 months ago. Table 4.3 summarizes food security status for the students and the first time eating at or volunteering at the café.

Food Security of Non-Students

28 of the non-student respondents were classified as food secure and two of the respondents were classified as marginal food security. Table 4.4 contrasts the food security of students and non-students. Only six non-student respondents gave additional information about when they first ate or volunteered at the café. The responses given ranged from nine months to 37 months. Table 4.5 summarizes food security status for non-students and the first time eating at or volunteering at the café.

Table 4.2

Academic Classification of Food Insecure Students

Academic Classification	Number of Surveyed Students with Food Insecurity
Junior	3
Senior	6
Graduate Student	3
Undisclosed	1

Table 4.3

Student First Time Eating at or Volunteering at the Café and Food Security Status

First Time Eating and/or Volunteering (months ago)	High Food Security	Marginal Food Security	Low Food Security	Very Low Food Security
Just started			1	
1 month		1		
6 months	1			
7 months	1	1		
8 months	1	1		
9 months	1		1	
13 months	1			
18 months		1		
20 months	1	1	1	1
21 months	5	1	1	2
22 months				1
31 months				1
36 months				1
53 months				2

Table 4.4

Food Security of Students and Non-Students

Food Security Level	Students (*n* = 36)	Non-Students (*n* = 30)
High Food Security	17 (47%)	28 (93%)
Marginal Food Security	6 (17%)	2 (7%)
Low Food Security	5 (14%)	———
Very Low Food Security	8 (22%)	———

Table 4.5

Non-Student First Time Eating at or Volunteering at the Café and Food Security Status

First Time Eating and/or Volunteering (months ago)	High Food Security	Marginal Food Security
9 months	1	
13 months		1
21 months	1	
32 months	1	
37 months	1	

Psychological Sense of Community Results of Sample

The Psychological Sense of Community Scale (Jason et al., 2015) measures an individual's sense of community from an ecological perspective. The first ecological perspective, which is also the broadest, is the macrosystem. The macrosystem refers to the community or entity. In this study, the macrosystem is the population of individuals who eat or volunteer at the community café. The second ecological perspective, which has a smaller focus, is the microsystem. In this perspective, the relationships of the members of the group are what is important. In this study, the microsystem is made up of relationship between students and non-students who eat at or volunteer at the community café. The last ecological perspective is the self or individual system. In the individual system, the meaningful, commitment, and emotional connections that individuals experience are what is important. In this study, the individual system is each respondent who has completed the survey.

The Psychological Sense of Community Scale (Jason et al., 2015) has nine Likert statements. The macrosystem, microsystem, and individual system each contain three statements. The participant chose from one of the following categories for each statement: strongly disagree, disagree, slightly disagree, slightly agree, agree, and strongly agree. After assigning numerical scores to the sense of community Likert scale responses (1=strongly disagree, 2=disagree, 3=slightly disagree, 4=slightly agree, 5=agree, 6=strongly agree), I calculated averages for the responses as well as the standard deviations. These appear in Table 4.9, categorized by student and non-student responses. While averages and standard deviations alone may not be noteworthy with this relatively small data set, these values will allow comparisons between the responses to the individual statements and between the student and non-student groups.

The first three statements of the survey focus on the macrosystem which is how the respondents feel about the community café. Table 4.6 presents the raw Likert responses to the

first three statements on the Psychological Sense of Community Scale, those dealing with the macrosystem sense of community. Regarding the first statement, “I think this community café is a good community café,” 24 of 29 students strongly agreed, as did 12 of 15 non-students. Only one student and one non-student strongly disagreed with this statement, with no other respondents disagreeing. This strong positive response to this statement is also reflected in the average score (5.66 for students, 5.53 for non-students) and relatively small standard deviation (0.992 and 1.258, respectively) in Table 4.9.

The second statement, “I am not planning on leaving this community café,” also drew a positive response from the majority of students (25 of 28 positive) and non-students (14 out of 15 positive). The average score for the students was 5.21 with a standard deviation of 1.081, while the non-student score was 5.33 with a standard deviation of 1.300. The higher standard deviation of the non-student responses reflects a single “Strongly Disagree” response that did not appear in the student responses.

Finally, the last statement, “For me, this community café is a good fit,” relates the individual respondent to the macrosystem of the café community. All student responses were positive, with 27 of 29 either strongly agree or agree, for an average of 5.59 and a standard deviation of 0.617. All but two of the non-student responses were either “agree” or “strongly agree”, producing an average response score of 5.33 and a standard deviation of 1.398.

Table 4.6

Psychological Sense of Community Scale - Macrosystem

Likert Statement	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree	No Answer
				Students			
I think this community café is a good community café.	1	0	0	1	3	24	7
I am not planning on leaving this community café.	0	0	3	5	3	17	7
For me, this community café is a good fit.	0	0	0	2	8	19	7
				Non-Students			
I think this community café is a good community café.	1	0	0	0	2	12	14
I am not planning on leaving this community café.	1	0	0	1	3	10	14
For me, this community café is a good fit.	1	0	1	0	2	11	14

The second three statements of the survey highlight the microsystem which is made up of students who eat or volunteer at the community café. Table 4.7 summarizes the breakdown of respondent answers to each Likert scale item. In Table 4.9, the average and standard deviation of the scaled scores are presented.

All 29 of the student respondents expressed some level of agreement with the first statement, "Students can depend on each other in this community café," with 19 strongly agreeing. The average score of these responses was 5.59, with a standard deviation of 0.617. All but one of the non-student respondents showed agreement with this statement, but the average (4.80) and standard deviation (1.40) reflected somewhat lower and less consistent scores than those of the students. The second statement in this group, "Students can get help from other students if they need it," also reflected a slightly lower score from the non-student respondents compared to those of the students. One out of 29 students disagreed with this statement, while 17 strongly agreed. As was the case with the previous statement, the average response score was relatively high at 5.34, with a relatively low standard deviation of 0.975. One non-student respondent strongly disagreed with this statement, while eight others either slightly agreed or agreed with it; only one non-student strongly agreed. This produced a non-student average response score of 4.40 with a standard deviation of 1.281. In response to the third statement in the microsystem group, "Students are secure in sharing opinions or asking for advice," the student responses showed a little more variation than in the other two microsystem statement cases, with only 12 of 29 strongly agreeing. This produced an average response score of 5.14 and a standard deviation of 0.860, which are nonetheless still high overall with small variation. The non-student scores also reflected a similar decline and deviation, with one non-student each

strongly disagreeing and strongly agreeing, while the remainder either agreed or slightly agreed. This produced an average score of 4.56 and a standard deviation of 1.343.

The last three statements of the survey focus on the individual system. The meaningful, commitment, and emotional connections that individuals experience are what is important. Majority of students and non-students agree that the café is important to them, they have friends in the café, and they want to help the cafe. Table 4.8 summarizes the breakdown of respondent answers to each Likert scale item. Table 4.9 shows the average and standard deviations of the scaled scores.

Table 4.7

Psychological Sense of Community – Microsystem

Likert Statement	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree	No Answer
				Students			
Students can depend on each other in this community café.	0	0	0	2	8	19	7
Students can get help from other students if they need it.	0	1	0	4	7	17	7
Students are secure in sharing opinions or asking for advice.	0	0	1	6	10	12	7
				Non-Students			
Students can depend on each other in this community café.	1	0	0	1	5	3	20
Students can get help from other students if they need it.	1	0	0	3	5	1	20
Students are secure in sharing opinions or asking for advice.	1	0	0	1	6	1	21

In response to the first question, “This café is important to me,” 19 of 29 students strongly agreed, while one slightly disagreed and one disagreed. The average response score was 5.41 with a standard deviation of 1.00. For the non-students, 12 of 14 strongly agreed or agreed with this statement, producing an average score of 5.07 and a standard deviation of 1.534. The student responses indicate that the café is more important to them than to the non-students. The students’ response to the next statement, “I have friends in this community café,” produced the lowest scores in the survey, with 23 responses showing some degree of agreement, but six responses were in the slightly disagree or disagree categories. This produced an average student score of 4.76, and the greatest standard deviation of all the student responses in the survey, 1.478. The non-student responses were better than those of the students; 10 of 14 strongly agreed, while 2 strongly disagreed. The non-student average response was 5.14, with a standard deviation of 1.226, the lowest standard deviation for the non-student responses in the survey. All but two respondents agreed with the last statement on the survey, “I feel good helping the community café and the students.” The student average response score was 5.66 with a standard deviation of 0.603, the best combination of high average score and low standard deviation from this group in the entire survey. The non-student average response score was lower, 5.40, with a standard deviation of 1.405. Despite more variation between the responses compared to the non-student responses to the statement about friends in the café, this is the highest average non-student score in the survey.

Table 4.8

Psychological Sense of Community – Individual System

Likert Statement	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree	No Answer
				Students			
This café is important to me.	0	1	1	2	6	19	7
I have friends in this community café.	0	4	2	6	2	15	7
I feel good helping the community café and the students.	0	0	0	2	6	21	7
				Non-Students			
This café is important to me.	1	1	0	0	4	8	16
I have friends in this community café.	2	0	0	0	2	10	16
I feel good helping the community café and the students.	1	0	1	0	1	12	15

Table 4.9

Average and Standard Deviation of Psychological Sense of Community Scores

	Students			Non-Students		
	Number of Responses	Avg.	Standard Deviation	Number of Responses	Avg.	Standard Deviation
I think this community café is a good community café.	29	5.66	0.992	15	5.53	1.258
I am not planning on leaving this community café.	28	5.21	1.081	15	5.33	1.300
For me, this community café is a good fit.	28	5.59	0.617	15	5.33	1.398
Students can depend on each other in this community café.	29	5.59	0.617	10	4.80	1.400
Students can get help from other students if they need it.	29	5.34	0.975	10	4.40	1.281
Students are secure in sharing opinions or asking for advice.	29	5.14	0.860	9	4.56	1.343
This café is important to me.	29	5.41	1.000	14	5.07	1.534
I have friends in this community café.	29	4.76	1.478	14	5.14	1.226
I feel good helping the community café and the students.	29	5.66	0.603	15	5.40	1.405

Inferential Statistics

In this section, I will discuss correlations between student food security data, sense of community responses, and time since the first visit to the café. Correlation tests were not performed on the non-student data as only six non-student respondents completed the entire survey.

Upon examining the descriptive data among students, the students whose first visit to the café was less recent than other students seemed to be those who also had less food security. The mean time from the students' first visit to the café and filling out the survey was 18.97 months, and the mean food security score for the students was 2.72. For those students who were either food secure or had marginal food security (that is, scores of zero, one, or two), the mean time from their first visit to the café to the time the survey was completed was 14.29 months. Four students who had less food security (scores of three or higher), the mean time from their first visit to the café to the time of completing the survey was 25.6 months. Using the numbers assigned to the sense of community Likert scale responses mentioned in the previous section, the mean sense of community score for students whose first visit to the café was less than 19 months was 5.23, while the mean score for the students whose first visit exceeded 19 months ago was slightly higher, 5.47. To determine if a correlation between these data existed, separate Pearson's r correlation tests were performed on the student group including time versus food security and food security versus sense of community.

Correlation Between Time Since First Café Visit and Sense of Community

As some of the respondents to the survey did not answer all questions, the number of valid student responses for inferential statistics is smaller than those presented in descriptive statistics. 29 students fully completed the survey. For the correlation calculations, the time between the respondents first visit to the café and their survey response was measured in months

(time) and sense of community was measured on a Likert scale, with values of one through 6 assigned to responses as noted previously. The critical values at $df = 27$ are .367 at $p < .05$ and .471 at $p < .01$.

Table 4.10 presents the correlation between the students' responses to the macrosystem sense of community statements and the time from the first visit to the café for each student. The correlations to the responses to the first statement, "I think this community café is a good community café," are weakly positive ($r(27) = 0.10$), showing that students who visited the café a greater time in the past tend to agree more strongly with the statement. The correlation, however, is not very significant. The average of the responses in Table 4.9 was high, and the standard deviation slightly less than 1.0, so the student responses show most think the café is good regardless of how much time has passed since their first visit. The correlation between time since the first visit of the respondent to the café and the responses to the second statement, "I am not planning on leaving this community café," are weakly positive ($r(27) = 0.13$) as well. As was the case with the correlation of the first statement with time passed since the first visit, time has little impact on those planning or not planning to leave the community café. The value is slightly positive, so those whose first visit transpired farther in the past are more in agreement with this statement. For the third statement, "For me, this community café is a good fit," the correlation of responses to the statement with time since the respondent's first visit ($r(27) = 0.22$) is also weak and positive, but slightly stronger than the correlation values of the other two macrosystem statements.

Table 4.10

Correlation Between Time and Psychological Sense of Community - Macrosystem

Macrosystem Item	*r-value (27)*
I think this community café is a good community cafe	.10
I am not planning on leaving this community café.	.13
For me, this community café is a good fit.	.22

Table 4.11

Correlation Between Time and Psychological Sense of Community - Microsystem

Microsystem Item	*r-value (27)*
Students can depend on each other in this community café.	.17
Students can get help from other students if they need it.	-.08
Students are secure in sharing opinions or asking for advice.	-.03

Table 4.12

Correlation Between Time and Psychological Sense of Community – Individual System

Individual System Item	*r-value (27)*
This café is important to me.	.35
I have friends in this community café.	.31
I feel good helping the community café and the students.	.28

Table 4.11 shows the correlation of the microsystem responses to the time since a student's first visit. These responses to these statements are an indication of how students who eat and volunteer relate to each other. The responses to the first statement, "Students can depend on each other in this community café," have a weak positive correlation ($r(27) = 0.17$) to the time since the student's first visit. The correlation between time and the responses to the second statement, "Students can get help from other students if they need it," is weak negative ($r(27) = -0.08$). This means that students with more time since their first visit to the café do not agree as strongly with this statement than those whose first visit to the café was more recent. The correlation with the responses to the third statement, "Students are secure in sharing opinions or asking for advice," is nearly neutral ($r(27) = -0.03$), so the responses show no clear correlation with respect to how much time has passed since a student's first visit.

The correlations between time from a student's first visit to the community café and the responses to the individual system statements appear in Table 4.12. The first statement, "This café is important to me," has a weak positive correlation ($r(27) = 0.35$) with the time since the first visit of the respondent. The responses to the second statement, "I have friends in this community café," also shows a weak positive correlation ($r(27) = 0.31$) with respect to the time since the first of the student. Lastly, responses to the third statement, "I feel good helping the community café and the students," is also weakly correlated with time ($r(27) = 0.28$), although this correlation is slightly weaker than what the data show for the other two statements in Table 4.12.

Correlation Between Food Insecurity and Sense of Community

Table 4.13 shows the correlation between responses to the macrosystem sense of community statements and the food insecurity of the respondent. The responses to the first

statement, “I think this community café is a good community café,” show a weak negative correlation ($r(27) = -0.25$) with the increasing food insecurity of the respondents. The responses to the next statement, “I am not planning on leaving this community café,” are invariant with respect to the food insecurity of the correspondent ($r(27) = -0.03$). Lastly, the responses to the statement, “For me, this community café is a good fit,” show a weak positive correlation ($r(27) = 0.11$) with the food insecurity of the respondent.

Table 4.14 shows the correlation between the microsystem sense of community responses and the food security of the respondent. The responses to the first statement, “Students can depend on each other in this community café,” show a weak positive correlation ($r(27) = 0.13$)) with the food insecurity of the student. The responses to the second statement, “Students can get help from other students if the need it,” shows a neutral correlation ($r(27) = -0.05$) with the food insecurity of the respondent. This neutral correlation with respect to the food insecurity of the respondent also appears in response to the third statement, “Students are secure in sharing opinions or asking for advice,” ($r(27) = 0.06$).

Table 4.15 presents the correlation between the individual system sense of community statements and the food insecurity of the respondents. The correlation between the response to the first statement, “This café is important to me,” and the food insecurity of the respondent is weakly positive ($r(27) = 0.19$). This is also true for the correlation between the second statement, “I have friends in this community café,” and the food insecurity of the respondent ($r(27) = 0.22$). The correlation between the last statement, “I feel good helping the community café and the students,” and the food security of the respondent ($r(27) = 0.40$, $p<0.05$) is moderately positive and has statistical significance.

Table 4.13

Correlation Between Food Security and Psychological Sense of Community - Macrosystem

Macrosystem Item	*r-value (27)*
I think this community café is a good community cafe	-.25
I am not planning on leaving this community café.	-.03
For me, this community café is a good fit.	.11

Table 4.14

Correlation Between Food Security and Psychological Sense of Community - Microsystem

Microsystem Item	*r-value (27)*
Students can depend on each other in this community café.	.13
Students can get help from other students if they need it.	-.05
Students are secure in sharing opinions or asking for advice.	.06

Table 4.15

Correlation Between Food Security and Psychological Sense of Community – Individual System

Individual System Item	*r-value (27)*
This café is important to me.	.19
I have friends in this community café.	.22
I feel good helping the community café and the students.	.40

Responses to Open-Ended Questions

I will now extract the qualitative data which will develop into themes in the open-ended responses. These themes develop from the common answers given to the four open-ended questions.

Merriam and Tisdale (2016) describe coding as "the process of making notations next to bits of data that strike you as potentially relevant for answering your research questions" (p. 204). Creswell and Poth (2018) describe the next step as axial coding in which "the researcher identifies one open coding category to focus on (called the "core" phenomenon) and then goes back to the data and creates categories around this core phenomenon" (p. 85). In this study, I first began by coding the responses to each of the four open-ended questions. The next step I sorted the codes into different categories. Once the categories were identified, I then grouped the categories and organized them into three themes: food quality, sense of community, and financial. All of the open-ended survey question answers were from respondents in Boone, NC., indicating that they were guests or volunteers at F.A.R.M. Café.

Food Quality

As the data were extracted from the open-ended responses, what became clear to me was that the respondents all felt the community café offered quality food. The open-ended question, "Thinking about other dining options that are available on campus, how does F.A.R.M. Café compare to those options?" seemed to elicit the most responses about food quality, but food quality was also mentioned in responses to other questions. See Table 4.16 for the data that support the food quality theme. These responses in turn reflect the that the café is fulfilling a need or desire for this kind of food, something that both the food secure and food insecure students are not finding elsewhere.

Table 4.16

Data That Support the Theme of Food Quality

Code	Quotes from Data
Better Food	"Highly exceeds on-campus dining" "Higher quality" "Way better in every way, the people here legitimately care about people's health, availability and quality of food" "Food tastes much better" "A lot better food" "Better food" "Good" "F.A.R.M. give (sic) so much health food" "F.A.R.M. has a more consistent quality and freshness"
Locally Sourced	"They use as much locally sourced ingredients as possible" "Fresh food that's locally sourced" "Local and sustainable food" "F.A.R.M. is better sourced" "Much more local and fresh"
Vegetarian Options	"F.A.R.M. Café's food is always amazing, they always have vegetarian options" "It provides a very balanced and wholesome meal with options for vegetarians"
Delicious	"Most delicious" "Really great food that changes daily" "Delicious healthy and local food"

Dining Options

Data were extracted from the last open-ended question, which was "What or where would you go to eat if F.A.R.M. Café was not here?" The responses indicated that the other dining options for students were limited, and they appear in Table 4.17. The other options range from what might be healthy (eating at home) to not healthy (fast food). These answers support the idea that the OWEE café is providing healthy food in the midst of options that may or may not provide any healthy food.

Sense of Community

One open ended question dealt with sense of community, "Does F.A.R.M. café provide a sense of community to you? How does that compare to other groups you've participated in, in the past?" This question provided the most responses about sense of community, however, the responses to the other three open-ended questions also touched on community aspects. Overall, the answers expanded into areas that I did not expect to be tied to the concept of community such as organized and helping others. See Table 4.18 for data that support the theme of sense of community. Most of the quotes dealt with inclusion and the friendly atmosphere of the café, which are opposites to the stigma and isolation that food insecure students frequently encounter. This tends to provide support for the feeling of community with other in the café.

Table 4.17

Data That Support the Theme of Dining Options

Code	Quotes from Data
Home	"Food pantry/cheap foods at grocery store" "I would eat at home. I feel that everywhere else the food is made by people who do not care as much as the staff at F.A.R.M. do." "Home, food pantries" "I would mainly just cook at home."
Fast Food	"Occasionally fast food" "I would go to fast food restaurants more often" "Taco Bell probably, just due to cost. I eat at F.A.R.M. every chance I get." "I would most likely go to other less healthy options, such as fast food."
Other Restaurants	"Campus or some other King Street establishment." "I like our Daily Bread because it's locally sourced and inexpensive." "It would depend on my mood and how much money and time I had but I would probably pack more lunches from home or go to one of the other restaurants on King Street or Cascades (café in university student union) because they have cheap meals." "Kindly Kitchen" "On campus" "On campus" "Other local/fresh restaurants in Boone." "Other restaurants on King Street or just buying more groceries for home meals."
Unknown	"Not sure." "Nowhere." "I don't know."

Table 4.18

Data That Support the Theme of Sense of Community

Code	Quotes from Data
Inclusion	"It is a community because you care no matter how much someone comes back. There is always room for everyone there."
	"All are welcome and is a very diverse and inclusive group."
	"It feels a lot more open. Unlike other places, F.A.R.M. does not feel like a clique and excludes no one from feeling included."
	"It is the most diverse and laid back."
	"People there are so friendly and loving and genuinely want the best for everyone."
	"So many walks of life at one table. It's a great environment to hear history, talk politics, lend a hand, gossip, and exchange ideas."
	"I touched on this earlier, but I have seen my professors, friends, family, and homeless residents come together at F.A.R.M. It's where a community can come together, support each other, and address the needs of our community."
	"Volunteers are family."
	"Again, you're able to connect with the community as a whole and not only the campus community."
	"It feels good to be a part of something helpful."
	"You can get a free meal out of F.A.R.M as well as meet members of the community that aren't connected through the university."
Volunteer	"Easy to be consistent since it is walkable."
	"F.A.R.M. Café is a lot closer and easier to volunteer at."
	"You get free food."
	"It's nice to get a free meal if needed."
	"You can get a free meal."
	"This was one of the best experiences I've had."
	"F.A.R.M. Café has consistently been the most rewarding and fulfilling volunteer experience I've had on campus."
Organized	"It is very easy to sign up to volunteer."
	"F.A.R.M. feels much less intimidating and much more organized than some other places."
	"Very organized."
	"It feels easier to get accustomed to than other volunteering opportunities."
	"More schedule friendly."
	"Super easy to sign up for short time slots on line."
Helping Others	"I can see the faces and attitudes of people change as they come and go."
	"Meet members of the community that aren't connected to the university."
	"You get to see first-hand the hunger and poverty within Boone and Watauga County."
	"It's the only opportunity that allows for the opportunity to be served while serving others."
	"Volunteering at the restaurant allows me to see more of a direct impact."
	"It feels good to be a part of something helpful."
	"I can volunteer for my meal, so even though I can't pay, I can still contribute."
Friendly	"Whenever I eat at F.A.R.M., I feel very welcomed by their staff. They are always smiling and waiting to serve you."
	"Welcoming environment."
	"Staff is always nice to volunteers."
	"It is more welcoming."
	"A great atmosphere."
	"It's always fun to be there, everyone is kind."
	"Community cafes are unique in that they provide a place where everyone is treated with dignity. People are able to put their guard down and make real connections with their neighbors. It's an amazing thing to witness and participate in. I've yet to find another place where folks from so many walks of life can come together and build community."
	"The people at F.A.R.M. have always made me feel respected, valued, loved, and appreciated. Everyone makes an effort to learn people's names and get to know each other. I'm autistic and it's hard for me to make friends. The friendliness in community at F.A.R.M. is unlike anything else I've experienced. I don't think I really felt like part of a local community until I started volunteering there more regularly."
	"Everyone I have ever worked with has been so nice and engaging, along with regular customers who come in."

Financial Benefit

Even though there was not a specific open-ended question related to cost of food, respondents often talked about cost when answering the question, “Thinking about other dining options that are available on campus, how does F.A.R.M. Café compare to those options?”. From the data we developed three different codes: pay-what-you-can, affordable, and dining hall which all contribute to the overall theme of financial benefit. See Table 4.19 for the data that support the theme of financial benefit.

Table 4.19

Data That Support the Theme of Financial Benefit

Code	Quotes from Data
Pay-what-you-can	"Choose what you pay."
	"F.A.R.M. gives so much healthy food for a great price. Nothing beats it!"
	"F.A.R.M. offers a nice payment alternative as well as really great food that changes daily."
	"The only place that provides fresh local food on a pay what you can basis."
	"You can work for your meal or pay what you can."
	"All are welcome and is a very diverse and inclusive group."
Affordable	"Better financially."
	"Affordable."
	"Farm is better sourced and inexpensive."
	"It seems very affordable."
	"It's the only option with affordable, delicious, healthy, and local food. It's a cornerstone of our community."
Dining Hall	"Campus options are awful and overpriced."
	"In terms of food quality, I would say F.A.R.M. Café highly exceeds on campus dining. In terms of accessibility, on campus dining has the slight advantage for on campus students due to being able to use their dining plan."
	"Much more local and fresh, however, dining hall meal plan doesn't pay for it which makes the option of eating off campus less appealing."

Summary

In this chapter, I presented the data collected from 66 respondents. The data were presented in three sections, descriptive statistics, inferential statistics, and the qualitative responses to the open-ended questions. Over half of the respondents were students and the percentage of food insecurity among students mirrored similar studies and the community café seems to foster a feeling of community among the respondents. In Chapter 5, I will discuss the results in more detail, answer the research questions, and draw conclusions from the study.

CHAPTER FIVE: FINDINGS AND RECOMMENDATIONS

This study sought to answer two research questions. The first research question is, how does a community café affect a college student's food security? The second research question is, how does a college student's sense of community change when eating or volunteering at a pay-what-you-can café? This chapter will provide a summary of findings from this research and will tie the findings back to the research questions. Implications and recommendations for practice will be discussed.

Summary of Findings

Food Insecurity

Of the student respondents, 13 out of 36 students (36.1%) were either low food security or very low food security. This is similar to what other researchers have found. Nazmi et al. (2018) did a systematic review and found that the unweighted mean food insecurity prevalence was 43.5% for college students. Bruening et al., (2017) performed a systematic review of food insecurity among post-secondary education students. The researchers found an average rate of food insecurity of 32.9% (14.1% to 58.8%), in nine peer-reviewed studies of college students in the United States. Therefore, the food insecurity percentage among student respondents in this survey is comparable to other research studies.

None of the non-student respondents were food insecure. In the United States, more students are food insecure than the general population, and while that was true among the respondents for this survey, the non-student respondents were more food secure than the average for the United States population, which was 10.5% in 2019 (Coleman-Jensen et al., 2020). The food insecurity among students eating and volunteering at the café is typical of most other

student populations, while the non-student respondents are more food secure than the overall United States population.

The students who had the greatest amount of time from their first visit eating at the café until present were also those who had the least food security among the students. This is reflected in the data of Table 4.3, and the moderate positive correlation between food insecurity and time that has passed from the students' first visit to the café ($r(27) = .49$, $p < .01$). While the café is obviously providing a source of food for the food insecure students, it does not meet the students' entire need for food. I cannot say from this study how many students would not be food secure because of their use of the community café.

The United States Department of Agriculture (USDA) defines food security as "access by all people at all times to enough food for an active, healthy life" (Coleman-Jensen et al., 2019, p. 2). The responses to the open-ended questions in Table 4.16 reflect the definition for food security that is given by the USDA. The coding of the responses reflects that most respondents noted that the food was better than other options, and that the café met the needs of vegetarians. For example, one student respondent described the food quality as "Way better in every way, the people here legitimately care about people's health, availability and quality of food". Another student respondent described the food quality as "It provides a very balanced and wholesome meal with options for vegetarians". An additional respondent noted "F.A.R.M. has a more consistent quality and freshness". Regardless of how many meals a student is having on a daily basis, the student knows the food at F.A.R.M. Café is a healthy option. Even if F.A.R.M. Café cannot provide three meals a day to a student, F.A.R.M. Café is helping to meet food needs on the basis of the healthy, nutritious food.

These answers also reflect what Fisher (2002) noted in his principles of food security. In review, Fisher (2002) identified six principles with which to structure community food security efforts. The community café is focused on the needs of the low-income communities. The second principle was broad goals, including focusing on community development and the environment. The third principle focuses on community, not just for the production of food but also its distribution. The statements from the participants support both of these principles, consistently emphasizing the community effort and locally-sourced food. The fourth principle concerns self-reliance rather than emergency food relief. The volunteers in the café noted how they liked helping others, as well as working for their meals. The fifth principle relates to local agriculture, making it a community-responsive food system. It emphasizes the importance of meeting farmers' needs and developing stronger ties between farmers and consumers. The last principle draws on diverse inputs from both individuals and agencies. Again, locally sourced food helps the local farmers, and the way that volunteers feel empowered to help build their community is reflected int heir statements. The OWEE principles help shape the café into a sustainable food community.

Lastly, the answers from students regarding where they would eat if F.A.R.M. Café did not exist, appearing in Table 4.17, show how the café addresses food security in terms of availability. A respondent said "I would eat at home. I feel that everywhere else the food is made by people who do not care as much as the staff at F.A.R.M. do". Still another respondent said, "I would most likely go to other less healthy options, such as fast food". Additional responses indicated that they would eat at home but may or may not have healthy options available, depending on their money. Some noted they would turn to a food pantry. Others clearly indicated fast food, restaurant, or campus dining options where they knew the food would be less healthy.

Three respondents were not sure what they would do if F.A.R.M. Café was not available. The common element throughout these responses is respondents would turn to less healthy, inexpensive options, and would lose what the café offers in providing a nutritious meal.

Ilieva et al. (2018), reported that students' written narratives showed their desire for more appealing and affordable food on campus. Watson (2017) found that signage and menu labeling helped to expand their knowledge of healthy food and also "nudged" them into healthy habits. Another researcher found that when students bought groceries they "bought cheap food in bulk that would stretch over long periods of time. At the same time, participants noted that they had concerns regarding the quality of this food and its potential harmful health effects" (Henry, 2017, p. 13). Another researcher noted that "every participant had food to survive. However, most of the students did not have regular access to healthful options that allowed them to have food to thrive fully" (Stebleton, et al., 2020, p. 746). By providing healthy options, F.A.R.M. Café is directing students to more nutritious food choices which is what other researchers have also found students want.

In conclusion, the data provide two answers to the question, how does a community café affect a college student's food security? The community café might meet some of the food needs of students who are food insecure, as it does provide one food option for low cost, or in exchange for volunteer time. The community café does make available a healthy meal option that might not otherwise exist for the students. In this way the café provides a means to help students toward becoming food secure, even though the need is greater than what the café alone can meet.

Sense of Community

The student responses to the psychological sense of community scale generally agreed that the community café gave them a sense of community in all three levels (macrosystem, microsystem, and individual system). This was also reflected in the answers to the open-ended

survey questions. I will now analyze the responses to the sense of community survey and compare the results to other research studies to answer the research question, how does a college student's sense of community change when eating or volunteering at a pay-what-you-can café?

The macrosystem sense of community responses showed that students and non-students felt strongly that there was a sense of community among those who ate or volunteered at the café. This means the respondents felt that the community café is a good café, they fit well within the café, and they are not planning to leave the café. While the majority of the respondents felt they were a "good fit" with the community café, the students felt more strongly about this aspect than the non-students. The slightly lower average student score for the response to the third statement could reflect that some students may be planning on leaving school and/or leaving the area, so "planning on leaving" might encompass circumstances other than simply leaving the café from dissatisfaction.

The correlation of responses to the macrosystem statements with time since the student's first visit to the café shows a positive but generally weak trend. Coupled with the high average values of the responses in Tables 4.6 and 4.9 indicating that most of the student responses were Agree or Strongly Agree, these numbers reflect that students show that they continue to feel good about the entire café community regardless of the time since their first visit to it. The slightly higher correlation values for the statement on "fit" with the café community is generally better for those who first visited the café earliest.

Regarding the correlation of responses to the macrosystem statements with the food insecurity of the respondent, the weak positive trend for the first statement indicates that the students who are food insecure do not agree with the statement as strongly as the food secure students. The raw data indicate only one student respondent expressed a form of disagreement

with the statement (Table 4.6), so most of the respondents still agree to some extent that this community café is a good one. Perhaps those who feel strongly about the café being "a good café" are responding to an aspect of "good" that is different from providing their own food security. The responses to the second statement, concerning the respondent not planning on leaving the community soon, were invariant with the food security of the respondent. This means that food security of the respondent has no effect on their agreement or disagreement with the statement. The correlation between the responses to the "good fit" statement and the food security of the respondent showed a weak positive correlation. As the average of the scores of the responses to this statement were high (5.59) and the standard deviation low (0.617), this would indicate that both food secure and food insecure students feel like they are "good fits" with the café community.

Regarding the microsystem sense of community statements, both students and non-students agree that they can depend on others, get help from others, and ask for advice and support from others. In comparing the average scores of the responses to the statements, the non-student group scores were 0.6 to 0.9 below those of the students, and the standard deviations were higher. These differences might reflect the experience of the students versus the perception of the non-student respondents. The generally high scores and small standard deviations of the responses, especially for the student responses, indicate that people feel positive about their relationships to others in the café.

Correlating the microsystem response date to the time since a student's first visit to the café, most of the students in the café agree that they relate well to each other, and that this is relatively constant regardless of how long it has been since their first visit to the café. The weak-to-neutral correlations between the responses to the microsystem sense of community statements

and the food insecurity of the respondents indicate that food insecurity is not a factor in the personal relationships among the students in the café.

In reviewing the responses to the self/individual system sense of community, the higher student response score on the importance of the café may also reflect a physical need for the café because some students are food insecure, but none of the non-students were food insecure. Regarding the responses to the statement about friends in the café, the non-student response score was higher than that of the students. This might reflect longer-term friendships among the non-students, as they may not be limited to eating and volunteering at the café for the duration of their years in college as some of the students could be. In light of the responses to other statements in the survey, the scores on this question may mean that the respondents feel part of the community in a broader sense, but in some instances, they do not believe they are making personal connections in the time they are associating at the café. The responses to the last statement show that both students and non-students provided high scores. Respondents in both groups have a strong personal sense of community stemming from feeling good about helping the café and the students. In summary, while respondents overall indicate agreement with the self/individual psychological sense of community statements in this survey, the strongest responses involved not necessarily their personal friendships, but feeling good about helping others eating and volunteering at the café.

The correlation between time from first visit and the importance of the café to the individual indicates that the café has more importance to most students as time passes. In correlating the responses to the statement about having friends in the café, the stronger agreement with this statement relative to time could reflect growing familiarity with people in the café, or possibly that people are inviting friends to café over the period of time from their

first visit to the present. The correlation of time with the statement about feeling good about helping others in the café show less of a change with time since the first visit. Students tend to feel good about helping, regardless of how much time has passed since their first visit. In summary, the responses to the individual systems scores show a weak positive correlation with the time that has passed from student's first visit to the café, indicating students who have had more time since their first visit more strongly agree with the statement, and therefore have a slightly increase personal sense of community as time has passed.

In looking at the correlation between self/individual sense of community and the food insecurity of students, the café is equally important to those students who are food secure and food insecure. Both food secure and food insecure students have friends in the café, and the students feel good about helping the café and the students. The food insecure students, however, more strongly agree with this third statement than the food secure students. On a personal level, then, the café has united the food insecure and food secure students in terms of the importance of the café and in having friends there. The food insecure students feel good also in helping other students.

In summary, the responses of the students and the non-students to the statements in the psychological sense of community survey reflect a strong sense of community across the macrosystem, microsystem, and individual/self-system levels. The strongest positive responses reflect that the café is good, that it is important to those who eat and volunteer there, and that the café is good for getting help as well as feeling good about helping others, for both students and non-students. The survey indicates that the café is a community with a common cause for both the student and non-student populations.

The responses to the open-ended questions produced codes showing the café has produced its own community that "helps others," while also being "friendly" and "inclusive". McMillan and Chavis (1986) defined sense of community with four elements. These elements are: membership, influence, integration and fulfillment of needs, and shared emotional connection. The open-ended responses from this study fit perfectly into these categories. Inclusiveness is a core value of the OWEE community café in addition to being part of the sense of community definition. For example, food security status is not a barrier to making a student feel a part of the community that eats and volunteers at the café. One respondent noted:

> Community cafes are unique in that they provide a place where everyone is treated with dignity. People are able to put their guard down and make real connections with their neighbors. It's an amazing thing to witness and participate in. I've yet to find another place where folks from so many walks of life can come together and build community.

Another noted that the café community extends beyond students, and includes others in both the town and the university:

> I touched on this earlier, but I have seen my professors, friends, family, and homeless residents come together at F.A.R.M. It's where a community can come together, support each other, and address the needs of our community.

Other researchers have noted similar findings. The social stigma around being food insecure is often overwhelming which results in feelings of shame and guilt for the student (Allen & Alleman, 2019, Henry, 2017; Morris et al, 2016; Stebleton et al., 2020). However, this is often an invisible problem since it is not obvious who is food insecure and who is food secure. A researcher noted that "both food secure and food insecure students noted that food insecurity is faceless, has no standard image, and is often silent" (Henry, 2017, p. 9). Paying for food was a barrier to social interactions (Allen & Alleman, 2019), so with F.A.R.M. Café removing payment as a barrier, students can interact with others without feeling stigmatized or shamed. As one of

the participants noted “It feels a lot more open. Unlike other places, F.A.R.M. does not feel like a clique and excludes no one from feeling included.”

Students do not just benefit from receiving food from the café, they also play a role in the mission of the café in proving meals to others. As one respondent pointed out, “It’s the only opportunity that allows for the opportunity to be served while serving others.” Another respondent noted that they café was welcoming, but fully participating in the community meant sharing in its work:

> The people at F.A.R.M. have always made me feel respected, valued, loved, and appreciated. Everyone makes an effort to learn people’s names and get to know each other. I’m autistic and it’s hard for me to make friends. The friendliness in community at F.A.R.M. is unlike anything else I’ve experienced. I don’t think I really felt like part of a local community until I started volunteering there more regularly.

The opportunity to work for meals to help with food insecurity on college campuses is a new idea that seems to be emerging from the literature. Henry (2017) noted students in her study wanted an opportunity to work for their meal. The students wanted to feel like they have earned what they have received. Watson (2017) reported that students wanted training around meal prep and learning to cook healthy meals. Martinez, Maynard et al. (2016) called for the University of California system to create workshops to educate students about cooking nutritious food on a limited budget and to provide a dedicated space to prepare, cook, and store food. A OWEE café is uniquely positioned to offer these opportunities to students. Volunteers are needed to prep and cook food which would allow the students to “work” for their meal while learning how to cook healthy nutritious food.

A potential drawback to F.A.R.M. Café is their payment method. Students would either need cash or a credit card if they wanted to pay for their meal. Currently, there is not a way that a student can use their campus dining plan at F.A.R.M. Café. One participant noted: “In terms of

food quality, I would say F.A.R.M. Café highly exceeds on campus dining. In terms of accessibility, on campus dining has the slight advantage for on campus students due to being able to use their dining plan". Another participant stated "Much more local and fresh, however, dining hall meal plan doesn't pay for it which makes the option of eating off campus less appealing." Henry (2017) recommended a reduced cost meal program which might include free or reduced meals which could be administered through the university card swipe system. Another researcher asked students for their suggestion to combat food insecurity. The most common suggestion "was for the university to offer free or reduced cost meal plans (e.g. "free meal swipes") for students at the on-campus dining halls" (Adamovic et al., 2020, p. 5). Campus administrators and F.A.R.M. Café should work together to allow for payment by using the dining hall dollars.

In conclusion, the study provides the following answers to the question, how does a college student's sense of community change when eating or volunteering at a pay-what-you-can café? The community café allows food secure and food insecure students to find equality in sharing meals and volunteering to help the café in its role of providing affordable, healthy meals. This sense of community appears to strengthen for the individual over time. Finally, the students find themselves part of community that includes not only students but other members of the university and residents of the town, and they share in the mission of the café.

Limitations

The COVID-19 pandemic greatly impacted this study. First, COVID-19 forced the researcher to change the way data were collected. The initial plan was for the researcher to be present to conduct in-person qualitative interviews and to train the F.A.R.M Café staff on the research procedure. However, the IRB was only approving research studies that could be

completed solely online. Therefore, there was no possibility to conduct in-person interviews. This in turn limited the survey to those who could respond via internet access.

F.A.R.M. Café shut down in-person dining and closed their doors to volunteers when the spring 2020 shutdowns began. F.A.R.M. Café continued to be closed to in-person dining and volunteers into the fall 2020 semester. This closure impacted the study in several ways. There were no freshman students or students new to the area in the sample, because those students did not have a chance to volunteer or eat at F.A.R.M. Café since it was closed. Only the students who had volunteered previously at F.A.R.M. Café and were on the volunteer email list were able to participate. These problems combined to produce a smaller sample size.

The racial, and ethnic diversity of Appalachian State University does not represent the diversity of the United States. Minority students are not well represented in the responses, but this also reflects the racial identity of the student body, which is 83% white, 5.62% Hispanic or Latino, 3.76% Black or African American, 3.48% Two or more races, 1.69% Asian, and less than 1% for each group of Asian Americans, American Indian or Alaska Native, Pacific Islanders or Native Hawaiian (Data USA, 2020). Because of the limited number of OWEE cafés, it is difficult to find these cafés near diverse university student populations.

Recommendations for Future Research

One limitation of the FDA Food Security Survey is that it asks the respondent about their food security over a limited time window, typically 30 days. Repeatedly surveying the same respondents over a broader period time would give a better indication of chronic food insecurity. Coupling this with an additional survey about the frequency of visits to the café for meals or volunteer work would provide a more complete picture of the OWEE café addressing the food insecurity of the students. Frequency of café visits and food insecurity persistence might offer

additional insight on why students who first visited the café long ago are also the least food secure. Students who have spent more time in the area or at the university may have better knowledge of the café. Likewise, a survey of the entire student body might reveal who is food insecure and who also has no knowledge of the café.

In this study, food secure and food insecure students both responded to the psychological sense of community scale as related to their experiences at the OWEE café. Having these same two groups complete another psychological sense of community scale related to their experiences as university students could determine if the sense of community for the university or the café is greater for one group or the other, and if the experiences of the two sets of students are similar.

This set of respondents felt that all students were welcomed at the café, regardless of their food security or insecurity status. A more diverse student population would determine if that same sense of community would extend over a broader population, or to other OWEE cafes.

While universities have proposed a variety of ideas on improving food security among students (Watson, et al. 2017), the literature appears to be slow to report on what ideas have or have not been successful. Likewise, additional surveys should be developed to help determine how close students who are marginally food secure are doing to avoid food insecurity, and whether any of their lessons can be passed on to university administration or other students.

Recommendations for Campus Administrators

College and university administrators should apply the seven principles of the OWEE café to their strategies of overcoming student food insecurity. In review, the first principle is the cafes are run as a social enterprise. The goal of university food services should be to feed all students, not turn a profit. The second principle is patrons can choose to pay what they can

afford. All students should be able to eat regardless of their ability to pay, and this should be done discreetly, so that students cannot tell who is able to pay. The third principle is that guests can choose what they want to eat, and the portion size. The goal should be to avoid food waste anywhere on campus, with equal access to all students. The fourth principle is that everyone is welcome. All students, regardless of ability to pay, should have access to any dining area of the university. The fifth principle is providing space for community. Integrate the efforts to feed the students with similar efforts to produce and distribute food to the community, and allow the community to share in the experience of dining with the students. The sixth principle is opportunity to volunteer. Students should have the opportunity to volunteer at all levels of the food production, cooking, and distribution process. This will also serve to educate them in selecting and cooking healthy foods. The seventh principle is excellent food. Serve healthy, locally grown and sustainably raised or caught ingredients, and include vegetarian options. Working with the community in this regard can strengthen the relationship of the university with the surrounding area.

As this study pointed out, F.A.R.M. Café only solves problem of one meal a day. There have been national calls for colleges and universities to improve education among their staff about enrolling eligible students for SNAP benefits (Broton & Goldrick-Rab, 2016; Dubick, et al., 2016; Freudenberg, Goldrick-Rab et al., 2019; Watson et al., 2017). Colleges and universities must have a dedicated office that helps students who are eligible apply for SNAP benefits since the community café can only offer one meal at a time.

The responses to the open-ended questions revealed that the students thought the food at F.A.R.M. café was better than other dining options, including on-campus dining options. Some of these students wished that their meal plan or dining dollars could be used at F.A.R.M. Café.

The research is clear in that there is a stigma to using resources such as a food pantry. Additionally, research has pointed out the food insecurity crisis is faceless and often invisible. Allowing students to use their meal plan or dining dollars at a community café or providing free or reduced meals with the campus meal card would erase the stigma around using resources.

Additional responses to the open-ended questions revealed that students had a sense of community from F.A.R.M. café not only from dining there, but from being a part of the mission of the café. It is an opportunity for being served while serving others. A university could provide food insecure students with low-cost meals, but the service learning opportunity of working in this café environment would provide these students with a greater sense of community and involvement with their university. An OWEE café located on a college campus could contribute to student body cohesion.

Recommendations for the UC system included teaching students how to prepare low-cost meals using fresh ingredients (Watson, et al. 2017). Perhaps lessons for cooking for freshmen students could be integrated into the meals served campus dining facilities, with students participating on a rotating basis. If this is combined with mandatory use of campus housing for freshmen, students who leave campus housing the following year can then take the cooking skills with them. This would approach would eventually produce more upper classmen capable of producing their own meal.

Summary

This study has addressed research questions related to the affect a OWEE café has on student food security and psychological sense of community. While the study was limited to a single university and limited by the emergence of the COVID-19 pandemic, results indicated that the café partially addressed student food insecurity needs by providing low-cost, healthy food.

Students also benefited from the sense of community that the OWEE café provided for both those who dined there as well as those who volunteered for work at the café. Recommendations for future research and campus administrators have been provided.

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APPENDIX A

10-item USDA Adult Food Survey Security Module

Household Stage I

HH 2. "I worried whether my food would run out before we got money to buy more". Was that statement often true, sometimes true, or never true for you in the last 30 days?

a. Often True
b. Sometimes True
c. Never True
d. Don't Know or Refuse

HH 3. "The food that I bought just didn't last and we don't have money to get more". Was that statement often true, sometimes true, or never true for you in the last 30 days?

a. Often True
b. Sometimes True
c. Never True
d. Don't Know or Refuse

HH 4. "I couldn't afford to eat balanced meals". Was that statement often true, sometimes true, or never true for you in the last 30 days?

a. Often True
b. Sometimes True
c. Never True
d. Don't Know or Refuse

If affirmative response ("often true" or "sometimes true") to one or more of the previous questions, continue with the Adult Stage I section. Otherwise, skip to end of Adult Food Survey Security Module.

Adult Stage II

AD 1. In the last 30 days, did you ever cut the size of your meals or skip meals because there wasn't enough money for food?

a. Yes
b. No
c. Don't Know

If yes to number 4, ask the following:

AD 1a. In the last 30 days how often did this happen?

a. Almost every day
b. 3 or more days

c. Only 1 or 2 days
d. Don't Know

AD 2. In the last 30 days, did you ever eat less than you felt you should because there wasn't enough money for food?

a. Yes
b. No
c. Don't Know

AD 3. In the last 30 days, were you ever hungry but didn't eat because there wasn't enough money for food?

a. Yes
b. No
c. Don't Know

AD 4. In the last 30 days, did you lose weight because there wasn't enough money for food?

a. Yes
b. No
c. Don't Know

If affirmative response ("yes") to one or more of the AD one through four questions, continue with the Adult Stage III section. Otherwise, skip to end of Adult Food Survey Security Module.

Adult Stage III

AD 5. In the last 30 days, did you ever not eat for a whole day because there wasn't enough money for food?

a. Yes
b. No
c. Don't Know

If yes to number 5, ask the following:

AD 5a. In the last 30 days how often did this happen?

a. Almost every day
b. 3 or more days
c. Only 1 or 2 days
d. Don't Know

Responses of "yes", "often", "sometimes", "almost every day" and "3 or more days" are coded as affirmative. The sum of affirmative responses to the 10 questions in the Adult Food Security Survey is the household's raw score on the scale.

Food security status is assigned as follows:

Raw Score	Food Security Status
Zero	High food security
1-2	Marginal food security
3-5	Low food security
6-10	Very low food security

APPENDIX B

Psychological Sense of Community Scale

	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
I think this community café is a good community café.						
I am not planning on leaving this community café.						
For me, this community café is a good fit.						
Students can depend on each other in this community café.						
Students can get help from other students if they need it.						
Students are secure in sharing opinions or asking for advice.						
This community café is important to me.						
I have friends in this community café.						
I feel good helping the community café and the students.						

APPENDIX C

Age:

- ☐ 18-19
- ☐ 20-21
- ☐ 22-24
- ☐ 25-30
- ☐ 31-34
- ☐ 35+

Race/Ethnicity:

- ☐ Native American
- ☐ Alaska Native
- ☐ Asian
- ☐ Black/African American
- ☐ Hawaiian/Other Pacific Islander
- ☐ Hispanic/Latinx
- ☐ Multi-Ethnic
- ☐ Non-resident/Alien
- ☐ Unknown ethnicity
- ☐ White

Gender:

- ☐ Male
- ☐ Female

College Rank:

- ☐ Graduate Student
- ☐ Senior
- ☐ Junior
- ☐ Sophomore
- ☐ Freshman

Degree Awarded or Major: _____

How did you find out about _____Café?

- ☐ Class
- ☐ Friend
- ☐ Campus Club or Organization
- ☐ Staff or Faculty at Appalachian State University
- ☐ Local to area, I knew about F.A.R.M. Café before starting in college
- ☐ Other, please specify _____

How long ago did you start eating or volunteering at _____ Cafe?

- ☐ It's my first time
- ☐ 1-3 weeks
- ☐ 1 month
- ☐ 2-3 months
- ☐ 3 months +
- ☐ Other, please specify: _____

If you eat at _____ Café, what would you say is the best thing about eating at _____ Café?

- ☐ Food is freshly prepared and locally sourced
- ☐ Affordable, I can pay only what I can afford
- ☐ I can volunteer for my meal, so even though I can't pay, I can still contribute
- ☐ It's conveniently located to campus
- ☐ I enjoy meeting new people at the café
- ☐ Other, please specify: _____

Do you volunteer at _____ café?

- ☐ Yes
- ☐ No
- ☐ I volunteer because it is required for my class credit
- ☐ I volunteer for my meal
- ☐ I volunteer as part of a club or organization (Greek life included)
- ☐ I like to give back, so I volunteer when I can
- ☐ I haven't volunteered yet, but I plan to

Which food banks or pantries do you use?

- ☐ On campus food pantry
- ☐ Hunger and Health Coalition Food Pantry, Boone, NC
- ☐ Food bank in a surrounding community
- ☐ I don't use a food pantry or food bank

Where do you live?

- ☐ On campus housing
- ☐ Sorority or Fraternity housing
- ☐ Apartment, off campus
- ☐ House, off campus

Open-Ended Questions:

1. Thinking about other dining options that are available on campus, how does _____café compare to those options?
2. Thinking about other volunteer opportunities that are available on campus, how does _____ café compare to those opportunities?
3. What or where would you go to eat if _____. café was not here?
4. Does _____ café provides a sense of community to you? How does that compare to other groups you've participated in, in the past?

VITA

Personal Background	Lori A. Borchers Fort Worth, Texas
Education	Diploma, Seaman High School, Topeka, KS, 1985 Bachelor of Science, Nursing, The University of Kansas, Lawrence, KS 1991 Master of Science, Nursing, Georgia State University, Atlanta, GA 1997 Doctor of Education, Higher Education Leadership, Texas Christian University, Fort Worth, 2021
Experience	Registered Nurse, Veterans Administration Medical Center, Palo Alto, CA, 1992-1994 Registered Nurse/Case Manager, Home Health Plus, Santa Clara, CA, 1994-1995 Graduate Teaching Assistant, Georgia State University, Atlanta, GA, 1996-1997 Graduate Research Assistant, Georgia State University, Atlanta, GA, 1996-1997 Rehabilitation Nurse Consultant, National Rehabilitation Hospital, Washington, DC, 1997-1999 Registered Nurse, North Hills Hospital, North Richland Hills, TX, 2002 Breastfeeding Educator/Registered Nurse, North Hills Hospital, North Richland Hills, TX, 2004-2006 Breastfeeding Educator/Registered Nurse, Texas Health Resources, Hurst Euless, Bedford, Bedford, TX 2006-2008 Lactation Consultant/Registered Nurse, Texas Health Resources, Hurst, Euless, Bedford, Bedford, TX 2008-2011 Adjunct Faculty, Harris College of Nursing and Health Sciences, Texas Christian University, Fort Worth, TX, 2009-2014 Lactation Consultant/Registered Nurse, Texas Health Resources, Hurst, Euless, Bedford, Bedford, TX 2012-2015 Instructor/Lecturer, Harris College of Nursing and Health Sciences, Texas Christian University, Fort Worth, TX, 2014-present
Professional Memberships	Board Member, One World Everybody Eats International Nursing Association for Clinical Learning and Simulation