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**Food Insecurity in Higher Education:
Awareness and Response**

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ABSTRACT

How many college students are food insecure? Studies show a wide array of responses to that question, but some of the factors that are consistent are student characteristics, such as living arrangements, parental status, economic status, and racial or ethnic background. Students are impacted in several physical and emotional ways with food insecurity. Colleges and universities are studying food insecurity and responding with campus pantries, educational workshops, and increasing awareness of the issues. How should students learn about the issues and the resources they can access? This paper outlines the research findings and proposes a specific learning module for one college.

Keywords: food insecurity, hunger, awareness, student success, pedagogy, institutional response, feminist pedagogy

INTRODUCTION

“People don’t eat in the long run, they eat every day.”

-Harry Hopkins

Food security refers to the situation when all people, at all times have physical, social, and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life (Food and Agriculture Organization of the U.N. [FAO] 2001). Likewise, the term food insecurity is used to characterize households or individuals that experience “limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable food in socially acceptable ways” (Eicher-Miller et al. 2009; see also Maroto et al. 2015; Knol et al. 2017; Silva et al. 2017; Meza et al. 2018; McArthur et al. 2018; Payne-Sturges et al. 2018).

There is a growing awareness that a substantial share of college students, particularly those from socially and economically disadvantaged backgrounds, struggle with food insecurity at rates higher than the national average (Broton et al. 2018). Recent estimates indicate that nearly half of college students in the U.S. experience some form of food insecurity (Nazmi et al. 2018).

Food insecurity is a salient and silent threat to student success on college campuses. Food insecurity has the potential to negatively impact students’ academic performance, general wellbeing, social relationships, and mental health (Cady 2018; Henry 2017). At Minnesota State University, Mankato nearly 64% of students experience some level of food insecurity (Briggs et al. 2018). Among those who experience food insecurity at Minnesota State University, Mankato, 39% reported a negative impact on their academic performance (Briggs et al. 2018). Because student success is linked to retention and graduation rates, campus food security merits institutional attention by the administration, faculty, and staff.

Though food insecurity impacts college students, a lack of awareness about the issue may allow it to perpetuate without institutional responses: “While some food secure [students] were surprised such a problem existed on campus, food insecure [students] felt recognition of the problem would increase university-led solutions” (Henry 2017). There is a gap in the literature on food insecurity responses on college campuses. Therefore, I propose a learning module to raise awareness of the issue and available resources through classwork that is empowering and

challenges stigma and shame. This lesson could be used in any general education course at Minnesota State University, Mankato, and could be easily modified for other classrooms or campuses.

LITERATURE REVIEW

Methodology

This literature review involves a meta-analysis of literature examining food insecurity in U.S. higher education institutions. Doing a meta-analysis allows the researcher to recognize patterns in the intentions, methodology, participants, and results of scholarship on a narrow topic (Ingram and Teres 2018).

A search was conducted of articles using the databases EBSCO and ProQuest (Including only ASSIA, MEDLINE, ERIC, Ethnic News Watch, Nursing & Allied Health Database, PAIS Index, PsycINFO, and Sociological Abstracts). A systematic search was done using different combinations of the keywords “food insecurity,” “food security,” “hunger,” “higher education,” “univerit*,” “college*,” “study,” “prevalence,” “impact,” and “institutional responses.” Restrictions were added to the searches including peer reviewed, scholarly articles, in English, published in the United States, and from the last 10 years. I reviewed the titles and abstracts of articles and selected empirical studies that reported on one or more of the following:

- prevalence of food insecurity in higher education institutions in 2018;
- impact of food insecurity in college students’ academic success; or
- institutional responses or initiatives that address campus food insecurity.

In addition, I examined the reference lists of articles to identify additional potentially relevant studies.

A second search was conducted to identify non-peer reviewed sources such as news articles, reports, lesson plans, etc. These were identified from a Google search using different combinations of the keywords “food insecurity,” “food security,” “hunger,” “U.S.,” “students,” “college students,” “pedagogy,” “lesson plans,” “activities,” and “games.”

Food Insecurity

Food insecurity is a symptom of our social, economic, political, and ecological systems in crisis. Hunger is not due to a lack of food production or availability but rather to the unequal and unjust distribution of people's entitlements to social and economic support. The economically, politically, and socially powerful also control access to food and conditions under which food is available, effectively limiting the capabilities of others. (Gallegos and Chilton 2019).

Since 1995, the U.S. Department of Agriculture (USDA) reports annual updates on national statistics on household food security (Coleman-Jensen et al. 2018). Household food security status is measured by the U.S. Household Food Security Survey Module (HFSSM). The 18-item survey is administered annually as part of the U.S. Census Bureau's Current Population Survey, with 10-items concerning the general household and 8-items referencing child food insecurity. Based on the number of alternative responses, households are classified as food secure [scores of 0-2] or food insecure [scores of 3-18]. A shorter 10-item and 6-item questionnaires are available and applicable to households with and without children (Alaimo 2005; Coleman-Jensen et al. 2018). Table 1 outlines the USDA definitions of food (in)security.

TABLE 1. USDA Ranges of Food Security and Food Insecurity

Classification	Range
Food security	<i>High food security:</i> No reported indications of food access problems or limitations
	<i>Marginal food security:</i> One or two reported indications - typically of anxiety over food sufficiency or shortage of food in the house. Little or no indication of changes in diet or food intake.
Food insecurity	<i>Low food security:</i> Reports of reduced quality, variety, or desirability of diet. Little or no indication of reduced food intake.
	<i>Very low food security:</i> Reports of multiple indications of disrupted eating patterns and reduced food intake.

Source: Economic Research Service, USDA, 2018.

In 2017, the prevalence of food insecurity in the United States was 11.8% of all households, of which 4.5% experienced very low food insecurity (Coleman-Jensen et al. 2018). This translates into more than 40 million individuals living in food insecure households. The most recent report from the USDA shows that the prevalence of food insecurity varies considerably among households with different demographic characteristics. Rates of food insecurity are higher than the average in household with children, single-parents, African American/Black or Hispanic, below the poverty line, in principal cities and rural areas, and in the Southern and Midwestern U.S.

Rates of food insecurity are higher than the national average among all households with children (15.7%) and households headed by a single-parent (19.7-30.3%). More than a third of female-headed households with children experience food insecurity. Approximately 21.8% of African American/Black and 18.0% of Hispanic households experience food insecurity at some point throughout the year. Only 30.8% of households with incomes below the poverty line reported food insecurity in 2017. Food insecurity was higher than the national average for households located in principal cities (13.8%) and rural areas (13.3%). Regionally, the prevalence of food insecurity is higher in the South (13.4%) and the Midwest (11.7%) than in the West (10.7%) and the Northeast (9.9%).

Research on the prevalence of campus food insecurity is limited. There are potentially millions of college students who experience or are at risk of being food insecure, but who are invisible in national estimates.

Prevalence of Food Insecurity in Higher Education Institutions

The national rate of food insecurity among university students is unknown. A systematic review estimated food insecurity among college students at 42% nationwide (Bruening et al. 2017). Correspondingly, another estimate found that food insecurity could impact almost one in two college students in the United States (Nazmi et al. 2018). Table 2 shows the rates of food insecurity among college students in recent peer-reviewed studies range from 15-88%.

TABLE 2. Peer-Reviewed Studies on the Prevalence of Food Insecurity Among College Students Published in 2018.

Institution/Region	Sample <i>N</i>	Survey	Food Insecurity	Citation
Large, public mid-Atlantic university	237	HFSSM; in the past 12 months	15%	Payne-Sturges et al.
A university in North Carolina	456	AFSSM; before college and first-year	21.50%	McArthur et al.
Arizona State University	1138	6-Item Short Form; in the past 30 days	25%	Bruening et al.
University of New Hampshire	943	6-Item Short Form; in the past 12 months	25%	Davidson and Morell
Large, public university system, Southeast USA	4824	AFSSM; in the past 12 months	35.60%	Wooten et al.
Midwestern Catholic university	560	6-Item Short Form; in the past 30 days	35.80%	Cuy Castellós and Holcomb
5 community colleges in southern California	6,103	A dichotomous measure based on students indicating challenges with hunger; in the past 2 years	36%	Wood and Harris
Large, urban, public midwestern university	508	6-Item Short Form; in the past 12 months	36.70%	Philips et al.
Gallaudet University; Washington, DC	166	6-Item Short Form; in the past 12 months	39.30%	Keogh et al.
Community colleges in Maryland	217	Modified HFSSM (27-item); in the past 12 months	52%	Spaid and Gillett-Karam
Large, rural university in Appalachia	692	AFSSM; in the past 12 months	56.60%	Hagedorn and Olfert
University of California, Berkley	25	Open ended interviews questions related to food insecurity	88%	Meza et al.
121 two-and-four-year colleges and universities in 26 states	~30,000	6-Item Short Form; in the past 12 months	52-67%	Broton and Goldrick-Rab

Campus food insecurity is predominately reported by independent studies using the USDA HFSSM, Adult Food Security Survey Module (AFSSM), or the 6-Item Short Form of the Food Security Survey Module (Coleman-Jensen et al. 2018). These surveys ask individuals to rate the frequency that they experience running out of food or running out of money for food, not having enough money for balanced meals, skipping meals, and how frequently they felt hungry but did not eat because of not having enough food or money for food (see Appendix A).

The disparities in the estimates of food insecurity could be explained by the variations in how food security is measured (Phillips et al. 2018). For instance, some studies modified the scale to measure food insecurity over the last 30 days while others measured it over the past 12 months; or the scope of the study, ranging from a single institution to multi-institutional studies.

Though there is limited research on campus food insecurity, certain populations are potentially at higher risk-including first-year student, living off campus, racial and ethnic minorities, non-traditional student, and community college students.

First-year students. There are significant changes that occur during the transition from high school to college that make first-year students particularly vulnerable to food insecurity (Maroto et al. 2015; Bruening et al. 2016; Kasper et al. 2016; McArthur et al. 2018; Wood and Harris 2018). Wooten et al. (2018) discovered that students who experience food insecurity before college were five times more likely to be food insecure during college. Similarly, at a University in North Carolina, first-year students living on-campus reported food insecurity rates three times higher than compared to when they lived at home with their parents or guardians (McArthur et al. 2018).

In general, studies have shown that undergraduate students are more likely to experience food insecurity than graduate students (Kasper et al. 2016; Wooten et al. 2018). For instance, a study on the predictors of campus food insecurity found that undergraduate students were three times more likely to experience food insecurity than graduate students (Kasper et al. 2016).

First-year students living in residence halls are presumed to have more access to institutional support and thus are perceived as protected from food insecurity (Bruening et al. 2016; Knol et al. 2017). Nonetheless, first-year students living in the dormitories at Arizona State University reported higher rates of food insecurity at the end of the fall and spring semesters. According to Bruening et al. (2018):

These are times when students may have run out of food provided by parents, have exhausted dining hall meal allotments, and/or have experienced higher stress due to demands of final exams and projects (p. 8).

Housing instability. Most postsecondary institutions do not provide on-campus housing (Silva et al. 2017; Broton and Goldrick-Rab 2018). The most recent estimates indicate that one in two community college students and at least one in ten students attending a four-year university have experienced housing instability since starting college (Broton and Goldrick-Rab 2018; Wood and Harris 2018).

A study at the University of Alabama showed that students who live off-campus are at a higher risk of experiencing food insecurity than those who live on-campus (Knol et al. 2017). Respectively, a study on the prevalence of food insecurity in community colleges reported that among food insecure students who live off-campus, 82% live alone, 70% have at least one roommate, and 61% live with a partner (Maroto et al. 2015). Wood and Harris (2018) suggested that housing instability is the most prevalent predictor of food insecurity for racial and ethnic minorities.

Community colleges. Community college students have been significantly overlooked in prior studies on food insecurity. Community colleges, with their “open access” mission, enroll a disproportionate number of underserved and non-traditional students (Maroto et al. 2015; Broton and Goldrick-Rab 2018; GAO 2018) and educates nearly half of all undergraduates in the U.S. (Broton and Goldrick-Rab 2018). In fact, Spaid and Gillett-Karam (2018) found that marginalized populations are more likely to begin their education at a community college.

Maroto et al. (2015) reported the rates of food insecurity in two community colleges in Maryland. One located in a low-income, urban district, and the other. in an affluent, suburban neighborhood. In the first college, 60% of students indicated food insecurity, compared to 53% in the second institution. The authors argue that food insecurity may be more common and severe in low-income urban areas.

Financial distress. A study on the experiences of food insecurity among community college students reported that being low-income was a significant predictor of food insecurity (Wood and Harris 2018). The evidence suggests that college students are doing what they are supposed to do, including working and applying for financial aid, and still struggle to make ends meet.

According to the National Postsecondary Student Aid Study (NPSAS) at least 64% of students nationwide worked part-time in 2016. Correspondingly, Broton and Goldrick-Rab (2018) reported that 62% of food insecure college students were employed, working on average 30 hours per week.

A study on students enrolled at three campuses of a large university system in the South showed that those who had a part-time job were almost two times more likely to be food insecure (Wooten et al. 2018). The study demonstrated that food insecure students struggle to afford food and pay for their housing and school expenses, and sometimes they have to make a choice. Moreover, the study identified that students who received scholarships that did not need repayment were more likely to be food secure.

Racial and ethnic minorities. A recent report on food insecurity and systematic inequality found that people who experience discrimination in school, hiring, getting medical care, applying for public assistance, getting housing, or during interactions with law enforcement are twice as likely to experience food insecurity (Chilton et al. 2018).

Several studies have demonstrated that college students from racial and ethnic minority groups are significantly more likely to experience food insecurity (Maroto et al. 2015; Kasper et al. 2016; Twill et al. 2016; Spaid and Gillet-Karam 2018; Payne-Sturges et al. 2018; Wood and Harris 2018; Wooten et al. 2018). In fact, Kasper et al. (2016) reported underrepresented minorities were almost three times more likely to experience food insecurity.

In a recent study, Wood and Harris (2018) found that in community colleges across southern California, multiethnic students had the highest prevalence of food insecurity at 16.5%, closely followed by African American/Black students at 16%, and slightly below, Latinx students at 10.4%. Whereas, Asian and White students had the lowest rates of food insecurity at 9.2%.

In a prior study, Maroto et al. (2015) found a similar relationship between race/ethnicity and food insecurity. The study reported that among students who reported food insecurity, 71% identified as multiracial, 61% as African American/Black, 50% as Hispanic, and 32% as White.

Non-traditional students. Today, more than 70% of college students are classified as non-traditional (GAO 2018). Students who are defined as non-traditional have one or more of the following characteristics: financially independent, have a child or a dependent, single-parent, lack a traditional high school diploma, delayed college enrollment, enrolled part-time, and/or employed full-time (GAO 2018; Nadworny 2018).

According to the National Center for Education Statistics, about half of all undergraduates in the U.S. are financially independent, one in five are at least 30 years old, one in four care for a child, two out of five attend a community college, and 44% have at least one parents who never completed their bachelor's degree. The evidence indicates that non-traditional students experience unique challenges that makes them more vulnerable to food insecurity while attending college.

According to the Institute for Women's Policy Research, 2.1 million undergraduates are single moms; they make 11% of the undergraduate population. In a study on food insecurity among women attending community colleges, the researchers emphasized that the more than 70% of student parents are women. The study reported women with children were approximately thirty times more likely to experience food insecurity (Spaid and Gillett-Karam 2018).

According to the NPSAS, the average college student is 26 years old (GAO 2018). Spaid and Gillett-Karam (2018) showed that women over 20 years old were three times more likely to be food insecure. In another study at a southern California community college, the researchers reported that White students between the age of 25 and 31 were two times more likely to experience food insecurity (Wood and Harris 2018).

Impact of Food Insecurity on College Students

Food insecurity can have disadvantageous consequences on students' success (Spaid and Gillett-Karam 2018). The broad concept of student success encompasses everything "students must do to successfully complete their college program."

Food insecurity in college may lead to disruption or even failure to get a degree. The long-term benefits of obtaining a college degree is demonstrated in an article about the value of education provided by public universities in Minnesota. The authors found that people with more education are more likely to be employed, receive higher wages, and be healthier (Damon and Glewwe 2011). They also identified several spillover effects, including increased civic participation and voting, reduced crime, and through taxes, the redistribution of private benefits to the rest of society.

Food insecurity has been found to negatively affect academic performance, general wellbeing, social relationships, and mental health among college students (Cady 2018; Henry 2017). Because these outcomes are linked to retention and graduation rates, campus food security merits institutional attention by the administration, faculty, and staff.

Student success. In general, food insecure students have demonstrated lower academic performance including lower GAs, delayed graduation, and discontinuous enrollment (Maroto et al. 2015; Martinez et al. 2018; Spaid and Gillett-Karam 2018; Wooten et al. 2018).

Maroto et al. (2015) found that food insecure students attending two community colleges in Maryland were more likely to report a low GPA [between 2.0-2.49]. It is important to acknowledge GAs lower than 2.5 often disqualifies students being considered for scholarships.

In a recent study on food insecurity and academic disruption among college students, the average GPA for students who identified as food secure was 3.36, compared to 3.18 for students with low food security, and 3.11 for students with very low food security (Philips et al. 2018). The study also identified that students who experience food insecurity are significantly more likely to consider dropping out of college, reduce their course load, or neglect their academic responsibilities due to a part- or full-time job.

In a qualitative study at the University of California, Berkley, all participants reported their academic performance was negatively affected by food insecurity (Meza et al. 2018). One student described:

If you don't have enough food, you don't have the energy to study. Food insecurity affects all aspects of your life. You just feel worse about yourself (p. 7).

In another study on behavioral characteristics for academic success, the researchers found that food insecure students more frequently reported lower GPAs and delayed graduation (Hagedorn and Olfert 2018). Food insecure students were also less likely to attend and perform well in classes and more likely to withdraw from a course. Similarly, Silva et al. (2017) reported that students who indicated food insecurity were nearly fifteen times more likely to have failed a class and six times more likely to have withdrawn from a course.

General wellbeing. Some studies suggest a significant relationship between nutritional status, general wellbeing, and academic performance (Knol et al. 2017; Silva et al. 2017; Bruening et al. 2018; Keogh et al. 2018; Martinez et al. 2018; Meza et al. 2018; Payne-Sturges et al. 2018; Spaid and Gillett-Karam 2018). In fact, food insecure students frequently reported struggling to eat balanced meals, skipping meals, and/or not having enough food or money for food (Silva et al. 2017; Meza et al. 2018; Payne-Sturges et al. 2018; Spaid and Gillett-Karam 2018).

Kasper et al. (2016) found that food insecure college students reported a lower intake of fruits and vegetables. The study indicated that students who consume more servings of fruits and vegetables tend to report higher GAs. Moreover, two studies on food insecurity among first-year students living on-campus showed that those who rarely consumed breakfast or ate home-cooked meals, and frequently consumed fast food or reported other unhealthy eating patterns, were significantly more likely to report food insecurity (Bruening et al. 2016; Bruening et al. 2018).

Spaid and Gillett-Karam (2018) reported a significant correlation between having low energy and food insecurity. In a qualitative study on the academic consequences of food insecurity, many students discussed feeling fatigue or lacking the energy to perform well in school (Meza et al. 2018). One student said:

After skipping breakfast and lunch for a few days every week [for a] year, I was more tired than usual. I didn't have the stamina so that almost made me quit science. I just felt weak most of the time. I felt like I couldn't continue with the STEM field because I didn't have the energy (p. 7).

Poor mental health. Martinez et al. (2018) examined the relationship between food insecurity, poor mental health, and lower academic performance. The study discovered that food insecurity directly impacts GPA and mental health.

In a qualitative study on food insecurity and its impact on mental health and academic performance, students reported several common experiences, including (Meza et al. 2018:4-5):

1. Stress of food insecurity interfering with their daily life
2. Fear of disappointing family
3. Jealousy or resentment of students in more stable food and financial situations
4. Inability to develop meaningful social relationships
5. Sadness from reflecting on food insecurity
6. Feeling hopeless or undeserving of help
7. Frustration and anger towards the academic institution for not providing enough support

In the study, students often recount feeling stressed, anxious, or worried about their food insecurity. One student described:

It was just stressful knowing that there's no food back home. Mostly it affected my studies because instead of being well fed and working, I would do my work, be hungry, and think about food. I would finish my work, finally eat, and then it's a repeating cycle (p. 4).

Food insecure students more frequently reported symptoms of depression and anxiety (Bruening et al. 2016; Bruening et al. 2018; Payne-Sturges et al. 2018). A study at Arizona State University reported that food insecure students were two times more likely of experiencing high levels of stress and depression (Bruening et al. 2018). Similarly, Payne-Sturges et al. (2018) found that food insecure students more frequently reported depression symptoms such as fatigue and poor appetite. These studies concluded depression and anxiety symptoms significantly disrupted students' academic performance.

Institutional Responses to Campus Food Insecurity

Almost every study discussed possible solutions to address food insecurity. However, only a few of the studies' actual purpose was to evaluate the success of institutional responses to campus food insecurity. Nevertheless, there are valuable lessons and evidence-based suggestions in all studies, whether directly or indirectly discussed

It is important to note that the role of the institution is to supplement, not to replace public assistance (Poppendieck 1997). Federal food assistance programs, such as Supplemental Nutrition Assistance Program (SNAP), remain the primary response to food insecurity. However,

since 1980, federal law has restricted traditional college student from receiving SNAP benefits (GAO 2018). Students are often not aware that they may be exempt from the restriction if they meet at least one of the following additional criteria:

- individuals younger than 18 or older than 50 years of age;
- parents caring for a child under the age 6;
- parents caring for a child aged 6 to 11 who is unable to obtain childcare to attend school and work;
- single parents caring for a child under 12 years old and enrolled full time;
- work at least 20 hours per week;
- participating in a state- or federally-funded work-study program;
- receiving Temporary Assistance for Needy Families (TANF) assistance; or
- having a physical or mental disability

A report from the U.S. Government Accountability Office (2018) showed that approximately two million vulnerable students who were potentially eligible for SNAP did not receive benefits in 2016 because of a lack of awareness

Campuses are responding to food insecurity mainly with short-term initiatives such as food pantries. Sara Goldrick-Rab, a leading scholar and activist on food insecurity in higher education, argues that campus pantries “only scratch the surface of the issue” and advocates for initiatives that “address the issue systematically” (Harris 2019).

Campus pantries. In general, the purpose of a campus pantry is to provide short-term, emergency assistance to students struggling with food insecurity. Campus pantries were identified as the primary means by which higher education institutions address student food insecurity (Twill et al. 2016; GAO 2018; Broton and Goldrick-Rab 2018; Bruening et al. 2018; Reppond et al. 2018; Spaid and Gillett-Karam 2018). According to the College and University Food Bank Alliance, the first known campus pantry started at Michigan State University in 1993 (Reppond et al. 2018), and by 2018, over 650 higher education institution reported having a food pantry (GAO 2018). However, little is known about campus food pantries themselves.

Broton and Goldrick-Rab (2018) reported that only 31% of students with food insecurity obtained free food from the campus pantry, compared to 5% of food secure students who utilized

the service. The study suggested that low rates of participation could be because of a lack of awareness or the stigma and shame associated with receiving assistance. In fact, in a previous qualitative study on the experience of building a campus pantry, the researchers reported that students utilizing campus pantries were very likely to experience stigma (Twill et al. 2016).

In another qualitative study, Reppond et al. (2018) identified six dimensions of a successful campus pantry program: accessibility, available items, student success, support, partnerships, and awareness. Campus pantry directors and staff from sixteen universities and colleges in Michigan rated student success as the most critical dimension. Participants in the study contributed with over a hundred statements, discussing their commitment to campus food security. For instance:

- We are working on expanding this resource to add to other available opportunities
- on campus that will help our college promote student success.
- Provide nutrition education and cooking demonstrations.
- Hope to provide financial literacy workshops.
- We dream to offer peer mentoring to have an open dialogue within our student body without the presence of faculty/staff/administrators.

Educational workshops. The literature briefly discusses the potential of programming workshops to address food insecurity -including financial literacy (Knol et al 2017; McArthur et al. 2018) and nutrition education (Eicher-Miller et al. 2009). In a study on the experiences of first-year students, food insecure participants requested learning opportunities on budgeting, meal planning, and healthful eating skills (McArthur et al. 2018). Similarly, Knol et al. (2017) suggested that higher education institutions should implement workshops on financial management and meal planning.

Eicher-Miller et al. (2009) researched the impact of a Food Stamp Nutrition Education program on food insecure, low income, and head of household women. The program consisted of a partnership between a mentor and a client; where the mentor modeled food preparation and healthful skills in the clients' home. Some of the lessons included *shopping basics, saving dollars when you don't have a dime, eating on the run, healthful snacks, and making something grand from what's on hand*. The study concluded that nutrition education is an appropriate intervention for food insecurity.

Peer support. Away from family, friends, and other social networks, many students may feel that they do not have a support system (Durfee and Rosenberg 2009) study on food insecurity among deaf college students reported that those who had no peer-support were significantly more likely to experience food insecurity (Keogh et al. 2018). The study indicated that peer-support programs could help prevent and reduce the risk of food insecurity and poor mental health. It is important to note that this is the only study found that investigated the experiences of food insecurity among students with disabilities. In the conclusion, the researchers shared that “any effective university wide... program must be inclusive and accommodate students with disabilities to improve those students” overall experience.

Keogh et al. (2018) defined peer-support as “the support received by friends.” Thinking about institutional responses to food insecurity, the definition of support should be expanded to consider support from faculty and staff.

The stereotypical image of the starving college student surviving on instant Ramen noodles is well known. Many students stated that being broke, eating cheap, and not having enough to eat was perceived as normal (Henry 2017). Food insecurity is often avoided in conversations, which reinforces the silence of campus food insecurity. One student admitted, “I struggle silently because, in the end, everybody wants to keep their dignity.” In addition, the pressure to spend money with friends to go eat out or drink contributes to an emotional burden, negative self-worth, and social isolation associated with food insecurity. The shame from the inability to provide for themselves is a common factor that stops students from seeking help. Another students noted that “making friends itself is expensive, so I don’t really have a huge support network.”

FOOD INSECURITY AT MINNESOTA STATE UNIVERSITY, MANKATO

A report at Minnesota State University, Mankato (MNSU) found that nearly 64% of students experience some level of food insecurity (Briggs et al. 2018). Among those who experience food insecurity, 39% reported a negative impact on their academic performance. In addition, the university disclosed that fewer than fifty percent of students graduate within six years and approximately one-third of first-year students do not come back for a second year (Institutional Analytics and Strategic Effectiveness 2018). According to the university, some of

the main reasons students delay their education include personal, family, and financial complications.

The report on campus food insecurity showed that students are working, purchasing meal plans, and applying for financial aid, and still struggle to meet their basic needs -including food and housing security (Briggs et al. 2018). Most of our students are employed and working at least 20 hours a week. Regardless, almost one-third have more than \$20,000 in credit card debt and forty percent have at least \$20,000 in loans. In addition, among the 2,798 students who live on-campus and are required to purchase a meal plan, more than half experience some level of food insecurity (Briggs et al. 2018; Institutional Analytics and Strategic Effectiveness 2018). For instance, purchasing the Maverick 14 meal plan for \$3,015 a year only covers two meals a day at the dining center and includes \$200 in credit for the remainder of the semester. When students run out of swipes or when they do not use all their pre-paid meals for whatever reason, they are at an increased risk of experiencing food insecurity.

The evidence suggests that food insecurity disproportionately affects populations that are already underserved on college campuses such as students of color, first-generation, low-income, with disabilities, and non-traditional students. A little over 40% of students at the university are first-generation (Institutional Analytics and Strategic Effectiveness 2018). Only 28.8% of students who applied for federal financial aid were Pell Grant eligible during the 2018-2019 academic year; and fewer 70% of first-year students completed a FAFSA application. In addition, the university enrolls more than 2,000 students of color and over 1,000 international students. It is important to acknowledge that international and undocumented students do not qualify for many federal or institutional assistance programs, and may need additional help navigating food insecurity with what is available to them.

The report also identified a lack of awareness on the issue and available resources (Briggs et al. 2018). Sixty-two percent of students do not know enough about available resources and more than half do not have anyone to ask for help. The university faculty and staff actively promote accessibility and academic success (including free tutoring and writing labs) resources. Increasing awareness of the issue and available resources may encourage food insecure students to reach out for help and realize they are not alone. In the article *Basic Needs Security and the Syllabus*, Sara Goldrick-Rab encourages instructors to include a statement on their syllabus that acknowledges the financial challenges students may face. For example:

Any student who has difficulty affording groceries or accessing sufficient food to eat every day, or who lacks a safe and stable place to live, and believes this may affect their performance in the course, is urged to contact the Assistant Director of Community Engagement, Karen Anderson for support. Furthermore, please notify the professor if you are comfortable in doing so. This will enable her to provide any resources that she may possess.

Currently at Minnesota State University, Mankato, the office of Community Engagement promotes community resources such as Crossroads Campus Cupboard and Echo Food Shelf. However, there are no institutional responses in place to address campus food insecurity. Nonetheless, there is a growing interest and commitment among faculty and staff to address campus food insecurity through events, workshops, and class projects. For instance, the department of Community Engagement provides leadership to the Crossroads Campus Cupboard and recently hosted Clare Cady, Director and Co-Founder of College and University Food Bank Alliance, for a workshop on how to administer a campus food pantry. Similarly, the library has programmed workshops on budget meals and meal prepping on a Crock Pot.

The lesson I propose is intended to fill the gap on educational responses available to instructors. The learning module is intended to promote awareness on the issue and available resources through empowering classwork.

EXPLANATION OF THE PROJECT

We need to design our pedagogical approaches for the students we have, not the students we wish we had. This requires approaches that are responsive, inclusive, adaptive, challenging, and compassionate (Goldrick-Rab and Stommel 2018).

Pedagogical Orientation

There is no literature on what pedagogical orientation is best for teaching about food insecurity in the classroom. The literature is beginning to provide a more robust understanding of the prevalence of campus food insecurity, but stops short of developing ways to address the issue. Raising awareness of campus food insecurity requires the experience and wisdom of students themselves, and embracing multiple forms of knowledge, humility, and courage (Gallegos and Chilton 2019). Feminist pedagogy is a promising framework to promote meaningful, effective, and lasting changes.

Students come from a wide range of backgrounds and realities (Durfee and Rosenberg 2009); and students may not know each other well and understand the diversity of experiences other students have. Among students who experience food insecurity, some might not be aware that, statistically speaking, many others are going hungry too. Students might think their condition is because they do not work hard enough or that it is simply part of the “college experience.” Others might feel embarrassed or ashamed to open up to their peers and parents; or might not have anyone to rely on. The stigma of receiving assistance might prevent vulnerable students from seeking support. Besides, students struggling with food insecurity are too busy worrying about their academic and professional success or working hard to make ends meet.

The role of an instructor is not to fix the problem, but to provide students with awareness and resources, and empower them to address their situations (Durfee and Rosenberg 2009). A study from the journal of Social Work Education discuss the benefits of inviting guest speakers from other departments, local farmers, or activists (Kaiser et al. 2015) to make resources feel much more accessible and welcoming than just a resource list (Durfee and Rosenberg 2009).

Some students who experience food insecurity may question their struggle based on radical stereotypes of what hunger should look or feel, which rarely reflects lived experiences. Therefore, feminist pedagogy encourages instructors to develop their lessons with a student focus. The central idea is that the students connect their personal experiences with the issues discussed in class and enrich the learning community with their perspectives and wisdom. In other words, the student is the expert and the victim of campus food insecurity, and what they have to share is empowering and a valuable learning opportunity (Durfee and Rosenberg 2009).

In a feminist classroom, students engage in simulations, dialogue, and redefine their notion of campus food insecurity. A goal of feminist pedagogy is to address individual and social inequalities by empowering students (Macomber and Rusche 2011) and an approach is to challenge “ideologies of individualism that prevent many students from seeing broader social patterns of inequality, power, and privilege.” The learning module proposed will implement the core principles of feminist pedagogy as outlined by Durfee and Rosenberg (2009:106) and Macomber and Ruche (2011:215):

- *recognition that social inequalities exist in society:* where students recognize that systemic inequalities exist and learn how to redefine their experiences
- *empowerment of the student:* When they become aware of how their lives are

shaped by broader social arrangements; and have a new understanding and resources to address their situation.

- *reformation of the professor-student relationship*: so that everyone participates and learns from each other in a respectful learning community.
- *privileging the individual voice*: by having students willingly share their experiences with the class in a safe and welcoming environment.
- *respect and valuing of diverse personal experience*: by engaging students in active listening and reflection; and maintain confidentiality

Some of the pedagogical tools employed to stimulate personal reflection, learning, and empowerment include simulations and games. Harris et al. (2015) advised using experiential and active learning exercises to introduce students to issues of hunger and inequality. These involve activities that provide students with authentic and engaging simulations. Such activities are intended to help students relate to “those whose lives may be very different from their own.” Harris et al. (2015) also discuss that engaging students in simulations “depersonalize” the material and allows them to feel more comfortable confronting issues as someone else. These principles will be applied in the development of this learning module.

Project Outline

My contribution to existing initiatives that address campus food insecurity is a transdisciplinary, interactive learning module that empowers students to redefine their notion of campus food insecurity. The lesson is intended for first-year students at Minnesota State University, Mankato, but could be easily modified for other classes or institutions. I implemented the lesson in an upper-level class, Food in the U.S. History, to supplement their unit on food insecurity.

In this lesson plan I provide a complete learning module for any instructor to implement with little or no knowledge on food insecurity. This allows for any general education professor, teaching assistants (TAs), and First-Year Seminar instructors to quickly put together a class that will discuss various subjects.

The learning objectives of the lesson plan are for students to a) identify structural responses to address campus food insecurity, b) recognize food insecurity on campus, and c)

explain the relationship between food insecurity and social inequalities. The learning module consists of an engaging one-hour lesson plan and a list of extension resources to modify the session to meet the class objectives up to an entire unit.

The instructor's guide starts with a pedagogical invitation to acknowledge and address students' basic needs in the classroom and a general overview of food insecurity in higher education. Instructors will also find the necessary instructions and materials to implement an entire lesson.

During an informal conversation through Twitter with the sociologist and activist Dr. Goldrick-Rab, she recommended students read her recent opinion article from the New York Times, "It's Hard to Study if You're Hungry." This piece will introduce students to campus food insecurity. The reading is intended help students start thinking about food insecurity as a result of systematic inequalities rather than an individual problem with example on how financial aid and SNAP restrictions impacts vulnerable populations. The lesson plan includes an accompanying reading guide for the recommended reading and an excerpt that can help initiate the class discussion.

Discussing food insecurity can be an uncomfortable and/or embarrassing topic for many students who may struggle with food security themselves. The general idea of the lesson is to facilitate an empowering discussion among students to redefine notions of campus food insecurity and challenge stereotypes, stigma, and shame. The lesson plan highlights five pedagogical strategies to teach about food insecurity based on what I have learned in the literature review and as a teaching intern with Dr. Epplen:

1. Share information on the syllabus.
2. Share the data. Share the stories. Humanize. Destigmatize
3. Focus your lesson on recognizing social inequalities and challenge your students to redefine their experiences with their new awareness.
4. Empowerment of students. When they become aware of how their lives are shaped by broader social arrangements, they will develop a new understanding on how to address their situation. Empowering students is fundamental for participation, engagement, and making the extra effort to overcome any challenges they face.
5. Make your students the teachers. Students should have the opportunity to share their experiences and wisdom.

For the main lesson, the warm-up activity will help students reflect on what it means to be food insecure in college. In this part there are no right or wrong answers, the activity is intended to dismantle stereotypes, recognize themes, and understand where your students stand on the issue. In a few words, students will share their ideas to a question through Poll Everywhere or Post-it Notes. The instructor should follow with a short introduction of the of key concepts and data on campus food insecurity. The lesson plan includes a brief description of the key concepts from the USDA webpage.

The main activity will consist of a modified Bingo game on campus food insecurity. The exercise is intended challenge stigma and shame, and empower food insecure students to address their situation. The Bingo game will help cover a lot of material in a short period of time.

The Bingo game will consist of a 5x5 board with statements on key concepts (definitions, methodology, key statistics), experiences by groups (international, African American/ Black, single-parents, community colleges, first-generation, non-traditional, etc.), structural challenges (rising housing and school expenses, transportation, food deserts, campus cooking facilities, financial aid, etc.), available resources (SNAP eligibility, Campus Cupboard, emergency grant, etc.), potential impact (academic performance, general wellbeing, social relationships, and mental health, and illustrations of stigma and shame (stereotypes, social pressure and expectations, embarrassment, emotional burden, negative self-worth, etc.). I will carefully write the statements to clearly identify stereotypes, empirical findings, and available resources. The statements are intended to provoke personal reflection and fuel a class discussion to redefine their notions on campus food insecurity. The instructor will have a master list with the 75 statements and each of them will have the potential to provoke class discussion and further study. Students can be asked to discuss their ideas, experiences, and wisdom on the statements on campus food insecurity. The take-home points are that students recognize that the person who experiences food insecurity is not the problem, but a victim of the structural (social, economic, political, and environmental) forces that create the lived experience.

The lesson plan has been designed in a ready-to-print with two attachments: the instructors guide and the Bingo game. After I graduate, I plan on working as a college advisor for underrepresented students (i.e. ETS/TRIO). Among the responsibilities of an ETS/TRIO advisor, I would be required to collaborate with other campus resources, such as the First-Year

Experience, to implement workshops/events on how to navigate higher education. I have used my learning module to demonstrate to the hiring committee that I can implement educational workshops and intend to create an adaptation wherever I start working. In addition, I have entrusted my colleague and mentor Kellian Clink, who will be part of the new *Basic Needs Committee* established by MSSA (which is set to start convening next academic year, 2019-2020), to distribute and use the learning module to further promote campus food security.

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Appendix A. U.S. Household Food Security Module: Six-Item Short Form, 2012

For these statements, please tell me whether the statement was often true, sometimes true, or never true for (you/your household) in the last 12 months -that it, since last (name of current month).

Q1: The food that (I/we) bought just didn't last, and (I/we) didn't have money to get more.

- Often true
- Sometimes true
- Never true
- DK or Refused

Q2: (I/we) couldn't afford to eat balanced meals.

- Often true
- Sometimes true
- Never true
- DK or Refused

Q3: In the last 12 months, since last (name of current month), did (you/you or other adults in your household) ever cut the size of your meals or skip meals because there wasn't enough money for food?

- Yes
- No (Skip to Q6)
- DK (Skip to Q6)

Q4: [IF YES ABOVE, ASK] How often did this happen?

- Almost every month
- Some months but not every month
- Only 1 or 2 months
- DK

Q5: In the last 12 months, did you ever eat less than you felt you should because there wasn't enough money for food?

- Yes
- No
- DK

Q6: In the last 12 months, were you every hungry but didn't eat because there wasn't enough money for food?

- Yes
- No
- DK