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Ramen and Peanut Butter: Food Insecurity at Lawrence University

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Ramen and Peanut Butter:

Food Insecurity at Lawrence University

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Prof. Mark Jenike (Advisor)

2019-2020

IHRTLUHC

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Abstract

Food insecurity is a rapidly growing public health concern all over the world. Federal efforts to reduce food insecurity have shown themselves to be successful in providing lower income people with more access to food (Mabli and Ohls 2014), but they neglect some parts of the population, like college students (Davison and Morrel 2018). The prevalence of food insecurity among United States' college students varies from 21% to 59% according to different studies, making the percentage of food insecure college students outstandingly larger than at the household level of 11% (Davison and Morrel 2018, Henry 2017). Chaparro et al. (2009) conducted the first study looking at collegiate food insecurity, increasing awareness around this issue. Since then, researchers have found that food insecurity in college students is a serious a problem as, both by itself and through increased likelihood of mental and physical problems, it can negatively affect academic performance (Patton-Lopez et al. 2014, Maroto, Snelling and Link 2015, Bruening 2017). Most research regarding college student hunger is based on large state schools and community colleges. This study differs because it is based on a small, private, residential liberal arts college: Lawrence University. The purpose of this research is to find the prevalence of food insecurity among Lawrence University students, discover how students are coping with hunger, and determine strategies so that the University can better support students who are facing hunger. I have explored these questions through distributing surveys and conducting interviews among students. Results indicate that while there is a limited number of students facing severe food insecurity, many students are living with low and marginal levels of food security.

Introduction

Food insecurity is a rapidly growing public health concern. It refers to a “limited or uncertain availability of nutritionally adequate and safe food or limited or uncertain availability to acquire acceptable foods in socially acceptable ways” (Payne-Sturges et al. 2017). The prevalence of food insecurity is growing; in July of 2019 an estimate of 820 million people did not have enough to eat (FAO et al 2019). While most food insecure people live in developing countries, many of them also live in developed countries. According to the United States Department of Agriculture (USDA, n.d.), 11.1% of American households remain food insecure (Coleman-Jensen, Gregory and Rabbitt 2019). This emphasizes the importance of thinking of food insecurity as a public health concern that is not just happening “elsewhere”, but rather that it is a reality for a large number of Americans.

Due to the large percentage of food insecure Americans, the government has taken preventative measures for food insecurity including The Fresh Fruit and Vegetable Program (USDA). Other measures include providing reduced price or free school lunches and summer nutrition programs for children. While the federal efforts to reduce food insecurity have shown themselves to be successful in providing lower income people with more access to food (Mabli and Ohls 2014), they neglect some parts of the population, like college students (Davison and Morrel 2018).

The prevalence of food insecurity among United States’ college students varies from 21% to 59% according to different studies, making the percentage of food insecure college students outstandingly larger than at the household level (Davison and Morrel 2018, Henry 2017). Although there has been a strong association between access to food and academic performance (Weaver et al. 2019), college student hunger is not currently a priority. Food insecurity has been associated with increased likelihood of physical problems (wasting, stunting, obesity, cardiovascular disease), and mental problems (increased risk for

depression, anxiety and stress) (Gundersen and Ziliak 2015). This topic has been thoroughly studied when it comes to children and teenagers, but it was not until 2009 that Chaparro et al. (2009) conducted the first study looking at college student food insecurity.

The idea of the starving college student has been normalized to the point that it is almost a joke (Henry 2017). It is common to think of college students as hungry and poor creatures who are often eating ramen and peanut butter. Some say that if you want college students to attend an event, you just need to provide food, which is not far from the truth, as many students will take access to food in any way they can (Forcone and Cohen 2018). Hunger in college students is a serious problem as food insecurity, both by itself and through increased likelihood of mental and physical problems, can negatively affect academic performance (Patton-Lopez et al. 2014, Maroto, Snelling and Link 2015, Bruening 2017).

In this paper, I will review existing literature on college student hunger, the effects that this has on learning and cognition, risk factors for hunger and food insecurity among college students, and effective assistance strategies that have been proposed by students and led by universities. This literature review informs the design of a study of college student hunger at Lawrence University. My research will differ from other studies in the area as there is very limited research on college student hunger at small private liberal arts colleges. Most research has looked at state schools and community colleges. I hope my research will bring attention to the struggles of students on smaller campuses and in less urban settings.

Risk Factors

Minority Status: Historically, universities in the United States were primarily designed for white affluent men, and it was not until the 1970s that higher education became accessible to women and minority groups, due to the installment of Pell Grants. Some university policies that were created prior to the 1970s are still present and disproportionately

increase the risk of food insecurity for people who are not white and affluent. Students of color, international students, and first-generation students are more likely to struggle with food insecurity while at college (Forcone and Cohen, 2018).

Lee et al. (2018) found that 14 studies indicated a relation between ethnicity and increased likelihood of food insecurity. Students who identify as Hispanic/Latino, Indigenous and African American are more likely to be food insecure than non-Hispanic white students (Lee et al. 2018). The rate of food insecurity for Hispanic students was 29%, for non-Hispanic black students, 10%; and for non-Hispanic Asian students 6%. Most researchers have found a positive correlation between food insecurity and non-white ethnicity (Bruening 2016, Lee et al. 2018).

International students report the highest rates of food insecurity (37.6%), compared to domestic students from inside the state (30.7%) and outside the state (29.3%) (Zein 2018). This may be due to lack of support from parents, the inability to go home regularly, or that international students face more financial hardships and stress than domestic students. Furthermore, international students are not eligible to participate in the Supplemental Nutrition Assistance Program (SNAP), unless they have permanent residency in the United States, or unless a U.S. citizen is willing to co-sign on behalf of the student (Zein et al. 2018).

First generation college students are more likely to report food insecurity (Miles et al. 2017, Davidson and Morrell 2018). Furthermore, first-generation college students reported buying the cheapest meal plan (Woerden et al. 2019).

Financial Stress: Students from low-income families are more likely to be food insecure (Zein et al. 2018). Pell Grants are a federal program that allows low-income students to pursue higher education by awarding them a need-based grant. For a student to receive a Pell Grant, their family income must be below the poverty line. Pell Grant eligibility is correlated with food insecurity (Zein et al. 2018). Additionally, students who are not Pell

Grant recipients, but who receive some financial aid are more likely to be food insecure than students who do not receive financial aid (Davidson and Morell 201). This means that family income is an indicator of college student food insecurity.

Low-income families are eligible for participation in SNAP and free or reduced-price meals at school. Many students from low-income families grow up using SNAP and give this up when they go to college because there is no program that gives students free or reduced-price meals while they are at college. Furthermore, the eligibility criteria for SNAP is different once a student has left their home. For some students, SNAP is no longer an option due to eligibility criteria exclusions: students between 18 and 49 years of age, students who work more than 20 hours a week, and students who have a dependent are not eligible to participate in SNAP (Davidson and Morell 2018). Other times, students choose to not participate in SNAP due to lack of knowledge on how to navigate the eligibility process, especially for students that come from out of state. In other cases, students give up their SNAP benefits because of stigma; they do not want their food secure peers to know they use this program. In addition, some students cannot access SNAP benefits because of limited transportation (Gaines et al. 2014).

Credit card use is associated with lower likelihood of being food insecure, as students reported having used their credit card to buy food. However, factors related to credit card use, such as debt, financial hardship, and financial independence are a source of stress for the student and impact their ability to learn (Gaines et al. 2014).

The risk of food insecurity is higher for students that live off-campus and live with roommates (Chaparro et al. 2009). In contrast, students who live off-campus with guardians have high rates of food security. A study found an association between food insecurity and students who rent, board or share accommodations (Hughes et al. 2011).

While some background characteristics, like finances, ethnic background, and living situation, place some groups of students at a higher risk of being food insecure; for most students, food insecurity is a result of an exogenous shock that affects their economic status or mental and physical health. Some examples may be the passing of a family member that develops into depression and limits students' ability to access food; an accident that requires medical attention and places unplanned financial hardship onto the student; or a sudden car issue that prevents them from working and thus limits their income and generates an unexpected expense (Gaines et al. 2014).

Effects of Food Insecurity on College Students

Academic Achievement: Students suffering from food insecurity show lower academic achievement (Maroto, Snelling and Link 2015). Food insecurity increased the likelihood of being among the lower 10% of GPA and decreased the likelihood of being among the higher 10% of GPA (Weaver et al. 2019). Additionally, students experiencing food insecurity reported difficulty concentrating. They also reported having gone to work instead of class because of their need to make money. Students also reported feeling sleepy and a lack of energy in the classroom (Henry 2017).

Social Mobility: Educational attainment is one of the most important indicators of future social mobility (Patton-Lopez et al. 2014). Food insecurity can affect academic performance, by increasing the rates of dropping out and decreasing GPAs, henceforth limiting students' educational attainment. Limited educational attainment can limit upward social mobility in the future.

Eating is a social activity on college campuses. Limited eating can mean limited attendance at bonding events, limited social mobility, and limited support from student groups. As a result, limited participation in events can decrease students' levels of confidence

and sense of belonging (Payne-Sturges et al. 2017). This contributes to the high rates of food insecure college students with unfinished degrees and higher rates of dropping out.

Furthermore, students that suffer from food insecurity are more likely to struggle connecting with groups and are more likely to become isolated (Forcone and Cohen 2018, Henry 2017).

Harmful Behavior and Mental Illness: Food insecurity in college students is associated with more alcohol use, unhealthy eating and mental health issues (Bruening 2017). The odds of depression and anxiety are almost three times higher for food insecure freshmen, compared to their food secure counterparts (Bruening 2016). Lack of certainty of where the next meal is going to come from is a source of stress for college students (Morris et al. 2016). The syndemics¹ between food insecurity, stress, and mental health issues impact learning and overall academic success in different ways, but together they can trap the student in a self-enforcing cycle that is difficult to escape.

Food System at Lawrence University

Lawrence University is a residential campus where students are required to live on-campus for 4 years. There is no available data on food insecure students on campus, therefore it is difficult to determine the prevalence of food insecurity among Lawrence students.

However, the number of students eligible for Pell Grants is increasing every year. Almost 21% of students enrolled at Lawrence University in 2014 were Pell Grant recipients (Peterson 2014). Currently, almost 25% of students expected to graduate in 2023 are Pell Grant recipients (Interview with Lawrence University Associate Dean of Academic Success, Kathryn Zoromsky, October 2019). This indicates that about 25% of students of the Lawrence University Class of 2023 have a family income of less than \$50,000 (although

¹ Syndemics are adverse interactions between two or more diseases or other health-related conditions, often resulting from social inequalities (Singer and Baer 2012).

most grants are awarded to students whose family income is less than \$20,000 a year) and that the number of low-income students is going up. With the number of low-income students increasing, Lawrence University has developed initiatives to make the transition to college more bearable. Some examples are: a support group for first-generation students, resources for financially independent students, and an on-campus food pantry available for all students (Interview with Lawrence University Associate Dean of Academic Success, Kathryn Zoromsky, October 2019).

Students at Lawrence University are required to have a meal plan, and only in extenuating circumstances can they opt out of it. At Lawrence, most options of the mandatory meal plan only provide enough food for two meals a day. Furthermore, the option that provides enough swipes² for three meals a day is more expensive.

Here are the meal plan options for 2019-2020:

19 meal plan with \$100.00 culinary cash – for the student who generally eats three meals per day, this allows them to eat every meal offered in Andrew Commons plus have culinary cash. Cost: \$1,826.00/term

14 meal plan with \$225.00 culinary cash – considered the standard meal plan and suitable for the student who only occasionally eats breakfast or chooses to eat a few meals outside of the Commons. Cost: \$1,757.00/term

9 meal plan with \$400.00 culinary cash* – for the student whose busy schedule results in them splitting their meal between Andrew Commons and the Café. Cost: \$1,735.00/term

\$1175 All culinary cash plan* – for the student who wants complete flexibility in managing their dining plan and is not concerned about running out of money for food before the end of the term. Cost: \$1,740.00/term

Figure 1: Meal Plans Options at Lawrence University, 2019. From the Lawrence University Website: <http://www.lawrence.edu/students/food/node/1469>

Studies looking at the relationship between food insecurity in college students and participation in the meal plan found that students report being food insecure even while having cafeteria swipes left on their meal plan. This may be due to the cafeteria having inaccessible hours that prevent students from eating there. It could also be a matter of the

² The term used by Lawrence University students to refer to allowances for single all-you-can-eat meals in the campus cafeteria, Andrew Commons

types of food available in the cafeteria and the cultural needs of students. One more possible reason is that once students are struggling with mental illnesses, it can be harder for them to attend meals in the cafeteria (Woerden et al. 2019).

In light of these challenges, staff members at Lawrence University developed the food pantry. The food pantry is advertised through posters and collaboration with some professors and support groups. The administration of Lawrence University does not provide economic support for the food pantry. It is mostly maintained through donations from parents, alumni and professors.

One common criticism of food pantries is that they do not provide healthy options. In the case of Lawrence University, students ask for the food that they want, and that is what is provided. The food pantry administration believes that students are in charge of making choices about their health, although most of the time this means the pantry is stocked with canned and preserved food. The food pantry not only provides students with food, but also with personal hygiene items, winter clothes, cookware, school supplies and other materials. To fully capture the wide range of items provided by the food pantry, the pantry leadership is changing the official name to the Student Pantry (Interview with the Associate Dean of Academic Success, October 2019).

Lawrence University has taken a series of big steps in the right direction when it comes to eliminating hunger on campus. However, this is the first academic study on college student hunger at Lawrence University.

Methods

The objectives of this study are to determine the prevalence of food insecurity among Lawrence University students, understand their barriers to food access, and determine the best strategies to support students. To investigate these questions, I designed an online survey

(Appendix 1) and invited a random sample of Lawrence University students to participate. I created a flier (Appendix 2) with the description of the project, and a link to the online survey, and I distributed this flier to a sample of students by placing the fliers in students' mailboxes. In the first round of distribution, I placed 200 fliers, one in every 8th mailbox, starting from the first one. In the second round, I distributed 200 fliers, placing them in every 8th mailbox, starting from the second one. This sampling method assures random selection, because mailboxes are not assigned to students in any systematic way, and all students have one.

I used surveys distributed through random sampling as my primary method of research and interviews as my secondary method of research. Surveys allow for all participants in the study to be asked the same questions, they eliminate interviewer bias or response effect, and they provide participants with a sense of security given the anonymity of the responses (Bernard 2011). Anonymity is fundamental in this study because of the potential for stigma associated with being food insecure. Furthermore, random sampling is essential to accurately estimate the prevalence of food insecure students. My secondary research method was interviews, because interviews allow for open-ended questions and extended conversations between the interviewer and the participant. This gives students more time to fully develop and explain their answers, yielding a more accurate description of their insider experience with food access (Bernard 2011).

The survey that was distributed to students is an adaptation of Loran Mary Morris' work (Morris et al. 2016), who adapted her survey instrument from the U.S. Household Food Security Survey Module (USDA). It asks participants ten multiple choice questions that measure food access. To interpret this survey, I followed the interpretation guideline of the USDA survey and counted affirmative answers (yes, sometimes, often). Each affirmative answer is worth 1 point. A total score of 0 means high food security, 1-2 means marginal

food security, 3-5 means low food security, and more than 6 means very low food security. Greater or equal to 3 means food insecurity. I conducted the analysis using Microsoft Excel; I coded the affirmative answers to be equal to 1; and added all the responses for each participant.

The final question in the survey asked students to provide their email if they would like to participate in a follow up interview. Four students were willing to participate in an interview. The purpose of the interview was to explore students' access to food from an insider perspective. The interview prompts can be found in Appendix 3 and the consent form is located in Appendix 4. I did not record the interviews, but I took notes; this allowed me to look back at the responses and find patterns among all of the participants. All aspects of the research protocol were reviewed and approved by the Lawrence University Institutional Review Board.

Results and Analysis

Summary of Levels of Food Insecurity among LU Students

The results of the survey I conducted during the winter of 2020 show that the prevalence of food insecurity at Lawrence University is 43%. Of the 47 people that responded to the survey, 20 of them face food insecurity. All but three food insecure students live in dorms, and all but one food insecure student, have full meal plans. Of the 20 food insecure students, 13 are women, 6 are men, and 1 is unknown. The following chart shows students' food security levels.

| Range | Levels of Food Security | n | % of respondents |
|-------|-------------------------|----|------------------|
| 0 | High Food Security | 12 | 25.6% |
| 1-2 | Marginal Food Security | 15 | 31.9% |
| 3-5 | Low Food Security | 11 | 23.4% |
| 6 (+) | Very Low Food Security | 9 | 19.1% |

Table 1: Levels of Food Security at Lawrence University

The sampled students are representative of the population, as they share many features with the Lawrence University student body as a whole, such as gender distribution, percentage of Pell Grant recipients, percentage of first-generation students, and ethnicity distribution (Table 2). Results show that the percentage of women who are food insecure is higher than the percentage of women in the sample and at Lawrence. The ethnic distribution is similar across Lawrence students, sampled students and food insecure students, meaning that in this case, ethnicity might not be a factor affecting students' food security. The percentage of students at Lawrence that are first generation is 17%, which reflects the percentage of first-generation students in the sample (17.0%). Unsurprisingly, the percentage of first-generation students among food insecure students is substantially higher, with 75% of them identifying as first-generation. The percentage of Pell Grant eligible students at Lawrence is 24%, which is reflected in the sample (25.3%). However, the percentage of Pell Grant eligible students is substantially higher in food insecure students (45%). Of the food insecure students, 15% are neither employed nor receive financial support from their parents. In the food secure group, 3.7% are neither employed nor receive financial support. Only 10% of food insecure students receive financial support from families. In contrast, 22% of sampled students receive financial support from families.

| Characteristics | Lawrence University Students (%) | Sampled Students (%) | Food Insecure Students (%) |
|----------------------------------|---|-----------------------------|-----------------------------------|
| Gender | | | |
| Men | 46 | 38.3 | 30 |
| Women | 54 | 55.3 | 65 |
| Other | | 2.1 | - |
| Prefer not to say | | 4.3 | 5 |
| Year | | | |
| Freshman | | 21.3 | 15 |
| Sophomore | | 42.6 | 55 |
| Junior | | 10.6 | 10 |
| Senior | | 25.5 | 20 |
| Fifth Year | | - | - |
| Ethnicity | | | |
| White | 70 | 74.5 | 75 |
| Hispanic/Latino | 7 | 6.4 | 10 |
| Black/African American | 3 | - | - |
| Asian | 4 | 12.8 | 5 |
| Other | 16 | 6.4 | 10 |
| First Generation | | | |
| Yes | 17 | 17.0 | 75 |
| No | 83 | 83.0 | 25 |
| Permanent Residence | | | |
| Wisconsin | 22 | 34.0 | 30 |
| The United States (excluding WI) | 65 | 66.0 | 70 |
| International | 14 | - | - |
| GPA | | | |
| Less than 2.0 | | 2.1 | 5 |
| Between 2.0 and 3.0 | | 10.6 | 20 |
| Between 3.0 and 3.5 | | 21.3 | 30 |
| Between 3.5 and 4.0 | | 66.0 | 45 |
| Financial Aid Status | | | |
| Pell Grant Eligible | 24 | 25.5 | 45 |
| No Pell Grant, but financial aid | | 59.6 | 45 |
| No financial aid | | 14.9 | 10 |
| Employment | | | |
| Employed | | 10.6 | 15 |
| Financial support from family | | 21.3 | 10 |
| Both | | 59.6 | 60 |
| Neither | | 8.5 | 15 |

Table 2: Demographic characteristics distribution of population, sample and FI students

Since I was unable to find accurate data regarding class year distribution at Lawrence and since over 42% of my respondents are sophomores, I cannot assess whether class year affects students' food security. Regarding place of residence, the sample did not include any international students, who are more likely to be food insecure, especially over breaks in the academic calendar. This data does not indicate that going to school further from home is a risk factor for food insecurity at Lawrence University.

I could not find any data for GPA distribution at Lawrence, but the percentage of food insecure students that have a GPA of more than 3.5 is significantly lower (45%) than the percentage of sample students who have a GPA of more than 3.5 (66%) (Figure 2). More than 81% of students in the food secure group report a GPA between 3.5 and 4.0. 21% of sample students report a GPA between 3.0 and 3.5; conversely 30% of food insecure students report GPA in the same range. Food insecure students also have a lower mean GPA (3.55) than food secure students (3.85) (t-test, $p < .01$).

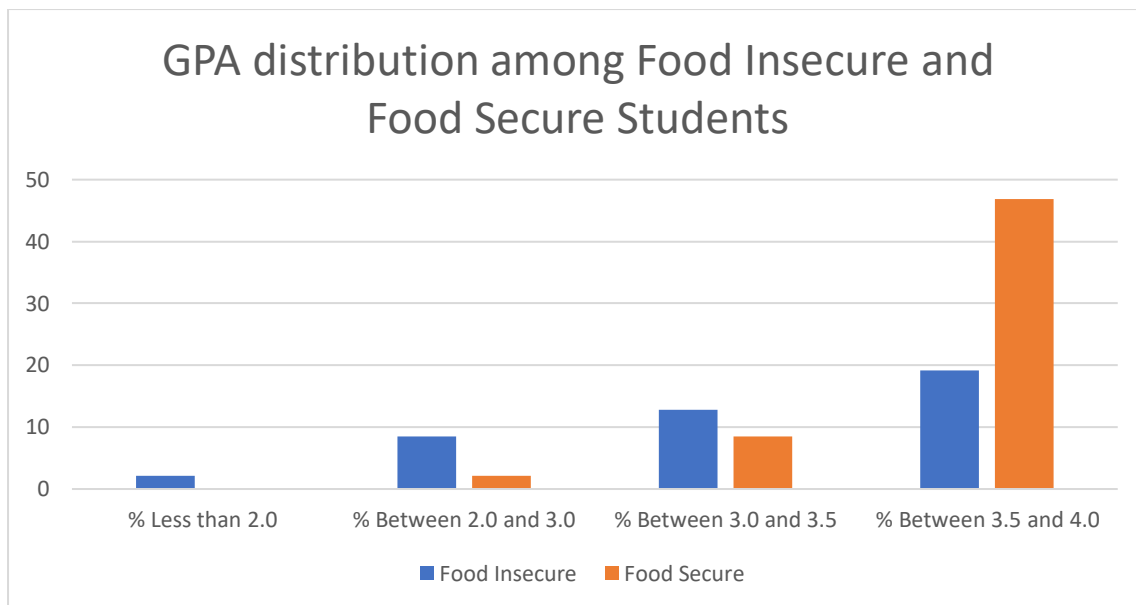


Figure 2: Food insecure and food secure student GPAs

On the Food Pantry

Of 20 students that are food insecure, only 12 are aware that there is an on-campus food pantry. Of those 12 food insecure students, only 3 have used the food pantry. Most students reported that they do not use the food pantry because they did not know that it exists or how it works. Other reasons include not wanting to take resources from others, the belief that they do not need to use it, not having enough time, being on the meal plan, and not being desperate enough to justify the use of the food pantry.

Regarding the food pantry, 63.38% of sample students report knowing about the food pantry. However, only 12.7% of students reported having used the pantry; for them, the student food pantry acts as a safety net, but also as an everyday resource to help them cope with hunger. It is important to highlight that not a single student mentioned SNAP. This reflects the lack of awareness regarding SNAP benefits for college students.

Interview Findings

The sample of students that participated in interviews are food secure, except for one person that has very low food security. All of the interviewees live on campus and have a full meal plan. Of the four interviewees, three are men and one is a woman. Three are pursuing a Bachelor of Arts and one is pursuing a Bachelor of Music. Some patterns that emerged from interview responses were:

- Hunger is more likely to become serious towards the end of the term; students tend to run out of culinary cash, and they have less flexibility in their food options.
- Conservatory students are more likely to face hunger; they have less flexibility and classes often conflict with mealtimes; food options at the conservatory are limited and unhealthy.
- Students in co-ops tend to worry less about food.

- Some students receive support from their parents, either in the shape of care packages, money, buying them food, or driving them to the grocery store.
- Three of the four students report that their food access is better at school than at home. The student who reports having more access to food while at home is food secure. The rest of the students, regardless of their food security status, say that the all-you-can-eat option at the cafeteria provides them with more food than what they eat at home.
- Students believe that Andrew Commons provides numerous vegan and vegetarian options, in contrast to the Café where the options are very limited.

Coping strategies: It is worth highlighting that three of the four students interviewed did not report feeling hungry. One student reported their hunger as “their own fault”, meaning that they did not see it as a systemic problem. Instead they understood their lack of access to food as something that they can work around by themselves, by making different scheduling decisions. One student reported coping with hunger by making peanut butter and jelly sandwiches; for this student, cooking is not an option because most kitchens on campus are not fully equipped and the groceries that the Corner Store sells are not enough for cooking. Some students cope with hunger by relying on the generosity of students who share culinary cash with others who need it. However, students also reported “feeling bad” after asking. Students report over-eating during meals, in order to be full for a longer period of time; they also supplement their diet with water, tea and gum, to feel full. Students reported eating out, once or multiple times a week, using their personal funds, or money from student employment. Students also report using the food pantry to cope with hunger. Finally, some students cope with hunger by not eating and taking a nap instead.

Barriers that limit access to food: Students reported numerous barriers that limit their access to food. One barrier is the “try hard” culture of the school. This is something that

most students deal with; however, it seems to be concentrated in conservatory students, highlighting that the expectations for students in the conservatory are not manageable. Another concern for students in the conservatory is that the food options available in the conservatory vending machines are not nutritious and very limited. Finally, another barrier that affects students in the conservatory is the time blocks of classes. Classes in the conservatory do not work in the same time blocks as classes in the college, leaving students with little-to-no time to attend mealtimes at the Commons, especially around lunch time.

Both students in the conservatory and in the college reported the hours of the cafeteria as a limiting factor. The number of swipes and amount of culinary cash are also reported as a barrier to food access; one student even argues that some meal plan options promote skipping meals. Additionally, some students are concerned about the new meal plan policies: particularly the fact that swipes do not carry over from week to week or that students are unable to donate swipes to other students, due to the new guest swipes policy. For some students, lack of reliable transportation to the grocery store is an issue; the prices at the Café and Corner Store are too high, making it difficult to buy groceries. Furthermore, some students reported eating a smaller non-nutritious meal or half a meal to save culinary cash.

Discussion

The prevalence of food insecurity at Lawrence is 43%, falling within the range of what other studies have found across other universities in the United States. This does not take away from the importance of finding ways to increase Lawrence students' access to food, especially for those facing hunger. The rates of food insecurity at Lawrence are still substantially larger than national rates of food insecurity at the household level, showing once again, that college student food insecurity is a serious public health concern.

The results presented above show that there is a clear correlation between being a first-generation student and being food insecure, and being a Pell Grant recipient and being food insecure at Lawrence University. This is in accord with existing research about college student food insecurity. It does not answer the question of causality. Nevertheless, this information remains relevant as it can help the University better support students who are more likely to be at risk of suffering from food insecurity. There is no evidence that at Lawrence being part of a racial minority or an international student is a risk factor for food insecurity. This might be due to an over-representation of students with Asian ethnicity and an under-representation of other racial minorities within my sample. There is no representation for international students in the sample.

Students that are food secure have a better GPA than students that are food insecure, this is also consistent with other literature. Previous studies have found that food insecurity limits students' academic mobility; further research should address whether this is happening at Lawrence. Unfortunately, I did not ask survey participants to report the type of degree they are pursuing. This is something that merits future research, as interview answers suggest that students in the conservatory are more likely to face food insecurity.

Survey results show that for some students the food pantry is a well-known resource. However, there is a group of students at Lawrence University who struggle with hunger, but because of stigma, or not wanting to take resources from others, fail to search for support. This research shows that there is a lack of awareness of the resources available for students who lack access to food, including the Lawrence University food pantry, and SNAP benefits.

Policy Suggestions

After thoroughly researching food insecurity at other universities and at Lawrence, I have developed some policy suggestions that would help reduce hunger among Lawrence

students. Some of these policies are adaptations from what other universities have done, and some are suggestions that come from students.

1. Start a swipe/culinary cash share program that allows students who have extra culinary cash and swipes to share them with their peers, without them having to ask, so that stigma is not a barrier to asking for food.
2. Implement a meal option that has more than 9 swipes per week, and more culinary cash, so that students do not feel the need to skip meals.
3. Develop an online or physical place to help students navigate available resources for food insecure students.
4. Return to last year's meal system; where meals were allocated by term and they carried over, allowing students to share and donate swipes.
5. Reinstate bagged lunches, as they were a healthy and filling option for students with classes during lunch time.
6. Increase support for co-ops, as they are a sustainable and healthy way to provide students with nutritious food.
7. Periodically, host an on-campus farmer's market, so that students without cars are able to purchase healthy and inexpensive groceries, while supporting local producers.
8. Reinstate the food truck at the conservatory. The current options do not provide conservatory students with the alternative of a hot meal or healthy options.

Conclusion

This study documents that the prevalence of hunger at Lawrence University falls within the range of most colleges in the United States. In light of the negative effects of food insecurity during college years, this research provides a basis for further study and the development of policies to address the issue.

Appendixes

Appendix 1

Survey on Hunger at Lawrence University

Hi, thank you for helping us learn more about hunger in our community.

By participating in this survey, you are agreeing to your responses being used in a study about hunger at Lawrence University. Responses are anonymous. By participating in this survey, you are confirming that you are 18 years old or older. This is an optional survey and you can stop filling it at any point, for any reason. There are no risks associated with participating in this study.

If you have any questions or concerns please email me at espinosb@lawrence.edu or my faculty advisor at jenikem@lawrence.edu or contact irb@lawrence.edu

1. Demographic characteristics:
 1. What best describes your living situation? Group housing, dorm, off-campus
 2. Do you have a full meal plan at Lawrence University? Yes, No
 3. Did you study abroad during Fall 2019?
 4. What gender best describes you? Women, Men, Other, I prefer not to answer
 5. What is your year in school? First year, Sophomore, Junior, Senior, Fifth year.
 6. What is your ethnicity? White, Hispanic/Latino, Black/African-American, Asian, Unknown, Other, I prefer not to say
 7. Are you a first-generation college student? Yes, No
 8. Where is your permanent residence? I am from: Wisconsin, the Midwest, the United States, International
 9. What best describes your GPA? Less than 2.0, between 2.1 and 3.0, between 3.1 and 3.6, and between 3.7 and 4.0
 10. What best describes your financial aid status? I: am Pell Grant eligible, I receive need based financial aid, pay full tuition at LU.
 11. What best describes you? I am employed, I receive financial support from my parents, both.
 12. Are aware that there is an on-campus food pantry? Yes, No
 13. Why or why not?
2. Food security questions from the USDA Household Food Security Survey Module (adapted to fit LU college students)
 1. In the past term, I worried whether my swipes or culinary cash would run out before reached the end of the week.
 - a) Never b) Rarely c) Sometimes d) Often
 2. In the past term, the food that I bought to supplement my meals just didn't last, and I didn't have enough culinary cash to buy more.
 - a) Never b) Rarely c) Sometimes d) Often
 3. In the past term, I ate three healthy meals.
 - a) Never b) Rarely c) Sometimes d) Often
 4. In the past term, did you skip a meal because you didn't have enough swipes or culinary cash.
 - a) Yes b) No
 5. If yes, how often?
 - a) Never b) Rarely c) Sometimes d) Often
 6. In the past term, I cut the size of my meals because there wasn't enough culinary cash for adequate food in the café or to buy a swipe?
 - a) Yes b) No
 7. In the past term, did you choose to eat unhealthy because there wasn't enough culinary cash (or swipes) to access a healthier option?
 - a) Yes b) No
 8. In the past term, did you lose weight because there wasn't enough food?
 - a) Yes b) No
 9. In the past term, did you not eat for a whole day because there wasn't enough money for food?

- a) Yes b) No
10. If yes, how often?
- a) Never b) Rarely c) Sometimes d) Often
14. Optional: Would you be interested in participating in an interview on your experience with food access at Lawrence University? If so, please write your email.
3. Suggestions and Thoughts
15. Please share any suggestions on how to increase access to food for Lawrence University students
16. If you have consistently felt hungry during your time at Lawrence, how have you coped with it?
17. What are some barriers that are hindering LU students' access to food?
18. Optional: Would you be willing in participating in an interview on your experience with food access at Lawrence University? If so, please provide your email.

Thank you for participating in this survey. You are helping us ensure that every student at LU has enough food to satisfy their needs. If you are interested in the results please email me at espinosb@lawrence.edu or contact my faculty advisor at jenikem@lawrence.edu

Best,
Barbara

Appendix 2

Flier

Hi,

My name is Barbara Espinosa. I am a senior, Anthropology and Economics double major, with a minor in Biomedical Ethics. For my Anthropology capstone, I am conducting a research project at LU to determine students' access to food.

Previous studies have shown that students that lack healthy food during their college years are likely to struggle socially and academically, compared to their peers that have enough food. My hope is to conduct a study that would determine to what extent this is a problem at Lawrence. You have been randomly selected to help us address this issue. This study consists in a 5-minute survey, and an optional interview. By answering these questions and participating in an interview, you are helping the university learn more about students' experiences with food. Please answer these questions to the best of your ability, even if you have never lacked access to food; we want responses from everyone. Please answer by Wednesday, February 12 of 2020.

The following QR code will take you to the survey. To answer these questions, simply open the camera on your phone and follow the link that will pop-up. If you rather do this on your computer follow this link: <https://forms.gle/i1X8SJ5nQnqNVMZK6>



If you are willing to participate in an interview please email me at espinosb@lawrence.edu.

Thank you,
Barbara

Appendix 3

Tell me about your food access.

During your time at Lawrence University, have you consistently felt hungry? Be as descriptive as you want.

If yes, how do you cope with hunger?

What are some barriers that limit your access to food?

What are some changes that you think would increase your access to food?

How do think your current level of food compares to your level food when you lived at home?

How is your access to food during breaks?

How does your level of food access compare to the level of food access of your closest friends or roommates?

Appendix 3

Food Insecurity at Lawrence University **Informed Consent Form** **Lawrence University**

For my senior experience in Anthropology, I have decided to conduct a research project. This research is being supervised by Prof. Mark Jenike. The purpose of this research is to investigate prevalence of food insecurity at Lawrence University, determine the ways in which students are coping with food insecurity, and find some strategies that the university could adopt to better support students facing food insecurity.

The participants in this research will be 170 Lawrence students who live on campus. The study will involve an interview that will take about half an hour. This research has been approved by Lawrence's Institutional Review Board, which protects human subjects. Participation is *completely voluntary* – I may withdraw or decline to participate at any time without penalty. The researcher also has the right to withdraw my participation at any time. To withdraw, I can simply inform the researcher.

If I agree to participate, the following will occur: I will be asked questions about my experiences with food security or food insecurity at Lawrence University.

To the best of the researcher's knowledge, there will be no more risk of harm than normally experienced in my daily life; anticipated risks are minimal. Possible benefits of participating in this project are to inform growing literature about food insecurity at college campuses. However, there is no guarantee I will receive any benefit.

Every effort will be taken to prevent anyone who is not on the research team from knowing that I participated in the study and to ensure that all of my responses are confidential. No information that personally identifies me will be released or reported in any way unless required by law. I will choose a pseudonym before starting the interview. All notes taken during this interview will be kept the password protected computer of the researcher, and will only be shared with the advisor. When reporting responses from this interview, the researcher will not include any identifying information. Informed consents forms will be destroyed in three years.

I can ask the researcher any questions that would help me to decide whether to participate. If I have any questions, suggestions, concerns, or complaints that arise, I can contact Barbara Espinosa at espinosab@lawrence.edu. If I have any questions about my rights as a participant, I can contact the Lawrence University IRB Chair: irb@lawrence.edu.

Signatures

Participant:

By my signature, I am affirming that I am at least 18 years old and that I agree to participate in this study. I understand I will receive a signed copy of this consent form.

Signature of participant

Date

Printed name of participant

Person Obtaining Consent:

I have explained to the participant above the nature, purpose, risks and benefits of participating in this research project. I have answered any questions that may have been raised, and I will provide the participant with a copy of this consent form.

Name of [authorized] person obtaining informed consent

Date

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