

Food Insecurity and Assistance on Campus: A Survey of the Student Body¹

Abstract

According to recent studies, food insecurity affects from 34%-59% of college students. This will continue to be an issue as tuition increases and more low-income and first-generation students enter universities and colleges. Nearly 52% of college students live at, or near, the poverty level, compared to a national poverty rate of 14.5%. This leaves many undergraduate and graduate students with challenging decisions around meeting their basic housing, nutritional, and educational expenses. To assess food insecurity at Kansas State University (KSU), a random sample of undergraduate and graduate students was surveyed. Findings include a high rate of food insecurity (44.3%) among respondents. This measure was calculated by summing the affirmative responses to the USDA short-form food security questions in the survey. This means that during a 7-month period during the 2016 to 2017 academic year, 44.3% of respondents experienced at least two of the following: 1) didn't have enough food to last and didn't have money to buy more, 2) couldn't afford to eat balanced meals, 3) cut the size of or skipped meals, 4) ate less than they felt they should because they didn't have enough money, or, 5) were hungry and didn't eat. This finding is consistent with other studies that report food insecurity rates between 34% and 59% at U.S. universities and community colleges. Fifty-seven percent of respondents were generally aware that food insecurity is a significant problem on college campuses. A majority of respondents (63%) reported that they knew students besides themselves who, currently or sometime during the academic year, had

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problems with food insecurity or hunger. Yet food assistance (e.g., food pantries) and SNAP are seldom used and responses regarding the use of an on-campus food pantry were mixed. Despite this mixed response, over 2,000 students had used the campus food pantry within the one-year period between opening in 2017 to 2018 (Bishop 2018).

Introduction

Food insecurity occurs when a household reduces the quality, variety, or desirability of its diet. It can lead to disrupted eating patterns and reduced food intake (USDA ERS 2016). Before the recession in 2007, the rate of food insecurity in the U.S. was 11.1% (USDA ERS 2018). According to the latest available data, the food insecurity rate has not recovered to its pre-recession level. An estimated 12.3% of households, or 15.8 million households (42 million individuals) “were food insecure at least some time during the year in 2016” (USDA ERS 2017).

Many historically marginalized people in the U.S. live in so-called “food deserts” or areas with little to no available and accessible “healthy” food. Individuals residing in food deserts are more likely to be economically disadvantaged, have poorer nutrition, be exposed to unhealthy behaviors, develop diet-related poor health outcomes, and are geographically disadvantaged in terms of the number of food stores in their general area of residence (Guy and David 2004). Morland and Filomena (2007) and Franco et al. (2008) report that access to full-service retail food outlets offering fresh and frozen produce is better in predominantly white and higher income neighborhoods than in black, mixed race, and lower income neighborhoods. Within the relatively few supermarkets and grocery stores found in black, mixed race, and lower income neighborhoods in large cities, the amount and variety of healthy foods was found to be significantly lower than in supermarkets and grocery stores in predominately white and higher

income neighborhoods (Franco et al. 2008; Morland and Filomena 2007, Freedman and Bell 2009).

Food insecurity is a problem that has received increased attention by university administrators, especially at schools with high proportions of low-income, first-generation, and non-traditional students. According to the National Center for Education Statistics (U.S. Department of Education, 2002) and Dubick et al. (2016), about 73% of college students are non-traditional students, meaning they fit one of six criteria: they attend college part-time, work full-time, are financially independent, provide for dependents, are a single parent, or do not have a high school diploma (U.S. Department of Education 2002; Dubick et al. 2016, 9). Four out of five students are working part-time jobs (averaging 19 hours per week), however very few can cover their college expenses by working. Most depend on financial aid and scholarships to make ends meet (Dubick et al. 2016). In addition to undergraduate college students, graduate students are an increasingly overlooked subgroup of food-insecure Americans (Patton, 2012; Wade, 2012).

A surprising number of college students live at or near the poverty level - nearly 52% in 2013 (U.S. Census Bureau). This is compared to a national poverty rate of 14.5% in the same year. This leaves many undergraduate and graduate students with a tough decision between spending money on rent, utilities, other school-related expenses, or food. From the perspective of low income, working, and other non-traditional students, who may not have supplemental support from family or other resources, college campuses can be food deserts where healthy food is inaccessible. Food insecurity and hunger can “force students to drop out of school to

work more, which inhibits academic success” (Laterman 2019). Increasing student hunger may also lead to an increase in student loans to cover living expenses.

Although there is not a comprehensive national measurement of food insecurity on college campuses, the current literature suggests that food insecurity rates among college students tend to be four to five times the national rates (Cady 2014). Below is a summary of recent literature on campus food insecurity and their general findings. Dubick et al. (2016) provide the most comprehensive study with a large sample comprising four-year and community college students in twelve states. Maroto (2013) focuses on community college students in Maryland, Martinez et al. (2016) focus on the University of California system, and all others focus on other individual colleges and universities:

- Freudenberg et al. (2011) report that 39% of respondents were food-insecure at the City University of New York (CUNY).
- Maroto (2013) reports that over half of a sample of 301 community college students in an urban and suburban community college in Maryland were food-insecure.
- Broton et al. (2014) found that 71% of students report changing food habits because they lack funds; 27% were eating less than they should or cutting meal sizes; and 7% of two-year college students reported going an entire day without food.
- Patton-Lopez et al. (2014) found that 59% of students at Western Oregon University experienced food insecurity at some point over a year.
- A study by the Wisconsin HOPE lab (2015) found that 61% of low and moderate-income students at ten Wisconsin colleges and universities were food-insecure at some point during the school year.
- Zollinger and Mills (2015) found that 34% of their sample of the student population at Fort Hays State University in Hays, Kansas was food-insecure.
- Dubick et al. (2016), in the largest and most comprehensive study of campus food insecurity to date (respondents from eight community colleges, 26 four-year colleges, in 12 states), find that 48% of respondents experienced food insecurity in the previous

30 days. Food insecurity was more prevalent for students of color and first-generation students.

- Martinez et al. (2016), in a study of the ten-campus University of California system, found that 23% of students were experiencing low food security and another 19% were experiencing very low food security, for a total of 42% of students experiencing food insecurity to some degree.

These relatively high rates of campus food insecurity have motivated researchers to analyze the use of campus food pantries and other forms of food assistance like the Supplemental Nutrition Assistance Program (SNAP). Zollinger and Mills (2015) report that about 25% of food-insecure students accessed the Fort Hays State University food pantry during their study period. Freudenberg et al. (2011) find that only 7.2% of CUNY students reported using a food pantry or other food assistance program, and 6.4% were currently receiving SNAP. Among SNAP recipients, 63% reported food insecurity “suggesting that for almost two-thirds of the recipients, food stamps were not sufficient to provide food security” (Freudenberg et al.: 4). Dubick et al. (2016) asked respondents about their use of over a dozen, wide-ranging benefits “with the assumption that any benefits that address poverty might help to reduce food insecurity” (p. 28). The most widely used services were public benefit programs like Medicaid and SNAP. Seventeen percent of food-insecure students reported using a campus food pantry, and 14% used an off-campus food pantry or bank (Dubick et al. 2016, p. 28). Generally, it appears students are under-utilizing assistance services in several locations around the U.S.

Data in this area are limited, and it is difficult to generalize. However, it is clear that food insecurity affects a large number of college students. As more low-income and first-generation students enter college, food insecurity and other symptoms of poverty are likely to increase as topics of concern.

About one-quarter of our undergraduate sample from Kansas State University (KSU) are first-generation students (see Table 1 below). Data on the non-traditional status of the overall undergraduate student population is not available. It is likely that numerous KSU students are experiencing similar food insecurity rates and related stress as students at other universities and colleges. KSU is a public university with approximately 18,000 undergraduate and 4,500 graduate students as of the fall of 2018. We consider it to be fairly representative of other large public universities.

In an effort to describe and better understand food insecurity and food assistance among KSU students, and to add to the growing body of data and analysis on the topic, this project asks the following questions:

- What is the food insecurity rate among the student population at KSU?
- What are students' perceptions regarding food insecurity? Is it perceived as a problem on campus?
- Are students aware of the various forms of food assistance around the community?
How often do students use food assistance?
- How often do students use SNAP? If SNAP usage is low, what are the reasons for not using or being denied access to SNAP?
- What are students' perceptions regarding a campus food pantry?

Data and Methods

To address these questions, a multidisciplinary team developed an online survey using Qualtrics survey software. Qualtrics was also used for initial data analysis. The survey was administered to a random sample of 5,000 undergraduate and graduate students at KSU. The

link to the survey was first sent on April 11th, 2017 and was open until the last day of the spring term, May 5th, 2017. Reminders to complete the survey were sent via email to anyone who had not completed a survey starting on April 14th and every Tuesday and Friday until the last day the survey was open on May 5th. Overall, we asked questions to assess the rate of food insecurity among the student population, feelings about food insecurity, and use of food assistance on and off campus.

Analysis

Of 5,000 surveys emailed 1,096 were successfully completed yielding an overall response rate of 21.9%. In Fall 2016, KSU had an overall student population of 23,779 with 19,472 undergraduate (81.9%) and 4,307 graduate students² (18.1%) (Kansas State University, Office of Planning and Analysis, 2016-2017 Common Data Set). Of the 1,096 surveys completed, 945 (86.2%) were administered successfully to the random sample of undergraduate students and 151 (13.8%) were administered successfully to graduate students. This means the proportion of undergraduate and graduate students in this sample is similar to the proportion in the overall university population.

The following tables present other demographic data on undergraduate respondents and the general population of undergraduates. This is followed by the data for graduate survey-respondents and the general population of graduate students. Each table is followed by a brief comparison of demographics between respondents and the general population. After this we move on to analyze other relevant survey data.

Undergraduate Population and Sample Demographics

² Graduate students include Masters, 1st Professional, PhD/EdD, and Non-Degree-seeking Grads.

Of the undergraduate sample, 874 took the survey. Table 1 reports the demographic characteristics and statistics available for the undergraduate population and the sample respondents.

Table 1 – Undergraduate Student Population and Sample Demographics

	Value	Population		Sample	
		%	Count	%	Count
Total					874
Gender	Female	47.7%	9,293	60.4%	528
	Male	52.3%	10,179	39.6%	346
Age	19 and less	33.6%	6,535	28.8%	252
	20-24	57.2%	11,135	65.5%	572
	25-39	7.8%	1,512	5.0%	44
	40+	1.5%	290	0.7%	6
First Gen³	Yes	-	-	26.0%	227
	No	-	-	74.0%	647

Males are a slight majority in the overall undergraduate population (52.3%), but they represent a minority among survey respondents (39.6%). The sample has a significantly lower number in the 19 and under-age category than the population (28.8%, and 33.6%), but significantly more who fall in the 20-24-year-old category (65.5%, and 57.2%). Almost three quarters (74%) of undergraduate sample respondents are not first-generation students compared to 26% who are. Data on first-generation students in the overall population were not available.

Graduate Population and Sample Demographics

Of the graduate sample, 152 responded to the survey. Table 2 reports the demographic characteristics and statistics available for the graduate population and the sample respondents.

³ Data on the total number of first-generation students in the general undergraduate student population were not available.

Table 2 – Graduate Student Population and Sample Demographics

Grads	Value	Population		Sample	
		%	Count	%	Count
Total⁴			4,207		152
Gender	Female	54.5%	2,293	54.6%	83
	Male	45.5%	1,914	45.4%	69
Age⁵	19 and less	0%	0	0%	0
	20-24	24.5%	944	34.2%	52
	25-39	59.7%	2,295	57.2%	87
	40+	15.8%	607	8.5%	13
First Gen⁶	Yes			11.2%	17
	No			88.8%	135

The graduate sample is similar to the population in terms of gender, but survey respondents tended to be slightly younger than the population with about 10% more in the 20-24 year-old category, and a much smaller proportion of respondents in the 40 and older category (sample = 8.5% and population = 15.8%).

Food Insecurity

The survey questions on accessing food security are directly from the USDA six-item short-form food security survey, with minor edits to fit the experiences of individual KSU students during the past academic year, from August 2016 through March 2017. For example, instead of the USDA wording: “The food that (I/we) bought just didn’t last, and (I/we) didn’t have money to get more. Was that often, sometimes, or never true for (you/your household) in the last 12 months?” we ask “The food that I bought just didn’t last, and I didn’t have money to

⁴ Includes students classified as “first professional.”

⁵ The total number of respondents in these age categories sums to 3,846 not 4,207 because “first professional” students were not included in the available data on graduate student age.

⁶ Data on the total number of first-generation students in the general graduate student population were not available.

get more.’ Was that often, sometimes, or never true for you in the past 7 months?’”). The short-form food security survey is used if the full eighteen-item household survey, or, the ten-item adult food security survey, are not appropriate or are deemed burdensome (Coleman-Jensen, Gregory, and Rabbitt 2012). The short-form survey questions are ideal for this project since the goal is to produce the most concise survey instrument possible to encourage a high response rate from a student population that is busy with classes, work, and other activities. The short-form has proven to be an acceptable substitute when the long-form surveys cannot be used. “It has been shown to identify food-insecure households and households with very low food security with reasonably high specificity and sensitivity and minimal bias” (Coleman-Jensen et al. 2012). However, it does not directly ask about children’s food security, and does not measure the most extreme level of adult food *insecurity* where children’s food intake is likely to be reduced.

Affirmative responses to questions on the USDA short-form food security survey are summed to produce a raw food security score. Scores of zero to one indicate high or marginal food security. Scores of two to four indicate low food security, and raw scores of five to six indicate very low food security. The two categories “low food security” and “very low food security” in combination are referred to as food *insecurity* (Coleman-Jensen et al. 2012) (Table 3).

Table 3 – Food Security Status Definitions

Food Security Status Definitions	
Raw Score	Definition
0-1:	High or marginal food security
2-4:	Low food security (<i>food insecurity</i>)
5-6:	Very low food security (<i>food insecurity</i>)

The mean raw food security score of the sample of KSU students is 2.1, or “low food security.” The median is one, or “marginal food security.” The percentage of the sample’s raw scores that fall between two and six, or food-insecure, is 44.4% (Table 4).

Table 4 – KSU Student Food Security Status

KSU Student Food Security Status	
Mean score:	2.1
Median score:	1.0
% food-insecure (raw score = 2 to 6):	44.4%

This finding is consistent with other studies cited in the literature review that report food insecurity rates between 34% and 59% at U.S. universities and community colleges (Freudenberg, 2011; Maroto, 2013; Patton-Lopez et al., 2014; Zollinger and Mills, 2015; Wisconsin HOPE Lab, 2015; Martinez et al., 2016; Dubick et al., 2016). It is also consistent with a KSU Campus Climate Project that found 39.4% of KSU students “have difficulty affording food” (Kansas State University Campus Climate Project Final Report 2018). Like other colleges and universities, the food insecurity rate at KSU is much higher than the most recent national rate of 12.7%.

Perceptions Regarding Food Insecurity

Over half (56.6%) of respondents responded “strongly agree” or “agree” to the statement “*food insecurity is a significant problem among college students*” indicating a fairly strong awareness of food insecurity on campus (Table 5).

Table 5 - Food insecurity is a significant problem among college students

Response	%	Count
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Strongly agree	12.8%	139
Agree	43.8%	477
Neither agree nor disagree	25.8%	281
Disagree	15.2%	165
Strongly disagree	2.5%	27
Total	100%	1089

A total of 62.8% of students responded that they either knew many, some, or few students besides themselves who currently or sometime during the past 7 months had problems with food insecurity or hunger. To assess this we asked: *“How many university students (NOT including yourself) do you know who currently or sometime during the past 7 months had problems with food insecurity or hunger?”* (Table 6).

Table 6 - How many university students (NOT including yourself) do you know who currently or sometime during the past 7 months had problems with food insecurity or hunger?

Response	%	Count
Many	4.4%	48
Some	22.2%	242
Few	36.2%	394
None	37.3%	406
Total	100%	1090

With such a relatively high food insecurity rate, the perception that food insecurity is a significant problem on campus, and most respondents reporting to know at least a few other students who have experienced food insecurity during the previous school year, we would

expect to see relatively high numbers of respondents utilizing state-funded and private food assistance.

Private Food Assistance

To evaluate the use of private forms of food assistance we asked the question: *“In the past 7 months, how often did you use the services of a food pantry, food bank, community kitchen, church or similar non-government provided food assistance?”* (Table 7).

Table 7 - In the past 7 months, how often did you use the services of a food pantry, food bank, community kitchen, church or similar non-government provided food assistance?

Response	%	Count
Never; I was unaware these services were available	19.8%	211
Never; I was aware of these services, but did not use them	71.8%	767
Rarely	4.0%	43
Sometimes	3.3%	35
Often	1.1%	12
Total	100%	1068

The vast majority (91.6%) never used private food assistance in the previous seven months. Most of those who have never used private food assistance (71.8%) were aware of such services but did not use them.

At the time of the survey, there were efforts underway to develop a campus food pantry for KSU students in need. We asked respondents *“how likely are you to use this service?”* (Table 8).

Table 8 – How likely are you to use a campus food pantry?

Response	%	Count
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Very likely	6.5%	69
Likely	14.0%	149
Neutral	23.2%	247
Unlikely	9.6%	102
Very unlikely	10.7%	114
If you answered "unlikely" or "very unlikely," feel free to explain why here:	36.0%	385
Total	100%	1066

About twenty percent (20.3%) said they are “unlikely” or “very unlikely” to use this service.

Another 20.5% said they are “very likely” or “likely” to use the service.

Thirty-six percent (385 students) responded to the option allowing open-ended responses explaining why they are “unlikely” or “very unlikely” to use a campus food pantry. More respondents were motivated to respond to this open-ended response than any other response-option given on this question, with “neutral” being the second most common response (23.2%). The major themes that emerge from the open-ended responses were coded and are listed below with representative quotes from respondents. The quotes are followed by the number and percentage of these open-ended responses that fell into each respective category:

“If you answered ‘unlikely’ or ‘very unlikely,’ (to the question ‘how likely are you to use a campus food pantry’) feel free to explain why here.”

1. *No need*; “I don’t struggle to pay for food, so I wouldn’t need to use this service” (220, 57.6% of responses).
2. *Altruism*; “I have the means to support myself and would not want to take food away from those who truly need it” (118, 30.9% of responses).
3. *Stigma*; “I don’t like people knowing I’m struggling” (18, 4.7% of responses).
4. *Coping skills*; “I know how to budget and take care of myself” (12, 3.0% of responses).

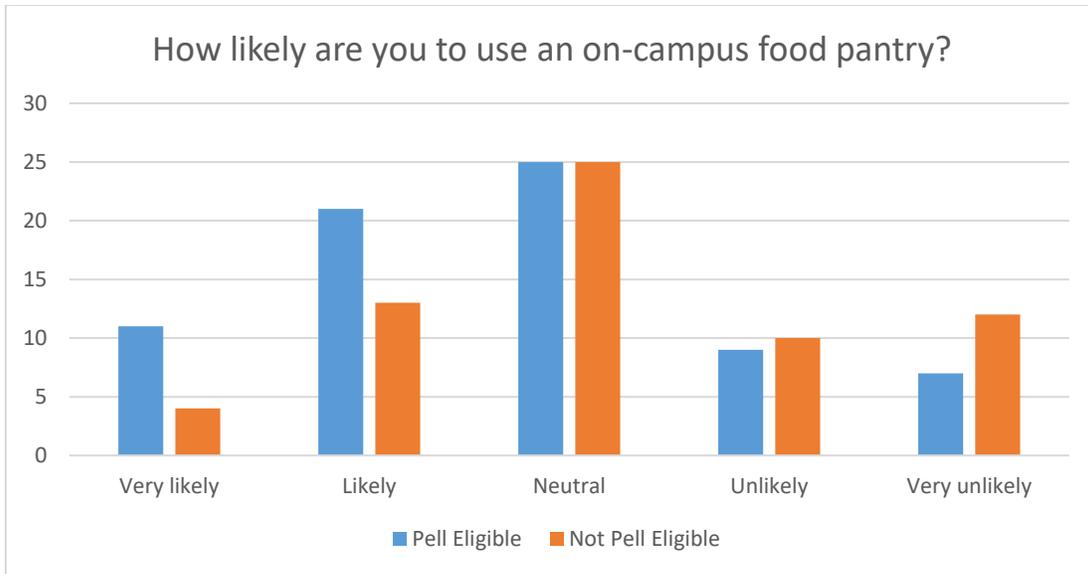
It is perhaps not surprising that some students who perceive themselves to be in a privileged financial situation would express altruism. However, this and all the other responses to this question were given voluntarily, above and beyond checking a multiple-choice box. A large percentage of respondents felt it necessary to respond to it, and the responses fell relatively neatly into the above listed categories.

We further analyzed the data on Pell grant eligibility as a proxy for financially-needy students and likelihood of using a campus food pantry to gain some insight into how a student's financial status might affect their use of a student food pantry.⁷ Federal Pell grant eligible students⁸ responded somewhat positively to the use of an on-campus food pantry. About one-third of Pell grant eligible students reported they would likely use a food pantry. This suggests that students with greater need are more likely to report that they would use the services of a food pantry.

Figure 1 – Pell and not Pell-eligible student and likelihood of using on-campus food pantry

⁷ Data on the Pell-eligible students was provided by KSU's Office of Student Financial Assistance. They provided a dichotomous indicator of Pell grant eligibility. We did not have access to this data for the entire student population; rather, the data reported here is for the students who completed the survey for this study.

⁸ Federal Pell grants are awarded to help students (usually undergraduates) in exceptional financial need who have not completed a bachelors or professional degree.



Public Food Assistance

To evaluate the use of public or government-funded food assistance, we asked respondents about their participation in SNAP. SNAP has been and continues to be the “foundation of America’s national nutrition safety net” (USDA SNAP 2014). It is the largest of 15 domestic food and nutrition assistance programs administered by the Food and Nutrition Service (FNS) of the USDA. The first specific question regarding SNAP posed to respondents was: *“Have you ever applied for, or participated in, the Supplemental Nutrition Assistance Program (SNAP, also known as food stamps)?”* (Table 9).

Table 9 - Have you ever applied for, or participated in, the Supplemental Nutrition Assistance Program (SNAP, also known as food stamps)?

SNAP	%	Count
Yes	6.3%	67
No	93.7%	999
Total	100%	1066

Clearly, SNAP is not commonly used among the sample even though 44.4% fit the criteria for food insecurity. Of those who responded affirmatively to the first question, a second SNAP

question asked was: *“In regard to SNAP (food stamps) please check the following that describes your situation?”* (Table 10).

Table 10 – SNAP Situation Currently

SNAP2_Current	%	Count
I applied for food stamps but was denied	29.0%	18
I received food stamps in the past but no longer receive them	58.1%	36
I am currently receiving food stamps	12.9%	8
Total	100%	62

Only 12.9% of respondents who have had some interaction with the SNAP program (i.e., applied for it or participated in it) are currently receiving it. A large percentage (58.0%) received SNAP benefits in the past, while 29.0% applied but were denied for some reason. If respondents applied but were denied we asked: *“If you applied for food stamps but were denied, why were you denied? (Check all that apply).”* (Table 11).

Table 11 – SNAP Situation – Applied but Denied

SNAP2_Applied/denied	%	Count
My income was too high	35.9%	14
Error was made in processing my application	18.0%	7
Did not meet other food stamp requirements	15.4%	6
Don't know	7.7%	3
Other	23.1%	9
Total	100%	39

The largest percentage of these respondents reported having too high an income for SNAP eligibility (35.9%), while the next largest percentage answered “other” (23.1%), and several others experienced errors in the processing of their application (18.0%), or did not meet some other requirement of the SNAP program (15.4%).

If the respondent answered, “I received food stamps in the past but no longer receive them” they were asked to indicate why with the prompt: *“If you received food stamps in the past but are no longer receiving them, please check the reason(s) you no longer are receiving them (check all that apply)”* (Table 12).

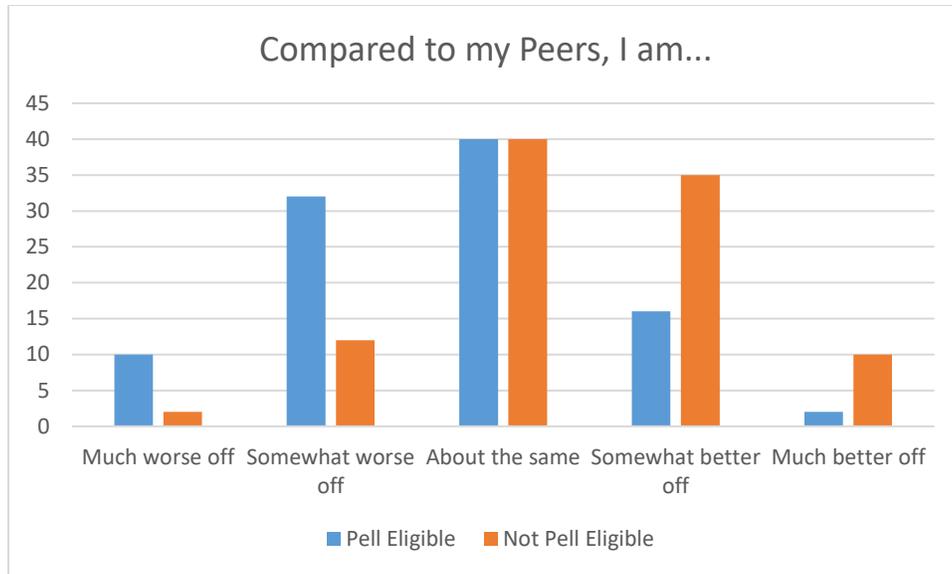
Table 12 – Received SNAP in past but no longer receive

SNAP2_No longer receive	%	Count
No longer eligible	32.1%	18
Income too high	28.6%	16
No longer need them	17.9%	10
Did not meet work/employment requirements	8.9%	5
Other	7.1%	4
Failed to recertify	5.4%	3
Total	100%	56

The largest percentage are “no longer eligible” (32.1%), 28.6% have incomes that are too high, 17.9% indicated that they no longer need them, and several others did not meet employment requirements (8.9%), “other” (7.1%), or failed to recertify for some reason (5.4%).

When asked how they feel they are doing financially compared to their peers, Pell grant eligible students were more likely to report that they felt much or somewhat worse off.

Figure 2 - Pell and not Pell grant-eligible student and perception of financial situation



Students who receive Stafford loans may also be struggling with food security issues. Stafford loans are made available by the government to undergraduate, graduate, and professional students enrolled in school least half-time. Subsidized Stafford loans are available to students who show financial need whereas unsubsidized Stafford loans are available to students regardless of financial need. The loans are designed to enable students from all backgrounds to access low interest student loans. While we did not track subsidized and unsubsidized loans separately, we did find that the average student loan balance of students who skipped a meal between September 2016 and April 2017 was statistically significantly higher than students without student loans. This seems to indicate that student loans are not enough for students to cover all of their costs as a student.

Students often attempt to meet their food and other financial needs through employment. Data from our survey indicated Pell grant eligible students worked an average of 16 hours per week (range of 0-40) whereas non-Pell-eligible students worked an average of 15 hours per week (range of 0-60).

Conclusions and Discussion

Food Insecurity on Campus and Food Assistance

Several key findings stem from this preliminary analysis of food insecurity and use of food assistance by KSU students. Food insecurity appears to be prevalent on campus. A relatively high percentage of students at KSU are food-insecure (44%), and most know at least a few food-insecure students besides themselves. However, there is a contradiction between the prevalence of food insecurity and the use of assistance. While the survey responses show a relatively high rate of food insecurity, this is not matched with a high rate of use of food assistance. Rather, the rate at which students seek out private food assistance was reported to be low – only 4% responded that they sometimes or often use food assistance. This could be explained by the stigma associated with needing assistance, a general attitude against seeking out assistance, and a general ideology that government should not fund programs for food assistance (Duncan 1999, Sherman 2009, Cramer 2016). This is not uncommon in rural communities where assistance is often rejected because of anti-government sentiment (Duncan 1999, Sherman 2009, Cramer 2016). Further research will be needed to fully understand the reasons explaining low reported use of assistance in this population. However, Pell grant eligible students responded positively to the use of an on-campus food pantry. About 1/3 of Pell-eligible students reported that they would likely use a food pantry. As student need rises, students are more likely to report that they would use the services of a food pantry. We take this to mean that food assistance may be used more as respondents feel more financial strain.

To better address food insecurity and other symptoms of poverty on campus it would be beneficial for university administrators, coordinators of campus food assistance, and others

interested in assisting students in need to follow up on this preliminary analysis in a number of areas. These could include further research on: (a) better understanding the attitudes and perceptions of first-generation and non-traditional students regarding how they cope with food insecurity; (b) how the rates and effects of food insecurity vary by race, ethnicity, and social class; (c) the explanatory factors behind the low reported student interest in using food assistance programs; and (d) the possible impacts of food insecurity on academic performance. More knowledge in these areas will help to inform efforts to address food insecurity on college campuses. While reported awareness of student food insecurity was relatively high in this study, it may also be useful to explore ways to increase awareness of the availability of food assistance options, while also reducing any stigma related to using such assistance.



Michael Miller is a doctoral candidate in sociology at Kansas State University. He is currently completing work for his dissertation that collects and analyzes narratives of people in poor neighborhoods and how they deal with the challenges of food insecurity, and poverty generally.



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Sonya Lutter is a Professor of Personal Financial Planning and Interim Director for the School of Family Studies and Human Services at Kansas State University and a Certified Financial Planner. She holds advanced degrees from Kansas State University and Texas Tech University in marriage and family therapy and financial planning.



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References

- Bishop, Erin. 2018. "Cats' Cupboard Reaches 2,000th Visit Ahead of Year Anniversary." *K-State News*. Accessed January 8, 2019. <https://www.k-state.edu/media/newsreleases/2018-08/catscupboard83018.html>.
- Broton, Katharine, Victoria Frank, and Sara Goldrick-Rab. 2014. Wisconsin HOPE Lab, "Safety, Security, and College Attainment: An Investigation of Undergraduates' Basic Needs and Institutional Response, 2014. Accessed April 26, 2017. <http://www.wihopelab.com/publications/APPAM.Draft.10.28.2014.pdf>.
- Cady, Clare. 2014. "Food Insecurity as a Student Issue." *Journal of College and Character*. 4: 265-271.
- Coleman-Jensen, Alisha, Christian A. Gregory, and Matthew P. Rabbitt. 2012. "United States Department of Agriculture Economic Research Service, Survey Tools." Accessed July 19, 2018. <https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/survey-tools/>.
- Cramer, Katherine. 2016. *The Politics of Resentment: Moral Consciousness in Wisconsin and the Rise of Scott Walker*. University of Chicago Press.
- Dubick, James, Brandon Mathews, and Clare Cady. 2016. "Hunger on Campus: The Challenge of Food Insecurity for College Students." Project of the Michigan State University: College and University Food Bank Alliance, the National Student Campaign Against Hunger and Homelessness, the Student Government Resource Center, and the Student Public Interest Research Groups.
- Duncan, Cynthia M. 1999. *Worlds Apart: Why Poverty Persists in Rural America*. Yale University Press.
- Franco, Manuel, Ana V. Diez Roux, Thomas A. Glass, Benjamin Caballero, and Frederick L. Brancati. 2008. "Neighborhood Characteristics and Availability of Healthy Foods in Baltimore." *American Journal of Preventative Medicine*. 35(6): 561-567.
- Freedman, Darcy A., and Bethany A. Bell. 2009. "Access to Healthful Food Among an Urban Food Insecure Population: Perceptions Versus Reality." *Journal of Urban Health: Bulletin of the New York Academy of Medicine*. 86(6): 825-838.
- Freudenberg, Nicholas, Luis Manzo, Hollie Jones, Amy Kwan, Emma Tsui, and Monica Gagnon. 2011. "Food Insecurity at CUNY: Results from a Survey of CUNY Undergraduate Students." A Report from The Campaign for a Healthy CUNY. Accessed August 19, 2017. http://www.gc.cuny.edu/CUNY_GC/media/CUNY-Graduate-Center/PDF/Centers/Center%20for%20Human%20Environments/cunyfoodinsecurity.pdf

- Guy, Clifford M., and Gemma David. 2004. "Measuring Physical Access to 'healthy foods' in Areas of Social Deprivation: A Case Study in Cardiff." *International Journal of Consumer Studies*. 28(3): 222-234.
- Kansas State University Campus Climate Project Final Report. 2018. Rankin and Associates Consulting. Accessed February 9, 2018. <http://www.k-state.edu/2025/initiatives/climate-survey/climate-survey-final-report.pdf>
- Kansas State University, Office of Planning and Analysis. 2016-2017. Common Data Set. Accessed August 7, 2017. <http://www.k-state.edu/pa/cds/cds2017.pdf>.
- _____. 2016-2017. Enrollment Statistics. Accessed August 8, 2017. <http://www.k-state.edu/pa/student/studentfb/totdemo.pdf>.
- Lang, Marisa. 2018. "Cats' Cupboard Provides Students Support to Succeed at K-State." *The Collegian*. <https://www.kstatecollegian.com/2018/02/09/cats-cupboard-provides-students-support-to-succeed-at-k-state/>. Accessed January 8, 2019.
- _____. 2013. "Poverty: 2013 Highlights." <http://www.census.gov/hhes/www/poverty/about/overview>. Accessed 21 July 2017.
- Laterman, Kaya. 2019. "Tuition or Dinner? Nearly Half of College Students Surveyed in a New Report Are Going Hungry." *The New York Times*. Accessed March 1, 2019. <https://www.nytimes.com/2019/05/02/nyregion/hunger-college-food-insecurity.html>
- Maroto, Maya. 2013. *Food Insecurity Among Community College Students: Prevalence and Relationship to GPA, Energy, and Concentration*. PhD dissertation, Community College Leadership Doctoral Program, Morgan State University.
- Martinez, Suzanna. 2016. "Student Food Access and Security Study," Accessed July 11, 2016. <http://regents.universityofcalifornia.edu/regmeet/july16/e1attach.pdf>. University of California Global Food Initiative.
- Morland, Kimberly and Susan Filomena. 2007. "Disparities in the Availability of Fruits and Vegetables Between Racially Segregated Urban Neighborhoods." *Public Health Nutrition*. 10(12): 1481-1489.
- National Center for Education Statistics, U.S. Department of Education. "Nontraditional Undergraduates." 2002. Accessed July 21, 2017. <http://nces.ed.gov/pubs2002/2002012.pdf>.
- Patton, Stacey. 2012. "The Ph.D. Now Comes With Food Stamps." *The Chronicle of Higher*

- Education*. Accessed April 26, 2017. <http://chronicle.com/article/From-Graduate-School-to/131795/>.
- Patton-López, Megan, Daniel F. López-Cevallos, Doris I. Cancel-Tirado, Leticia Vazquez. 2014. "Prevalence and Correlates of Food Insecurity Among Students Attending a Midsize Rural University in Oregon." *Journal of Nutrition Education and Behavior*. 46(3): 209-214.
- Sherman, Jennifer. 2009. *Those Who Work, Those Who Don't: Poverty, Morality, and Family in Rural America*. University of Minnesota Press.
- United States Department of Agriculture, Economic Research Service. 2018. "Food Security in the U.S." Accessed April 18th, 2017. <https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/>.
- United States Department of Agriculture, Economic Research Service. 2017. "Household Food Security in the United States in 2016." Accessed June 3rd, 2019. <https://www.ers.usda.gov/publications/pub-details/?pubid=84972>.
- United States Department of Agriculture, Economic Research Service. 2018. "Food Security in the U.S." Accessed April 18th, 2018. <https://www.ers.usda.gov/publications/pub-details/?pubid=90022>.
- United States Department of Agriculture, Economic Research Service. 2018. "Definitions of Food Security." Accessed April 26th, 2017. <https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/definitions-of-food-security/>.
- United States Department of Agriculture, Supplemental Nutrition Assistance Program (SNAP) Report, 2014.
- Wade, Lisa. 2002. "The Number of PhDs on Food Stamps Triples." *Sociological Images*. Accessed April 26, 2017. <http://thesocietypages.org/socimages/2012/06/19/the-number-of-phds-on-food-stamps-triples/>.
- Wisconsin HOPE Lab. 2016. "What We're Learning: Food and Housing Insecurity among College Students: A Data Update from the Wisconsin HOPE Lab." Accessed June 1, 2017. http://www.wihopelab.com/publications/Wisconsin_HOPE_Lab_Data%20Brief%2016-01_Undergraduate_Housing%20and_Food_Insecurity.pdf.
- Zollinger, Brett, and Shala Mills. 2015. "College Student Food Insecurity and Awareness and Use of Supports: Recent Findings from a Survey of Students at a Mid-Sized State Comprehensive University in Kansas." Unpublished report.