



FOOD INSECURITY ON CAMPUS

A UNIVERSITY OF RHODE ISLAND CASE STUDY

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Abstract

This study investigated the prevalence of food insecurity among students at The University of Rhode Island a large land grant state university. All undergraduate and graduate students (N=17,974) were sent an online survey and respondents were asked to complete the U.S. Department of Agriculture's Household Food Security Survey Six Question Module as well as demographic questions and other factors related to their student situation. A total of 3283 students provided adequate information to be included in the sample. Overall prevalence of food insecurity was 12.7 percent with food insecure students reporting poorer mental, physical, and financial wellbeing as compared to their food secure peers. While rates were lower than those reported nationally, higher representation of respondents among first year students and those with a meal plan may account for these findings. Ongoing efforts are focused on understanding factors relating to food insecurity and developing effective initiatives to address the issue.

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Introduction

Food Insecurity

Approximately 11.8 percent of U.S. households, roughly 15 million reported experiencing food insecurity during 2017. Food insecurity exists when there is a lack of, or inconsistent access to, adequate, affordable, and nutritious food (Coleman-Jensen, Rabbitt, Gregory, & Singh, 2018). Food insecurity is associated with a wide range of health and behavioral outcomes among children, adults, and seniors. Children who are food insecure are more likely to have increased health concerns (e.g., asthma, iron deficiency anemia), report missing school more often for illnesses (e.g., colds and flu) and demonstrate lower educational performance as compared to the food secure peers (Hartline- Grafton, 2017). When compared to their food secure counterparts food insecure children are at least twice as likely to report having poor or fair health, they are also 1.4 times more likely to have asthma (Gundersen & Ziliak, 2015). Adults experiencing food insecurity report higher rates of illness associated with poor diets (e.g., obesity, hypertension, stroke) as well as higher rates of depression and mental distress than their non-food insecure peers. Specifically, research conducted on adults across 12 states showed that food insecure adults had 32 percent increased odds of being obese compared to food secure adults (Pan, Sherry, Njai, & Blanck, 2012).

Food insecurity, however, is not equally distributed, with households with children, single mother headed households, and households headed by members of racial and ethnic minorities at greater risk than national averages (Coleman-Jensen, et. al., 2018). More recently, college students have become the focus of concern with rates of food insecurity being reported as high as 50 percent among specific college populations (Goldrick-Rab, Richardson, & Hernandez, 2015). *Hungry And Homeless In College: Results From A National Study Of Basic Needs Insecurity*

In Higher Education, 2017). Given the increasing emphasis on college attainment as a requisite for economic self-sufficiency, these exceptionally high rates of food insecurity have led researchers to examine the issue in more detail.

The Changing College Student

Over the past several decades, the numbers of students attending post-secondary education have increased. In 1985 27.8 percent of all 18-24-year-olds were enrolled in degree-granting postsecondary institutions, in 2015 that number grew to 40.5 percent. Growth in the percentages of the 25+ year-old population attending college has also been recorded (National Center for Education Statistics, 2016). More of our population is attending college, most of these students are enrolled in 4-year institutions. Students enrolled in 2-year institutions account for one-third of all postsecondary students (National Center for Education Statistics, 2016). Along with increases in enrollment, we have also seen changes in key student demographics. Students with children of their own now account for nearly 25 percent of all college students, a 30 percent increase from 2004 (ref). Additionally, racial and ethnic diversity has increased. While just 11.4 percent of students were students of color in 2004, by 2016, that number had grown to 42.8 percent (National Center for Education Statistics, 2016). Furthermore, between 2008 and 2012 the number of low-income students attending college increased from 40 percent to 51 percent, while the average age of college students has also increased (Noll, Reichlin, & Gault, 2017). The enrollment of college students 25 years or older is projected to grow more than twice as fast as for 18-24-year-old students between 2012 and 2022. (The Center for Law and Social Policy (CLASP), 2015).

Coupled with changing demographics is the fact that the cost of attending college has also increased dramatically. Since 1973, average inflation-adjusted public college tuition has

increased by 274 percent while median household income has grown by just 7 percent.

Additionally, public college tuition growth has even outpaced income growth for even Americas highest earners, who saw their income grow by 170 percent (Mitchell, Leachman, & Masterson, 2016). Between 2000 and 2010, the undergraduate tuition fee is increased each year by 3.4 percent at public institutions and 2.8 percent at private institutions, out pacing inflation, at just 1.5 percent per year (Cheng & You, 2017). During that same time, states cut funding for higher education, especially during the recession (2007-2009). While some have started to reinvest in higher education the vast majority have not and state funding per student remains 20-30 percent lower than pre-2008 levels (Delta Cost Project at American Institutes for Research, 2016).

Unsurprisingly, as students look to fund their education, college student debt has seen a dramatic increase. Between 2004 and 2014, there was a 92 percent increase in the number of Ostudent loan borrowers and a 74 percent increase in average student loan balances (Kroeger & Gould, 2017). Students that graduate with high student debt are more likely to have high debt to income ratios and are more likely to default on their loans and experience the hardships associated with defaulting (e.g., poor credit score, ineligibility for loans, garnished wages) (Jackson & Reynolds, 2013).

A Growing Focus of Research

Within the context of increased enrolments and rising costs in higher education, it may come as no surprise that food insecurity on college campuses is a growing concern. Universities and colleges across the country have begun to investigate the problem on their campuses. For example, a 2009 study of 441 students at the University of Hawai'i at Mānoa, a large 4-year university, found that 24 percent of students were at risk of food insecurity (ref). Similarly, a

2014 study of 301 students from two community colleges in Maryland, one in a low-income area and the other in a high-income area was conducted and reported food insecurity rates as high as 53 percent for those from high income area and 60 percent for students in the low income area (Maroto, Snelling, & Linck, 2014). Another study of students at the University of Saskatchewan, a large Canadian university, found 39 percent of students in their reported some degree of food security. (Olauson, Engler-Stringer, Vatanparast, & Hanoski, 2018) A 2018 meta-analysis of 8 studies representing 52,085 students found an unweighted mean food insecurity prevalence of 43.5 percent (Nazmi, et al., 2018). These findings demonstrate that while the rate of food insecurity on our campuses may vary, that same rate being significantly higher than the national average is consistent.

Method

Participants

Participants in this study included 3283 students currently attending the University of Rhode Island's Kingston campus, Bay campus, and Providence Campus. A total of 3743 students initially opened the survey, but after eliminating students who were outside the age range (i.e., under 18 years of age), and those who did not complete the FS survey questions, the final sample was comprised of 3283 students, see appendix C. A description of the participant characteristics is included in Table 1. Participants were incentivized to participate in the study by being able to opt into a daily raffle for a \$25 gift card and a weekly drawing for a \$50 gift card.

Materials

The URI Food Security Survey was designed to assess levels of food insecurity among college students at the University of Rhode Island as well as data on likely factors related to student food insecurity. The survey used an adapted version of the 6 question USDA Economic Research survey U.S. Household Food Security Survey Module: Six-Item Short Form and included questions on student demographics (e.g., age, gender, and ethnicity), finances, living situation, and dining experiences. The survey contained a total of 39 questions and averaged 7 minutes to complete. Upon completing the survey, respondents were able to indicate whether they would be willing to participate in a subsequent discussion/focus group.

Procedure

A number of strategies were used to maximize participation in the Food Security Survey. A multi-tiered approach was implemented to engage administrator and faculty support as well as graduate and undergraduate student participation.

About one week prior to the launch of the survey, the Provost's office distributed a letter to all faculty explaining the goals and purpose of the survey, the time frame for participation, and requesting their help. On the first day of the survey, the URI Communication's office distributed an email to all students which included a link to the survey and encouraged their participation.

Additionally, leading up to the survey launch, an extensive list of groups and organizations was developed and contacted to explain the survey and ask for their participation to promote the survey within their constituents. This list included both University governed offices and organizations as well as student-governed organizations. See Appendix A for a complete list of groups, organizations, and offices contacted. Targeted messages, which included a link to the survey, were developed by the research team and shared with the different organizations. To avoid saturating students' inboxes, messages were staggered across the survey dates with University-wide organizations and offices at the end of the first week, and student-governed organizations at the end of the second week.

In order to create awareness about the survey and engage with students, promotional materials were created including poster boards, stickers, and fliers with QR codes which could be distributed to students. A public relations class took the promotion of the survey on as a class project and students from the class distributed materials, tweeted, wrote articles for the student newspaper, and used their skills to promote the survey.

After completion of the survey, students who had opted in for later contact, were sent emails requesting their participation (n=1000). No responses were received. An adhoc group of students working in close proximity were then asked to participate in an informal 30-minute discussion of food insecurity. Nine students, eight undergraduate and one graduate student participated in a focus group where they shared their perceptions about the causes and

consequences of food insecurity among college students and offered their opinions on potential ways to address the problem.

Data Analysis

All data were collected, counted, categorized using Microsoft Excel functions. In order to give participants the option to choose what they wanted to disclose, not all questions were mandatory to complete in order to complete the survey.

Results

Participant demographics

A total of 3283 undergraduate and graduate students completed the survey. Approximately 400 additional students were eliminated from the final total either because they did not meet the age requirements (i.e., under 18 years of age) or withdrew from the survey prior to completing the Food Security Survey questions. In general, over two-thirds of the participants were female (69.7%), over half (58%) were 18-19 years old, and 40% were first-year students. Just 6% were graduate students. In terms of racial and ethnic diversity, about 77% were White (77%), 5.4% Latinx, 5% Asian, and 4.1% Black. Almost all of the participants (98.4%) reported taking the majority of their classes at the Kingston Campus. Close to two-thirds (68 %) of participants live on campus and 65% reported having a meal plan. See Table 1 for additional information.

Comparing Key Demographics to URI Population

Table 2 provides a comparison between participant characteristics and those of the total URI population on several variables. Notably, students who participated in the survey were much more likely to be female and first-year students as compared to the general URI student population. Comparisons between the two groups on race and ethnicity yielded fewer differences and the distribution of on and off campus students was almost identical in the two groups.

College Student Food Insecurity

A total of 417 (12.7%) students reported experiencing food insecurity during the past year, with 353 (10.8 %) being food insecure and 64 (1.9%) food insecure with hunger (very low food security).

As compared to the respondents overall, food insecure students were less likely to be white, and more likely to be Latinx or Black, with 38% of food insecure students identifying as students of color as compared to 22% of respondents overall. Food insecure students were also more likely to be older (20 or older), and less likely to be first year students than the overall respondents. Additionally, food insecure students were more likely among those living off campus than the overall population and less likely to have a meal plan.

Additional comparisons between food secure and food insecure students are reported in Tables 4 (4.2, 4.3, 4.4). Students reporting food insecurity were much more likely than their food secure peers to report both academic effects (e.g., not performing well in class) as well as behavioral challenges (e.g., feeling depressed, sleep disruption, lack of concentration). When asked about their health, 63% of food secure students perceived their health as good or very good while just 34% of food insecure students reported the same (Table 4.1).

As compared to food secure peers, food insecure students may more likely to experience financial challenges, with much higher rates of participants reporting not purchasing a required book because they could not afford, borrowing money to help pay bills, and having to move in with others due to financial problems (Table 4.2). At the same time, food insecure students were somewhat more likely (64.2% vs 51.4%) to be employed than their food secure peers. While all students reported wide utilization of funding sources for their education (Table 4.3), food insecure students seems much less likely to report receiving family support and somewhat higher rates of federal grants and loans.

Reported utilization of food pantries was low among all students with just 2% of food secure students reported visiting a food pantry in the past 12 months while 13% of food insecure students reported the same.

Focus Group and Comments

In addition to answering the initial survey question, students were given the option to add comments. Students were asked if there was “anything you would like to share.” Over 200 students provided additional comments, about 25% of whom were food insecure (Table 5). Their responses are categorized into 9 main categories (Table 5) and shared by both food insecure and food secure students alike. However, food insecure students were more likely to report that the cost of food on campus (e.g., meal plans, and food for sale) as a challenge than for food secure students.

Participants in the focus groups provided a number of concerns about the effects of food insecurity on college students. Participants mentioned lack of focus and motivation to engage in school activities, both academic and social, as the two primary effects of food insecurity that students were likely to experience. Participants also noted the challenge commuting students faced when they must spend all day on campus and may forget to pack food and cannot afford to eat. Additionally, participants felt that experiencing food insecurity would lead to lower grades, fewer social connections, and overall poorer collegiate experience.

When asked to consider the reasons for student food insecurity, participants mentioned several reasons, including students’ financial management skills and family socioeconomic status. Participants also emphasized the role of social pressure. Participants felt things like following friends off campus, moving into a dorm, or expensive activities with friends could put students in a vulnerable financial position and could contribute to their food insecurity. Also, participants felt that social pressures such as spending time with friends could make students less likely to work and fear of judgment could keep students from applying for SNAP. Lastly,

participants stressed that socially it is expected that they be food insecure, which they considered to be a huge factor contributing to food insecurity.

Finally, in terms of potential solutions, students suggested a bigger role for the administration in creating solutions, primarily through providing required holistic advising. Participants defined holistic advising as advising that reached beyond academics, advising that reached out and made sure students were doing well socially, professionally, and not struggling to meet basic needs. Additionally, after showing participants some of the resources available through the university, the participants felt URI should be more intentional about not only having these resources but making sure that they are well known throughout the campus. Participants noted that the community should take a bigger role in talking about food insecurity among students, not just at URI but other colleges and even primary and secondary school. Lastly, they suggested that URI and the community should work more closely to plan events and offer resources to students.

Discussion

The purpose of this study was to examine the levels of food insecurity among students at the University of Rhode Island. Without access to affordable, adequate, and appropriate food, student academic success can be compromised as well as their health and well-being. Results of this study found that one in eight (12.7%) students at URI face the challenges of accessing affordable and nutritious food. Food insecure students were more likely to be students of color, older and living off campus as compared to the food secure peers. As students continue to pursue higher education, with the expectations of greater upward mobility, financial stability, and personal and professional growth, higher education will need to make sure that their basic needs are met.

Similar to what has been reported in the literature, URI students of color reported higher rates of food insecurity on campuses when compared to national averages (Maroto, Snelling, & Linck, 2014). Students experiencing food insecurity were also more likely to report poor health, again consistent with prior research (Patton-López, López-Cevallos, Cancel-Tirado, & Vazquez, 2014). Additionally, similar to some studies, 2017 study of students at a large, mid-Atlantic, four-year university found a food insecurity rate of 15% (Payne-Sturges, Tjaden, Caldeira, Vincent, & Arria, 2017). Alternatively, others have reported significantly higher rates than those reported here, possibly due to a number of factors. For example, many studies on college food insecurity have focused on, or included community college students. Community college students can often experience food insecurity at a higher rate than those at four-year universities (Dubick, Mathews, & Cady, 2016). In the largest study on community college hunger, more than two-thirds of community college student respondents were food insecure. Suggesting that while food

insecurity is disproportionately high for all students, it is particularly high for community college students (Goldrick-Rab, Richardson, & Hernandez , 2017)

Other factors that may have contributed to the results include the fact that participants in the survey were much more likely to be first year students and to have meal plans. It is likely that first year students, who had been on campus for less than a year (only 3 months) would report lower than average rates of food insecurity. Similarly, since most first year students live on campus and are often required to have meal plans, they would be less likely to experience food insecurity than peers without meal plans. While our response rate indicates that the efforts to reach the student population and encourage their participation in the survey were successful, the over representation of these groups may have reduced the rates of food insecurity observed in other groups. Also, the food security survey asked students to report experiences over the past 12 months. It is likely, especially in the case of first year students, that some students may have had difficulty recalling back that far.

The results of the focus groups tended to support what has been reported elsewhere. Of particular note, however, was that students discussed food insecurity in light of social factors, such as peer pressure. They suggested that peers, who want to socialize, spend money, or do other things, may exert undue influence on students who then feel compelled to spend money in ways that they may not be able to afford. To our knowledge, there has not been much study on the social factors that may contribute to food insecurity and may be an important avenue to pursue.

One of the most common responses by colleges and universities to address food insecurity among their students has been the creation of campus food banks. The number of on-campus

food banks has swelled from 185 in 2014 to 686 in 2018 (Goldrick-Rab, Cady, & Coca, Campus Food Pantries: Insights From A National Survey, 2018). Food banks, however, fail to adequately address the gap because they can only produce limited success and provide temporary relief to a big problem. Food banks do not work to change the underlying problems causing food insecurity. Instead, they simply relieve pressure from more fundamental solutions (Abrams, 2016).

Alternatively, programs like the Supplementary Nutrition Assistance Program (SNAP) helps provide food to more than 38 million Americans (The USDA Food and Nutrition Service, 2018). Unfortunately, college students are frequently ineligible to participate in SNAP. A complex web of exemptions and requirements create an environment where only 18 percent are eligible for SNAP benefits. In addition, just 1/6th of those who are eligible (or 3 percent of all college students) are receiving benefits (Allison, 2018). While there has been legislation introduced in various states that help college students gain access to these federal and state programs (Rada, 2018), SNAP is still largely unavailable for college students. With one of our most potent tools to alleviate food insecurity rendered inaccessible, college students are left with few options.

Colleges and universities have been working on initiatives aimed at reducing the prevalence of food insecurity on campuses. Some colleges have created programs that shares what would be wasted food with students and others have even created programs where students can donate meals from their own meal plan to a peer (Blumenthal. & Chu, 2018). These programs have seen some success in alleviating hunger on campus, however, they also fail to

help understand or address the underlying problems causing food insecurity on college campuses.

More research should be conducted, particularly at other large four-year universities to add to the growing body of research demonstrating the prevalence of food insecurity on our campuses. Additional research should be done specifically on the social factors that may contribute to food insecurity among college students. An additional factor to be explored is diversity because we see students of color disproportionately experiencing food insecurity the more diverse a student population is, the greater chance that the food insecurity rate will be higher at that college and university.

Appendices

Appendix A

Groups contacted for assistance in launching the URI Food Security survey

Primarily University/Staff Governed Organizations and Offices	Primarily Student Governed Organizations
University of Rhode Island Dining Services	The Interfraternity Council (all fraternities)
University of Rhode Island Housing and Residence Life	The Student Senate
University of Rhode Island Student Affairs Office	The Panhellenic Council (all sororities)
University of Rhode Island Talent Development	The Multicultural Unity and Student Involvement Council
University of Rhode Island Gender and Sexuality Center	University of Rhode Island Graduate Student Association
University of Rhode Island Feinstein Center for a Hunger Free America	The Veterans Student Organization
University of Rhode Island Athletics	University of Rhode Island Nutrition Club
University of Rhode Island Disability Services	
University of Rhode Island Communication and Marketing	
The Rhodey Outpost	
University of Rhode Island Faculty and Staff	
University of Rhode Island Women’s Center	
University of Rhode Island Health Sciences	

Appendix B¹

List of questions used to measure food security.

<p>(Q10) In the past 12 months did the food bought in your household run out & there wasn't money to get more? -Yes -No</p>	<p>(Q11) How often did this happen -Almost every month -Some months but not every month -Only one or two months -Not sure</p>
<p>(Q12) In the past 12 months could your household not afford to eat balanced meals? -Yes -No</p>	<p>(Q13) How often did this happen? -Almost every month -Some months but not every month -Only one or two months -Not sure</p>
<p>(Q14) In the last 12 months, did you or other adults in the household ever cut the size of your meals or skip meals because there wasn't enough money for food? -Yes -No</p>	<p>(Q15) How often did this happen? -Almost every month -Some months but not every month -Only one or two months -Not sure</p>
<p>(Q16) In the last 12 months, did you ever not eat for a whole day because there was not enough money for food, or because you did not have food available to you? -Yes -No</p>	<p>(Q17) How often did this happen? -Almost every month -Some months but not every month -Only one or two months -Not sure</p>

¹ Bolded text indicates an affirmative response, only affirmative responses were counted when determining food insecurity.

Appendix C
Criteria for omitting respondents from data pool

Criteria for Omission from Data Pool	Respondents Omitted
Respondents abandoned the survey without answering any questions.	69
Respondents were 17 years old or younger.	46
Respondents only answered question 1 then abandoned the survey.	92
Respondents answered only the first four questions and none of the food security questions.	19
Respondents they did not answer any of the food security questions and abandoned the survey after Question 8.	120
Respondents only answered up to Question 10 then abandoned the survey.	94
<i>Total respondents omitted</i>	440

Tables

Table 1. Sample Demographics

		%
Ethnicity (n=3092)		
White	2344	77.4
Hispanic/ Latinx	163	5.4
Black or African American	124	4.1
Asian	148	4.9
Native Hawaiian or Pacific Islander	1	0.0
American Indian or Alaska Native	3	0.1
Two Ethnicities	177	5.8
Three or More Ethnicities	27	0.9
Other	42	1.4
Age (n=3283)		
18-19	1904	58.0
20-21	969	29.5
22-23	194	5.9
24+	216	6.6
Class Status (n=3283)		
First-Year	1315	40.1
Second Year	687	20.9
Third-Year	633	19.3
Fourth Year	364	11.1
Fifth Year	71	2.2
Sixth Year	14	0.4
Graduate Student	199	6.1
Gender (n= 3138)		
Male	923	29.4
Female	2188	69.7
Non-Binary	10	0.32
Trans	5	0.16
Other	12	0.38
Living Status (n=3274)		
On Campus	2232	68.2
Off Campus	1042	31.8
Meal Plan (n=3184)		
Yes	2066	64.9
No	1118	35.1
Primary Campus (n=3271)		
Kingston	3219	98.4
Providence	43	1.3
Bay	9	0.3

Table 2. Comparison of Key Sample Demographics to Key URI Demographics

Ethnicity³	University of Rhode Island²		Sample	
	<i>n=16,493</i>	<i>%</i>	<i>n=2987</i>	<i>%</i>
White	12,858	71.54	2344	78.47
Hispanic/ Latinx	1,605	8.93	163	5.46
Black or African American	913	5.08	124	4.15
Asian	628	3.49	148	4.95
Native Hawaiian or Pacific Islander	17	0.09	1	0.03
American Indian or Alaska Native	39	0.22	3	0.10
Two or More Ethnicities	433	2.41	204 ⁴	6.83
Living Status	<i>n=17,974</i>		<i>n=3274</i>	
On Campus	12,516	69.63	2232	68.17
Off Campus	5,458	31.78	1042	31.83
Class Status	<i>n=17,974</i>		<i>n=3283</i>	
Freshman	3,224	17.94	1315	40.05
All Other Undergraduates	11,732	65.27	1769 ⁵	53.88
Graduate	3018	16.79	199	6.06
Sex⁶	<i>n=17,974</i>		<i>n=3111</i>	
Male	7,778	43.27	923	29.67
Female	10,196	56.73	2188	70.33

² Data gathered from enrollment report at <https://web.uri.edu/ir/fastfacts/>

³ Does not include those who selected other in the sample population

⁴ Combines both two ethnicities and three or more ethnicities

⁵ Combines second, third, fourth, fifth, and sixth-year students

⁶ Does not include students in sample who identified as trans, non-binary, or other

Table 3. Food Insecure Students Demographics

		<u>%</u>
Ethnicity (n=374)		
White	237	62.0
Hispanic/ Latinx	32	8.4
Black or African American	40	10.5
Asian	16	4.2
Native Hawaiian or Pacific Islander	1	0.26
American Indian or Alaska Native	0	0.00
Two Ethnicities	32	8.4
Three or More Ethnicities	9	2.4
Other	7	1.8
Age (n=417)		
18-19	167	40.0
20-21	175	42.0
22-23	37	8.9
24+	38	9.1
Class Status (n=417)		
First-Year	102	24.5
Second Year	83	19.9
Third-Year	117	28.1
Fourth Year	68	16.3
Fifth Year	13	3.1
Sixth Year	3	0.7
Graduate Student	31	7.4
Gender (n= 395)		
Male	109	27.6
Female	281	71.1
Non-Binary	1	0.25
Trans	0	0.00
Other	4	1.01
Living Status (n=415)		
On Campus	231	55.7
Off Campus	184	44.3
Meal Plan (n=406)		
Yes	198	48.8
No	208	51.2
Primary Campus (n=413)		
Kingston	402	97.3
Providence	10	2.4
Bay	1	0.2

Table 4. Comparing Food Insecure Students and Food Secure

Ethnicity	<u>Food Secure (%)</u>	<u>Food Insecure (%)</u>
White	78.3	62.0
Hispanic/ Latinx	4.9	8.4
Black or African American	3.1	10.5
Asian	4.9	4.2
Native Hawaiian or Pacific Islander	0.0	0.3
American Indian or Alaska Native	0.1	0.0
Two Ethnicities	5.4	8.4
Three or More Ethnicities	0.7	2.4
Other	1.3	1.8
Age		
18-19	60.6	40.0
20-21	27.7	42.0
22-23	5.5	8.9
24+	6.2	9.1
Class Status		
First-Year	42.3	24.5
Second Year	21.1	19.9
Third-Year	18.0	28.1
Fourth Year	10.3	16.3
Fifth Year	2.0	3.1
Sixth Year	0.4	0.7
Graduate Student	5.9	7.4
Gender		
Male	29.7	27.6
Female	69.5	71.1
Non-Binary	0.3	0.3
Trans	0.2	0.0
Other	0.3	1.0
Living Status		
On Campus	70	55.7
Off Campus	30.0	44.3
Meal Plan		
Yes	67.2	48.8
No	32.8	51.2
Primary Campus		
Kingston	98.6	97.3
Providence	1.2	2.4
Bay	0.3	0.2

Table 4.1 Comparing Food Insecure Students and Food Secure

	<u>Food Secure (% Yes)</u>	<u>Food Insecure (% Yes)</u>
In the last 12 months has low energy due to a lack of food contributed to you:		
Dropping a class	0.7	7.4
Not performing as well in your academics as you otherwise could have	18.7	66.7
In the past two weeks students felt		
Down, depressed, or hopeless	56.4	81.2
Little interest or pleasure in doing things	49.2	77.5
Trouble falling asleep or staying asleep, or sleeping too much	64.9	83.0
Feeling bad about themselves, that they are a failure, or that they have let themselves or their family down?	47.0	75.3
Trouble concentrating on things, such as reading news or streaming online	47.5	75.8
Perception of Health		
Very Poor	0.6	3.3
Poor	6.9	15.3
Somewhat Good	28.9	46.8
Good	47.2	28.6

Table 4.2 Comparing Food Insecure Students and Food Secure

	<u>Food Secure (% Yes)</u>	<u>Food Insecure (% Yes)</u>
Employment		
Employed	51.4	64.2
Unemployed	45.8	33.2
In the past 12 months students have		
Borrowed money from friends or family to help pay bills	4.9	4.2
Moved in with other people, even for a little while, because of financial problems	23.4	59.3
Not purchase a required textbook because they could not afford it	2.5	11.5
	22.3	67.0

Table 4.3 Comparing Food Insecure Students and Food Secure

Highest Education by Parent or Guardian	<u>Food Secure (% Yes)</u>	<u>Food Insecure (% Yes)</u>
Less than high school	2.7	6.3
GED	1.0	3.4
High School Graduate	11.7	18.8
Some College	11.4	14.8
2-year Degree	6.3	7.6
4-year Degree	36.3	26.6
Professional Degree	25.5	18.5
Doctorate	5.1	4.3
Funding Education		
Merit Based and/or Athletic scholarships (URI and private)	50	41.5
Federal Grants	33.28	54.3
State/Local Grants	21.01	29.4
Federal Loans (Subsidized and/or Unsubsidized)	50.59	65.6
State Loans (Subsidized and/or Unsubsidized)	18.12	29.4
Federal Work Study	9.06	16.6
Private Loans	11.1	16.4
Family Support	62.3	38.9
Self (savings, wages, credit card, etc.)	37.6	41.2
Other	6.3	9.4

Table 5. Comments Analysis

Categories	<u>Food Insecure (n=47)</u>		<u>Food Secure⁷(n=171)</u>	
		<u>%</u>		<u>%</u>
Dining Hall Hours	3	6.4	14	8.1
Food Quality at URI	3	6.4	35	20.3
Dietary Restrictions	5	10.6	28	16.3
Cost of Food on Campus ⁸	8	17.0	8	4.7
Food Options at URI	8	17.0	34	19.8
Health Comments	6	12.8	14	8.1
Location of Dining Halls	-	-	1	0.6
Cost Constraints Outside of URI ⁹	-	-	2	1.2
Uncategorized ¹⁰	14	29.8	44	25.6

⁷ Eight comments from the food secure data could be placed in two separate categories, the *n* was adjusted to reflect the total number of comments submitted. However, because eight comments being placed in multiple categories the percentages do not total 100.

⁸ Cost of Food on Campus- Comments that directly mentioned not being about to afford food on campus or meal plans being too expensive.

⁹ Cost Constraints Outside of URI- Comments not mentioning that food itself was too expensive, but overall financial hardship

¹⁰ Comments that did not indicated any issue but rather mentored thoughts, opinions, jokes, or other unessential information.

Works Cited

- Abrams, J. (2016). Hunger in America: The Rise and Evolution of America's Public/Private Hunger Response Network, A Philadelphia Case Study. *Honors Theses (PPE)*, Paper 23.
- Allison, T. (2018). *Rethinking SNAP Benefits for College Students*. Young Invincibles.
- Blumenthal, S., & Chu, C. (2018, April 4). *Food Insecurity on College Campuses*. Retrieved from The Center for Law and Social Policy (CLASP): <https://www.clasp.org/press-room/news-clips/food-insecurity-college-campuses>
- Cheng, L., & You, C. (2017). Analysis Of Rising Tuition Rates In The United States Based On Clustering Analysis And Regression Models. *International Journal of Data Mining & Knowledge Management Process*, 4-6.
- Coleman-Jensen, A., Rabbitt, M. P., Gregory, C. A., & Singh, A. (2018). *Household Food Security in the United States in 2017, ERR-256*. U.S. Department of Agriculture, Economic Research Service.
- Delta Cost Project at American Institutes for Research. (2016). *Trends in College Spending: 2003–2013 Where Does the Money Come From? Where Does It Go? What Does It Buy?* Washington DC: American Institutes For Research.
- Dubick, J., Mathews, B., & Cady, C. (2016). *Hunger on Campus: The Challenge of Food Insecurity for College Students*.
- Goldrick-Rab, S., Cady, C., & Coca, V. (2018). *Campus Food Pantries: Insights From A National Survey*. The Hope Center.
- Goldrick-Rab, S., Richardson, J., & Hernandez, A. (2017). *Hungry And Homeless In College: Results From A National Study Of Basic Needs Insecurity In Higher Education*. Wisconsin HOPE Lab.
- Government Accountability Office. (2018). *FOOD INSECURITY: Better Information Could Help Eligible College Students Access Federal Food Assistance Benefits*. Washington DC.
- Gundersen, C., & Ziliak, J. P. (2015). Food Insecurity And Health Outcomes. *Health Affairs*.
- Hartline- Grafton, H. (2017). *The Impact of Poverty, Food Insecurity, and Poor Nutrition on Health and Well-Being*. Washington DC: Food Research & Action Center.
- Jackson, B. A., & Reynolds, J. R. (2013, 9). The Price of Opportunity: Race, Student Loan Debt, and College Achievement. *Sociological Inquiry*, 83(3), 335-368.
- Jepkemboi, G. (2017). *The Effects of Hunger on Physical and Cognitive Development of Children*. In: Szente J. (eds) *Assisting Young Children Caught in Disasters. Educating the Young Child (Advances in Theory and Research, Implications for Practice)* (Vol. 13). Cham Springer.
- Kroeger, T., & Gould, E. (2017). *The Class of 2017*. Economic Policy Institute.
- Maroto, M. (2013). Food Insecurity among Community College Students: Prevalence and Relationship to GPA. *Journal of Nutrition Education and Behavior*, 45(4).
- Maroto, M. E., Snelling, A., & Linck, H. (2014). Food Insecurity Among Community College Students: Prevalence and Association With Grade Point Average. *Community College Journal of Research and Practice*, 39(6), 552.
- Melchior, M., Chastang, J.-F., Falissard, B., Galéra, C., Tremblay, R. E., Côté, S. M., & Boivin, M. (2012). Food Insecurity and Children's Mental Health: A Prospective Birth Cohort Study. *PLOS*.

- Mitchell, M., Leachman, M., & Masterson, K. (2016). *Funding Down, Tuition Up State Cuts to Higher Education Threaten Quality and Affordability at Public Colleges*. Washington DC: Center on Budget and Policy Priorities.
- National Center for Education Statistics. (2016). *Digest of Education Statistics*.
- Nazmi, A., Martinez, S., Byrd, A., Robinson, D., Bianco, S., Maguire, J., . . . Ritchie, L. (2018). A systematic review of food insecurity among US students in higher education. *Journal of Hunger & Environmental Nutrition*.
- Noll, E., Reichlin, L., & Gault, B. (2017). *College Students with Children: National and Regional Profiles*. Washington DC: Institute for Women's Policy Research.
- Nord, M. (2009). *Food Insecurity in Households with Children: Prevalence, Severity, and Household Characteristics*. United States Department of Agriculture Economic Research Service.
- Olauson, C., Engler-Stringer, R., Vatanparast, H., & Hanoski, R. (2018). Student food insecurity: Examining barriers to higher education at the University of Saskatchewan. *Journal of Hunger & Environmental Nutrition*, 13(1), 19-37.
- Pan, L., Sherry, B., Njai, R., & Blanck, H. (2012). Food Insecurity Is Associated with Obesity among US Adults in 12 States. *Journal of the Academy of Nutrition and Dietetics*, 1403-1409.
- Patton-López, M., López-Cevallos, D. F., Cancel-Tirado, D. I., & Vazquez, L. (2014). Prevalence and Correlates of Food Insecurity Among Students Attending a Midsize Rural University in Oregon. *Journal of Nutrition Education and Behavior*, 46(3), 210, 212.
- Payne-Sturges, D. C., Tjaden, A., Caldeira, K. M., Vincent, K. B., & Arria, A. M. (2017). Student Hunger on Campus: Food Insecurity Among College Students and Implications for Academic Institutions. *American Journal of Health Promotion*, 32(2), 350.
- Rada, R. (2018, April 17). *COLLEGE STUDENT HUNGER*. Retrieved December 2018, from National Conference of State Legislatures Website: <http://www.ncsl.org/research/human-services/college-student-hunger636595533.aspx>
- Seligman, H., Jacobs, E., Lopez, A., Sarkar, U., Tschann, J., & Fernandez, A. (2011). Food Insecurity and Hypoglycemia Among Safety Net Patients With Diabetes. *Arch Intern Me*, 13.
- Shanafelt, A., Hearst, M. O., Wang, Q., & Nanne, M. S. (2016). Food Insecurity and Rural Adolescent Personal Health, Home, and Academic Environments. *Journal of School Health*.
- The Center for Law and Social Policy (CLASP). (2015). *Yesterday's Non-Traditional Student is Today's Traditional Student*. Washington DC: The Center for Law and Social Policy (CLASP).
- The USDA Food and Nutrition Service. (2018). *Latest Available Month September 2018, State Level Participation & Benefits*. Washington DC: Author.
- U.S. Department of Education. (2015). *Demographic and Enrollment Characteristics of Undergraduate Students*.