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OFFICE OF  
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# Needs Assessment of Collegiate Food Insecurity in SW Pennsylvania: The Campus Cupboard Study

## Final Report

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*Supporting families and communities through research, education, practice, and policy*

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## Campus Cupboard Study: Key Findings

- ▶ This study of hunger on campuses in Southwest Pennsylvania found that student hunger is pervasive - 29% of the 6,222 student respondents from 11 colleges or universities reported moderate or high levels of food insecurity. This finding is in agreement with the existing literature on food insecurity among college students which finds an average rate of 33%. This level of food insecurity is more than twice the rate for US adults, 12%.<sup>i</sup>
- ▶ To the best of our knowledge, this study of over 6,000 college students is the second largest study of campus hunger conducted in the US.
- ▶ Rates of food insecurity were consistently high across schools studied. The *least* food insecure campuses in the study exhibited a food insecurity rate of around 20%.
- ▶ We examined many student characteristics associated with hunger. In all categories studied rates of food insecurity were elevated compared to the rate for US adults. Students of color, White students, those who lived on campus or with their families, athletes, top academic performers, full-time workers, married students, graduate students, all experienced a food insecurity rate of 20% or higher.
- ▶ The highest rates of food insecurity in this study, 40% and up, were found among homeless students, Black and Latino students, and 1<sup>st</sup> generation college students. Students with children and those who were financially independent experienced rates close to 40%.
- ▶ Most food insecurity among participants in this study was related to limited *quality* of affordable food. Problems accessing a sufficient quantity of food were less frequently cited than problems accessing sufficiently high-quality food.
- ▶ Food insecurity was associated with lower GPA. Students experiencing food insecurity reported that hunger was a barrier to performing to their full academic ability.
- ▶ A majority of students experiencing food insecurity indicated that limited food supply had impacted their mental and/or physical health.
- ▶ Students experiencing food insecurity relied more heavily on federal student loans to finance their educations.
- ▶ 70% of students experiencing food insecurity reported they would use a food pantry if one were available. Those who would not typically cited one of two reasons: 1) reserving food pantry services for others who are perceived to be more in need or 2) stigma.

## Introduction to the Campus Cupboard Study

In January of 2017, the Greater Pittsburgh Community Food Bank (GPCFB) partnered with The University of Pittsburgh Office of Child Development to conduct a needs assessment of the extent of hunger on campuses in the greater Pittsburgh region. The assessment was carried out via an online student survey that was created for this study based on existing measures of relevant concepts. It addressed student characteristics, food insecurity, consequences of food insecurity, sources of income, and attitudes about food banks. The assessment specifically examined hunger among subgroups, such as students of color and 1st generation college students, who are at higher risk for food insecurity and related consequences.

Over the course the year-long project, the Office of Child Development's evaluation team invited 11 local post-secondary institutions to participate in the study, including the four regional campuses of Penn State University (Beaver, Fayette, New Kensington, and Greater Allegheny). The colleges and universities involved in this study are Carnegie Mellon University; Chatham University; Carlow University; California University of Pennsylvania; Community College of Allegheny County; Duquesne University; Indiana University of Pennsylvania; Penn State University, regional campuses; Point Park University; Seton Hill University and the University of Pittsburgh. Staff and administrators at each campus ultimately decided if and how to distribute the electronic survey to their students.

This report presents the findings from the student survey and recommendations for the Food Bank to consider implementing on campuses to address the identified needs of local students. An Appendix summarizing interviews with staff of existing campus cupboards and pantries is included (this report uses the terms cupboard and pantry interchangeably to refer to organizations which distribute food to those in need).

## Student Survey Methods

Beginning in the winter of 2017, evaluators began making contact with each of the 11 colleges and universities we hoped to bring on as partners in this study. We explained the purpose of the study, and provided copies of the student survey that had been created for this project along with a letter of approval from The University of Pittsburgh's IRB. We asked representatives from each school to email a link to the on-line survey to their student bodies. Each school had the option to contribute questions of their choosing to the survey. Ultimately, 12 of the 14 campuses (including each of the Penn State campuses) emailed a description of the study and the survey link to all of their students during the spring or fall semester of 2017. One school sent the survey only to their student volunteer listserv, another posted the survey link to the school's student portal webpage. Six schools submitted questions of their own. Questions submitted by individual schools typically addressed hunger-related topics such as lacking proper clothing or hygiene products or campus-specific resources such as awareness of on-campus programs for students in need.

Students "self-selected" into the study. That is, they chose whether to respond to the survey. It is likely that respondents were different in relevant ways from other students. For instance, students who have

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experience with food insecurity could be more interested in offering their input on a study of campus hunger. Survey results may, therefore, overestimate the rate of student hunger campus-wide. To mitigate the effects of self-selection, we offered a raffle of \$50 grocery store gift cards to encourage participation from as many students as possible. In general, response rates for this study were similar to comparable previous studies (see next section).

## Survey Sample and Response Rates

Enrollment across all campuses involved in the study totaled 113,376 students. Of these, 7,139 students initiated a response to the survey. However, 917 (13%) of those responses were not useable because most or all of the survey items were blank. The final sample size for this study was 6,222 students, or 5.5% of the enrolled population on the campuses studied, which is similar to response rates reported by previous studies of campus food insecurity.<sup>ii</sup> The current response rate compares favorably to a recent study conducted by a coalition of student advocacy groups which surveyed students on 34 campuses nationwide. That study collected survey data from 3,765 and attained a 0.5% response rate.<sup>iii</sup> Response rates by participating campus are presented in Table 1.

To the best of our knowledge, this study of over 6,000 college students is the second largest study of campus hunger ever conducted in the US. The only larger study (8,000 students) was carried out by the University of California at Berkeley as an addendum to their Undergraduate Student Experiences Survey.<sup>iv</sup>

	Number of Valid Responses	Campus Enrollment	Survey Response Rate	Percent of Sample
Carnegie Mellon University	1744	13,961	12.5%	28.0%
Chatham University	364	2,200	16.5%	5.9%
Carlow University	153	2,140	7.1%	2.5%
California University	690	5,117	13.5%	11.1%
Community College of Allegheny County	310	26,782	1.2%	5.0%
Duquesne University	866	9,256	9.4%	13.9%
Indiana University of Pennsylvania	1072	12,853	8.3%	17.2%
Penn State University, regional campuses	192	2,399	8.0%	3.1%
Point Park University	281	4,093	6.9%	4.5%
Seton Hill University	464	1778	26.1%	7.5%
University of Pittsburgh	86	32,650	0.3%	1.4%
Total	6222	113,376	5.5%	100%

The highest response rates of 10% or greater were achieved at CMU, Chatham, CalU, and Seton Hill. Seton Hill, the smallest university in the sample had the highest response rate at 26%. Most remaining schools had response rates between 5 – 10%. The exceptions were the two largest schools in the sample, CCAC and Pitt. Both had response rates of around 1%.

Evaluators provided some guidance to schools on strategies to increase response rates, such as sending reminder emails, or enlisting student service groups and instructors in recruiting students for the survey. Schools did not report the methods campus staff actually used to recruit participants; however, response rates appear to be related to campus support for the survey effort. For instance, staff at six campuses (CMU, Chatham, CalU, Duquesne, Penn State New Kensington, and Seton Hill) provided specialized questions for their own students to be included in the survey. Response rates at these schools were also higher. Schools who provided their own questions may have been more invested in learning about food insecurity on campus or they may have employed known and effective strategies for encouraging student participation. Future evaluators may wish to consult with the higher response rate schools to learn about their approach to recruitment.

## Sample Description

Respondents were mostly White (69%), female (71%), full-time students (93%) of traditional age (63% were between 18 and 21 years old). Asian Americans made up 15% of the sample, while African Americans made up 7%. Four percent of students were Hispanic and 4% were Multi-Racial. Twenty-eight percent were between the ages of 22 and 29, while 9% were 30 or older. A quarter of the students in the sample were freshmen, 17% each were sophomores, juniors, seniors or Master's students. Seven percent were pursuing PhDs. Most students lived off campus (59%). Among off-campus students, 44% lived with roommates, 21% lived with parents or extended family, 19% lived with their own family, 16% lived alone, and 1% reported having an unstable housing situation.

## Definition of Food Insecurity

We used a two-step process to identify students experiencing food insecurity. This section describes that process. We first asked a screening question to identify students who potentially faced problems or limitations with food access (and to filter out students with no limitations). That question addressed quantity and quality of food access in the past year (Table 2). Students who indicated they had not had enough food or enough of the kinds of food they wanted were asked a series of follow-up questions about the severity of their challenges (Table 3) to determine their level of food insecurity (Table 4).

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*Rates of food insecurity were consistently high across schools studied. The LEAST food insecure campuses in the study exhibited a food insecurity rate of around 20%.*

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## Identifying students who were potentially experiencing food insecurity

Following the USDA's measure of adult food insecurity, we asked students, "Which of the following statements best describes the food you've eaten in the past year?" Possible answer choices were 1) Enough of the kinds of food I want to eat, 2) Enough, but not always the kinds of food I want, 3) Sometimes not enough to eat, 4) Often not enough to eat. Results are displayed in Table 2. According to the USDA, individuals who select choice #1 are considered to be food secure. Those who select choices #2-4 are potentially experiencing food insecurity.

Table 2. Which describes the food you've eaten in the past year?, N=6,222		
	N	%
1) Enough of the kinds of food I want to eat.	2747	44
2) Enough, but not always the kinds of food I want.	2919	47
3) Sometimes not enough to eat.	490	8
4) Often not enough to eat.	66	1

Slightly more than half of the total sample ( $N=3,227$ ) indicated they may be experiencing food insecurity. Students in the potentially food insecure group were asked follow-up questions about severity of problems accessing nutritious food.

Unique characteristics of college student populations mean that the USDA's definition of adult food insecurity may not be directly applicable. Representatives of participating schools suggested that students may choose answer choice #2 (enough, but not always the kinds of food I want) for reasons other than financial need. Some college students with adequate financial means to purchase healthy food may choose #2 because food that meets dietary preferences such as gluten-free, vegan, or organic is not widely available, or because they are otherwise dissatisfied with campus food offerings. Forty-one percent of students in this sample lived on campus where most or all of their food was provided by a dining hall service. Many students explained that they didn't eat the kind of food they wanted because they found taste, quality and variety of food available on campus to be lacking. We explore the issue of limited food quality in the "Food Access Problems of Quality v. Quantity" section below.

### Measuring severity of food insecurity

The second step in identifying students experiencing food insecurity was distinguishing between those whose limited access to food was due to inability to afford quality food from those who were discontent with food available on campus but were not facing problems affording food. We relied on a measure of severity of food insecurity developed by the USDA.

The subsample of students who were potentially experiencing food insecurity ( $N=3,227$ ) were asked 8 yes or no questions about their experiences with food scarcity in the past year (listed in Table 3). These questions were used to assess the severity or level of an individual's food insecurity. The most frequently cited experience of food scarcity was inability to afford balanced meals; 71% of students reported this experience. About half had run out of food and couldn't afford to buy more (46%), cut the size of or skipped meals (52%), or ate less than they should have because they lacked money to purchase food (48%). Forty-one percent had gone hungry because they couldn't afford food. Fewer students reported going a whole day without eating (13%) or losing weight because they couldn't afford food (22%).

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*The most frequently cited experience of food scarcity was inability to afford balanced meals.*

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<b>Table 3. Past Year Food Insecurity Severity Items, Percent Reporting Each Experience, N=3,227</b>	
You worried that your food would run out before you got money to buy more.	52%
The food you bought just didn't last, and you didn't have money to get more.	46%
You couldn't afford to eat balanced meals.	71%
Did you ever cut the size of your meals or skip meals because there wasn't enough money for food?	52%
Did you ever eat less than you felt you should because there wasn't enough money for food?	48%
Were you ever hungry, but didn't eat because there wasn't enough money for food?	41%
Did you lose weight because there wasn't enough money for food?	22%
Did you ever not eat for a whole day because there wasn't enough money for food?	13%

Scores on the food insecurity severity measure were calculated by summing “yes” answers to the 8 items in the scale. A score of 0 indicated high food security, scores of 1 or 2 were considered at risk of food insecurity, 3 – 5 indicated moderate food insecurity and 6 – 8 indicated high food insecurity. Among the subsample of students who were potentially experiencing food insecurity, 20% scored a 0 on the severity scale and were classified as food secure.

Four percent of the total student sample were missing severity data. These students were assigned to a severity category based on their response to the screening question described in Table 2. For these students, those who selected answer #1 were considered food secure, those who selected #2 were considered at risk, #3 was considered moderate food insecurity and #4 was classified as high food insecurity.

## Food Insecurity on Campuses in SW Pennsylvania

The results of the Campus Cupboard student hunger survey suggest that hunger is indeed widespread on college campuses in our region. Twenty-nine percent of survey respondents reported moderate to high food insecurity. Another 16% were at risk for food insecurity (See Table 4). *From here forward we refer to students who reported moderate or high food insecurity as food insecure.*

<b>Table 4. Severity of Food Insecurity on Campus in SW PA, N=6,222</b>	
High Food Security (Score = 0)	55%
At Risk of Food Insecurity (Score = 1 – 2)	16%
Moderate Food Insecurity (Score = 3 – 5)	14%
High Food Insecurity (Score = 6 – 8)	15%

The level of food insecurity in this sample closely mirrors that found in other studies of campus hunger. A recent systematic review found that the average rate of food insecurity reported in previous research on US campuses was 33%.<sup>ii</sup>

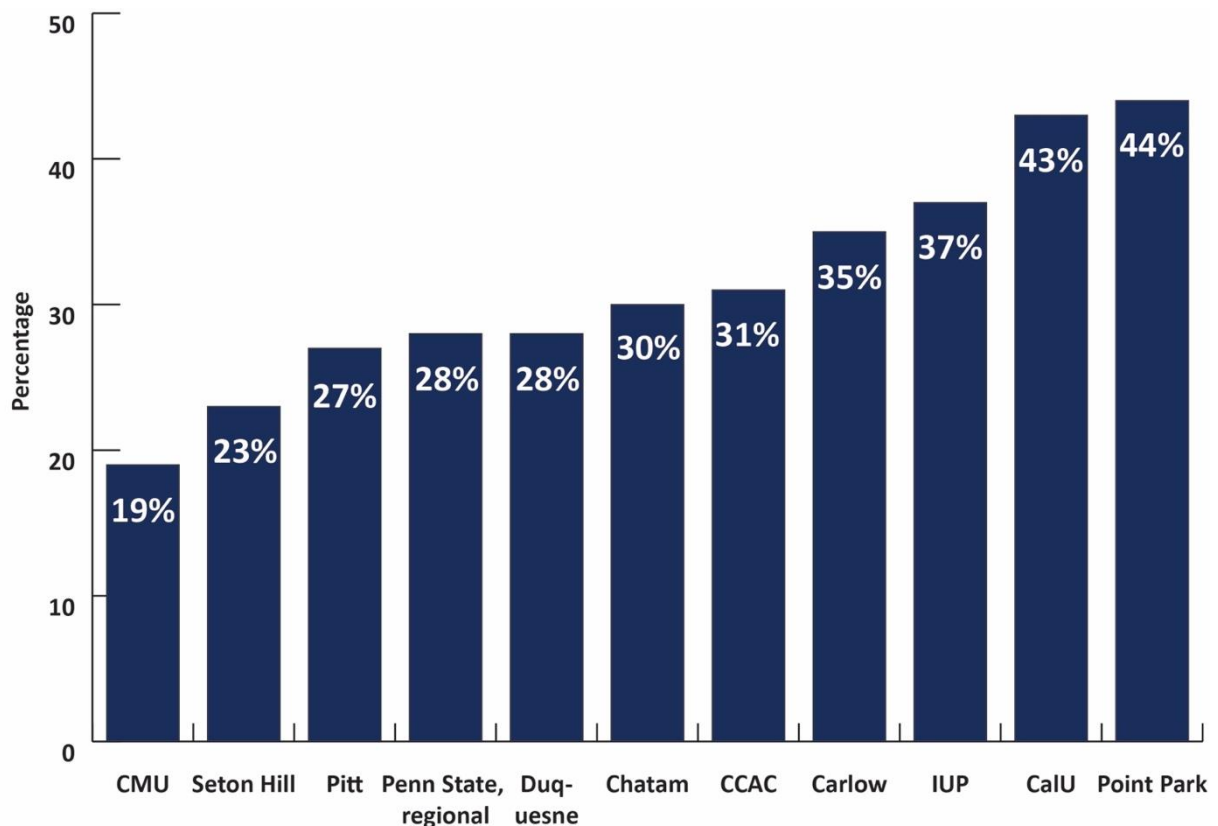
Extent of food insecurity varies considerably by campus (Table 5). Students at CMU and CCAC reported the highest levels of food security, but the level of high food insecurity at CCAC was nearly triple that of CMU (21% v 8%). Food security was lowest at IUP, CalU and Point Park, where more than 60% of students were experiencing food insecurity or at risk of food insecurity. These three schools also reported the highest prevalence of moderate and high food insecurity.



<b>Table 5. Food Insecurity Rates Across Campuses</b>				
	Food Secure	At-Risk	Moderate Insecurity	High Insecurity
Carnegie Mellon University	62%	19%	11%	8%
Chatham University	55%	15%	15%	15%
Carlow University	52%	13%	14%	20%
California University	42%	15%	19%	24%
Community College of Allegheny County	62%	8%	9%	21%
Duquesne University	52%	20%	15%	14%
Indiana University	45%	18%	16%	21%
Penn State University (Beaver, Fayette, New Kensington, and Greater Allegheny campuses)	59%	13%	11%	17%
Point Park University	40%	16%	20%	24%
Seton Hill University	69%	9%	13%	10%
University of Pittsburgh	55%	19%	16%	10%

As displayed in the Figure 1, 30% or more students at six schools (Chatham, CCAC, Carlow, IUP, CalU and Point Park) reported experiencing moderate or high food insecurity. However, food insecurity was pervasive at all schools studied. Even on the campuses with the lowest rate of food insecurity (CMU, Seton Hill), 1 in 5 respondents had significant problems obtaining adequate food.

**Figure 1. Percent of Students Reporting Moderate or High Food Insecurity**



## Profile of Students Experiencing Food Insecurity

Food insecurity varied substantially by race/ethnicity and year in school (Table 6). Food insecurity was high across racial/ethnic groups, but Black and Latino students were much more likely to experience food insecurity than Whites or Asians. More than 1/5 of respondents in every race category were experiencing food insecurity. However, rates approaching 1/2 for students of color are especially concerning.

Survey results indicated that food insecurity is less common among the newest and most advanced students. Undergraduate freshmen and doctoral students were the least likely to report food insecurity. Other undergraduate and master's level students reported 30% or higher rates.

Table 6. Prevalence of Food Insecurity by Race/Ethnicity (N)	
Black or African American (420)	45%
Hispanic or Latino (230)	40%
Multi-racial (249)	35%
White or Caucasian (4293)	28%
Asian (917)	21%
By Year in School (N)	
Freshman (1577)	22%
Sophomore (1077)	33%
Junior (1049)	35%
Senior (1034)	33%
Graduate student, Master's Level (1065)	30%
Graduate Student, Doctorate Level (420)	23%

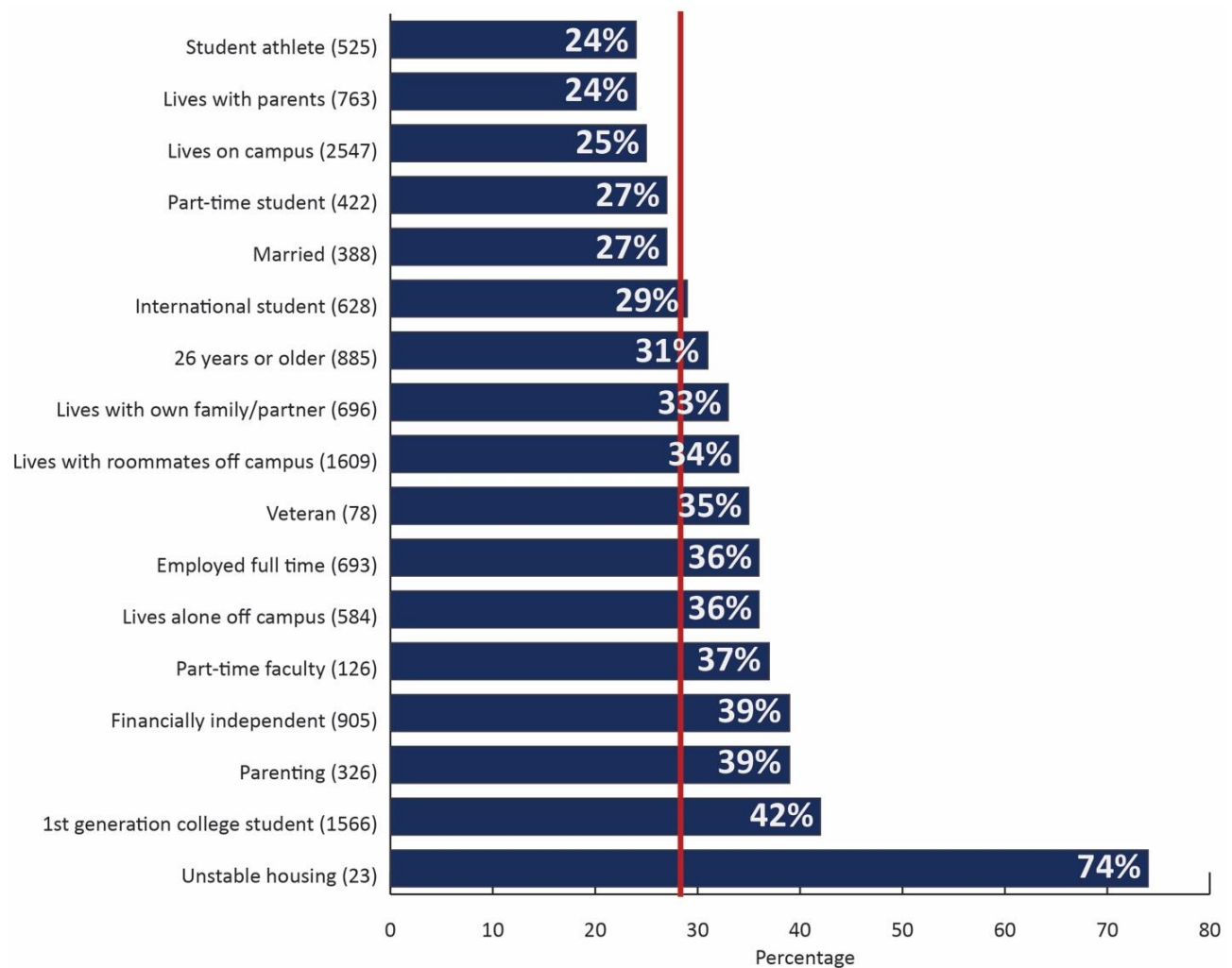
We examined how food insecurity varied by an array of other student characteristics including housing situation, age, marital/parenting status. These characteristics are displayed in Figure 2. The 23 student respondents who lacked a stable place to live were by far the most likely to report food insecurity; three-quarters of students experiencing homelessness were also food insecure. Other characteristics associated with higher food insecurity were being a 1<sup>st</sup> generation college student, being a parent, being financially independent for financial aid purposes, serving as part-time faculty, living alone off campus, working full time, and being a veteran. Factors associated with relatively lower food insecurity were being a student athlete, living with parents or other extended family members, and living on campus. Again, food insecurity was double the average for US adults across all categories studied, even the lowest risk categories. It is especially notable that one-quarter of students living on campus, who presumably have access to meal plans, reported inconsistent access to adequate food.

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*The highest rates of food insecurity in this study, 40% and up, were found among homeless students, Black and Latino students, and first-generation college students.*

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**Figure 2. Food Insecurity by Student Characteristics (N)**



*Note: Red line represents overall average of 29%*

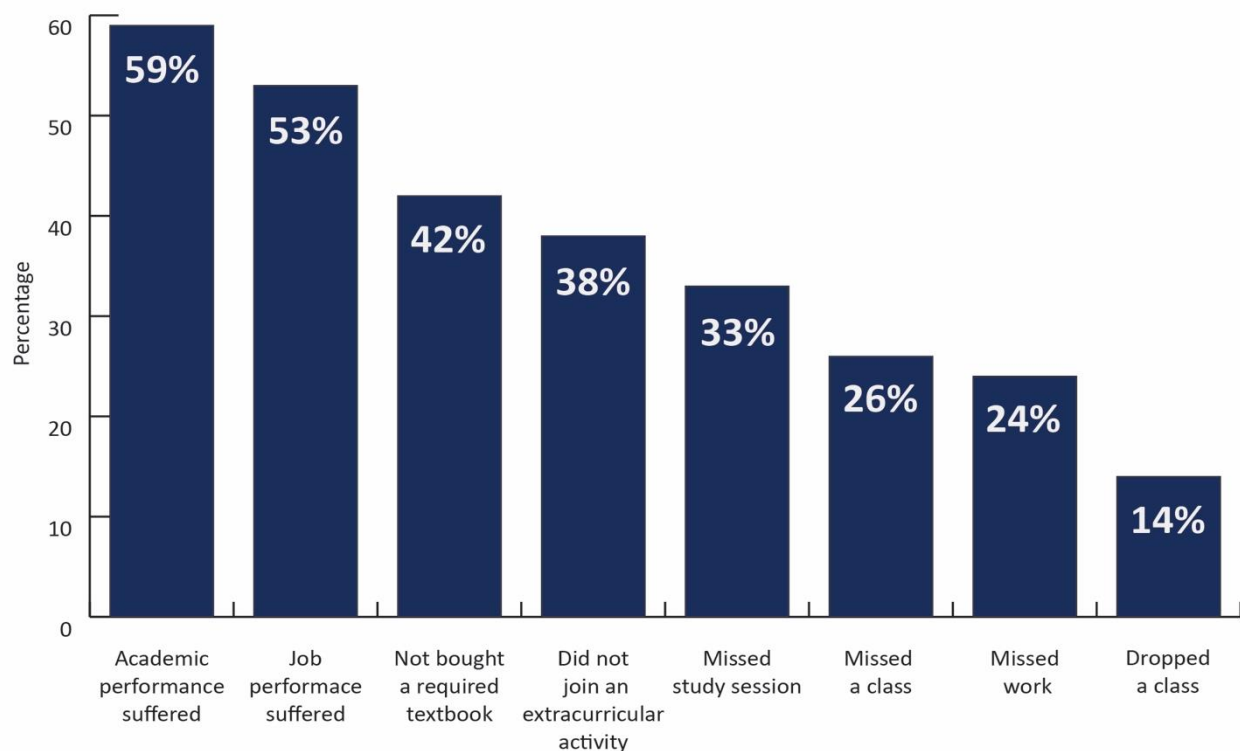
## Consequences of Food Insecurity

This study found that food insecurity is associated with poorer academic performance. Students reporting food insecurity are more likely to have GPAs below 3.0. Students experiencing food insecurity made up about half of those reporting GPAs between 1.0 – 2.9, but only a quarter of those with GPAs from 3.0 – 4.0. Results are displayed in Table 7.

Table 7. Percent of Food Insecure Students in Each GPA Range (N)	
0.0 - 0.9 (41)	29%
1.0 - 1.9 (39)	44%
2.0 - 2.9 (713)	46%
3.0 - 3.9 (4574)	28%
4.0 (855)	22%

Additional survey data points possible mechanisms linking food insecurity and GPA. The survey included a question asking if hunger had caused a variety of problems for students who were experiencing food insecurity. The most commonly cited hunger-related problem was academic performance. Fifty-nine percent of students replied that hunger had caused them to not perform as well in their academics as they otherwise could have. Over half said the same about their work performance. About 40% of students experiencing food insecurity had decided not to buy a required textbook or opted out of joining an extracurricular activity because of hunger. One-third missed a study session because of hunger and one-quarter missed a class or missed work. Most troublingly, 14% dropped had a class and cited hunger as the reason. Results are presented in Figure 3.

**Figure 3. Problems Caused by Hunger among Food Insecure Students, N=1,824**



Food insecurity also impacts health and wellness. A majority of students experiencing food insecurity indicated that limited food supply had impacted their mental (52%) and/or physical (61%) health.

### Food Access Problems of Quality v. Quantity

Students who reported having problems accessing the quality of food they needed made up the plurality of the sample, composing almost half of the students surveyed (47%), see Table 2. In contrast, 9% of students reported challenges accessing the quantity of food they needed. The survey asked students who reported having enough but not the kinds of food they wanted to describe the difference between what they did eat and what they wanted to eat. The results are instructive to service providers intending to serve the population of college students experiencing food insecurity.

Many students explained that they would like to eat more fresh, healthy foods but they cannot afford those foods. Students wrote, “I would like to eat more vegetables and fruits, as well as healthier items that aren't as processed, but they cost more” and “ramen noodles and chicken patties is my usual dietary regimen. [I would like to eat] Whole chicken, rice, vegetables, fruit, healthy carbs, turkey, eggs, bacon.” Other students echoed these sentiments writing, “Ramen noodles is what I consume most because it is relatively inexpensive but I would prefer meat, potatoes, fresh fruits and vegetables” and “I'd prefer to eat more fresh fruits and vegetables but it's a lot more expensive so I end up buying whatever is cheapest and will give me the biggest bang for my buck regardless of the nutritional value.”

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*“I'd prefer to eat more fresh fruits and vegetables but it's a lot more expensive so I end up buying whatever is cheapest and will give me the biggest bang for my buck regardless of the nutritional value.”*

- Student

• • •

An assessment of the qualitative data that students provided on the survey about what was lacking in their diets illustrates that many students can only afford cheap, processed food. They are getting an adequate amount of food, but food within their budgets is low in nutrition. These students could benefit from food assistance programs that provide access to fresh, nutritious foods that are otherwise unaffordable to them.

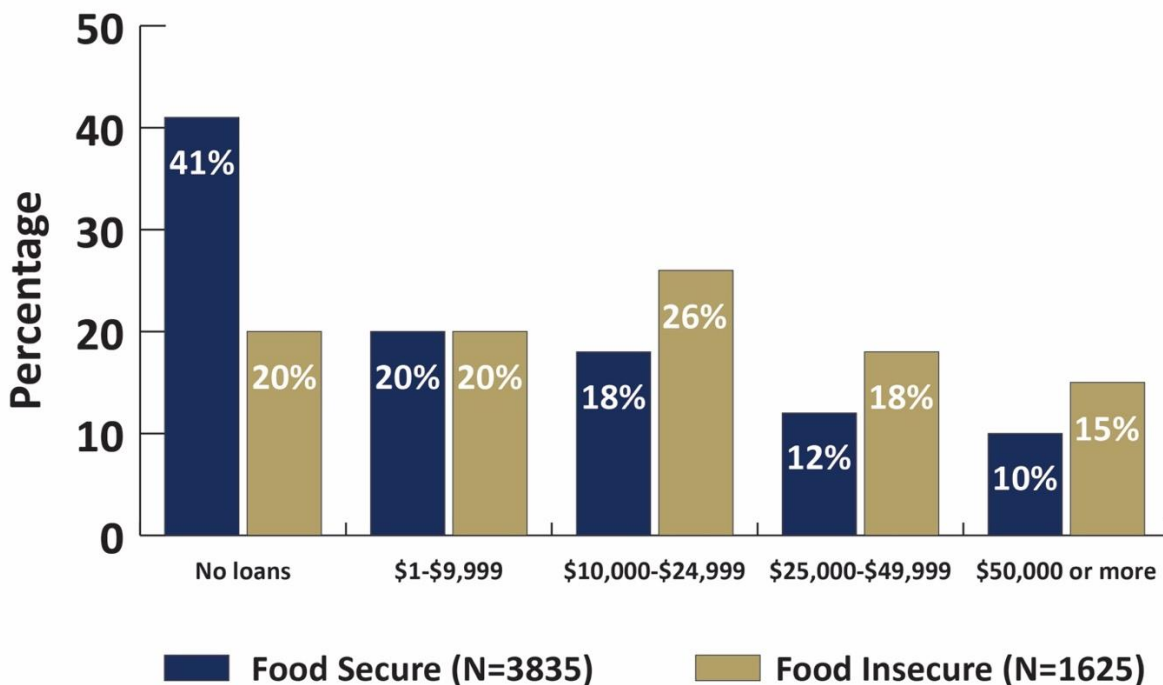
## Aid to Students Experiencing Food Insecurity

While a majority of all students received some type of financial aid (73%), students experiencing food insecurity were more likely to receive financial aid than food secure students (83% v. 69%). As illustrated in Table 8, students experiencing food insecurity were about as likely as others to receive scholarships (merit-based, athletic, and other private scholarships). They were slightly more likely to receive government grants (such as FSEOG grant for students with exceptional financial need) and to take private bank loans. They were also much more likely to receive Pell grants and federal student loans.

Table 8. Types of Financial Aid Received		
	Food Secure	Food Insecure
Academic merit-based scholarship(s)	42%	43%
Other private scholarships	13%	13%
Athletic scholarship(s)	3%	2%
Pell Grant	18%	35%
Other government grant (FSEOG, TEACH, etc.)	6%	10%
Private (e.g. bank) loan	10%	13%
Federal student loans	45%	64%

Students experiencing food insecurity took out more federal student loans than other students (See Figure 4 below). They were much less likely to be loan-free (20% v 41%) and more likely to have taken on very large debts of more than \$50,000 (15% v. 10%).

**Figure 4. Amount of Student Loans Taken, by Food Security Categories**



Students experiencing food insecurity reported sparse use of public assistance programs within the past year. Rates of use were low across categories (See Table 9). The most commonly used program was public health insurance (15%), followed by SNAP (10%) and tax credits for low-income households (10%).

<b>Table 9. Public Assistance Programs Used by Food Insecure Students, Past Year, N=1,824</b>	
Medicaid or public health insurance	15%
Supplemental Nutritional Assistance Program (SNAP)	10%
Tax refunds based on low-income tax credits	10%
Free or reduced price school meals	9%
Tax refunds based on higher education tax credits	9%
Low-Income Home Energy Assistance Program (LIHEAP) or other utility assistance	5%
Transportation assistance (discounted transit fares, etc.)	3%
Special Supplemental Nutrition Program for Women, Infants and Children (WIC)	3%
Veteran's benefits	2%
Unemployment compensation/insurance	2%
Public housing	2%
Social Security Disability Insurance (SSDI)	2%
Supplemental Security Income (SSI)	2%
Child care assistance	2%
Fresh Access Food Bucks	1%
Temporary Assistance for Needy Families (TANF)	1%

## Knowledge of Food Pantries and Food Assistance Programs

Students experiencing food insecurity appeared to lack knowledge of where to find food resources. Only 30% knew where they could find a local food pantry and 31% reported ever having visited a pantry. However, 75% stated that they would use a pantry if one were available. Of these, two-thirds would prefer an on-campus pantry to one off-campus. Students further preferred a shopping style pantry (78%) to receiving a prepared box (22%).

We asked students what hours of operation would make it easiest for them to visit a pantry. The most popular times were weekday evenings, followed closely by weekend evenings and afternoons. These were selected by about half of respondents. The least popular times were weekday mornings (about 15% selected these times) and weekday afternoons (about 23% selected).

Students experiencing food insecurity who indicated they would not use a pantry were asked why not. They cited two main reasons. Many students indicated that they believed their situation was not serious enough to warrant using food pantry services. These respondents often mentioned wanting to save resources for others who they perceived were needier. An example of this attitude is illustrated by a freshmen student who's score on the food severity measure placed him in the highest need category. He explained he wouldn't use a pantry because, "I feel like there are other people who need the food more, and I feel like I don't have a right to use a pantry."

The second type of response reflected fear of stigma. One student wrote, "I wouldn't want people to see me/pride issue" another wrote, "Because I'd be embarrassed. I don't even tell my peers the amount of financial aid I've received." Many others simply wrote a version of the words embarrassment, anxiety or stigma. These testimonies align with additional findings that nearly three-quarters of respondents believed that it was very or somewhat important that a food pantry be in a discrete location.

## Recommendations

Access to fruit, vegetables and other fresh foods is a high priority. By far the largest group of students experiencing food insecurity were those who had enough to eat in terms of quantity, but not enough in terms of quality. When asked to describe the difference between what they do eat and what they want to eat, students repeatedly explained that they wanted to eat fresh foods and could only afford lower-quality processed foods. The logistics of consistently providing fresh/perishable foods in food pantries are understandably a challenge for many campus-run pantries which often operate with a volunteer staff and a shoestring budget. However, the most beneficial role for campus pantries may be to provide fresh, nutrient-rich foods to supplement inexpensive and less-nutritious foods that students can afford on their own (e.g. instant noodles, peanut butter, boxed meals). Results of this survey may provide additional motivation for pantries to offer foods that meet students' expressed needs.

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*"I feel like there are other people who need the food more, and I feel like I don't have a right to use a pantry"*  
- Student on why he wouldn't use a pantry  
• • •

This study found that some hungry students chose not to patronize food pantries because they believe that food pantry resources are scarce and should be reserved for people in desperate situations. On the contrary, many pantries are looking to expand their customer base. Food pantries on campuses intend to support any member of the campus community who is experiencing difficulty affording nutritious food. Schools should publicize their missions and assure marginally hungry students that food pantry services are for them, too.

Another reason hungry students chose not to use food pantries is stigma. The results of this and other studies like it, which expose the sad commonality of hunger on campus, could do much to counteract stigma. When students know that between 20 – 50% of their peers are experiencing difficulty affording adequate food, they may feel less ashamed to seek help for a problem shared by so many.

Taking a lesson from primary and secondary school meal programs, campus pantries may wish to ingrate their services with campus-wide food programs, such as dry goods stores or kiosks, which serve the whole student body. In many breakfast and lunch programs at public schools, students purchase food by entering an account number into a key pad. Low-income students who qualify for subsidies have accounts that reflect this. All students look the same as they collect food items and move through the check-out line. Allowing students to use an account number to acquire free food from stores on campus is another way to counteract stigma.

Partnerships between food pantries and farmer's markets could increase availability of produce for food pantry clients and avoid stigma. Some campuses are already teaming with local farms or community gardens to provide vegetables and fruit. These programs could be expanded to by looking to existing relationships between farmer's markets and food assistance programs such as those that provide vouchers to low-income shoppers, or "pay what you can" pricing systems.

Technology provides options for distributing food. Social media can be used to distribute announcements about available free food and software programs (apps) can collect donated meal plan points and parcel them out to individual students or campus food pantries.

In sum, this study of hunger on college and university campuses in SW Pennsylvania found that 29% of student survey participants were experiencing moderate to high food insecurity. This rate is similar to that found in previous research and more than twice the rate among adults in the US. The student sample for this study consisted of individuals who chose to respond to an online survey distributed by staff or administrators at 11 regional campuses. The sample of over 6,000 students is the second largest ever studied in research on food insecurity among college students. Among the current sample, problems accessing high quality food were more prevalent than problems accessing sufficient quantities of food. Results presented here reinforce previous findings that hunger hampers students' performance in academics and adversely affects both mental and physical health. We found that homeless students, students of color and 1<sup>st</sup> generation college students are particularly vulnerable to problems accessing adequate nutritious foods. Most students experiencing food insecurity reported willingness to use food pantry services. There is an opportunity for campus food pantries to provide healthful food to supplement the diets of students experiencing food insecurity on campus and to thus support low-income students in post-secondary success.



## Appendix. Overview of Existing Campus Food Pantries

We interviewed staff at four campus pantries or cupboards to find about their operations and to assess how students transport food home. Summaries of what we learned are included in this Appendix.<sup>v</sup>

### CalU Cupboard - California University



**Format:** Cupboard is located in three large cupboards within the volunteer office. It uses a shop-through format where students pick the items they want. The official hours of the Cupboard are Monday – Friday 10am – 2pm. However, it is essentially open all week during business hours because staff are present in the volunteer office to assist Cupboard customers.



**Inventory and User Data:** The Cupboard uses a point of sale system to scan and track inventory. New Cupboard users are asked to provide demographic data and email addresses. On each visit, users provide their name and email address along with requests for items not currently available.



**Partnerships:** CalU Cupboard partners with the campus farm to provide vegetables to Cupboard users during the harvest season. They are also working with a local Subway restaurant to make fresh bread available.



**Communications:** Staff use email blasts and social media (Snapchat, Twitter) to communicate with Cupboard clients. A highlight of their communications programs is, “Snap n Snack”, which announces when and where free food is available on campus via Snapchat.



**Portability:** Most Cupboard users are traditional students who live on campus (yet have the smallest meal plan that doesn’t cover all meals). They get food only for themselves and don’t have far to carry it back to their on-campus housing. The Cupboard offers free tote bags with common campus logos. These, and student backpacks, are sufficient to transport food for the CalU Cupboard population.



**Plans for the Future:** The vegetables program was very well received. They would like to expand the partnership with the farm in the coming years. They would also like to grow their successful social media programs. Many student requests for new pantry items are for perishable food. The Cupboard would like to provide these foods for students but challenges related to space and refrigeration limit their ability to do so. They are hoping to provide perishable items in the near future.

## South Campus Cupboard - CCAC



**Format:** South Campus Cupboard is in an academic building in a location that isn't highly trafficked, but that is not "hidden". Staff are sensitive to issues that low-income students face, but don't want to perpetuate stigma of support services by concealing the Cupboard. A staff of 40 volunteers keeps the pantry open 2 hours a day, 4 days a week, including evening hours one day a week. They use a shop-though format during open hours and provide pre-packed boxes of food for the small number of students who cannot get to the pantry when it is open.



**User Data and Inventory:** CCAC developed a survey for Cupboard users. They found that 90% of students are comfortable using the pantry, many report improved grades and the ability to use limited resources on other necessities. Most of the food comes from GPCFB, 10% from local food drives.



**Partnerships:** South Campus Cupboard partners with their community garden to provide vegetables during the harvest season.



**Communications:** Fliers posted throughout campus. Cupboard is promoted by student affairs, advising, during orientation, by faculty announcements, and in the campus newspaper. However, most students learn about the Cupboard through word of mouth.



**Portability:** Many students who use the pantry are providing food for a household, not just for themselves. CCAC is a commuter campus, meaning all students who use the pantry have to transport the food to their off-campus residences. The Cupboard location was chosen because it is next to the loading dock, bus stop and parking. They also rent small shopping carts to students so that they can transport food home on the bus.



**Plans for the Future:** In early 2017, South Campus Cupboard was serving 30 students a month. They would like to expand to 50/month.

## Pitt Pantry - University of Pittsburgh



**Format:** Pitt Pantry is located in the basement of a church near Pitt's Oakland campus. Volunteers keep the pantry open 3 hours a day, 3 days a week, including evening hours one day a week. They use a shop-through format where a trained student or staff volunteer "guide" shops with the customer. Pitt Pantry believes that human interaction is important to encourage use and re-use and builds relationships with customers. The pantry is managed by an AmeriCorps VISTA worker and volunteers are supervised by the AmeriCorps and a Social Work master's student. The most popular items are breakfast foods (cereal, cereal bars, oatmeal), peanut butter and pasta and pasta sauce. The pantry serves between 50 and 60 individuals each month. In the past, the majority of users were graduate students. This year, there is an even split between graduates and undergraduates as more undergrads have learned about the pantry.



**User Data and Inventory:** Pitt Pantry gives an intake survey to new users and a voluntary "exit" survey after every visit. Some inventory is acquired through GPCFB, but much of the stock for the pantry is donated through campus food drives led by student organizations. They have on-site refrigeration and freezer. Pantry staff are learning what perishable items are most in demand from students and finding dairy products top the list (eggs, milk, cheese) and vegetables such as carrots, potatoes and lettuce.



**Partnerships:** Pitt Pantry partners with Bellefield Presbyterian Church which houses the pantry. They also partner with the food rescue groups 412 Food Rescue and Food Recovery Heroes. Volunteers from these groups recover unsaleable food from commercial café/bakeries in the area which include bread products, yogurts, and prepared salads. These items are stored in the pantry's refrigerator or freezer. Prepared foods are available one day a week and bread products are available every day.



**Communications:** An ad for the Pantry scrolls on campus TVs, and it is promoted by student health services, Facebook and the MyPitt homepage. However, according to the Pantry's student survey, most students learn about the Pantry through word of mouth.



**Portability:** Students are asked to bring a bag with them when they visit the pantry, but many carry food in their backpacks. Reusable bags are also provided by the pantry. Some students shop for partner or child in addition to themselves but the vast majority shop for only themselves. Most pantry customers live off campus and walk or ride the bus to their residences. The average food order per individual weighs between 15-20lbs which can be burdensome to transport on foot or public transport. Pitt Pantry considered hosting mobile "pop-up" pantries in nearby neighborhoods where many students live to improve food portability. However, mobile pantries require an outfitted vehicle and staff time – resources that are out of reach for the Pantry at this time.



**Plans for the Future:** Pitt Pantry is working to increase the availability of produce and fresh food. In addition, they plan to offer classes on preparing fresh foods because many students are not confident cooks. This is the last year that the AmeriCorps VISTA worker will be with the pantry. They would like to hire a replacement coordinator as a regular part-time employee.

## Pioneer Pantry - Point Park University



**Format:** The Pioneer Pantry at Point Park opened in 2017. It is run through the schools' Department of Community Engagement. The location chosen for the pantry is a visible and fairly heavily trafficked area next to the schools' Café in an effort to counteract stigma. The pantry uses a shop-through format via an innovative online ordering and inventory system. Students place food orders online, and pantry volunteers prepare the order. When the order is complete, the system sends a text message to the student informing them the order is ready to be picked up. The pantry is open 3 days week, with evening hours on two days. They are also open one Saturday each month. The most popular items are macaroni and cheese, chocolate milk (shelf-stable) and peanut butter.



**User Data and Inventory:** Pantry staff are planning a survey of users to determine preferred hours and food selection. The pantry has filled 150 orders for 65 individuals since September of 2017. Demand is heavier than initially expected. The online ordering and inventory system the pantry uses was developed by students in Point Park's Information Technology program. Seniors in the IT program created the system as their capstone project. About 80% of the food disbursed was purchased from the GPCFB, with the remainder gathered from food drives. Proportion of food supply gathered from drives is expected to increase over time.



**Partnerships:** The pantry has strong partnerships within the campus community. Other than the collaboration with the IT department to develop the online ordering and inventory system, the pantry works with many departments and student organizations. Each month the pantry has been operating, at least two such on-campus partner groups have sponsored food drives or fundraisers. A large number of staff and students have volunteered to staff the pantry. In addition, students in an event planning class organized a publicity event to kickoff the pantry's opening (described next).



**Communications:** Most students learn about the pantry through word of mouth. Signs around campus advertise its services and location. The many department-sponsored drives and fundraisers also draw attention to the pantry. To publicize the pantry, students in an event planning class organized a "Chopped" style event. Students competed to make the best dishes with food you can get from the pantry using only equipment available in dorms. Event was a success and will be repeated annually.



**Portability:** Most Pioneer Pantry users are shopping only for themselves. There is a cap of 10 items per visit to discourage students from ordering more food than they can carry at one time. Ten items will fit into plastic grocery bags or cloth bags provided by the pantry. Portability has not posed problems so far.



**Plans for the Future:** As the pantry program settles in at Point Park, they would like offer fresh food including produce and frozen items. They would need larger space and a freezer for this. Given they now know there are both demand for pantry services and enough volunteer staff, they will expand hours the pantry is open in the coming months. Teams of students in the Community Engagement Department are working on other issues such as researching student homelessness and opening a clothing pantry.

Endnotes:

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<sup>i</sup> USDA (2016). Key statistics & graphics. <https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/key-statistics-graphics/#foodsecure>.

<sup>ii</sup> Bruening, M., Argo, K., Payne-Sturges, D., & Laska, M. N. (2017). The Struggle Is Real: A Systematic Review of Food Insecurity on Postsecondary Education Campuses. *Journal of the Academy of Nutrition and Dietetics*, 117(11), 1767-1791.

<sup>iii</sup> Dubick, J., Mathews, B., & Cady, C. (2016). Hunger on campus: The challenge of food insecurity for college students. *College and University Food Bank Alliance*. Retrieved from [http://studentsagainsthunger.org/wp-content/uploads/2016/10/Hunger\\_On\\_Campus.pdf](http://studentsagainsthunger.org/wp-content/uploads/2016/10/Hunger_On_Campus.pdf).

<sup>iv</sup> Altman, E. & Canedo, R.E. (2016). *UC Berkeley Inaugural Food Security Report*. University of California at Berkeley.

<sup>v</sup> Icons in this section downloaded from [www.thenounproject.com](http://www.thenounproject.com).