California State University
Chancellor's Office

California State University Office of the Chancellor
Study of Student Basic Needs

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This research was funded by the California State University Office of the Chancellor
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Executive Summary

A higher education degree is viewed by many as the greatest opportunity for long-term economic stability, a pathway toward asset growth, and debt management (Ma, Pender, & Welch, 2016). However, many students experience barriers to meeting their basic needs as they strive to earn a higher education degree. Phase 1 of the CSU Chancellor's Office study of basic needs was released in 2016. That study focused on *housing security* and *very low food security* for students, primarily from the perspectives of staff, faculty, and administrators.

Phase 2 is a mixed-methods study (N=24,537) that explored experiences of students with *homelessness, low* and *very low food security*. A survey was distributed to a census sample across 23 CSU campuses with an average participation rate of 5.76% (n=24,324). The sample was largely representative of the general student body. Student participants volunteered and were selected for focus groups and interviews based on reported levels of homelessness and food insecurity from the survey. Interview and focus group data were collected at 11 CSU campuses with students (n=213) who identified as either or both housing and food insecure on the quantitative survey.

This is the most comprehensive mixed-methods study of university students' unmet basic needs and the relationship to student success ever completed within a 4-year higher education system. Previous research either: (a) sampled from a different population, such as community college students (Goldrick-Rab, Richardson, & Hernandez, 2017), or unaccompanied homeless youth (Au & Hyatt, 2017); (b) only examined food security (Martinez, Webb, Frongillo, & Ritchie, 2017; Freudenberg, Manzo, Jone, Kwan, Tsui, & Gagnon, 2011; Martinez, Maynard, & Ritchie, 2016); (c) was conducted at a single campus (Chaparro, Zaghloul, Holck, & Dobbs, 2009; Patton-Lopez, Lopez-Cevallos, Cancel-Tirado, & Vazquez, 2014); or, (d) used a convenience sampling (Buch, Langley, Johnson, & Coleman, 2016; Davidson & Morrell, 2015). Findings from this study are groundbreaking and provide not only the prevalence of university student homelessness and food insecurity, but living examples from students about what they surmount in order to succeed at their dreams of earning a higher education degree.

Students who reported food insecurity, homelessness, or both also experienced physical and mental health consequences that were associated with lower academic achievement. They also reported higher rates of "inactive days," where poor physical or mental health kept them from their usual activities such as school, work, self-care, and recreational activities.

Students described how experiencing food insecurity and homelessness influenced most facets of life, including academic struggle, long work hours, and negative impact on mental and physical health.

Students who identified as Black/African-American and first-generation to attend college experienced the highest rates of food insecurity (65.9%) and homelessness (18%).

CalFresh and campus emergency food pantry use increased with students who reported low and very-low food security; however, utilization rates were still very low at the time of data collection.

41.6%

of CSU students reported food insecurity, of those 20% experienced *low food security* and 21.6% *very low food security*. National prevalence rates for food insecurity among U.S. households in 2016 was 12.3% (low and very low food security combined) (Coleman-Jensen, Rabbitt, Gregory, & Singh, 2017), making the case for college students emerging as a new food insecure population of concern, having a far higher risk of food insecurity than the general U.S. population.

10.9%

of CSU students reported experiencing homelessness one or more times in the last 12 months based on the combined Housing and Urban Development and the U.S. Department of Education definitions.

Recommendations

Student success is associated with students having their basic needs met. Food and housing security are social problems that are influenced by many factors. Therefore, responding to students who are homeless or food insecure will require complex, long-term approaches to solution building, including:

- Develop affordable housing and food options for students
- Targeted strategies to address the student populations that reported the highest levels of food insecurity and homelessness, particularly first generation African American college students
- Conduct longitudinal research exploring basic needs security as predictors and protective factors for persistence and degree completion in alignment with the CSU effort to increase graduation rates and decrease time to degree completion
- Incorporate staff as single points of contact who are trained in trauma-informed perspective in programmatic responses to students experiencing food and housing insecurity and co-locate space for the contact and students
- Identify and institute creative campaigns to develop a campus culture of awareness and response to support students who experience significant material hardships
- Utilize strategies like CalFresh enrollment and food pantries as preventative measures for food insecurity

Next Steps

The enormity of the level of unmet basic needs among CSU students is daunting; and yet, campuses across the CSU are making heroic efforts to increase support and resources for students who face material hardship to increase holistic student success. Phase 3 of the CSU study of basic needs will include a mixed-methods evaluation of student need and use of services, a reporting of the current status of available support across the 23 CSU campuses, and program evaluations of support programs at two campuses (California State University, Long Beach and Humboldt State University).

INTRODUCTION

The California State University (CSU) is the largest system of senior higher education in the country, with 23 campuses, 50,000 faculty and staff and 484,000 students. The CSU educates the most ethnically, economically and academically diverse student body in the nation. Created in 1960, the mission of the CSU is to provide high-quality, affordable education to meet the ever-changing needs of California. With its commitment to quality, opportunity, and student success, the CSU is renowned for superb teaching, innovative research and for producing job-ready graduates. Each year, the CSU awards more than 120,000 degrees. One in every 20 Americans holding a college degree is a graduate of the CSU and the alumni are 3.4 million strong.

A higher education degree is viewed by many as the greatest opportunity for long-term economic stability, a pathway to asset growth, and debt management (Ma, Pender, & Welch, 2016). Beyond this important financial stability, college facilitates personal and academic (Howard, 2003) growth and a sense of community membership (Holland, 2010; Perna, 2000; Rendón, Jalomo, & Nora, 2000; Renn & Arnold, 2003). This engenders cohesion both for the student and the community, fostering students' desire to continue to make commitments to the communities in which they live. In the last five decades, the gap in earnings between those with and without a degree has risen, making college degrees more important than ever (Pew Research Center, 2014). However, the price of college attendance and the cost of living have markedly increased. Even with a full financial aid package that often includes loans (or future college loan debt), college students with low incomes at 4-year public colleges in 2011-12 had $12,000 in total expenses after financial aid options were exhausted (Ma & Baum, 2015). In order to close this price gap, students are cutting costs of their basic needs such as food and housing. The data provided in this report confirms the need for investment in policy and practice to support students experiencing food insecurity and homelessness. Advancements in improvements directed at basic needs are vital for the short and long term health and academic success of university students.

BACKGROUND

Food Security

Evidence demonstrates that when low income households are unable to meet their survival needs (i.e., food, housing, health, heating, and transportation), food budgets are sacrificed first (Nord, Andrews, & Carlson, 2005). Similarly, college students with limited resources are also skipping meals to make ends meet. Previous research conducted with college students found that between 21% and 52% of students experienced food insecurity including reduced intake of food, nutritional deficits, and/or worry about having access to enough food (Chaparro, Zaghloul, Holck, & Dobbs, 2009; Crutchfield, 2016; Freudenberg et al., 2011; Goldrick-Rab, Broton, & Eisenberg, 2015; Martinez, Maynard, & Ritchie, 2016). In a study of 10 community colleges across the United States, 39% of students were found to have low food security (Goldrick-Rab, Broton, & Eisenberg, 2015). Similarly, 39% of City University of New York (CUNY) students were found to be food insecure (Chaparro, Zaghloul, Holck, & Dobbs, 2009). In a study of the University of California system, Martinez, Maynard, and Ritchie (2016) found that 42% of students experienced food insecurity (23% low and 19% very low food security).

There is limited research about the effects of food insecurity on the health and academic performance of college students; however, research among children in K-12 education systems provides insight. For children, food insecurity has been linked with higher risk for adverse effects across multiple life domains, including greater risk for lower academic performance (Feeding America, 2017; Winicki & Jemison, 2003) and negative health outcomes (Casey, et. al, 2005). College students, many of whom are young adults, may be experiencing similar effects (Latiner, et al., 2016; O'Neill & Maguire, 2017; Cady, 2014). O'Neill and Maguire (2017) found that students experiencing food insecurity reported health issues such as headaches and low energy. They also reported having trouble concentrating in class and studying at home when they did not have access to enough food. Food insecurity also negatively impacts energy levels and concentration and may make it more challenging to achieve academic success (Crutchfield, 2016; Goldrick-Rab, Richardson, & Hernandez, 2017; Martinez, Maynard, & Ritchie, 2016). Patton-López, et al. (2014) found that good academic performance was related to higher food security and having fair or poor health was associated with lower food security. One intervention that holds promise as a buffer against the negative effects of food insecurity is implementing CalFresh outreach on college campuses (the statewide version of the Supplemental Nutrition Assistance Program (SNAP) formerly known as food stamps). Frongillo, Jyoti and Jones (2006) found that using food stamps was associated with better learning outcomes among school-age children.

Empirical research is inadequate on the possible impacts of college student food insecurity on student success indicators related to academic performance, health, and mental health. In addition, evidence demonstrating interventions that may buffer negative outcomes are still missing from the literature. This study explores these areas in an effort to develop more effective support for students' holistic health, wellbeing, and academic achievement.

Homelessness and Housing Security

Students across the United States are experiencing homelessness and housing insecurity in higher education. Recent research suggests that housing insecurity impacts a significant number of college students in a variety of higher education institutions. Research at the University of Massachusetts Boston found that 5.4% of students experienced homelessness and 45% of participants reported housing insecurity (Silva et al., 2105). The City University of New York (CUNY) reported that 40% of students experienced housing instability (Tsui et al., 2011). Community colleges appear to have higher rates, ranging from 30% to 50% of students experiencing housing insecurity and 13% to 14% experiencing homelessness (Goldrick-Rab, Richardson, & Hernandez, 2017; Wood, Harris & Delgado, 2016). Research has also suggested that students who experience homelessness struggle to meet a variety of competing needs, including management of personal and financial responsibilities and navigating the college environment (Crutchfield, 2016; Goldrick-Rab, Broton, & Eisenberg, 2015; Goldrick-Rab, Richardson, & Hernandez, 2017; Gupton, 2017)

The issue of housing instability is complex in that students enter higher education with many competing budgetary requirements often not covered by financial aid (Goldrick-Rab, 2016). As affordable housing becomes less available across California, students have little to compete with against high market value rental environments. Further, stigmatization of homelessness may cause students to hide their unstable housing status (Gupton, 2017; Tierney & Hallett, 2012). Homelessness and housing security among college students may make it more challenging to achieve academic success (Crutchfield, 2016; Goldrick-Rab, Richardson, & Hernandez, 2017).

Due to the current gaps in knowledge regarding the issues of homelessness and food insecurity, this study provides quantitative and qualitative descriptions of the prevalence and scope of food insecurity and homelessness among CSU students, as they are related to academic performance and health.

METHODOLOGY

Quantitative Methods

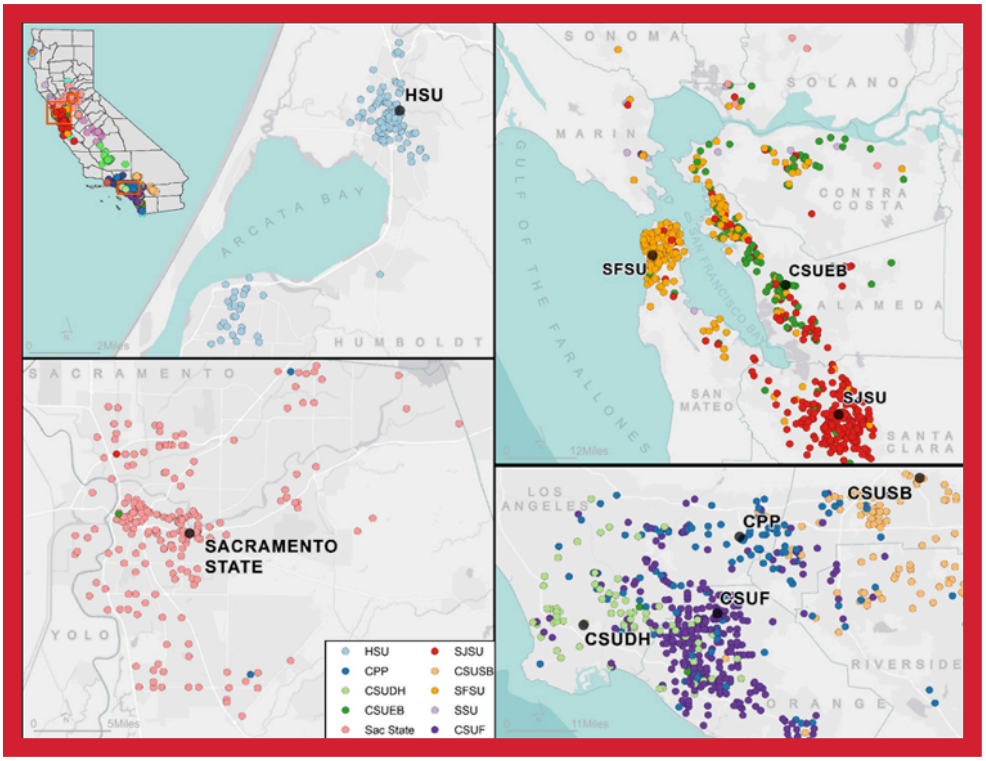


Figure 1
Survey respondents reported living locations based on their nearest major cross streets.

The Phase 2 survey was distributed to a census sample of students via email across all 23 CSU campuses an average of 5.76% participation across each campus for the survey (*n*=24,324) [see Appendix A for campus level response rates]. A total of 37,351 students began the survey and 27,805 completed the survey. Of those (*n*=24,324) completed the survey with no missing responses, which provided the most conservative estimate of food security and homelessness. The average completion rate, the percentage of students who started the survey and completed it, across campuses was 74.4%. The survey was administered on 21 campuses between late October and November, 2016; on one campus between late November and mid-December, 2016; and, on one campus in mid-January and early February, 2017. The surveys were open for approximately three weeks, with one email invitation and two reminders sent out (totaling three). Students were able to enter their names in a raffle to win one of two $40 Target gift cards. A campus point person, identified by a campus administrator, worked with the research team to recruit students and administer the survey electronically via campus email address. The marketing team through the CSU Office of the Chancellor created marketing materials (e.g., press release, flyer, social media template posts) for the campus point person to disseminate in order to encourage student participation. Students often lived in proximity to the campus where they attended classes, although in metro-areas there were neighborhoods where students from multiple campuses were represented [see Figure 1].

To measure *food security*, the United States Department of Agriculture Economic Research Service U.S. Adult Food Security Survey Module (10 items) was utilized, using a 30-day time frame. Administration of the type of food security scale was determined using a screening question about sharing meals. Individuals that reported sharing most of their meals were screened into the household food security survey module. All others were

administered the individual food security survey module. The USDA instrument is widely used to measure the concept of U.S. household food security (Bickel, Nord, Price, Hamilton, and Cook, 2000). In 2015, the U.S. Adult Food Security Survey Module (6 items) was piloted in a sample of students at Humboldt State University (HSU) (*N*=1,504). Representatives from USDA ERS conducted a psychometric assessment of the HSU food security scales (combined, household, and individual) that suggested that responses fit the measurement model adequately (Rabbitt and Colmen-Jensen, 2016). A recommendation was made to use the (10-item) for future surveys, which was implemented for this study.

There is no instrument being used to consistently measure housing insecurity among college students. The survey questions for this study were created directly from the definitions used to assess for *homelessness* based on the U.S. Housing and Urban Development (HUD) and the U.S. Department of Education (DOE) definitions, drawn from differing subsections of the McKinney-Vento Act. A 12-month timeframe was used to account for residential change patterns over breaks in the academic schedule. Measures of academic and personal concerns came from subscales of the Presenting Problems Scale. The measure has been validated in college student populations (Erdur-Baker, Aberson, Barrow, & Draper, 2006). Measures of physical health, mental health, and inactive days were drawn from the CORE Healthy Days Measures recommended by the U. S. Department of Health and Human Services (2000), which has been found to be valid and reliable among diverse populations (Center for Disease Control and Prevention, 2016).

A note about measuring homelessness: Many people, particularly youth who are homeless based on both the HUD and DOE definitions, may not identify using that label or be hesitant to do so (Farrugia, 2011; Tierney & Hallett, 2012; Toolis & Hammack, 2015). Therefore, this study included question sets that allowed students to recount where they lived as categorized under the HUD and DOE definitions without explicitly requiring that they label themselves as homeless.

Spatial Methods

Data were used from the Phase 2 survey in which students entered the city and location of two streets that intersected near their residence. Geographic data, along with scores on the USDA Adult Food Security Survey Module (10-item) and affirmative responses on the HUD and DOE indexes were then computed and entered into an enterprise-level relational database, PostgreSQL. The streets were correlated with spatial data collected from the State of California. The food and housing indexes were then interpolated between the individual responses to create continuous surfaces over the state of California. Cal Poly San Luis Obispo, Chico State University, CSU Long Beach, CSU Los Angeles, Maritime Academy and San Diego State University spatial data were not included.

Qualitative Methods

Qualitative data were collected at 11 CSU campuses with students (n=213) who identified as housing insecure, food insecure, or both on the quantitative survey between January and June 2016. Campuses were selected for qualitative data collection with the goal to represent experiences from northern, southern, and central California and to include perspectives from urban, rural, and suburban areas. Student participants volunteered and were selected for interviews and focus groups based on reported levels of food insecurity and homelessness from the survey. Participants were offered a $15 gift card as an incentive to participate. Students participated in semistructured interviews and focus groups, which lasted 60-90 minutes. Participants were asked broad, open-ended questions about their experiences with food and housing insecurity. Interviews and focus groups took place between January and June, 2017 at Cal Poly San Luis Obispo (SLO), CSU Bakersfield (CSUB), CSU Dominguez Hills (CSUDH), CSU Long Beach, CSU Los Angeles (CSULA), CSU Northridge (CSUN), CSU San Bernardino (CSUSB), Fresno State University (FSU), Humboldt State University (HSU), San Diego State University (SDSU), and San Francisco State University (SFSU). Demographic information about the sample for qualitative methods is located in Appendix B. Students were asked to select pseudonyms to protect their privacy.

For a more in-depth description of the research tools and their construction, please refer to the Researching Basic Needs in Higher Education measurement guide (Crutchfield & Maguire, 2017).

SAMPLE

Comparison of Demographics of Survey Participants to Overall CSU Student Population

Overall survey sample characteristics were similar to the demographics of the CSU student body [see Appendix A]. Percentages of racial and ethnic groups were similar, with the percentage of White participants (39.5%) and Asian/Pacific Islander participants (22.9%) represented slightly higher within the sample. The distribution of class standing was similar between the sample and the CSU student body. The largest difference is regarding gender, where females are 56.2% of the student body, but 72.4% of the sample. Women often have much higher response rates then men on surveys (Sax, Gilmartin, & Bryant, 2003; Underwood, Kim, & Matier, 2000).

Defining Food Security

The USDA ERS Ranges of Food Security (Coleman-Jensen, Rabbitt, Gregory, & Singh, 2017) are described in the following manner:

Food security

- **High food security:** no reported indications of food-access problems or limitations.

- **Marginal food security:** one or two reported indications—typically of anxiety over food sufficiency or shortage of food in the house. Little or no indication of changes in diets or food intake.

Food insecurity

- **Low food security:** reports of reduced quality, variety, or desirability of diet. Little or no indication of reduced food intake.

- **Very low food security:** Reports of multiple indications of disrupted eating patterns and reduced food intake.

Understanding Low and Very Low Food Security in the Words of Students

Low Food Security

Phase 1 of the study highlighted a focus on *very low food security* for students. The Phase 2 study included an exploration of food insecurity of students experiencing both *low* and *very low food security*, emphasizing the important similarities and differences in the experiences of students across that end of the food security spectrum. Dilbert (CSUSB) experienced low food security in that he could afford food, but had a reduced quality of food and experienced ongoing stress and fear associated with access to food due to financial constraints.

> **"I got food from [the pantry] once and I just, I remember leaving and thinking to myself, "Damn, this is meant for somebody who actually needs it." In my head, I was like, "I don't actually need it." So, I tried to never go again, because to my understanding I was like, "Well, I can afford food. I can't afford great food, but I can afford food." Umm…It was tough."**
>
> Dibert ***CSUSB***

Like many other participants, Dilbert felt guilty for utilizing his campus pantry because he felt that there was a hierarchy of need; he was not "needy" enough even though he had constant stress about having the food he needed. Alejandro (SDSU) was low food secure, but his concern led him to skip meals, "I do skip meals because it's not necessarily I don't have the money…I don't want to waste the money because what if I need it for something else or I can use it for another thing I guess?"

Very Low Food Security

Not all students experience food insecurity because they come to higher education with low income status. Like some of her peers, Tiffany (CSULB) had not previously experienced food insecurity. When Tiffany applied for financial aid, her mother had a successful job that provided a contribution for tuition so high that she was not eligible for financial aid. Unfortunately, her mother lost her job two months after the start of the semester which led to her diminished access to food.

> **"It's been difficult. Well, 'cause in the beginning when I first got here I didn't really have a lot of money and I didn't have any grants. So basically what I used to eat 3 days out of the week was like Minute Maid and chips and that'd be it…I had maybe a dollar and then I had to make it like, stretch out of like, 2 days and then 3rd day…I wouldn't eat anything cause I didn't have any money."**
>
> Tiffany ***CSULB***

Defining Homelessness

The instruments developed for this study assessed for both the definition of homelessness used by the U.S. Housing and Urban Development (HUD) and the U.S. Department of Education (DOE), both drawn from differing subtitles of the McKinney-Vento Act. HUD defines homelessness as sheltered (in a HUD funded emergency shelter, transitional housing, and supportive housing) and unsheltered (on the streets, in abandoned buildings, or other places not meant for human habitation) [Homeless Emergency Assistance and Rapid Transition to Housing Act of 2009 (P.L. 111-22, Section 1003)].

The U. S. Department of Education (DOE) uses the education sub-title of the McKinney-Vento Act's definitions of homelessness, which includes youth who lack a fixed, regular, and adequate nighttime residence; and unaccompanied, which includes youth not in the physical custody of a parent or guardian. This broader definition was used as the foundation for homelessness determinations for K-12 students and therefore allows for comparison of data with elementary and secondary educational studies, which have been shown to be more commonly descriptive of youth or young adult homelessness (Ausikaitis, et al., 2015; Dworsky, 2008; Mawhinney-Rhoads & Stahler, 2006; Tierney, Gupton, & Hallett, 2008). Public school officials (K-12) identified 88,966 unaccompanied homeless youth for the 2013-2014 school year (U.S. Department of Education, 2014). This DOE definition of homelessness is legally required as a determinant for rights and access for students in the K-12, but is also legally required for post-secondary programs under the Higher Education Act. Higher education requirements include stipulations for FAFSA financial needs analysis and eligibility for TRIO and GEAR UP programs.

Understanding Homelessness and Unstable Housing in the Words of Students

Students shared vividly about how living on the financial edge can quickly turn into a housing crisis. Elizabeth (FSU), explained the experience of becoming homeless after being unexpectedly evicted from what she thought was a stable living situation.

> **"And then come June he tells us we need to be out of our house by the end of our lease, because he's selling the house. And so that put me in a hard position 'cause me paying for everything [out of pocket], I didn't set aside money for a deposit anywhere or anything. And so, I ended up being homeless for about four months. Sleeping on friends' couches, staying in my car."**
>
> Elizabeth ***FSU***

When she started the semester, Elizabeth had budgeted very carefully to include her housing, but like many students, her budget did not include large unanticipated costs. At the time of his interview, Jaime (CSUDH) was housing insecure. He paid his rent regularly, but his landlord was pushing him out of his current housing to try to move someone in who could pay higher rent. Jamie (CSUDH) said, "My landlord is crazy, she's turned off the water, turned off the light...she's very strict, I feel like I live in a jail...especially now that's when the one rooms are going above $600 in LA County." Despite living in a situation that felt like living in "jail," at times without water or power, Jaime chose to stay in his living arrangement because he could not afford to move elsewhere. Jaime is housing insecure in that the landlord is taking action to push him out and there are no other fiscally available options.

FINDINGS

Prevalence of Food Insecurity

Overall, 41.6% of CSU students reported food insecurity (*N*=24,324), of those 20% (*n*=4,875) experienced low food security and 21.6% (*n*=5,263) very low food security. Conversely 36% (*n*=8,732) reported high food security and 22.4% (*n*=5,454) reported marginal food security. National prevalence rates for food insecurity for all U.S. households is 12.3% (USDA ERS, 2017), making the case for college students as an emerging population with a higher risk for food insecurity. The areas around some of the CSUs in more rural locations (HSU, CSUF, and CSUMB) showed higher levels of food insecurity while urban cities showed a complex mosaic of small areas of security next to areas of insecurity [see Figure 2].

Food Security by demographic groups

Overall, 41.6% of CSU students reported food insecurity in the low and very low food security ranges. The rate of food insecurity for women (42.6%) was slightly higher than for men (39.3%). First generation college students reported higher food insecurity (49.0%) than non-first generation college students (36.9%). Students who received Pell Grants (51.4%) reported higher rates of food insecurity than the CSU average. Transfer students (43.2%) had somewhat higher than average rates of food insecurity. Students who are former foster youth (62.9%) had much higher than average rates of food insecurity. EOP (57.8%) students also had much higher than average rates food insecurity. ESL (49.2%) students had higher than average rates food insecurity. Dreamers (46.7%) and DACA students (44.6%) had higher than average rates of food insecurity. Full time students (42.3%) had higher food insecurity than part time students (38.6%). Graduate students (33.8%) and freshmen (36.1%) had the lowest rates of food insecurity, while sophomores (41.8%), juniors (46.4%), and seniors (45.4%) had higher rates of food insecurity. The average rate of food security for Asian non-Hispanic was 64.7% and for White non-Hispanic was 62.7% and these two groups reported the highest levels of food security when compared to the CSU average (58.4%).

When the intersection of first generation students and race and ethnicity were examined, disparities become more obvious. Students who reported being both first generation to attend college and Black/African American showed the highest levels of food insecurity (65.9%). Students who identified as Asian and were not the first in their families to attend college were the most food secure [see Table 1]. Students who had their own children also reported a high level of food insecurity. Students who were former foster youth (62.9%) had much higher than average food insecurity.

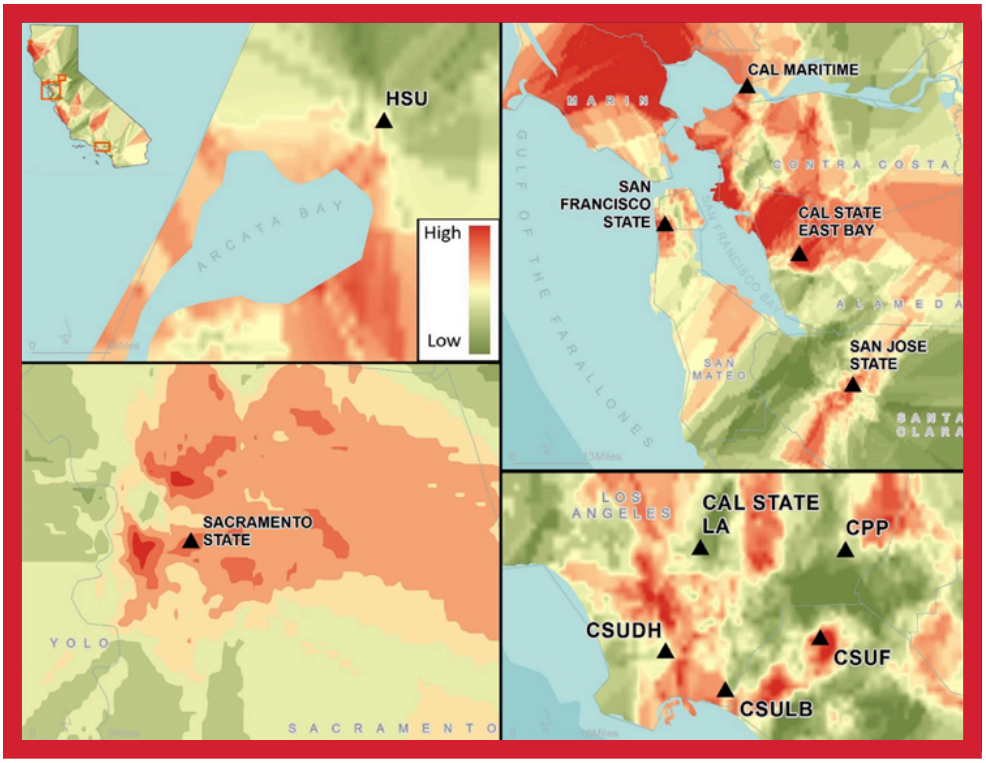


Figure 2
CSU Student Food Insecurity. Interpolated surface for California from the food security index values. The more food secure students are represented by the green, while the less food secure students are represented by red.

	High Food Security %	Marginal Food Security %	Low Food Security %	Very Low Food Security %
White/First generation	30.8%	21.8%	21.2%	26.1%
Asian/First generation	32.2%	25.3%	21.2%	21.4%
Black/African American/ First generation	17.6%	16.5%	25%	40.9%
Native Hawaiian or Other Pacific Islander /First generation	26%	20.7%	20.1%	33.1%
Hispanic Participants/ First generation	26.8%	23.8%	23.9%	25.6%
Other/First generation	26%	24%	23.9%	26.1%

Table 1
Percentage of student food security range by race/ethnicity and first generation college student status.

Prevalence of Homelessness

Overall, 10.9% (*n*=2,661) of CSU students reported being homeless (*n*=24,324). Homelessness was determined by one or more affirmative responses on the combined HUD and DOE definitions in the last 12 months. The heat map illustrates the actual number of students who reported one or more indicators of homelessness on the survey based on the HUD and DOE definitions and shows the density of students who were homeless across California. More students were homeless in urban areas, the primary exception being rural Humboldt County [see Figure 3].

Homelessness by demographic groups

Overall, 10.9% (*n*=2,661) of CSU students on average reported being homeless one or more times in the last 12 months. Students who identified as Black/African American on average experienced homelessness at higher rates (14%) than other racial groups (9.8-11.5%). Non-Hispanic students (11.2) experienced homelessness at slightly higher rates on average than Hispanic students (10.1%). Men (14.1%) experienced homelessness more often than women (9.6%). First generation college students reported slightly higher than average rates of homelessness (11.2%), and higher rates than non-first generation college students (10.7%). Students who received Pell Grants had higher than average rates of homelessness (12.6%). Transfer students had higher than average rates of homelessness (12.9%). Students who were former foster youth (24.9%) had notably higher rates of homelessness. International (15.7%) students had higher than average homelessness. EOP (13.4%) students reported higher than average rates of homelessness. Students who speak English as a second language (12.6%) had higher than average rates of homelessness. Dreamers (10.1%) and Deferred Action for Childhood Action (DACA) students (9.1%) had lower than average rates of homelessness. Disparities among demographics were clearer when the intersection of first generation college students and race and ethnicity were examined. Students who identified as Black/African American and first generation college students (18%) experienced homelessness at much higher rates than any other racial or ethnic group who were also the first in their generation to attend college (9.6-12.6%) [see Table 2]. Full-time students (11%) reported homelessness at similar rates as part time students (11.1%). Disparities in class standing existed where freshmen (8%) and sophomores (9.5%) had lower rates of homelessness, and juniors (11.8%), seniors (12.2%), and graduate students (11.4%) had higher rates.

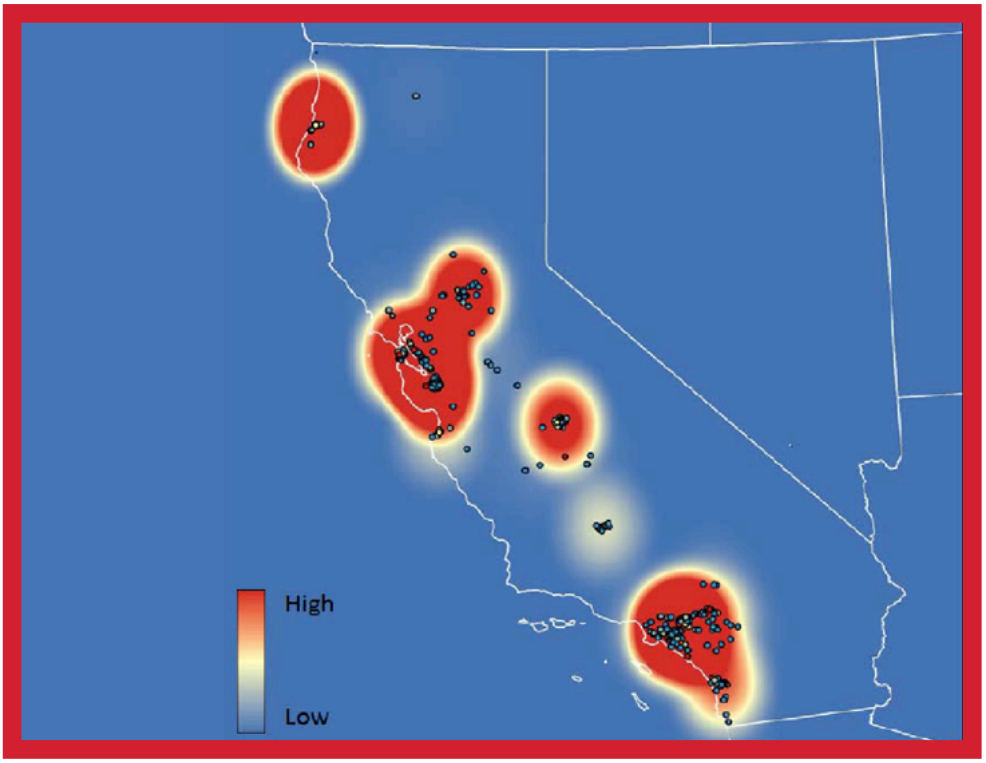


Figure 3
CSU Student Homelessness. Red areas expand as the number of students who reported homelessness goes up. Dots darken when students indicated multiple indicators of homelessness.

	Homeless %	Housed %
White/First generation	12.6%	87.4%
Asian/First generation	9.6%	90.4%
Black/African American/ First generation	18%	82%
Native Hawaiian or Other Pacific Islander /First generation	8.9%	91.1%
Hispanic Participants/ First generation	10.1%	89.9%
Other/First generation	10.4%	89.6%

Table 2
Percentage of student homelessness by race/ethnicity and first generation college student status.

ACADEMIC ACHIEVEMENT, MENTAL AND PHYSICAL HEALTH, AND PERSONAL CONCERNS

Findings of the current study suggest that students who report food insecurity and homelessness as a pattern scored more adversely on indicators of health, mental health, and days of inactivity. Qualitative data were consistent with data from the survey, as students described how having unmet basic needs negatively influenced most of the facets of life. They described working long hours, struggling academically, and having negative impacts on their mental and physical health.

Academics

Many students experiencing food insecurity, homelessness, or both had lower GPAs and higher academic concerns than students who reported being food secure and/or housed [see Figures 4 and 5].

As noted in the qualitative interviews, there was a strong connection between not having enough to eat and academic success. Susan (CSUDH), like so many of her peers, worked hard to make food stretch as long as possible. Both the stress to make food last and the lack of food consumption influenced her ability to function academically.

> **"I would get bananas and I will cut it in half. I'd eat only half in the morning, and then I would wait five hours, then eat the other half, just so I have something in my stomach consistently…I would struggle to concentrate for sure, because sometimes that's all I could think about was where was my next meal going to come from. At the same time, I would always push myself to just keep going, just keep going, just keep going."**
>
> Susan ***CSUDH***

Brandon (SDSU) said that his peers in class had a "running joke" and would ask him if he had eaten each day. He said, "Because there are times where I just don't. It's just like I could definitely see that, whether it was class participation or quality of work, could have a direct effect." Students found themselves working to balance college graduation as a long-term goal with work to ensure they had food to eat. Peter (CSUN) said,

> **"It was one of those semesters all my classes were really intensive, to the point where I actually had to make the decision, do I sacrifice work so I can dedicate the time I need for these classes, and get started again? Or do I risk failing these classes so I have money? I went with the study side. I dedicated the time to the studies, and my belt went down two notches."**
>
> Peter ***CSUN***

In interviews, students described a variety of ways in which housing insecurity or homelessness influenced their educational outcomes. Clark (SFSU) and Gabrielle (CSUDH) were clear that they had the academic skill to achieve, but that housing instability negatively impacted their GPAs. Clark felt he had to sacrifice a class to succeed in other classes and manage the challenges of housing instability. He said, "This semester when my housing was really insecure was rough. I got a D in one class…I just cut down one in order to get fairly good grades in the others…It's better now and for the foreseeable future." Gabrielle (CSUDH) also spoke of how being highly mobile influenced her grades. She said, "It affects my studying if I don't know where I'm going to go, where am I studying or am I concentrating on studying because I'm not worried about where I'm going to go." Surprisingly, other students who experienced homelessness talked of high overall GPAs because they had additional study time as they found refuge in the library and in other common spaces on campus because they had no other place to go. This was consistent with results that suggest that though students who experienced homelessness did have lower GPAs, the difference among their housed peers was small. Students said they spent long hours studying in the student union, the library, and other spaces around campus where they could arrive early and leave late without disruption and feel safe. Patricia (CSUDH) spoke about feeling lucky that she found a job in the library. She said, "That's been awesome, because their hours are very flexible and it keeps me up and out, because…I would have been in the library anyway." She, like many others, reported a strong GPA because she spent so much time on campus.

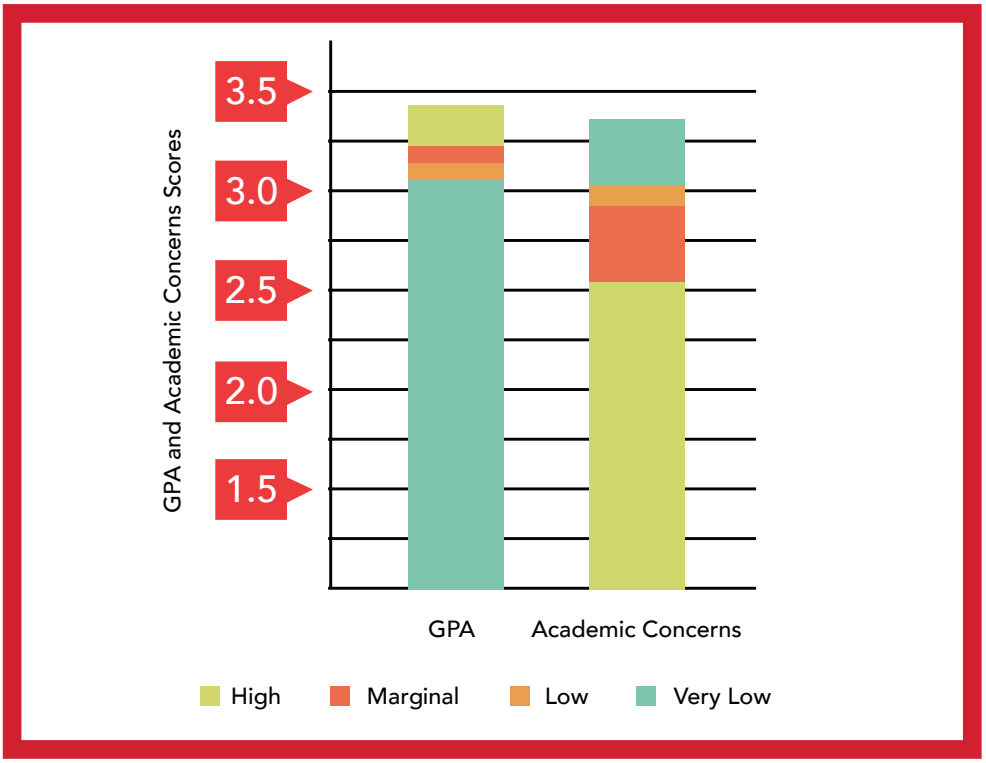


Figure 4
Food security as it is related to academics.

Note. GPA was based on self-report. Academic Concerns were created from the Presenting Problems Scale using a continuous variable from 1-5 based on current level of stress, where the score goes up with greater concern.

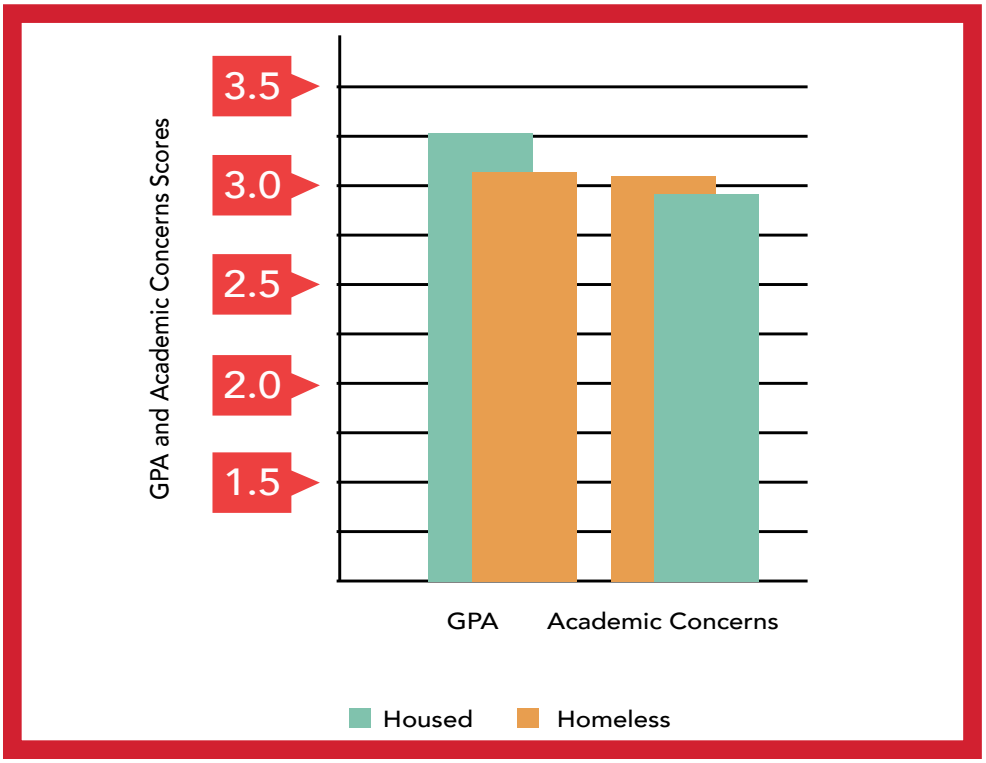


Figure 5
Homelessness as it is related to academics.

Note. GPA was based on self-report. Academic Concerns were created from the Presenting Problems Scale using a continuous variable from 1-5 based on current level of stress, where the score goes up with greater concern.

Students experiencing homelessness emphasized how difficult it was to make constant trade-offs, persistently being required to determine what to prioritize. Clark and Gabrielle reported that they had average or high GPAs; however, thinking about or seeking a place to stay was "like a job," and caused stress, anxiety, lack of focus, and difficulty finding time and locations to study in a quiet place.

Mental and Physical Health and Personal Concerns

Further, the negotiation of needs often generated great stress for students, exacerbating challenges to their personal concerns and mental health, which was often inextricable from physical health. Students who were food insecure, homeless, or both reported poorer mental health more often in the past 30 days than students who were food secure or housed. Poor mental health was defined as the number of days per month students self-reported stress, depression, and problems with emotions [see Figures 6 and 7]. Students reported high levels of personal concerns on the survey when basic needs were unmet [see Figure 8]. Personal concerns were indicated on the survey with items such as anxiety, fear, irritability, depression, among other worries and real stressors were often described during interviews. Priscilla (CSUSB) discussed the mental and physical impact of low food security. Priscilla said, "I would save money and get the cheapest foods and, I started feeling really lethargic, just nasty, you don't get the energy...We have this whole focus, this whole responsibility on our shoulders..."

There were also heavy tolls for homeless students' physical health as well. Food insecure and homeless students as a pattern scored more adversely on physical health indicators. They reported having far more days with physical health issues, such as physical illness and injury, than their secure peers [see Figures 6 and 7].

Bernard (SFSU), like most of his peers in the study, discussed the physical repercussions of eating on a minimal budget. He experienced food insecurity and homelessness, and discussed the challenges of working multiple jobs to make ends meet, taking courses, and finding time and money to eat.

> **"Canned foods just don't do it. Yesterday, all of a sudden I started with these tremors in my arms. Ugh, nutrition [laughs]. Just not enough time, not enough money. It's very hard to concentrate. You're exhausted. You couldn't read a book and you fall asleep. It's not easy, even in class."**
>
> Bernard ***SFSU***

Charles (SLO) mentioned that he goes to bed hungry often in order to make his financial aid stretch, but realized it was having a physical impact. He said, "I was just incredibly dizzy. I just realized I need food to function."

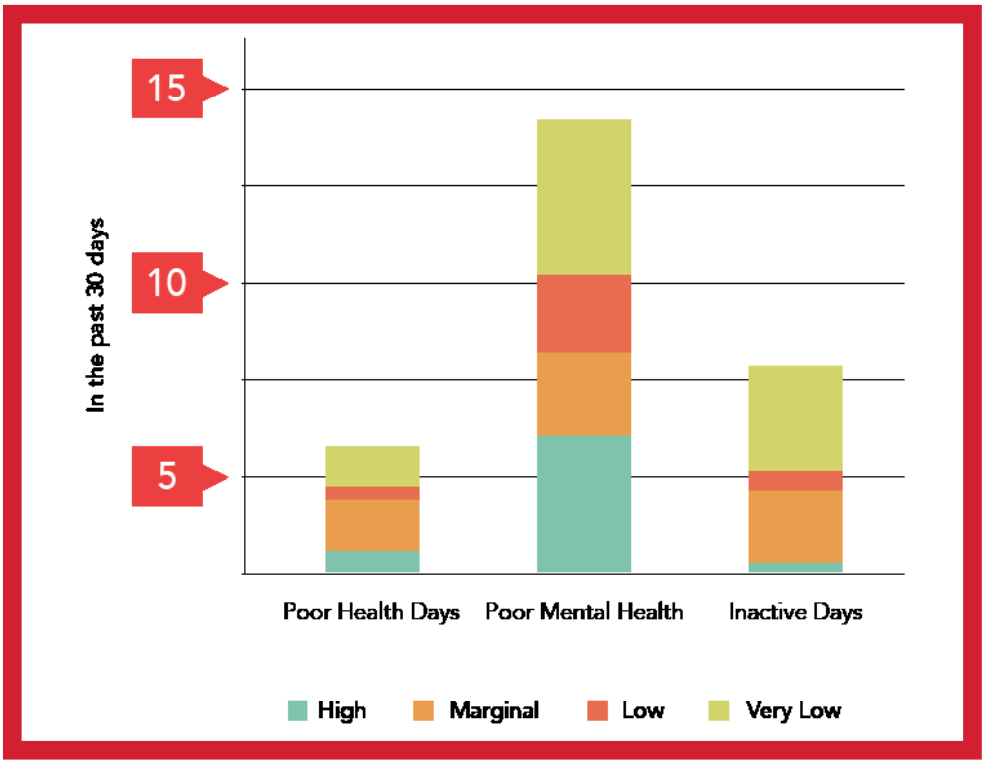
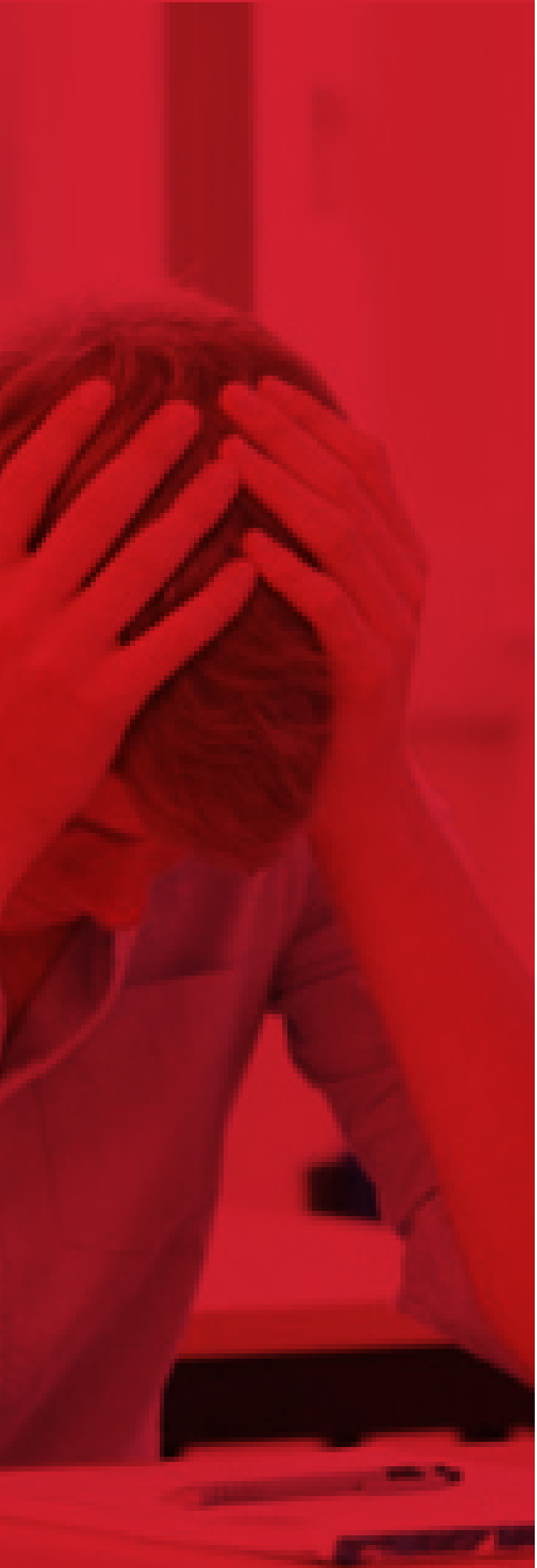


Figure 6
Food security as it is related to health.

In interviews and focus groups, students universally discussed how experiencing homelessness increased their stress and decreased their physical well-being because they were constantly looking for places to sleep. Many students also recounted poor health associated with the inability to access cooked food and showers and with sleeping in places not intended for human habitation, such as cars or storage units. Elizabeth's (FSU) experience mirrored many others who lived in public spaces and who couch -or dorm- surfed.



Elizabeth and others discussed that experiencing homelessness had an influence on all aspects of their lives. Stress permeated their academic success, physical and mental health, and personal relationships. Like others, Elizabeth never considered that she would become homeless because she perceived that experience through the lens of a stereotype about what homelessness was. She found that her experiences, her ability to do something as basic as taking a shower, was challenged in ways she had never anticipated.

> **"Friend's couches, ya know, a couple nights in my car. Thankfully it was warm enough to where I'm not freezing to death in the car...It was difficult... because when you think about being homeless you think about the people on the streets and whatnot. But really, it can be anybody. And I never thought it would happen to me. So my friends were willing enough to let me stay on their couches, which I am very appreciative of. What really got to me though, one morning when I stayed at a certain friend's house and her room-mate was kind of getting annoyed I was there, and I didn't want to overstay my welcome...and I had left that day before showering, and so it really hit me like I didn't have a place to shower. Something I would never want to wish upon anybody to go through."**
>
> Elizabeth ***FSU***

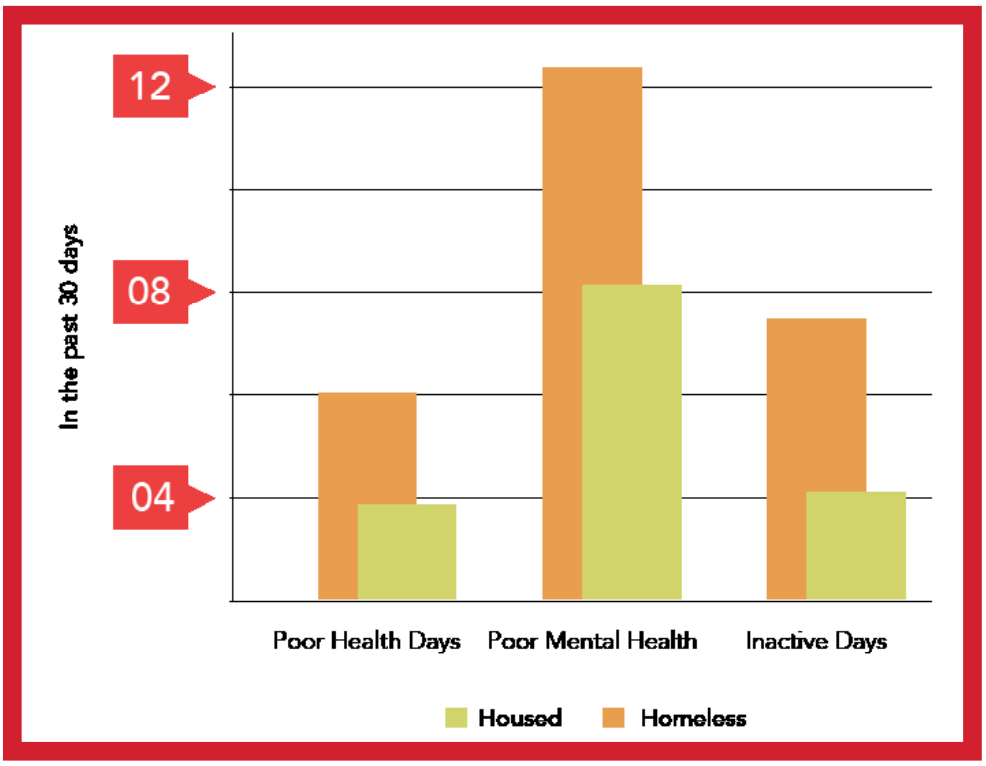


Figure 7
Homelessness as it is related to health.

Inactive Days

The student narratives illustrate the constant struggle to juggle the demands of not having enough time along with chronic material hardship of not having enough to eat or knowing where they were going to stay next while working hard to succeed in classes. For some the demands were untenable and this was clear in the data. Students who were food insecure, homeless, or both consistently indicated that they missed more days of school, work and recreation because of feeling mentally or physically down than their counterparts who were more food secure, housed or both [see Figure 7].

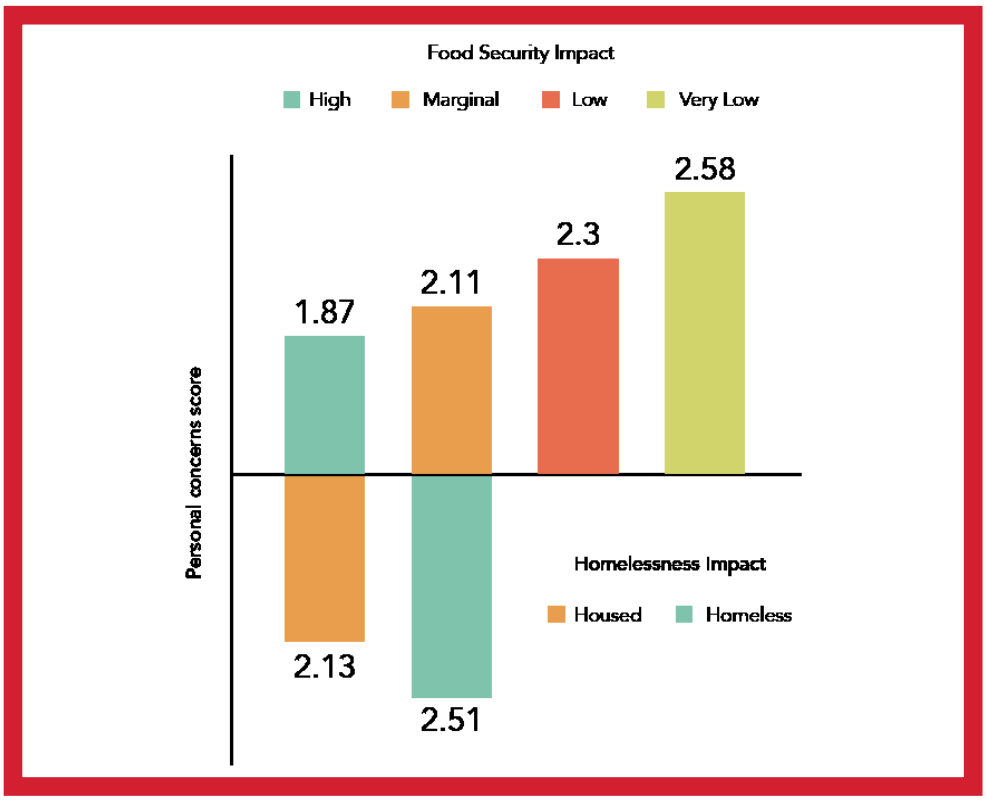


Figure 8
Food security and homelessness as related to personal concerns.

CHALLENGES AND COPING STRATEGIES FOR MEETING BASIC NEEDS

Both quantitative and qualitative data indicated that students go to great lengths to meet their basic needs within their budgets. Some students experiencing food insecurity reported struggling to buy groceries because they did not know how to budget well (26.6%) or that paying bills was confusing (17.3%). However, the number one reason students experiencing food insecurity reported not being able to afford groceries was the lack of money (70.4%), compared with food secure students who reported a lack of money at a far lower rate (17.2%) [see Figure 9]. Students were also asked for reasons they may not buy groceries that go beyond financial reasons. Some food insecure students did not have access to desirable food (31.1%), or they were unable to shop and prepare a balanced meal (19.2%). Some were too busy or forgot to eat (10.2%), or were dieting (10.2%). However, most students could not afford groceries simply because they did not have enough money in their budgets.

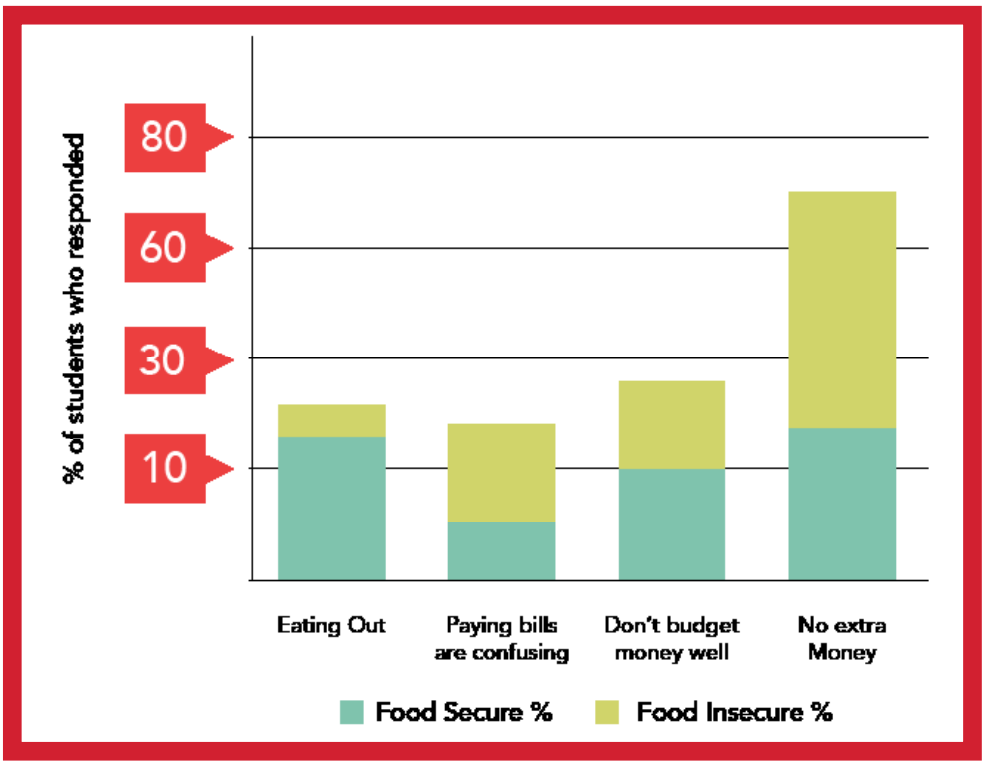


Figure 9
Budgeting explanations for why students could not buy groceries.

Work study was an opportunity for many students who qualify for financial aid to earn education and living costs for college. In interviews and focus groups, many students discussed how important on campus employment was, especially because on campus jobs often provided skill building and learning opportunities, linked them to campus resources, tended to be more flexible around course needs, and were close to class locations. In speaking about her work study position, Christy (SDSU) spoke about how helpful her supervisor was and that she was able to earn much needed experience and money. She said, "I usually do around 11 hours a week depending on the week, when they need me and stuff. It's a very flexible job so I enjoy it." Dolly (FSU) also had a work study employment, and this mitigated her anxiety about her financial well-being and allowed her more time to study. She said, "I think it was helpful because it was really, it didn't really cause me that much stress. Especially being a full time college student. I couldn't really find a full time job because that would be even more stress."

However, few students were able to access this benefit. Only 7% of survey respondents reported securing a work study position. Many students spoke about the difficulty in finding work study opportunities, or having work study employment, but being limited to very few hours, which sometimes meant they had to seek a second job off campus to make ends meet. Like Maggie (CSULA), work study opportunities were few and far between, "it's really difficult to find a job on campus. It has been so hard for me, I've been applying since last semester and still, like I haven't gotten anything."

Participants were asked what resources they used if they ran out of money for food. Many students discussed how the end of the semester and breaks in the academic year were most challenging. Evelyn (SFSU) spoke about the summer, "By the end of the semester financial aid (was) gone...You might be able to increase your hours at your job but then that extra income you're making has to be used for rent. The food doesn't really happen... summer's probably the toughest." Both food secure and food insecure students reported that their friends, family, or roommates gave them money for food (29.3% and 31.8%, respectively). Similarly, 25.2% of food secure students and 35% of food insecure students reported that friends, family, or

roommates would provide them with food. Nadine (CSUB), who was experiencing both homelessness and food insecurity spoke about her reliance on friends, saying, "I was crashing on my friend's couches, they were buying me dinner. So it's one of those things like I know I have that option. I don't like to use it, because you sort of start to feel like a mooch, and it's not a good feeling, you know?"

Students listed other cost saving strategies to meet basic needs, including attending events where food was available, living in small apartments with many people, choosing inexpensive food options that last, and combining food with that of other struggling students. Abel (SFSU) said that he attended events on campus for free food. He said, "I feel bad taking it because I am manipulating for food to survive. I will stay for their entire event and get their information to ease my guilt." Lalith (SDSU) discussed not buying a bed in order to live on $500 a month, which included the cost of her rent, contribution to utilities, food, and educational expenses. He said, "I mean I didn't purchase any furniture or anything. I even sleep in a sleeping bag... I got used to it because I feel like when I came here it's like -- because of the tuition and stuff."

Use of On-Campus Supports

On campus basic needs supports appeared to be underutilized at the time data was collected. CalFresh and campus emergency food pantry utilization increased for students reporting low and very low food security when compared with those who were food secure. However, only 10.1% of students who reported very low food security and 7.5% of students who reported low food security used CalFresh at the time of the survey. Food insecure students also reported low utilization of campus food pantries; only 12.7% of students who reported very low food security and 9.8% of students who reported low food security used this resource.

Students were asked about awareness and use of food pantries, CalFresh application assistance, Electronic Benefits Transfer (EBT) use, campus gardens, emergency housing, counseling and health centers [See Appendix C]. Many students reported that they had never heard of the on-campus services, or that they were not offered at their campus. The majority of students were unaware of emergency housing services being offered on their campus or reported these supports were not offered (71.4%). Of all students surveyed, many students indicated they were unaware of a food pantry located on their campus, or reported the service was not offered (51.9%); 35.8% had heard about a campus food pantry, but never used it. However, those students that did know about services welcomed support.

Tom (CSUN) discussed how welcome he felt at the food pantry at his campus after having some hesitation about going there. He said, "I remember the first time I went, I was like, 'I really need this, I'm super hungry' they're like, 'Trust me, we work here. We eat here too.'... I felt like I had to justify why I was there to them, and they don't need that. They don't need that information, they just want you to be happy and healthy." However, students' experiences with food pantries were mixed. One student was living in her car and chose to access a food pantry on her campus. Her experience there made her hesitant to return.

The student was living in her car, but felt like the pantry was not a place she could use. Many students suggested that food pantries were helpful; however, eligibility requirements or even just the message or tone of the person working there made a difference.

A similar trend was observed with access of CalFresh application assistance, where 39.5% of all surveyed students had never heard of this service and 49.5% had heard of CalFresh, but never applied. Students were asked to report on why on-campus services were not used. Approximately a third (31.7%) of the sample indicated that they did not need assistance from the services listed.

> **We have a food pantry that you're just supposed to be able go and get food from when you're hungry, but myself and other students have experience where you go in there and it's like, "You can't come in here." Or, "this is supposed to be a temporary solution. You're just not supposed to keep coming here and getting everything you want." ...The message was that I shouldn't keep coming down here, it was okay for me to come a few times but I need to move on.**

Another 19.6% perceived that they did not qualify for these services. Students also reported not having time to access services (24%) and not knowing how to access services (30.2%). The number one reason services were not utilized was students had never heard of them (42%). Like many of her peers, Sunny (SDSU) mentioned that it would be helpful to have someone on campus to help facilitate accessing services. She said, "I just really want to advocate for someone who can act as a liaison between students and organizations... [like] someone who helped people [get] information regarding CalFresh. If we had that on campus, I think that would be super helpful (Sunny, SDSU)." Underutilization may indicate an opportunity to increase coordination, outreach and awareness-building on campus about services and supports offered, including how to qualify.

In interviews and focus groups, students were asked if they had hesitated to use services designated for those experiencing food or housing insecurity. While some said they did initially hesitate to use services, many discussed that their physical and mental well-being outweighed their desire to keep their circumstances private. In speaking about CalFresh, Jessica (HSU) said, "But it's very much like I would not survive without them, so I don't really care what the stigma is because it's a necessity."

Rain (CSULB) discussed that she felt it was vitally important to have services that stigma could not be an option. She spoke about how relieved she was after receiving emergency housing.

Many students discussed how having normalcy on campus about use of services allowed them to find out about and feel comfortable with using services.

> **I remember the first night, I remember just walking in there [crying] and there's two bunk beds or three bunk beds in the room they put me in. And its own restroom...[laughs], and before that I was jumping around, occasionally sleeping on a friends' floor, or whatever in a little corner, you know, whatever I could find. I'm walking into this big room and was like "oh my gosh this is for me, are you kidding? [and] The meals were heavenly, oh my gosh. I -- throughout this entire time I had a couple of different priorities. It was like definitely school, that was priority number one because even though my immediate needs were not being met that great I knew that in the long run it'd benefit me.**
>
> Rain **CSULB**

CalFresh: California's Federal Supplemental Nutrition Assistance Program (SNAP)

> **"I don't remember how much I got a month, but that was the only semester in college I've ever made the dean's list. I was getting healthy food. When I think about money problems, obviously, it consumes you...I was getting the nutrition, I was getting the energy. I was awake and eating breakfast every morning. It made a difference."**
>
> Fiona **SDSU**

A small percentage of students reported not using campus support for basic needs, including CalFresh, due to feeling embarrassed (11.2%) or not believing in the use of social services (2.1%). However, of those students who knew about CalFresh, many understood that need outweighed stigma. Fernanda (CSUB) spoke about hearing about CalFresh and spreading the word to her peers. She said, "I see that they're struggling and I tell them. I'm very open about getting food stamps. I'm not embarrassed on that thing."

CalFresh is a potentially significant buffer against food insecurity for college students. CalFresh eligibility for students is primarily dependent on student status, the number of people in the household, household income, federal work rule, and the federal work rule exemptions. Results from the survey indicate that close to 70% of CSU students would be eligible for CalFresh by household income alone. When all factors were considered, less than half of those in financial need would receive these critical basic need funds.

Many students spoke about CalFresh as a fundamental way to access food. Fiona (SDSU) spoke about how critical CalFresh was to her physical and mental health and the impact it had on her academic success.

Although 6.1% of CSU wide respondents used the benefit in the past, only 4.9% reported that they were currently enrolled in the CalFresh program. One reason CalFresh may be largely underutilized is because federal and state eligibility criteria categorically disqualify most full time college students from benefits. There are specific criteria that allow students to be exempt from disqualification (i.e., being employed 20 hours a week or an average of 80 hours a month, a single parent of a dependent household member under the age of 12, and enrolled full time [12 units], among others) (California Association of Food Banks, 2017). Elizabeth (HSU), like many others, spoke about how these restrictions made her choose between meeting requirements and attending college. She said, "It's hard being a student working on minimum wage and affording your food too. It's also hard being a student and working at the same time. But if you don't work, you can't get food stamps, so you've got to weigh your time pretty well."

Additionally, college student CalFresh eligibility is complicated and often leaves students and service providers confused. This might be explained by the inconsistency between the state and federal government guidelines about how college students qualify for CalFresh. When students were asked about their ability to qualify for CalFresh, 37.3% reported they thought they could qualify with the CalFresh student exemptions. Based on SNAP federal income guidelines, 68.4% of students reported they could qualify for CalFresh. Student response suggested that a conservative estimate of the percentage of CSU students that could qualify for CalFresh by both the state and federal criteria is 27.4% [See Table 3]. Given that only 4.9% of students

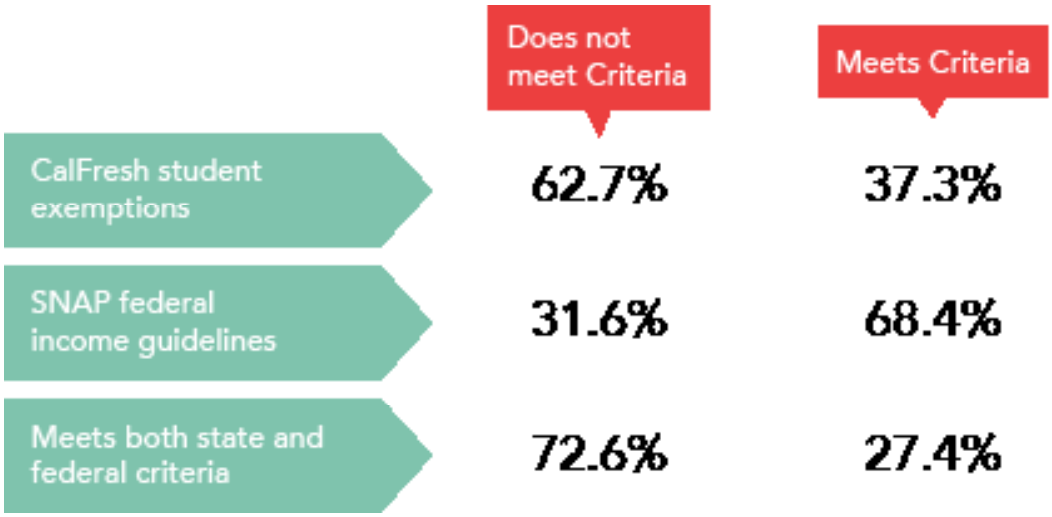


TABLE 3
College Student CalFresh Eligibility.

reported being current users, there are still many students who may qualify and benefit from this important support.

Another barrier to CalFresh use was the lack of awareness about benefits and how to apply. Although the state has a CalFresh Outreach program to increase awareness, help residents complete the CalFresh application, assist with the verification documents and follow-up over the 30-day application process, most CSU campuses are only just beginning to conduct CalFresh Application Assistance on their campuses (CSU, Chico, Center for Healthy Communities CalFresh Outreach Program, 2017). This lack of CalFresh awareness across the CSU system may help explain why 39.5% of all student respondents reported they had never heard of CalFresh or they believed it was not offered on their campus, and 49.5% of students had heard of it, but never used it. In interviews and focus groups, many students spoke about not knowing about CalFresh or had attempted to enroll in CalFresh off campus and received misleading or incorrect information about their eligibility. As Ella (CSUSB) noted, "I needed to prove that I worked and I needed to prove that I needed it. So it did take a while to actually prove that I was a student and I was working 'cause they have different requirements for students, so it's not that simple." Many were told that, as students, they were not eligible for CalFresh at all.

CONCLUSIONS AND RECOMMENDATIONS

It is clear that food and housing security shape the personal and academic progress of students. The enormity of the level of unmet basic needs among CSU students is daunting; and yet, campuses across the CSU are making heroic efforts to increase support and resources for students' who face material hardship to increase holistic student success. Further significant responses to student basic needs are required if students experiencing barriers to basic needs are to be retained to graduation. Responding to students who are housing or food insecure will require complex, long term approaches to solution building.

Develop affordable food and housing options for students. Students who experience food and housing insecurity spoke at length about the negative repercussions of food and homelessness, including ramifications on their physical, mental, and academic success. By far, students responded that they simply did not have enough money to purchase groceries (70.4%). The overarching narrative about the problem must reflect the truth about what students are experiencing. Students need places to live that are within reasonable means. Continued work on the implementation of California House Bill 1228 to provide priority access to housing for students experiencing homelessness over breaks is required. Emergency responses to basic needs (i.e. food pantries, free on campus meals, emergency housing) must include healthy and affordable food options. Long-term responses to food security may include developing food and housing options within the economic means of the student population.

Target strategies to address the student populations that reported the highest levels of food insecurity and homeless, first generation Black/African American college students. The disproportionate incidence of food and housing insecurity is clear. Initiatives to address educational opportunity gaps for students of color and first generation college students must include the linkage to basic needs. Linkages across programs intended to enhance educational and interpersonal experiences can be made by single points of contact, facilitating support for students.

Conduct longitudinal research exploring basic needs security as predictors and protective factors that may promote persistence and degree completion in alignment with the CSU effort to increase graduation rates and decrease time to degree completion. This report is focused on the current status of students, but longitudinal research is required to determine educational, professional, health and personal outcomes for students beyond today. Congruent with the CSU's ongoing efforts to increase graduation rates and decrease time to degree completion, longitudinal study is necessary to understand how food and housing insecurity impacts student success. Additionally, it is urgent that there be continued development and evaluation of interventions intended to increase basic needs security.

Incorporate single points of contact who are trained in trauma-informed perspective in programmatic responses to students experiencing food and housing insecurity and co-locate space for the contact and students. Single points of contact must be instituted on campuses to lead in coordination of programs and services and linkage to a community of students with similar experiences. Single points of contact need to be trained in

trauma-informed approaches to ensure that interactions with students recognize their specific needs and honors their experiences. Further, students who experienced homelessness discussed needing spaces on campus to rest or study, where they spent long hours to avoid unsafe or unstable housing. Associated space for programs and services is needed so that students have areas to seek support, convene, study, and find respite.

Identify and institute creative campaigns to develop a campus culture of awareness and response to support students who experience significant material hardships. Students report navigating a variety of challenges on their own. The vast majority of students sought thoughtful, high touch support networks on campus. For these support networks to exist in more idiosyncratic ways, it is essential that institutions attend to the climate and culture around food and housing security so that staff, faculty, and administrators are able to identify and support students in need. Institutional agents must be educated on how to identify indicators of food and housing insecurity, be up-to-date on campus resources and support structures, and develop the skills needed to create a safe environment for students to come forward.

Utilize campus-based CalFresh enrollment and other strategies as a preventative measure for food insecurity. Results suggest that enrollment in CalFresh can be a mitigating factor for food insecurity. Unfortunately, students report barriers to accessing CalFresh. Advocacy and collaborative work continues to support increased access to CalFresh for students. State support with the signing of AB 1930 and AB 1747 and state funding for "hunger free campuses" supports movement in a positive direction. Strategies for continued support for CalFresh enrollment and other long term responses to food security are required. On campus enrollment for CalFresh would help facilitate navigation of barriers. Continued advocacy to increase college student eligibility exemptions are needed. Going to school is work, and enrolled college units need to be counted as 'work' toward the 20 hours per week or more exemption. Further, students reported availability of emergency food on campus as helpful. Continuing to offer emergency food for students and marketing availability to the whole student body may reduce food insecurity in the short-term while longer-term more sustainable practices are developed.

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Appendices

Appendix A

Table 4
Campus Survey Participation Rates

Campus	%	Survey Administration Dates
Bakersfield	4.5%	10/31-11/21/2016
Channel Islands	3.3%	11/28-12/19/2016
Chico	5.8%	10/31-11/21/2016
Dominguez Hills	3.7%	10/31-11/21/2016
East Bay	4.9%	10/31-11/21/2016
Fullerton	4.6%	10/31-11/21/2016
Fresno	6.2%	10/31-11/21/2016
Humboldt	16.6%	10/3-10/24/16
Long Beach	5.2%	10/26-11/16/2016
Los Angeles	2.09%	11/4-11/25/2016
*Maritime	4.8%	1/11-2/2/2017
Monterey	9.16%	10/31-11/21/2016
Northridge	3.03%	11/8-11/21/2016
Pomona	4.2%	10/31-11/20/2016
Sacramento	5.9%	10/31-11/21/2016
San Bernardino	6.3%	10/26-11/16/2016
San Diego	4.29%	11/8-11/29/2016
San Francisco	4.5%	11/1-11/21/2016
San Jose	6.8%	10/31-11/21/2016
San Marcos	7.8%	10/31-11/21/2016
Stanislaus	3.1%	10/31-11/21/2016
Sonoma	5.4%	11/2-11/21/2016
San Luis Obispo	10.3%	10/31-11/21/2016

Note. Surveys administered fall, 2016.
*Maritime survey administered spring, 2017.

Appendix B
Qualitative Data Collection Sample

Table 5
Qualitative data collection n

Campus	*n* = Interviews	*n* = Focus Group	Total
CSUB	11	3	14
CSUDH	10	9	19
CSULA	5	13	18
CSUN	12	17	29
CSUSB	4	13	17
FSU	5	9	14
HSU	5	11	16
CSULB	14	16	30
SDSU	8	21	29
SFSU	11	6	17
SLO	7	3	10
Total	**92**	**121**	**213**

Table 6
Qualitative sample

	Numbers by race						
Campus	Black/African American	White	Latinx	Asian	Bi/ multi	Native American	Decline to state
CSUB	1	6	5	1	1	0	0
CSUDH	6	5	6	0	2	0	0
CSULA	2	3	10	0	3	0	0
CSUN	4	9	8	3	4	0	1
CSUSB	5	3	7	0	1	1	0
FSU	1	4	7	1	0	0	1
HSU	0	10	3	0	2	0	1
CSULB	3	9	8	5	4	0	1
SDSU	1	8	7	6	6	0	1
SFSU	1	3	6	1	6	0	0
SLO	0	6	0	1	3	0	0
Total	**24**	**66**	**67**	**18**	**32**	**1**	**5**

Table 7

Qualitative sample gender and age

	Gender				Age			
Campus	Male	Female	Trans/gender atypical	Decline to state	18-20	21-25	26-30	Over 30
CSUB	2	11	0	1	4	6	3	1
CSUDH	5	14	0	0	3	3	8	5
CSULA	2	16	0	0	5	7	1	5
CSUN	11	18	0	0	6	11	6	6
CSUSB	5	12	0	0	3	11	1	2
FSU	5	9	0	0	2	5	0	7
HSU	3	13	0	0	3	12	1	0
CSULB	5	24	1	0	8	11	7	4
SDSU	11	18	0	0	5	10	7	7
SFSU	5	12	0	0	2	4	4	7
SLO	4	5	1	0	3	7	0	0
Total	**58**	**152**	**2**	**1**	**44**	**87**	**38**	**44**

Appendix C

Table 8

Sample and CSU student population demographics compared

Demographics		Study Sample n = 24,324	CSU 2016-2017 Academic Year n = 478,638
Race			
	Asian/Other Pacific Islander	22.9%	16.3%
	Black/African American	5.7%	4.2%
	White	39.5%	24.6%
Ethnicity			
	Hispanic	40.7%	38.6%
	Non-Hispanic	59.3%	-
Gender			
	Male	25.9%	43.8%
	Female	72.4%	56.2%
	Transgender	0.5%	-
	Do not identify as any of the above	0.6%	-
Class Standing			
	Freshman	16.7%	19%
	Sophomore	11.4%	12.2%
	Junior	26.8%	24.3%
	Senior	31.2%	33%
	Graduate Student	13.9%	11.6%
PT/FT Status			
	Full time	89.1%	83.7%
	Part time	10.4%	16.3%
First Generation Student			
	Yes	39.2%	33.3%
	No	60.8%	66.6%
Age			
	Range	18-79	17-Over 59
	Mean	23.57	22.86
	Median	22	

Appendix D

Table 9
Students report why they do not use support services

	Campus supports %	*Off-campus supports %*
Does not qualify for services	19.6	22.9
Has not heard of services	42	43
Does not have time to access services	24	12.5
Does not have transportation to access services	4	3.2
Does not know how to access services	30.2	20.6
Does not believe in using services	2.1	1.8
Feels embarrassed to use services	11.2	5.8
Already uses one or more the services	15.2	8.9
Does not need assistance	31.7	31.7

Appendix E

Table 9

Food Security and CalFresh Use

	Never heard of it %	Heard of it but never used it %	Used it in the past %	Currently use it %
High Food Security	39.1	54.2	3.9	2.9
Marginal Food Security	36.3	52	6.4	5.3
Low Food Security	33	50.2	9.3	7.5
Very Low Food Security	32.5	46.2	11.2	10.1

Table 10

Food Security and Campus Food Pantry Use

	Never heard of it %	Heard of it but never used it %	Used it in the past %	Currently use it %
High Food Security	37.3	53.3	5.5	3.8
Marginal Food Security	33.8	50.2	8.8	7.2
Low Food Security	33.2	45.3	11.7	9.8
Very Low Food Security	37.1	38.2	12	12.7

Appendix F
Campus Snapshots

San Francisco State University

Quantitative Methods

The Phase 2 survey was distributed to all students (*n*=29,045) via email at San Francisco State between 11/1-11/21/2016 and 4.5% of students participated (*n*=1,298). Students received an initial email invitation to complete the survey along with two weekly email reminders. Students were able to enter their names in a raffle to win one of two $40 Target gift cards. A campus point person, identified by a campus administrator, worked with the research team to recruit students and administer the survey electronically via campus email address. The marketing team through the CSU Office of the Chancellor created marketing materials (e.g., press release, flyer, social media template posts) for the campus point person to disseminate in order to encourage student participation.

Qualitative Methods

Qualitative data were collected at SFSU with students (*n*=17) who identified as housing insecure, food insecure, or both on the quantitative survey. Student participants volunteered and were selected for interviews and focus groups based on reported levels of food insecurity and homelessness from the survey. Participants were recruited via email and were offered a $15 gift card as an incentive to participate. Students participated in semi-structured interviews and focus groups, which lasted 60-90 minutes. Participants were asked broad, open-ended questions about their experiences with food and housing insecurity. Location and logistics for qualitative data collection were arranged collaboratively with a campus point person, identified by a campus administrator. Demographic information about the sample for qualitative methods is located in Appendix B. Students were asked to select pseudonyms to protect their privacy.

Comparison of Demographics of Survey Participants to Overall Campus Student Population

Overall, SFSU sample characteristics only slightly varied from the demographics of the SFSU student body, with the exception of White participants, which were 33.1% the sample but 24.2% in the student body. Full time students were 87.6% of the sample and 80.6% in the student population. Part time students were 11.8% in the sample and 19.4% in the student body. There is higher representation of non-first generation college students 63.3% than 36.7% first generation college students in the sample. The largest difference is regarding gender, where women students were 68.5% of the sample, but 56.7% of the SFSU student body. Women often have much higher response rates then men on surveys (Sax, Gilmartin, & Bryant, 2003; Underwood, Kim, & Matier, 2000).The mean age was slightly lower in the sample ($\bar{x}$=25.0 years) when compared with the student body ($\bar{x}$=23.3 years).

Table 1

San Francisco State University Sample and San Francisco State University student population demographics compared

Demographics		SFSU Study Sample n=1,298	SFSU 2016-2017 Academic Year n = 29,045
Race			
	Asian/Other Pacific Islander	32.6%	30.5%
	Black/African American	7.2%	5.4%
	White	33.1%	24.2%
Ethnicity			
	Hispanic	31.1%	32.9%
	Non-Hispanic	68.9%	-
Gender			
	Male	28.3%	43.3%
	Female	68.5%	56.7%
	Transgender	1.1%	-
	Do not identify as any of the above	1.2%	-
Class Standing			
	Freshman	15.4%	22.4%
	Sophomore	9.7%	11.1%
	Junior	27.1%	24.8%
	Senior	29.4%	30.8%
	Graduate Student	18.4%	10.9%
PT/FT Status			
	Full time	87.6%	80.6%
	Part time	11.8%	19.4%
First Generation Student			
	Yes	36.7%	-
	No	63.3%	-
Age			
	Range	18-68	Under 16-Over 35
	Mean	25.0	23.3
	Median	22	-

Overall Campus Food Security and Homelessness
Overall, 46.8% of SFSU students reported food insecurity, of those 22.2% experienced low food security and 24.6% very low food security, conversely 30.4% reported high food security and 22.9% reported marginal food security. Overall, 17.7% of SFSU students reported being homeless one or more times in the last 12 months based on the combined HUD and DOE definitions.

Students spoke at length about the how to make money and food stretch. Students who did not have a place to live often discussed the challenge of managing their safety as well. Some students discussed how to eat small amounts of food or eat very inexpensive food in order to feel full, but not feel well. Holly (SFSU), tried to find balance in her eating habits, but it had overall implications on her budget for the variety of expenses associated with her education. She said,

> When I first started living in my van it was a lot of peanut and jelly on corn tortillas, but I have access to the microwave [on campus] and at [work], so if I do want like warm food I can microwave it…This year it has been better because I have introduced more fresh produce, so I feel a little healthier, and I also like really value physical activity and was noticing… I would just get weaker and weaker.

Academic Achievement
As a general trend, students who experienced food insecurity in the last 30 days and/or homelessness in the last 12 months had lower GPAs and higher academic concerns than students who reported being food secure and/or housing stable [See Tables 2-5]. GPA was based on self-report. Academic Concerns is a variable created from the Presenting Problems Scale using a continuous variable from 1-5 based on current level of stress, where the score goes up with greater concern. Items relate to concerns about grades, motivation, time and stress management, and concentration among others.

Table 2

Mean GPA by Food Security

	GPA
High Food Security	3.42
Marginal Food Security	3.32
Low Food Security	3.28
Very Low Food Security	3.18

Table 3

Mean GPA by Homelessness

	GPA
Not Homeless within Last 12 Months	3.32
Homeless within Last 12 Months	3.21

Table 4

Mean Academic concerns by Food Security

	Mean Academic Concerns
High Food Security	2.58
Marginal Food Security	2.88
Low Food Security	3.13
Very Low Food Security	3.27

Table 5

Mean Academic Concerns Homelessness

	Mean Academic Concerns
Not Homeless within Last 12 Months	2.91
Homeless within Last 12 Months	3.08

Physical Health & Activity

There were also heavy tolls on students' physical health and daily activity as well. Students who experienced food insecurity in the last 30 days and/or homelessness in the last 12 months as a pattern scored more adversely on physical health indicators. In the past 30 days, students experienced far more days with inactivity and physical health issues, such as physical illness and injury, than their secure peers [See Tables 6-9].

Many students discussed how challenging it was to find affordable housing in San Francisco. Olivia (SFSU) discussed how being homeless influenced her academic success. She said "I really need to be focusing more on studying but I can't because I need to focus on how to get by. I am always asking around and hoping something comes along." Many students, like Evelyn (SFSU), discussed how this resulted in making very challenging choices about how to manage very limited budgets. She said,

> A lot of the times when I first started in school it was a matter of do I buy the book? Do I pay for rent? Do I eat? Rent and eating weighed out, so I actually had to stop going to school for a while. Then, I came back when I was 27. When I came back, I kind of did the opposite where I picked school over rent and food.

Table 6

Poor Health Days by Food Security

	Mean Poor Health Days
High Food Security	3.44
Marginal Food Security	4.2
Low Food Security	4.17
Very Low Food Security	6.35

Table 7

Poor Health Days by Homelessness

	Mean Poor Health Days
Not Homeless within Last 12 Months	4.24
Homeless within Last 12 Months	5.66

Table 8

Mean Inactive Days by Food Security

	Mean Inactive Days
High Food Security	3.89
Marginal Food Security	5.3
Low Food Security	5.88
Very Low Food Security	9.44

Table 9

Mean Inactive Days by Homelessness

	Mean Inactive Days
Not Homeless within Last 12 Months	5.58
Homeless within Last 12 Months	8.17

Mental Health

Students spoke at length about how deprivation of basic needs was related to their mental health and this is demonstrated in reports of personal concerns and poor mental health days in the last 30 days with food insecurity or homelessness [See Tables 10-13]. Personal concerns is a variable created from the Presenting Problems Scale using a continuous variable from 1-5 based on current level of stress, where the score goes up with greater concern. Items relate to concerns about anxiety, fear, physical health problems (i.e., headaches, stomach pains, etc.), sleeping problems, fatigue, and suicidal feelings, among others.

Table 10
Mean Personal Concerns by Food Security

	Mean Personal Concerns
High Food Security	1.99
Marginal Food Security	2.23
Low Food Security	2.38
Very Low Food Security	2.67

Table 11
Mean Personal Concerns by Homelessness

	Mean Personal Concerns
Not Homeless within Last 12 Months	2.26
Homeless within Last 12 Months	2.48

Table 12
Mean Poor Mental Health Days by Food Security

	Mean Poor Mental Health Days
High Food Security	7.53
Marginal Food Security	9.07
Low Food Security	10.81
Very Low Food Security	14.49

Table 13
Mean Poor Mental Health Days by Homelessness

	Mean Poor Mental Health Days
Not Homeless within Last 12 Months	9.91
Homeless within Last 12 Months	12.42

Patterns of campus-based resource use

There is a gap between the number of students who were likely eligible for CalFresh based on federal income criteria combined with California student exemptions (35.9%) and those who used it at the time of the survey (4.9%) (See table 14]. Campus food pantries are another important emergency food resource for students. When combining the number of students who had used the campus food pantry at the time of data collection with those who had in the past, 3% of students had utilized this service [See Table 15]. Outreach efforts would be beneficial because so many students were unaware of the campus food pantry (85.2%).

Many students spoke to the advantage of having campus wide access to services like academic advising and student support services. Food distribution for students experiencing food insecurity was somewhat new at the time of interviews and focus groups, so many students were not aware of the available services. However, of those that did know, they discussed that it was a helpful service to utilized. Further, students discussed that faculty were, "very understanding of the plights of the college students". Students also discussed the helpfulness of programs like EOP, cultural centers, psychological services, and health services.

Table 14

Overall CalFresh Eligibility vs Use

	n	%
CalFresh Eligible	466	35.9
Not CalFresh Eligible	832	64.1
CalFresh Patterns of Use		
Never heard of it	490	40.3
Heard of it but never used it	567	46.7
Used it in the past	98	8.1
Currently use it	60	4.9

Note. In 'CalFresh Patterns of Use" students may have selected more than one item.

Table 15

Overall Percentages of Participants Using On-Campus Food Pantry

	n	%
Never heard of it/Not offered at my campus	1050	85.2
Heard of it but never used it	144	11.7
Used it in the past	24	1.9
Currently use it	14	1.1

Note. Students may have selected more than one item.