The 3rd Annual Assessment of Food Security and Basic Needs at Santa Clara University 2022-2023



The Agroecology, Climate Resilience, and Food Justice Lab

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Executive Summary

In 2019, research conducted by Hope Labs found that an estimated 29% of college students at 4-year institutions of higher education are experiencing food insecurity (Goldrick-Rab, 2020 & Nargi, 2020). Santa Clara University is no exception, as data collected in the 2020 Basic Needs Survey found that nearly 1 in 5 students were food insecure at some point while attending SCU (Gentile-Montogmery et al., 2020). The Bronco Pantry, which began in 2019, is an on-campus food pantry provided by the SCU Food Insecurity program. During the 2021-2022 academic year, the pantry served a total of 108 students (Office of Student Life, Santa Clara University, 2022). In 2023, the pantry is currently serving 200+ students, and is projected to increase in the following year (Personal Communication, 2023).

The following is a continuation of Student Food Security and Basic Needs at SCU research, an ongoing study conducted by Dr. Chris Bacon and his student research team. This study identified high levels of food insecurity on campus, and a need for improvement in the provision of resources so that SCU can successfully respond to this issue (Gentile-Montgomery et. al., 2020). The research team worked closely with the SCU Food Security program to craft the research goals and determine what avenues of research would most benefit the SCU Food Security program. The research questions were as follows: 1) What is the current extent of food insecurity among students at SCU?; 2) Do certain demographic characteristics impact levels of food sovereignty at SCU?; 3) How can SCU's on-campus food system be redesigned to increase awareness of and access to food-related resources?; 4) How does resource availability for food security at private universities in California differ from public universities?

A mixed methods approach was used because it is fitting given the nature of the food insecurity. Food security can be nuanced and complex—without investigating it from multiple angles, there is greater room for error. The research team used existing Fall 2022 survey data in tandem with student and key informant interviews. The IRB protocol for both the student and key informant interviews was approved in mid-February 2023 and interviews began shortly after. The evaluation of this quantitative and qualitative data allowed for an updated assessment on the state of food insecurity at SCU, demographic trends among insecurity, and insight into how SCU's resources compare to other universities in California. In response to these findings, we offer the following recommendations…

- 1. We recommend that SCU provides consistent and ample funding to the SCU Food Security Program, as well as improved refrigeration and storage space, so that the growing number of students involved in the SCU Food Security Program can have access to sufficient nutritious, fulfilling, and culturally relevant food.
- 2. We recommend that SCU models the structure UC Santa Cruz Basic Needs Program to develop strategies for accessing funding and developing a more holistic basic needs resources on campus.
- 3. We recommend that the SCU Food Security Program strengthens its partnership with SCU's International Students and Scholars (ISS) program to offer more support to incoming International Students to provide guidance and resources.
- 4. We recommend that Food Insecurity be a topic at SCU Freshman orientation and included in all SCU syllabi in order to work proactively to provide all students with information about how they can access food-related aid.
- 5. We recommend that SCU implements a redistribution system for students to buy, sell, or trade their meal points to promote equity between students who experience food insecurity towards the end of the quarter and students who have leftover points.

Introduction

The "Hungry College Student" is a stereotype that has existed in the dialogue around higher education for quite some time. The image of a poor college student surviving on Ramen noodles is what often comes to mind, but the problem runs much deeper than the lack of a diversified diet. What hides behind this image is the invisible epidemic of college food insecurity, which affects a student's physical health, mental health, social wellbeing, and academic performance (McCoy et. al., 2022; Broton and Goldrick-Rab, 2018; Martinez et. al., 2020; Peterson et. al., 2022). For our study, we have defined food insecurity as: "A lack of consistent access to food that is culturally appropriate, nutritious, and readily available." This definition reflects the concept of Food Sovereignty, which is defined by the US Food Sovereignty Alliance as "the right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods." In addition, racial and ethnic minorities are more likely to be impacted by food insecurity due to systemic racism and stigma (Peterson et. al., 2022). Due to the disparity in who is more likely to be impacted by food insecurity, this is also an issue of food justice. Food Justice is the right of everyone to have access to good quality nutritious foods (Horst, et. al., 2017).

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The following is a continuation of Student Food Security and Basic Needs at SCU research, an ongoing study conducted by Dr. Chris Bacon and his student research team. This study identified high levels of food insecurity on campus, and a need for improvement in the provision of resources so that SCU can successfully respond to this issue (Gentile-Montgomery et. al., 2020). We partnered with Kimberly Gilkey and the SCU Food Security Program to craft our research goals and determine what avenues of research would most benefit the SCU Food Security Program. Through initial meetings with our partner and a tour through the Bronco Pantry, we also decided to investigate the concept of cultural relevance both internally within the Bronco Pantry, and externally in surrounding food environments. This includes the food items themselves and how the pantry is organized. Another topic that emerged was investigating students' access to other resources, such as CalFresh, SNAP, and basic needs funding. We conducted research on the robust food security programs at nearby universities in Northern California, such as UC Santa Cruz. However, the SCU Food Security program is in a unique position, as it does not have access to the student basic needs funds provided by the California state government to public schools. After identifying these complexities within the issue of food security on college campuses, we decided to conduct our own research at SCU to unpack these complexities.

Research Questions

- 1. What is the current extent of food insecurity among students at SCU?
- 2. Do certain demographic characteristics impact levels of food sovereignty at SCU?
- 3. How can SCU's on-campus food system be redesigned to increase awareness of and access to food-related resources?
- 4. How does resource availability for food security at private universities in California differ from public universities?

This research aims to assess the current levels of food insecurity at SCU while analyzing the complexities of food insecurity on campus, such as demographic disparities and the specific barriers that inhibit students from accessing basic needs resources and aid. We hope to address the stigma of basic needs insecurity at private universities and identify strategies to acquire better basic needs funding at SCU. We hypothesize that 1) Students who experience a lack of culturally relevant food are more likely to be food insecure, 2) Barriers to accessing resources exacerbate existing demographic disparities, 3) Students who attend private universities in California have less access to food-related resources in comparison to their public school counterparts.

Thus, our research aims to assess the current levels of food insecurity through a food sovereignty lens, investigate demographic disparities, and highlight the complexities of student food insecurity. Through a case study on CalFresh and our investigation into the current student basic needs legislation in the state of California, our research also aims to fill the current gaps in literature on international, graduate, and private school student food insecurity. With these findings we hope to improve the food security program at SCU and create a sustainable framework for how this program will continue to grow and adapt to the needs of its growing student population.

Literature Review

Student Impacts of Food Insecurity: Physical and Mental Health

Significant associations have been identified between health and food security. The health indicators that displayed the largest disparities between food secure and food insecure students were impacts that directly impact a student's academic experience, such as declining physical health, experiencing low energy/fatigue, poor emotional wellbeing, poor social functioning, and poor general health (Benefield, 2019). In a study conducted in 2020 amongst students at a large urban university, data indicated that students experiencing food insecurity were more than twice as likely to report fair to poor health statuses. Food insecurity can also result in the consumption of less healthy food and an increased intake of sugar-sweetened beverages (SSBs), the primary contributor of added sugar in the US (Ryan et. al., 2022).

Some studies have identified a positive relationship between food insecurity and mental health. A study conducted in 2021 found that graduate students with very low food security levels reported significant levels of depression, anxiety and stress, whereas graduate students with very high food insecurity reported normal levels of depression, anxiety and stress (Coffino et. al., 2021).

Graduate school is difficult for many reasons, and one of those reasons is the culture surrounding work-life balance while in school. A study done in 2019 looked at eating habits within this balance and how it affects students. One student recounted "Do I gotta get some other income, you know those are like there's at least fifteen or twenty things on the list before you get to OK the central things, like the things that used to be essential like getting fruits and vegetables, getting exercise, getting enough sleep, things like that, like that's out the window once you start, especially a doctoral program," (Pember et. al., 2019). These students highlight the differences from their undergrad experience, they feel like: "You're starting school all over again on an up, upped level and no one talks about it, like, no one talks about how they do it, or what they do... I guess it's like this unspoken rule, we don't talk about how unhealthy we actually are," (Pember et. al., 2019). These ideas were a recurring theme throughout the study, and show how diets may be particularly impacted by the academic and financial demand of graduate school.

Student Impacts of Food Insecurity: Academic Performance

The effects of food insecurity on college students' academic performance are crucial to understand, as this speaks to the primary mission of institutions of higher learning and could compel the administration to invest more into basic needs funding. A 2020 survey conducted amongst the California public university system (n=8705) found that food insecurity has a direct correlation to average student GPA. The data collected found that 51% of food secure students had a cumulative A average, whereas only 30% of students experiencing food insecurity had a cumulative A average. Similarly, 19% of students experiencing food insecurity had a C average, but the percentage for the food secure students that had a C average was much lower, at 9% (Martinez et. al., 2020). Students who experience food insecurity are more likely to take longer or not finish their degrees at all, damaging college's reputations and statistics. This is for many reasons, as food insecurity can cause depression, anxiety, and other mental issues that can lower grades and thus college rankings (Bruening et. al., 2016).

COVID-19 pandemic

The pandemic created a global health emergency that deeply impacted the lives of college students. A study conducted at a federally designated Hispanic-serving public university during the Fall 2020 semester found an interesting link between food insecurity, COVID-19, and health. This study concludes that the healthy amount of intake of fruits and vegetables is negatively impacted by food insecurity, which can be linked to stress resulting from COVID-19. This study suggested that the stress of the pandemic resulted in loss of personal agency to eat fruits and vegetables. In other words, the stress resulting from COVID-19 not only exacerbated food insecurity, but also had a negative indirect effect on the healthy dietary practices of college students (Levy et. al., 2022).

A similar study found that COVID-19 caused an influx in food insecurity amongst college students, affecting their academic performance and hurting their overall health. Due to the disruption of workplaces and an increase in unemployment as well as housing insecurity, students had an overall harder time finding healthy meals. On the other hand, although the pandemic created barriers to food access, it had positive effects on the way that students discuss food insecurity. They became less embarrassed asking for resources from their peers and discussing communal struggles to feel secure in their food availability (Ahmed et. al., 2022). These personal struggles also brought students together as post-pandemic they began to advocate more for food support programs and focus on the wellbeing of their peers.

Disparities by Race, Ethnicity, and Academic Status

Stigma causes students to struggle to ask for help. This stigma is linked to stereotypes, expected judgment from others, internalized self-shaming, and humble attitudes such as the belief that other students need more help than themselves. Populations who often experience discrimination for their race or ethnicity, such as Black or Latinx students, may experience a stronger stigma around food insecurity. This stigma can also cause social isolation, as students who reported that they were more lonely were also more likely to be food insecure (Peterson, et. al., 2022).

Another contributor to food insecurity is the built environment. People often travel for their food, but there are limits to the distance people are willing to travel in both miles and minutes (Hamrick et. al., 2012; Jiao et. al., 2011). It is unsurprising that people in low income, low access areas spent the most time traveling to the grocery stores across access and income variances (Hamrick et. al., 2012). Additionally, as access decreased, car dependency grew (Jiao et. al., 2011). Together, these studies show that having a car has a huge influence on the amount of time spent grocery shopping. This is key to understanding food insecurity at Santa Clara University as grocery store access has been an ongoing issue amongst the student body. While there are technically grocery stores like Safeway close to campus or The Cellar, an on campus grocery store, these often are not looked at as real options to students because of the price. This pushes grocery store use farther off campus, making distance traveled a larger barrier especially for students without cars.

Vulnerable minority students are also more likely to experience food insecurity and its effects, lowering their rates of graduation and the university's diversity numbers (Bruening et. al., 2016). This study shows these obstacles among a highly diverse university population to show colleges they need to better serve their students.

Barriers to Access Food Assistance

A study conducted in 2019 at a large public university in the Southeastern US found that certain populations amongst undergraduate and graduate students are more likely to be impacted by food security. The research concluded that undergraduate international students are more likely to experience food insecurity in comparison to other undergraduate students, and graduate international students are more likely to experience marginal food insecurity in comparison to other graduate students (Soldavini et. al., 2019). A similar study was conducted at a large private university in Florida, which concluded that first generation students and graduate students were consistently the most food insecure (Lankford et. al., 2022).

Methods

We decided to use mixed methods because it is standard practice in the field, but also because it is fitting given the nature of food security. Food security can be nuanced and complex—without investigating it from multiple angles, there is greater room for error. Coming into this project, Dr. Bacon's lab had existing survey data from the Fall of 2022. We decided that we would use this survey data in tandem with student and key informant interviews for our mixed methods approach. The interviews helped guide the survey analysis by highlighting areas of particular concern, such as cultural relevancy and the meal points system. By gaining insight into issues that students and stakeholders cared the most about, we were able to prioritize the different parts of the survey that investigated these topics. In addition, they provided an explanation for some of our results by making our takeaways much more robust ("Why Mixed Methods?," Johns Hopkins University). Mixed methods showed us more than just the rate of food insecurity at SCU, but also how different systems on-campus are contributing to the issue. Our IRB protocol for both the student and key informant interviews was approved in mid-February and interviews began shortly after. The student interview questions were the same as a previously approved IRB protocol from Fall 2022 in Dr. Bacon's lab. Our evaluation of this quantitative and qualitative data gave us insight into the state of food security at SCU, demographic trends among food insecurity, and insight into how SCU's resources compare to other universities in California. In Figure 1, the process our team followed is shown. Below are more details regarding data collection and analysis.

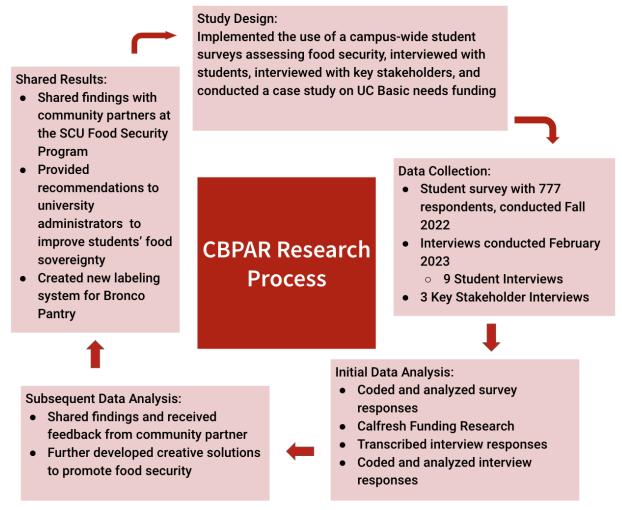


Figure 1. Community Based Participatory Action Research (CBPAR) Process. This flow chart shorts how CBPAR worked in the case of our project. At the beginning of the quarter, we had incoming data from the Agroecology, Climate Resiliency, and Food Justice Lab at SCU which helped push us into study design fairly quickly. At the conclusion of the project, we have completed all of the steps and are back to sharing our results.

Interviews

We conducted several interviews to get more personal perspectives from SCU students. The purpose of these interviews was to gain a better understanding of how food systems operations on and off campus affected students. Our aim was to understand how students interact with on-campus resources, and where SCU is falling short in providing these resources. We used these interviews to understand what their food preferences are, different feelings about their food access on campus, and if resources feel accessible to them. We also hoped to find out what kinds of culturally relevant foods they currently don't have access to at Santa Clara. These findings will allow the Bronco Pantry to provide more culturally relevant foods and better serve its students.

We also attempted to investigate the current basic needs funding provided by the state of California's government and how private schools can advocate for more support via stakeholder

interviews. We plan on using these findings to provide a recent comprehensive analysis of the current state of food insecurity at SCU.

We used audio and video taping for one-on-one interviews. The recordings were transcribed for quotes and used for general analysis. The participants in the student study were undergraduate and graduate students at Santa Clara University, most 18-28 years old. They are of mixed race and ethnicity, including two international students. Subjects were selected from our lab's Fall 2022 survey. Participants in this study identified themselves as 1) an SCU undergraduate or graduate student, and 2) willing to participate in an interview. Each member of our team randomly selected 8-10 names from this pool of students and reached out to them by email. This email included the Cover Letter, detailing the background of the study, and how the interviews were to be conducted. When the student responded that they were willing to participate, then the relevant capstone team member answered any questions they might have and scheduled an interview on Zoom at the next convenience. We then informed subjects with an Interview Consent Form, which explained the reason for our study and who was involved in reviewing interviews and survey responses. This study includes interviews conducted from Fall of 2022 through Spring of 2023. These interviews were all coded by a team and with the guidance of Dr. Bacon in the Spring and Summer of 2023. The interviewees chosen in regard to the case study on California state funding for food insecurity were selected based on their role as key informants within the local food network, either working with Calfresh through a Non-profit or within the organization directly.

After the interviews were transcribed, we made a preliminary code sheet with key quotes from each interviewe. The sheet showed the quotes, who conducted the interview, and the preliminary code. Common codes were then taken into consideration and we came upon a consensus for final codes. Codes are short phrases that describe an important quote that was pulled from an interview. Using codes helps us sort out the common themes among the interviews. After all of the interviews were updated with the final codes, we started analysis looking at the most and least common codes, and how that might be different from what we originally anticipated.

Survey

In Fall 2022, our research team conducted a general student food insecurity survey. We took on the task of coding and sorting through the data in order to get more general initial information about food insecurity at SCU. Survey questions included demographic information, general financial status information, USDA food security questions, USDA housing security questions, questions about how SCU can better support them, and a series of statements asking students about dietary preferences. Food security and housing security questions were scored based on a protocol written by one of our previous team members, Kylie Griggs. Her protocol followed the USDA Food Security Module scoring as interpreted by the Hope Labs, giving more or fewer points to each question depending on how the student answered it (Goldrick-Rab, 2019; USDA, 2012). For example, if you answered "Often true" to the statement, "In the last 30 days, I worried whether my food would run out before I got money to buy more", you would receive a point. However, if you answered "Never true" to the same statement, you would get 0 points. For housing security, the concept is the same.

We also offered an additional demographic survey at the end of each student interview to try and be as complete as possible within our data collection. Our aim was to not misrepresent the students being interviewed.

Because we started the quarter with the raw survey data from Fall of 2022, data analysis started fairly quickly in the quarter. The first task was to create a codebook based on the questions being asked. A question such as "What resources would you utilize if offered at SCU? (Please check all that apply) - Free or reduced price Benson hour" would be coded as "resources scu Benson". This helped streamline data analysis because column headings are short names rather than questions. The data analysis for this capstone project remained in Google Sheets. After the codebook was developed, each question was combed through, counting totals of individual responses to longer questions, comparing it with the total number of responses for the whole question, and other basic analyses to get a sense of how students answered. Additionally, the food security questions that were pulled from the USDA Food Security Module were scored as described above. Finally, figures were made in Google Sheets based on the preliminary analyses. Some questions were combined in figures in order to analyze two questions at once, such as food security level and access to culturally relevant foods at SCU. Figures like this were used by incorporating a pivot table, a built-in feature Google Sheets provides. Using the filter feature, the same analysis was done for international students so that they could be compared to the survey population as a whole.

Results

2022 Student Food Security Survey

We have seen food insecurity at Santa Clara rise over the past few years. In 2020, about 19% of students were food insecure. In 2021, about 21% were food insecure—only a slight increase. In Figure 2, we see that 35.24% of 2022 respondents were scored as food insecure by the USDA food security questions. This is about 1.5x higher than student food insecurity in the previous two years. However, this is not surprising given the recent rise in users of Bronco Pantry.

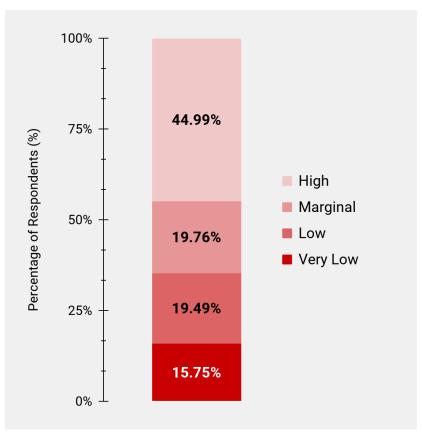


Figure 2. Food security among students at SCU, both graduate and undergraduate (n=749). Source: Fall 2022 student food security survey. Food security scores were calculated using the number of affirmative answers provided by the respondents to 10 questions regarding food in the past 30 days. Each score corresponds to a food security level, with low and very low levels indicating food insecurity. Source: Student Food Security Survey, Santa Clara University, 2022.

In Figure 3, we see that pantry usage has been on the rise since its start in 2018. In the past year, the amount of users has about doubled. We obtained the usage data from Kim Gilkey at the beginning of Winter Quarter 2023. In our initial meeting, we talked a lot about the increase in students who are using the pantry as seen in Figure 3. A system that might have been substantial for 40 students may not remain effective for upwards of 200 students. Understanding pantry use over time helped support our investigation into what resources the pantry needs to better serve students.

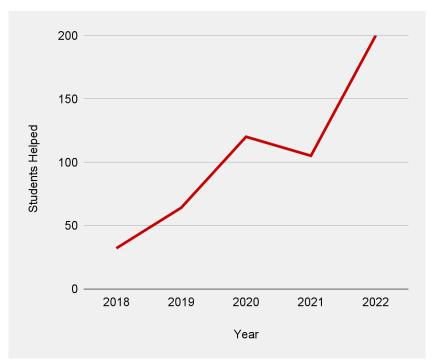


Figure 3. SCU Bronco Pantry Use Over Time. Pantry use had been increasing since before the COVID-19 pandemic that began in 2020, and use has continued to trend upward since then. Now, pantry use is at an all-time high and is expected to continue to increase. Source: Kim Gilkey.

During initial conversations with Kim Gilkey, we discussed general trends in which populations of students are using the pantry. She informed us that she was seeing an increase in international graduate student use. This motivated the 2022 Student Food Security Survey and interviews to look more into international graduate students and their relationship with food security. As seen in our literature review, there are few studies done on this group. In Figure 4, we pulled the self-identified international students out of the general population and found that their food insecurity was significantly higher. Food insecurity among international students is almost double that of the general population at about 61%.

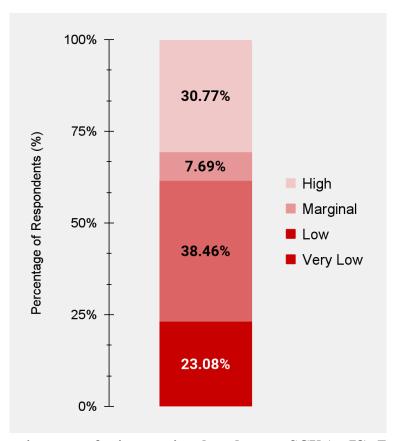


Figure 4. Food security scores for international students at SCU (n=78). Food security scores were calculated using the number of affirmative answers provided by the respondents to ten questions regarding food in the past 30 days. Each score corresponds to a food security level, with low and very low levels indicating food insecurity. Of the 78 students, 25 identified with another ethnicity in addition to selecting "International Student on a U.S. Visa". 12 said "Other Asian or Asian American," 10 said "Southeast Asian," two said "Caucasian or White," and one student said "Hispanic or Latinx/Latina/Latino or Chicanx/Chicana/Chicano". Source: Student Food Security Survey, Santa Clara University, 2022.

It was interesting to see just how much higher food insecurity was amongst international students, so we broke the general population down by race and ethnicity to see if there were any other trends. Figure 5 shows this breakdown. Here we see that international students still have the highest rates of food insecurity, with Middle Eastern and North African students having the second highest at 58%, and Hispanic, Latinx, or Chicanx having the third highest at 47%.

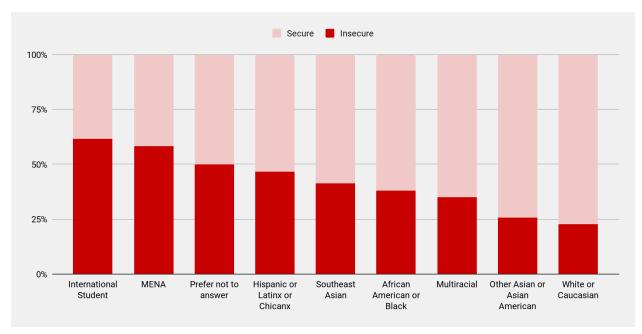


Figure 5. Food security level by race and ethnicity (ntotal=747). Food insecurity was scored the same way as in Figures 4 and 5. Security was put up against race and ethnicity, showing the disparities between them. Native American or Alaska Native, Indigenous, and those who answered Other were left out of this graphic due to low response counts (two students each). The international student section has 78 students, 25 of which identified with another ethnicity (12 said "Other Asian or Asian American," 10 said "Southeast Asian," 2 said "white or Caucasian," and 1 student said "Hispanic or Latinx/Latina/Latino or Chicanx/Chicana/Chicano"). Source: Student Food Security Survey, Santa Clara University, 2022.

The largest demographic groups represented in Figure 5 in order are White or Caucasian students, Hispanic or Latinx or Chicanx, Multiracial, Other Asian or Asian American, and International students. This is interesting because with higher n-values we can become more confident in the statistics, meaning that we can be confident that international students are experiencing food insecurity at a much higher rate than other student groups.

As a final analysis, we looked at food security vs. housing security to see if there is a correlation between the two shown in Figure 6. While international students are far more food insecure, they are about as secure in their housing compared to all students. This shows that housing is not an indicator of food security in this situation.

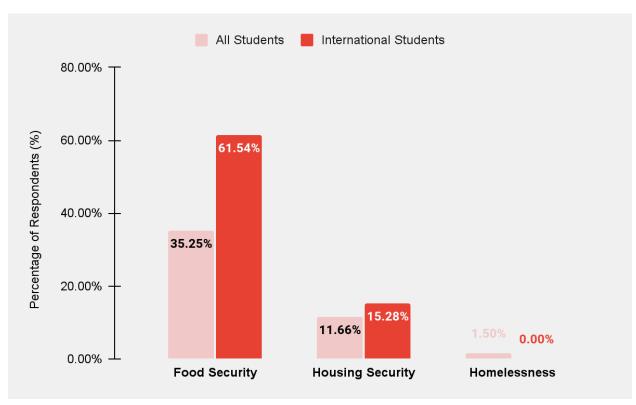


Figure 6. Food and housing insecurity levels across SCU students (n_{food}=749; n_{housing}=669; n_{homelessness}=668) and housing insecurity levels across SCU international students (n_{food}=78; n_{housing}=72; n_{homelessness}=72). Food and housing security scores were calculated using the number of affirmative answers provided by the respondents to ten questions regarding food and housing status in the past 30 days. Each score corresponds to a housing security level, with a higher percentage indicating the level of housing and food insecurity. Homelessness data was collected by asking students if they had experienced it in the last 12 months. Source: Student Food Security Survey, Santa Clara University, 2022.

Food Sovereignty for SCU Students

As a reminder, for our study, we included the idea of food sovereignty in our definition of food insecurity. Those who have "a lack of consistent access to food that is culturally appropriate" are food insecure by our definition. Figure 7 demonstrates the relationship between cultural relevancy and food security. Those who had very low food security disagreed with the statement of cultural relevance most often. Therefore, a food-insecure student is less likely to have access to culturally relevant food.

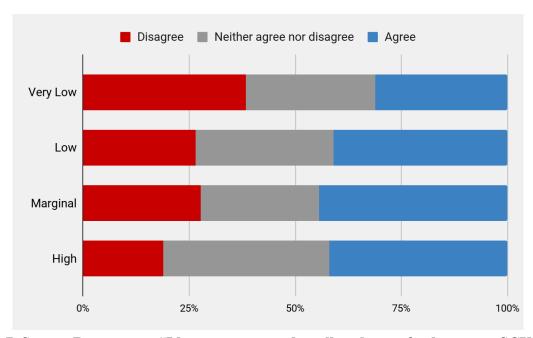


Figure 7. Survey Response to "I have access to culturally relevant food to me at SCU." vs. USDA Food Security Score (n=677). This figure shows the relationship between a student's lack of access to culturally relevant food and their food security status. The more food insecure a student is, the less they agree that they have access to culturally relevant food. Source: Student Food Security Survey, Santa Clara University, 2022.

We can take Figure 7 a step further and look at cultural relevance vs. race and ethnicity to see if it is consistent with the idea that international students are more food insecure. Figure 7 demonstrates this idea by showing that MENA students, Southeast Asian students, and African American or Black students disagree with this statement most often. This could indicate that a lack of culturally relevant food is related to food insecurity due to a lack of access.

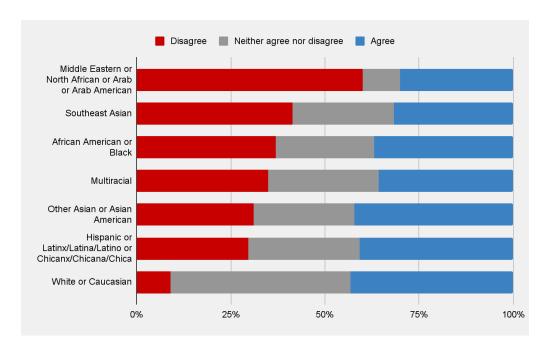


Figure 8. Survey Response to "I have access to culturally relevant foods to me at SCU." vs. Race and Ethnicity. (n=659). Some racial and ethnic groups, such as American Indian / Alaskan Native, Indigenous, Other, and "Prefer not to say" were excluded from this graph due to the small sample size. Varying levels of agreement and disagreement were combined to simplify. This figure communicates that certain racial/ethnic groups, such as MENA, Southeast Asian, and African American or Black students do not experience the same level of access to culturally relevant food as their White or Caucasian classmates. Source: Student Food Security Survey, Santa Clara University, 2022.

Another indicator that is important to assess in this context is the importance of a vegetarian or a plant-based diet. Vegetarianism can be found all over the world, but it is of particular importance to certain cultural groups. For example, when broken down by country, some of the highest rates of vegetarianism are found in India, Israel, and Taiwan (Sawe, 2019). Shown in Figure 9, we look at the importance of a veg diet vs. food insecurity. Here, the most food-insecure students rated having a plant-based diet as important. Similarly in Figure 10, we see the races and ethnicities that more greatly prefer a plant-based diet are almost identical to those who experience food insecurity at higher rates. Combined, these two figures show us that access to the types of food students *want* to eat is key to their food security. In the interview section below this idea is expanded upon with quotes from current students.

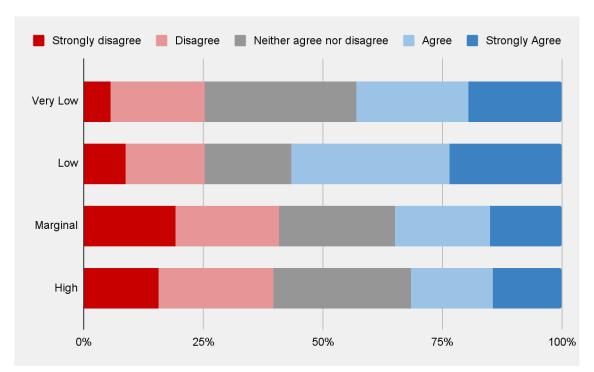


Figure 9. Survey Response to "It is important to me that my food is vegetarian or plant-based." vs. USDA Food Security Score. (n=660). This figure indicates that there could be a correlation between food insecurity and plant-based or vegetarian diets. Survey respondents who expressed that they prioritize eating vegetarian or plant-based were more likely to be food insecure. Source: Student Food Security Survey, Santa Clara University, 2022.

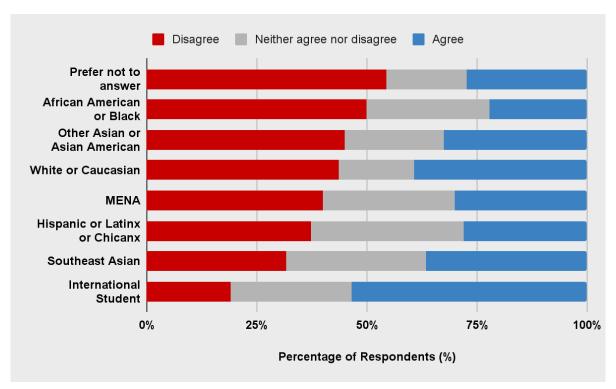


Figure 10. "It is important to me that my food is vegetarian or plant-based" vs. Race and Ethnicity (n =675). This figure goes along with the previous one showing that the importance of a plant-based diet seems to be related to race and ethnicity. Some racial and ethnic groups, such as American Indian / Alaskan Native, Indigenous, and Other were excluded from this graph due to the small sample size. Varying levels of agreement and disagreement were combined to simplify. Source: Student Food Security Survey, Santa Clara University, 2022.

Student Assistance

Another key part of the 2022 student survey was looking into how students used their resources around campus. Figure 11 shows students who self-identified as insecure and the type of assistance they received. All international students who identified as food insecure used the Bronco Pantry and only the Bronco Pantry. This shows that this group of students is heavily dependent on SCU-related assistance. This could be because information about other resources is not as readily available or advertised, or because international students on a U.S. visa do not qualify for state assistance like CalFresh.

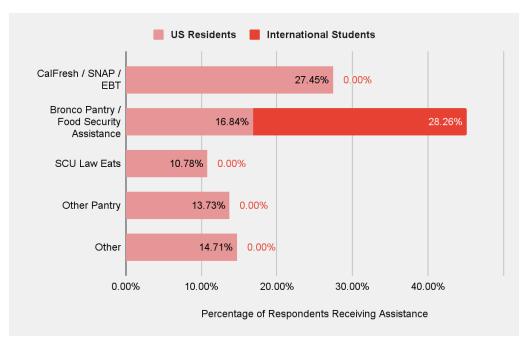


Figure 11. Food insecurity assistance by student type (n=102). This figure shows that International students rely solely on the pantry to relieve their food insecurity, as they do not have access to many other options. Source: Student Food Security Survey, Santa Clara University, 2022.

Similar to Figure 11, Figure 12 breaks down what other resources international students were aware of. Most respondents were aware of the Bronco Pantry, but knowledge about other resources was dramatically lower. The lack of knowledge or access to these other resources could be a large contributing factor to international students' food security.

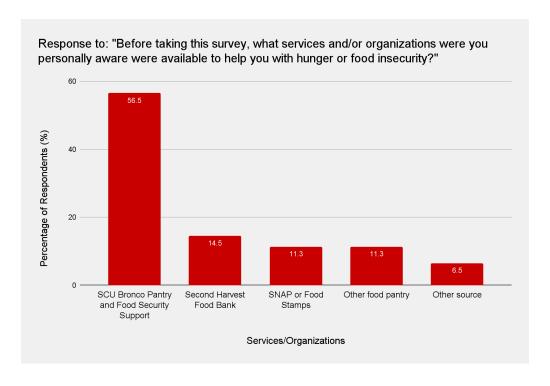


Figure 12. International student's response to knowledge of resources (n=62). This figure displays which food insecurity resources international students were aware of, both on and off campus resources included. Source: Student Food Security Survey, Santa Clara University, 2022.

Because we identified that international students' knowledge of food security resources is not as expansive as other students around campus, we looked at what kind of information would be helpful and how they would like to receive it. Figure 13 shows what kind of information students are looking for. Overall, international students still had the most interest in the Bronco Pantry, but free or reduced-price Benson hour was a close second. Free or reduced-price Benson hour was also popular among all students. This is probably due to the high prices at Benson, and the way that the meal point system works. In the student interviews below, we chat more about this issue. SNAP application assistance and Forge Nourish Nights had the lowest interest. SNAP application assistance scored lower most likely due to the stigma associated with using SNAP. and also due to hesitancy that students would qualify. Forge Nourish Nights scored lower, most likely due to a lack of knowledge surrounding the Forge Garden, or the inability to attend these events due to class conflicts. Regardless, it is clear that students want more information about these resources, so how should it be disseminated? Overall, both the general population and international students wanted more emails with information about these resources as seen in Figure 14. Social media was a close second, showing that digital communication was popular among students.

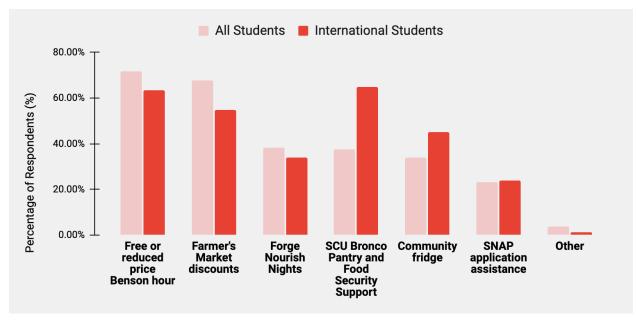


Figure 13. Resources that students would find helpful (n_{all students} = 626; n_{international} = 78). Students were asked, "What resources would you utilize if offered at SCU?". Students could select more than one response, and the responses varied between the two groupings. International students want more support from the pantry as well as more support from Benson, while all respondents want help from Benson and Farmer's market discounts. Source: Student Food Security Survey, Santa Clara University, 2022.

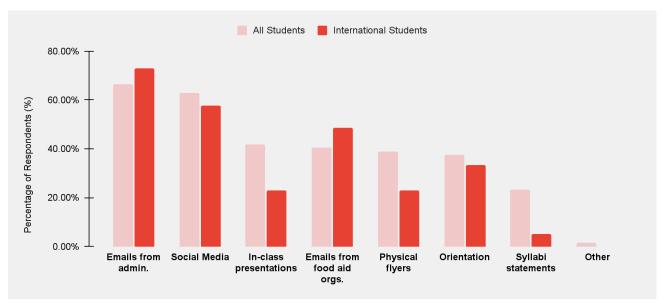


Figure 14. How students want more information dispersed ($n_{all\ students} = 706$; $n_{international} = 78$). Students were asked, "What is the best way to increase student awareness about food security support at SCU?". They then selected what they thought were the three best options. Among both populations of students, emails from the administration and social media were the top two. It is also notable that international students would also like emails from food aid organizations. Source: Student Food Security Survey, Santa Clara University, 2022.

Qualitative Findings - Interviews

For the 2022-23 report, the research team developed targeted interview questions intended to further understand the direct experiences of SCU students regarding food security. Our trained student researchers, including Paola Felix and Madeline Pugh, conducted interviews through Zoom. To ensure confidentiality, the research team omitted all personal and identifying information pertaining to respondents. Furthermore, the interviewers obtained permission to quote participants and include demographic information to support the reliability of the research. After the research team transcribed and anonymized the interview recordings, they utilized Taguette software, a coding platform for in-depth data analysis of common themes and collective concerns of the respondents. Through an interactive procedure of reading the interviews, reviewing the scientific literature and PST reports, and developing the coding sheet across the time, we developed a clearer understanding of the respondents' perspectives. To narrow our focus, we created a total of 47 codes ranging in topics that appeared frequently throughout the data. With 699 total coded segments across all interviews (which can be accessed as an appendix on page 44), we further considered the individual accounts and personal experiences of SCU students.

In regards to the outreach process, the research team emailed students in the SCU community to gauge their interest in participating in the interviews to discuss their experiences with food security. With a total of fifteen interviews, the data collected represented a variety of

students who shared their personal accounts. Two respondents did not disclose their demographic information, yet we gathered that the respondents who did share such identification are about 53 percent female and 33 percent male. About 29 percent of the respondents identified as Asian and Pacific Islander, 24 percent Caucasian/White, 19 percent Hispanic/Latinx, and 5 percent Dominican American. The interviews on average lasted 17 minutes and included questions such as— "In what ways do you feel you have power, control or comfort around food on campus? Have you experienced food insecurity while attending SCU? How has Covid impacted you, your community, or even your family's ability to eat healthy and nutritious meals?". The entire series of questions can be found as an appendix to this document.

Table 1: Reported Demographic Information from Student Interview

	Student Interviews	% of total
Race/Ethnicity		
African American/Black	3	14.28%
Asian and Pacific Islander	6	28.57%
Hispanic/Latinx	4	19.05%
Caucasian/White	5	23.81%
Dominican American	1	4.76%
Declined to state	2	9.52%
Total*	21	100%
Gender Identity		
Female	8	53.33%
Male	5	33.33%
Non-Binary	0	0%
Declined to state	2	13.33%
Total	15	100%

Source: Self-identified race/ethnicity and sex/gender in the interview accounts. *students could select more than one race/ethnicity.

Overall, the research findings from these interviews revealed the SCU students' relationship with food on campus . The tables below highlight the main topics mentioned or most frequently appearing codes during interviews and include exemplary quotes from students' accounts. There was significant agreement across many students regarding important themes and experiences. Food costs and cultural relevance were often mentioned throughout the course of interviews. The cost of food often hinders a students' ability to eat healthy, as multiple interviewees addressed how they are presented with the decision to either eat one expensive meal

a day or two cheaper, less sustainable options. With hopes of improved representation, many students long to see their own cultures in the dining hall at SCU. Multiple student accounts raised concerns regarding the lack of diversity among the food options at Benson. Overall, one can recognize that student success is directly correlated to how accessible, culturally relevant, healthy and affordable food is to that student.

Figure 16 highlights the ten most frequently mentioned codes across all 699 codes. Benson food is the most frequent code, as this topic remains of central focus during interview discussions. Going off of that, food costs and points system find themselves as the next top codes. Many students address how the cost of food affects their daily lifestyles. Furthermore, the interviews include many comments, ideas and suggestions from students regarding the point system. Students also frequently spoke about the resources they have access to on/off campus and how spaces such as the Bronco Pantry and Forge Garden serve the SCU community. Student accounts also reveal a high demand for inclusion of culturally diverse food at Benson, as not all individuals see their own cultures represented in the current dining selection. The social aspect of food security appeared often, as well as conversations surrounding one's health and nutrition. Both of these codes concern the well being of an individual, and one's social identity and overall state of health influence their lived experience and success. Self-sufficiency appeared 25 times throughout student interviews, as students reflected upon their independence and various approaches to personal health and food access. Many of these topics intersect one another, yet acknowledging the frequency of each code allows for clarity regarding each individual case and how such student accounts interact with each other.

10 Most Frequently Mentioned Codes (n=699)

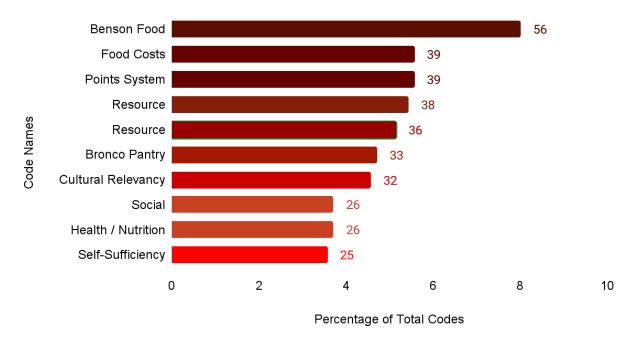


Figure 16: Ten Most Frequently Mentioned Codes in the Interview Transcripts Source: Own analysis of interview transcripts

Food Security and Food Access

Food security and food access issues were also frequently cited codes. Students identified numerous barriers to food security, including financial, dietary and even physical restrictions like distance and time. A few students reflected on the struggles that come with not being able to drive to a grocery store or even afford the cost of food while paying rent off campus. For instance, one interviewee stated the difficulties with obtaining EBT in the state of California and further shared, "In fall quarter, when I really didn't know what was going on with my food situation, where I just slept all day. Bro, when you don't have energy to stay awake, you just sleep. And that's one of the triggers to know I'm falling into depression... All that's left to do is starve or go to a friend's house and eat their food or have someone try to get me Benson food. But at that point bro, I just stay asleep." (Student Interview, 3/01/2022) Evidently, food security affects various facets of an individual's daily experiences.

Multiple student interviews include students expressing that although they personally do not experience food insecurity, they know other students and friends at SCU who do undergo such experiences. One student reported, "Maybe some people don't want to be labeled as food insecure because of potential bias. Or also... maybe they don't feel like they have it as bad as other people." (Student Interview, 2/20/2023) Such reflective thoughts reveal the likelihood that there are individuals who are experiencing food insecurity at SCU but not vocalizing such concerns. There is certainly a stigma attached to food insecurity, hence it is important to consider how best to support all individuals who face such hardships. An individual from the law school shared, "I think there is definitely a stigma because a lot of us are older," as they addressed the assumption that students in higher education are expected to be independent and put together (Student Interview, 5/16/2023). Furthermore, many students indicated how food expenses at SCU cause concerns regarding food insecurity. "There are a lot of students who run out of their points by the end of the quarter, and they're relying on other people for food, and I know a lot of off campus students where it's tricky for them, if they don't have a car to go to the grocery store." (Student Interview, 5/12/2023) Yet again, this excerpt from a student interview highlights the economic barriers to stable food access.

Food access encompasses the factors that influence an individual's ability to obtain food and rely on such stable resources for nutrition and overall health. Intersectionality, a term used rather often in SCU's academic environment, finds itself at the forefront of food access. "I think it has to do with, again, like their race, ethnicity, families' socioeconomic status, because they have to compensate for themselves instead of relying on their parents." (Student Interview, 2/21/2022) There are numerous ways that food access can be both supported and hindered within one's life. Whether this be a concern of transportation or simply the cost itself, access to find relies on consistency. If one cannot depend on a reliable source of food to monitor their health and lifestyle, the effects are detrimental.

Table 1 - Benson Food and Challenges Accessing it through the Campus Food System

			Francisco Contac
Code	Description of Code	Freque ncy	Exemplary Quotes
Food Security Definition	Interviewee provides insight on what food security means to them	12	"I think the state of not being able to be sure that you will be able to feed yourself for the day, the week, anytime in the coming future. And it's [food security] knowing that you either will have access to/the money for food that you need to have, like your full nutritional needs met." (Student interview, 5/12/2023) "I think for me, food security would be defined as not having to worry about where my next meal is coming from or when I'd be getting that next
			meal; whether that be in terms of like, I know there's a grocery store like right across the street or not having to worry about if I have enough money in my bank account to buy groceries or to buy a meal at Benson on that particular day." (Student interview, 5/12/2023)
Increasing Food Access	Interviewee provides insight on possible solutions and ways to improve food access	20	"I think simpler is better most of the time to address food insecurity. So there could be a lot of high volume, cheap meals available to people, and it would be maybe easier for students to access a meal plan." (Student interview, 5/12/2023) "I wish that they would take more suggestions from like students of what we want to see, what we want to eat, because I feel like we don't see
			a lot of our input being taken, or even ways to get our input taken from Bon Appetit." (Student interview, 5/12/2023) "I think social media is probably a big thing like the Santa Clara Instagram, and I believe that's like the only major social media we have." (Student interview, 5/12/2023)

Source: Student Interview conducted Spring 2022 to Spring 2023

Student Life and Benson Food Experiences

The theme of student life revolving around the Benson Food System was the theme of the most mentioned codes across all the interviews. Based on these numbers, we can see that this food system is a heavy influencer in the quality of life of the students interviewed. As depicted in Table 1, "Benson Food" was the most common code among the student interviewees. Students commented on the inefficiency of the point system used in Benson, how it does not work for most students, and how it inhibits students from eating what they want. In one interview, the student commented on how a lot of her friends and classmates either have an absurd surplus of points at the end of the quarter, or they run out of points weeks before the quarter is over (Student Interview, 2/20/2023). This was a common occurrence among interviewees. Another interviewee commented on how hard it was to make diverse food choices with limited points.

The third most common code, "Food Costs" goes right along with the idea of the limits of eating at Benson. Students talked about cultural relevance, access to healthy foods, and the internal struggle between needing less expensive food and paying Benson workers appropriately for their time. Along with price, a common solution students brought up in order to solve some of these issues was more student input. Our interviewees felt as if they had a lack of choice in their diet. When commenting on choice, one student said the "...different cultural foods that we have in Benson is not a wide array... it doesn't fulfill the needs of every single student on campus and I get that it's difficult but I feel like there's more they can do." These kinds of feelings from students support the data found in Figures 7-10 regarding food sovereignty.

The relationships students have with food are heavy determinants of their academic performance as well as their satisfaction with their college experiences, and the SCU Food System with Benson at its core seems to be a significant strain for these students to make the best of their time at SCU. One student mentioned that Benson Food "kind of affects overall my well being because if I'm not feeling well, based on what I'm eating, then I'm not going to perform well or like do well." (Student Interview, 2/20/23). This is the situation that up to a third of SCU students find themselves in, trying to find a way to maintain a balanced diet while doing their best to perform academically. Another student talked about the struggle of having "different food groups, but it's hard when I only have a certain amount of points. I'm just gonna get the one meal. That might just be like a burger and fries when I'd rather have like a side salad. But then I don't wanna buy a whole salad." (Student Interview, 2/20/2023). Student's quality of life and academic performance is directly impacted by their ability to consume healthy, affordable, culturally relevant food, and students make a point to show how the campus food system with Benson at its core is more of an obstacle to that goal than an ally.

Table 2 - Benson food, meal points systems, and cultural relevance

Code	Description of Code	Frequency	Exemplary Quotes
Benson Food	Interviewee provides insights on food available at the dining hall	56	"I don't see my culture reflected in the SCU Benson cafeteria everything here is very American." (Student interview, 3/01/2022) "I like to have different food groups, but it's hard when I only have a certain amount of points. I'm just gonna get the one meal. That might just be like a burger and fries when I'd rather have like a side salad. But then I don't wanna buy a whole salad." (Student interview, 2/20/2023) "I think that it [Benson food] kind of affects overall my well being because if I'm not feeling well, based on what I'm eating, then I'm not going to perform well or like do well." (Student interview, 2/20/23)
Points system	Interviewee provides insight on the effectiveness and overall system of meal points at Benson	39	"I'm kind of in a tough spot because I do believe the price of food ultimately has to pay the people who work in Benson but I think they can certainly lower prices because it will accumulate, you're probably spending \$50 a day for breakfast, lunch, and dinner" (Student interview, 2/25/2022) "It's either you're spending the points out so quick or you are left with like a thousand points at the end of the year." (Student interview, 2/20/2023). "I think if there's leftover points, there should be a way to redistribute those points to people who aren't using them, and then the people who need some." (Student Interview 2/20/23)

Source: Student Interview conducted Spring 2022 to Spring 2023

Culturally Relevant Food and Quality Gaps

The quality and variety of food available through the SCU Food System is a subject frequently mentioned by student interviewees. Cultural relevancy is the 7th most commonly mentioned code across all interviews, and many of the quotes here mention its deep relation to nutrition and wellbeing. One student talks about how after arriving at SCU, "Mostly what ends up happening is that compared to at home versus here, I do a lot more cooking and making sure that everything that I'm eating isn't going to make me sick" (Student Interview, 5/12/23). The story of a student switching from home cooked family meals to Benson food finds the nutritional quality is significantly decreased. Many times this leads to cooking being the only way they can consume healthy food, as mentioned by another student who noticed their "Food choices relate to my palate. I'm used to Indian food, so I can't always have Western food." (Student Interview, 5/16/23). This further challenges students whose main focus should be enjoying their college experience as best they can, not trying to prevent themselves from getting sick from the University provided food. In addition, this puts more financial strain on vulnerable students so they can eat things that give them the energy to succeed in their studies.

Quality specifically related to nutrition and flavor, is also significant obstacles that students mention. Many students try to get around this by cooking themselves, but between all of their academic and extracurricular responsibilities this can be a challenge. One student who made a specific effort to cook noticed how after they "cook, I'm not even hungry anymore. I don't want to eat my food anymore. And it's stuff like that. Because mentally, bro I'm exhausted of caring for myself continually only by myself. And it's exhausting mentally and if they're gonna ignore and try to say that food is not part of it, then you clearly don't understand the intersectionality and all the different intricacies that mental health has on every aspect of an individual's life. It will be very inhumane if you don't consider food security as a problem of mental health and as a public health issue" (Student Interview, 3/01/2022). This sentiment is one that is shared by most students, as time and energy management are skills that tend to become crucial to success for college students.

Students at SCU are successful in spite of their food system, not because of it. Our interviews clearly show how students struggle to eat healthy, flavorful, culturally relevant food using the campus food system. Many student interviewees from historically marginalized backgrounds mention Benson needs to "have more flavorful options because that's like a big thing. At least my friend group is all like minorities, so we come from very flavorful backgrounds, so it's just too plain. And I understand that the more plain the more simple is easier, but it pushes people away." (Student Interview, 2/21/2023) Saying that this system impacts their academic performance would be a vast understatement of the impacts it actually has on them, as many of these quotes report mental health impacts and much more serious effects on the students. Without offering nutritious, culturally relevant options to students, they will continue to suffer the impacts reported by these interviewees.

Table 3 - Relevant Quotes that mention Food Quality and Cultural Relevancy

			d Quality and Cultural Relevancy
Code	Description of Code	Frequency	Exemplary Quotes
Cultural Relevance	Interviewee provides insights on culturally relevant food.	32	"I have a roommate who is a Japanese exchange student. She said she sees a lot more Korean or Chinese food emphasized at Pacific Rim, which is not really Japanese cuisine. One night they did do ramen, which she thought was kind of cool but it was not really tasting that good. Even when they do be on theme, they don't be having good quality." (Student Interview, 3/01/2022) "Not really as much as my identity, it's just that my food choices relate to my palate. I'm used to Indian food, so I can't always have a Western food." (Student interview, 5/16/23). "I think they also need to have more flavorful options because that's like a big thing. At least my friend group is all like minorities, so we come from very flavorful backgrounds, so it's just too plain. And I understand that the more plain the more simple is easier, but it pushes people away." (Student Interview, 2/21/2023)
Health / Nutrition	Interviewee provides insights into the role that health and nutrition play with their food choices and access	26	"I'm kind of picky in the sense that, like my stomach is very sensitive to a lot of foods. So I guess I lack power in the sense that I can't really choose what to eat or like, feed myself in the best way possible." (Student Interview, 2/21/2022) "After I cook, I'm not even hungry anymore. I don't want to eat my food anymore. And it's stuff like that. Because mentally, bro I'm exhausted of caring for myself continually only by myself. And it's exhausting mentally and if they're gonna ignore and try to say that food is not part of it, then you clearly don't understand the intersectionality and all the different intricacies that mental health has on every aspect of an individual's life. It will be very inhumane if you don't consider food security as a problem of mental health and as a public health issue." (Student Interview, 3/01/2022) "Mostly what ends up happening is that compared to at home versus here, I do a lot more cooking and making sure that everything that I'm eating Isn't going to make me sick." (Student Interview, 5/12/23)

Source: Student Interview conducted Spring 2022 to Spring 2023

Support Services and Solutions and Food Sovereignty

Food is often considered a source of community and celebration, as many people gather with food to embrace togetherness and share a collective meal. "I feel like people bond over that and it can give them a sense of community and I guess, in that sense, it'll improve students' mental health by giving them food and it's almost like relating over food". Benson's placement in the center of campus allows SCU students to feel an immediate sense of belonging in this space. With both indoor and outdoor seating to create opportunities for connection, many students share meals in these accessible dining areas. That being said, students who are food insecure may find themselves on the outside of such experiences longing for the ability to partake in such social encounters surrounding food. Some students expressed hopes for a better educational program to explain the application processes for CalFresh or other food stamps systems. Marketing and advertising for the food pantry is also a simple solution to support individuals who feel lost in regards to food accessibility at SCU. Many students also brought up the importance of visibility and effective communication. Food is not often addressed, yet college students should be supporting one another and feel comfortable in their community to express any concerns regarding their physical and mental health. Nourish Nights at the Forge Garden are extremely popular and an effective resource for those looking for a consistent healthy meal once a week with a strong student presence. SCU also provides resources through its food pantry, but again the awareness and advertising of this valuable asset to campus demands improvement.

The interviews shed light on the hope for the benefits of increased awareness and assistance surrounding food sovereignty. One student who was seeking support shared how they had never heard of the food security program at SCU until connecting with a senior student who encouraged them to sign up and join. These conversations should be comfortable for all students and the opportunity to provide information to the community will aid such instances. Another student proposed that SCU consider implementing some form of food stamps for students to apply for if seeking support. Also, an interviewee vocalized the possibility of educational resources to teach students about the application processes for EBT, CalFresh, and other support systems. Such ideas reveal the importance of food justice and how students at SCU are hoping for more opportunities to learn about and access sustainable food.

Table 4 - Support Resources, Bronco Pantry, Stigma and Communication

			y, Stigma and Communication
Code	Description of Code	Frequency	Exemplary Quotes
Resource Availability	Interviewee mentions their experience with the availability of food-related resources on or off campus	35	"I came across the food insecurity and sustainability program and how they were helping student here so I look at the pyramid and I figured that I do belong in one part of the pyramid so I thought, okay, let me ask for help if help is being provided." (Student Interview, 2/21/23) "So I am sure that the students do go through the email and, um, look at the instructions for activating their ID cards for the pantry access, but they don't go beyond that with other resources." (Student Interview, 2/21/23) "So our seniors will tell, uh, others that there is this food and security program you can apply to and get help with the food pantry from the food pantry." (Student Interview, 5/16/23) "We wouldn't have like a pantry if it wasn't like an issue you know what I mean, like students really trying to help like other students." (Student Interview, 2/25/2022)
Stigma	Interviewee discusses the possible stigmas surrounding food insecurity	23	"I feel like it's not really talked about, like how I mentioned, I didn't even know what the word meant. Like I knew the concept like behind it, but not like the word. I feel like it should be more discussed like within classes and just like overall checking up on students and their health." (Student Interview, 2/20/23) "I think there is more students struggling than I had it originally thought, and than want to like make known." (Student Interview, 5/16/23)
Bronco Pantry	Interviewee shares thoughts on the Bronco Pantry	33	"I think that it [bronco pantry] should be made more known because I feel like a lot of people don't know about it." (Student Interview, 2/21/2022) "I feel like not that it's not the most, but it definitely does help." (Student Interview, 2/20/23) "I think it'd be really cool if they had like classes or little info sessions about how to cook or how to make your food." (Student Interview, 3/01/2023)

Source: Student Interview conducted Spring 2022 to Spring 2023

Key Informant Interviews from Winter 2023

In the key informant interviews, we learned a lot about access to state resources. One of the first roadblocks we faced with the key informant interviews was getting in touch with CalFresh Food representatives instead of CalFresh Healthy Living representatives. Regardless, we were still able to interview three relevant key informants in relation to CalFresh. In these interviews, we found how hard it is for students at a private university to qualify for CalFresh. One way you can qualify is by working 20 hours a week, but SCU limits student working hours to 19 hours maximum, so students can't qualify via on campus jobs. Additionally, international students have no capability to qualify for CalFresh because of their visa status, making on-campus resources even more crucial. Finally, many benefits were added to the CalFresh program in the wake of the pandemic, making resources more robust and accessible. As the public health emergency comes to a close legislatively, these additional benefits have been stripped away, cutting resources and intensifying these qualifiers needed to access the program. This will affect many students state-wide, and potentially change eligibility status.

Table 5 - Key Informant Interview Quotes (n=3)

Code	Description of Code	Frequency	Exemplary Quotes
Calfresh Conditions	Referred to a condition required to be eligible for Calfresh	13	"They were eligible via the temporary COVID-19 exemption expansions. They have to find a new exemption at that point, and if they don't find one they will no longer be receiving benefits." (Key Informant Interview, 2/24/2023) "Students you have to work 20 hours a week, the problem with the work study is often there are limits lower than 20 hours a week." (Key Informant Interview, 2/24/2023)
International Students	International Students mentioned	2	"At least from the students that I spoke with at Santa Clara University. A lot of them are international students that do need help. I tell them you're probably not eligible because of your student visa status." (Key Informant Interview, 2/24/2023) "Especially for international students as well. They're on f1 visas. They might need the help. But just because of their citizenship status they can't get it." (Key Informant Interview, 2/24/2023)
Pandemic	Specifically when the pandemic is mentioned	3	"So the next time these students have to go through a Semi Annual recertification and were eligible via the temporary COVID-19 exemption expansions, They have to find a new exemption at that point, and if they don't find one no longer be receiving benefits." (Key Informant Interview, 2/24/2023) "Previously, before the pandemic you had to be

	approved for work study, so that kind of narrowed that down, so they expanded it. So students that are just eligible for work study can be eligible for calfresh. The Public health emergency is going to be lifted fairly soon. So those 2 temporary COVID-19 student eligibility expansions are ending." (Key Informant
	Interview, 2/24/2023)

Source: Key informant interviews, February 2023.

General Interview Themes

Overall, these interviews speak to some of the most important issues impacting the student population around food. These interviews show equity gaps, as many of our interviewees from different backgrounds and demographic groups show disproportionate impacts from food insecurity. The most impacted students talk about their struggles with food sovereignty, their inability to find culturally relevant foods that nourish them and are in accordance with their values. Despite their efforts, they find it challenging to provide and advocate for themselves. These issues come from challenges accessing food, with almost every student mentioning prices and the limited amount of grocery stores in the area. Even those students who are aware of and use the pantry have issues accessing food due to price and availability in the area. These issues may seem typical for a college student, but they have serious implications that impact students academic success and wellness. Students mentioned feeling unwilling to go get food despite being hungry due to the exhaustion of being food insecure while being students, going so far as to say it would cause them anxiety especially at the end of the quarter. A lot of the anxiety cited existed around the points system, which for many runs out by week 7 or 8 and leaves them without food for the last 3 weeks of the quarter. This struggle is widespread across students who are employed and who cannot find employment, which tend to be those who most need it. Most interviewees cite logical solutions commonly mentioned by the student body, changing the points system so those with extra points can transfer to those without, better marketing for the pantry, completely new food systems and more.

The main theme from these interviews is that students are tired of paying obscene prices for food that is low quality, unhealthy and not connected to their cultures. It impacts these students deeply, with the worst cases being directly related to serious mental health issues that can affect more than a student's academic performance. In addition, students report that despite being grateful for the tools available, they are not enough to remedy the effects they are feeling from these issues. Calfresh and government resources are hard to access and the Bronco Food Pantry needs more support to truly serve the students that rely on it. These interviews show students sharing their true experiences and issues, in hopes that something is done to improve them.

Case Study

One of the best ways we can analyze SCU's current programs is by comparing them to similar programs at other schools. The University of California acknowledges that in order to provide an equitable and successful academic environment for students of all racial and economic backgrounds, they must combat student basic needs insecurity. This is especially important to support students of color, who are more likely to be food insecure and more likely

to drop out due to their disproportionately vulnerable economic backgrounds. To do this, the university has launched a comprehensive approach to provide insurance for students without resources or support. Each of the ten UC campuses have on-site basic needs centers that provide a wide range of support services which are available to students of all campuses, not just the centers at their own campus. The UC system has long term plans that outline their goals of reducing housing and food insecurity by 50% by 2025, producing more degrees and increasing graduation rates (UC Basic Needs). They expect to achieve these goals through an approach that focuses on 4 important areas: Research, Prevention, Sustainability and Advocacy. To collect data, they survey students every year to gauge the levels of food and housing insecurity on campus, then make this data available to the public through graphs and figures for comparison. Their website shows a 1% increase in general food security between 2016 and 2022 (UC Basic Needs Information Center). For prevention, they have increased outreach to pre-college students about financial management and increased visibility to the basic resources available, to work proactively to avoid basic needs insecurity. For sustainability, they make an effort to find consistency in the services they provide in order to continue providing these services to their students in the future. Finally, for advocacy, they work to represent and communicate the student's interests to the government as well as the UC system administration.

These centers capture the essence of basic needs assistance through their diverse services. For food support, all centers have on campus food pantries that are available to all students as well as staff, which also provide guidance on applying to Calfresh. For housing support, the list is even more extensive. They partner with housing non-profits to provide emergency and transitional housing, bridge housing for students over breaks and holidays, as well as provide information on lease signing, roommates, and more. Most impressively, they are able to provide assistance with housing deposits and 1st month's rent to help students move into permanent housing (UC Santa Cruz Basic Needs Housing). In addition to these basic needs services, they have other services that help students prevent basic needs insecurity before it happens. They offer life skills seminars that include financial literacy and guidance on how to maximize financial resources to avoid insecurity. Lastly, they also offer a variety of services including nutrition counseling, Calfresh assistance, mental wellness assistance, and more.

The University of California Santa Cruz is a local university that shows the capacities of basic needs efforts when they are appropriately invested in. There are nine food pantries on campus, including ones at the Ethnic Resource Center, the Womxn's Center and at the Lionel Cantú Queer Center. These pantries are especially important because they allow specific support to marginalized communities who are more likely to be food insecure in places that are dedicated to their communities (UCSC Basic Needs). The basic needs center also offers Calfresh application assistance either at the center or with local non-profit partners as well as detailed information on how the program works. The university also provides significant housing support, providing a number for students to call in a housing insecurity emergency. They also have a university housing portal for students to find affordable listings, free housing related legal consultations, disability accommodated housing requests, and resources for transitional housing. They also have extensive health support through a health center that provides free or low cost safe sex supplies, free STD testing, support for students impacted by addiction including a podcast and groups specific to veterans and victims of abuse. Finally, they also offer robust financial literacy and technological resources so students can learn how to manage their money and cover their needs as well as having the tech and internet access they need to succeed in their classes

In conclusion, the UC system's basic needs support is robust and extends into many factors that impact students' abilities to succeed and graduate from college. Although it has not completely eliminated food insecurity on their campuses, this level of support is non-existent at Santa Clara University and many of its students would benefit substantially from having access to these resources.

Discussion

1. What is the current extent of food insecurity among students at SCU?

In our survey results, we saw that food insecurity had risen since the beginning of the pandemic. Although this is discouraging, it was not unexpected. In our first scoping meeting with Kim Gilkey, she made us aware of the large increase in pantry use in the past year. She also keyed us into the idea that the largest group of pantry users were graduate international students. This information helped shape our research questions, and prompted our deeper dive. We found that international students are the most food insecure demographic on campus. Compared to the SCU general population whose rate of food insecurity is 35%, international students experience food insecurity at a rate of about 61% which is almost double. One interviewee stated, "Food insecurity does exist. I think that's a common thing we share with all the international students." When it came to housing security, however, international students were not significantly more insecure than the general population of students.

Following international students' food insecurity, MENA students, those who preferred not to answer, Southeast Asian, and Hispanic, Latinx, and Chicanx students had the highest amounts of food insecurity. Overall, the only two groups that had higher food security than the general population were Other Asian or Asian American and White or Caucasian students. This is interesting because these two groups had some of the highest portions of the survey population, further strengthening the evidence for race and ethnicity based disparities among students. Additionally, the other groups with large populations included multiracial students, Hispanic, Latinx, or Chincanx students, and international students. When compared to food security characteristics regarding graduate and undergraduate students, our findings were rather consistent. Hiller et. al (2021) showed that graduate student food insecurity was "associated with Asian self-identification, employment, no time to prepare foods, and lack of foods for dietary needs (p<0.001)." While the survey data showed students with Asian self-identification to be more at risk and a lack of access to foods relevant to dietary needs, we heard a lot about food preparation time in conversations with graduate students. These findings again show the robustness of a mixed methods approach.

2. Do certain demographic characteristics impact levels of food sovereignty at SCU?

When we dove into the survey questions relating to food sovereignty, we found that demographics did have an impact. First, we found that students with lower food security disagree more often with statements regarding cultural relevance. Consequently, this means that international students, MENA students, and Hispanic or Latinx or Chicanx students are more likely to disagree that they have access to culturally relevant food as well. We demonstrate this relationship in Figure 7 where we see that MENA and Southeast Asian students disagree with culturally relevant food access the most. In an interview, one student said, "I don't see my culture, my food at all reflected in SCU's Benson cafeteria."

Additionally, we found that eating a vegetarian or plant-based diet could be an indicator of food insecurity as well. In Figure 8, we see that those with low or very low food security agreed most that having a plant-based diet was important to them. This could also be related to race and ethnicity given that cultures from various regions around the world follow plant-based diets. We did see some of that in the following figure in the ways that we expected. International students agreed the most that they found plant-based diets to be important to them. We can see the intersections between plant-based diet preference, international students, and low food security.

This provides a very solid point of action for SCU moving forward. If the Bronco Pantry increased the availability of plant-based foods and better identified those alternatives, this would allow the pantry to be more accessible and better accommodate students' needs.

3. How can SCU's on-campus food system be redesigned to increase awareness of and access to food-related resources?

When conducting student interviews, there was a general lack of knowledge about resources currently offered on campus. Though students tended to know what resources were offered, they did not know any further information such as where to locate these resources or how to get in touch about utilizing these resources. As seen in Figure 10, only 56.5% of international students that responded to the 2022 survey had previous knowledge of the Bronco Pantry. Other resources such as Second Harvest Food Bank and the SNAP Program were also within the resources that students were aware of but the numbers remained very low. When asked what SCU could do to promote information regarding resources on and off campus, students said that more posters around campus and possible social media posts would be beneficial. Along with better outreach of programs, students wanted more general information regarding the SNAP program and other off-campus resources.

Furthermore, as seen in Figure 11, students responded about what resources they would like to see and what would be most helpful to them. All students wanted to see discounts at the farmer's market as well as free or reduced prices at Benson during a specific time. On the other hand, international students mainly wanted to see more support from the SCU Bronco Pantry but they also wanted a free or reduced price hour at Benson. In general, SCU needs to expand their outreach amongst students to increase the overall awareness of food security resources on and off campus. This would allow for more students to know what resources are available to them and would allow them to begin to access these known resources.

As mentioned in the key informant interviews, one of the areas where SCU students need the most support is accessing Calfresh. Whether this be an international student ineligible for the program or a student barred from working more than 20 hours a week, many students on campus are food insecure and cannot access this very beneficial resource. Although the pantry has been helpful to international students as shown by the previous figure, the university needs to step in and give students the resources they need to eliminate food insecurity. This could come in the form of free meal points or a significantly better funded pantry, either option would help students eat when they need to.

As a deliverable of this project, we created a new and more accessible labeling system for the Bronco Pantry (Figure 15, below) that allows the international students to easily know what foods are vegan, vegetarian, low in sugar, low in sodium, Halal, and Kosher. The foods in the pantry are now labeled in a more informative way so that international students have access to foods that meet any and all dietary restrictions.

Labeling System for Bronco Pantry



Figure 15. The new labels created for the Bronco Food Pantry for vegan, vegetarian, low sugar, low sodium, Halal, and Kosher foods.

4. How does resource availability for food security at private universities in California differ from public universities?

As shown in our case study of the UC System and UC Santa Cruz in particular, public universities have much more robust systems and resources in place to help deal with food security on their campuses. This includes multiple food pantries on campus, Calfresh application assistance, nutrition classes on campus, and classes that qualify them for Calfresh without needing to apply. These resources come from the UC Basic Needs Program, which not only exists at all the UCs but also funds other critical resources such as housing assistance, mental health resources, and even financial literacy classes.

Santa Clara University, unfortunately, pales in comparison to these extensive resources. With heavier investment from the university, SCU would gain the ability to follow in the UC's footsteps to better serve the needs of its students.

Conclusion

Main Takeaways

This research approached the complexities of food insecurity through a lens of food sovereignty, which is defined by the US Food Sovereignty Alliance as "the right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods." As our findings suggest, varying levels of food sovereignty have a significant impact on levels of food insecurity. Through survey analysis, we identified certain relationships between the types of foods a student has access to and their level of food security, whether that be culturally relevant foods or vegan/vegetarian diets. We found that students who perceive less access to culturally relevant foods tend to have a lower level of food security (Figure 7). In addition to this, students who followed vegan/vegetarian diets were more likely to be food insecure (Figure 9). It is important to also acknowledge how religion and culture intersect with dietary practices. Culturally relevant foods are not only foods that align with the types of foods someone is accustomed to eating, but also the religious and cultural dietary restrictions that many students follow, whether that be vegetarianism for religious reasons, Kosher diets, Halal diets, etc. These findings reflect how imperative it is to use a food sovereignty lens when approaching food insecurity, as it is a complex issue that needs to be addressed with a holistic, intersectional approach. We hope that the implementation of the new labeling system in the Bronco Pantry will aid students in accessing culturally relevant food and simplify their choices within the pantry. This labeling system also includes a key with more details on display in the pantry. This is especially important for international students, who may not be familiar with common food labels in the United States.

There are clear demographic disparities in the levels of food security amongst students at SCU, with the international student population in particular with the largest disparity. This is a particularly difficult situation, as international students do not have access to the same resources that other students do. Most international students are required to pay large sums of money, almost their whole tuition, before they enter into the country. The level of inflation in recent years may also have an impact on the difficulty to pay these fees. Student visas limit students to only being able to work as a student at SCU, but an on-campus job is not guaranteed and oftentimes difficult to obtain. In other words, many international students are entering the US with very little money with the expectation that they will have the ability to work on campus, but then have trouble obtaining one when they arrive (Personal communication, 2023). Additionally, the international status inhibits many students from accessing resources, such as CalFresh, which makes them completely dependent on the on-campus resources provided. Future research into the barriers that exist for international students on U.S. visas for employment and maintaining healthy and sustainable livelihoods is imperative.

Immense work remains to be done within the food system at SCU. This includes reevaluating how information about food-related resources is shared and spread amongst students, reducing the stigma associated with food insecurity, and addressing the problems within the on-campus dining hub, Benson Memorial Center. These problems include the meal points system itself, as well as the variety and price of food served within the cafeteria. It is important, however, to acknowledge the several students accounts that expressed positive feelings towards the food system here at SCU:

"I really appreciate the attempt that Benson and in particular Pac Express, does in creating food that is of my culture. So, I appreciate the attempt for sure. Um, and I'm sure that like, of course Benson caters to a wide variety of students. So maybe like, it doesn't necessarily have to be like the particular spices or ingredients that are used, but I think it's something that I'm glad that they're trying out for sure."

--Student Interview, February 2023.

"Signing up for the food security program was made very simple. I don't exactly remember if it was an email or filling out a Google form, but as soon as I - my end of process was done - I got an email back within just under a day. For an interview to set up, just to ask me a couple of questions, and after the interview I got my access to the pantry and, uh, I was told about other resources where I could find help, such as the Second Harvest, CalFresh, and, uh, Sacred Heart and, uh, bunch of other things. It was, it was all very, very detailed. I could not get lost on any of them."

--Student Interview, February 2023.

Moving Forward

The SCU community has begun to respond to this issue through student-led efforts and administrative initiatives. From this ongoing research on student food insecurity at SCU, several recommendations were made to improve awareness of and access to basic needs resources at SCU. One of these recommendations was the establishment of a cross-functional, campus-wide Basic Needs Committee, which is a coalition of highly skilled members of the SCU community who bring varied perspectives to guide a comprehensive approach to addressing basic needs insecurity at SCU. The committee began meeting in January 2023, and is led by Jeanne Rosenberger, Vice Provost for Student Life & Dean of Students.

The Forge Garden, the Center for Sustainability's half-acre certified organic garden, is another entity that is making significant effort towards improving the food systems here at SCU. The garden provides fresh produce to the Bronco Pantry and runs a weekly donation based farm-stand with the first hour reserved for only students. In April 2022, the Forge launched Nourish Nights. Nourish Night is a free, plant-based meal offered to all students every Monday, Weeks 2 - Finals Week of every quarter. This event is run by students and supported by the Center for Sustainability, Office of Student Life, and several members of the SCU community.

Many more efforts are growing on campus, such as research groups and food recovery initiatives. Although there is lots of improvement to be done within the food systems at SCU, it is important to reflect on these incredible efforts and the significant progress being made.

Critical Reflection and Recommendations

The aims and objectives of this project were altered significantly as the scope of the work was realized. The limited amount of time available to collect data was the largest limitation for this study. There are several areas of further research that could be investigated within this project, such as 1) Identify areas of private or public funding that the SCU Food Security Program could advocate for; 2) Investigate further why certain demographics are more food insecure; 3) Examine demographic intersections and how they differ from each other in vulnerability to food insecurity.

Despite these limitations, significant data collection and analysis was conducted and the resulting findings reflected the original hypotheses that 1) Students who experience a lack of culturally relevant food are more likely to be food insecure, 2) Barriers to accessing resources exacerbate existing demographic disparities, 3) Students who attend private universities in California have less access to food-related resources in comparison to their public school counterparts. Qualitative findings identified major concern for the meal points system within the on-campus dining system, and suggested that the current meal points system is too dysfunctional. Through our community-based participatory action research and time at the Bronco Pantry, we also identified several barriers to success within the SCU Food Security Program. These barriers include: limited refrigeration space, no full time staff members, limited physical storage space, and no consistent source of funding for the program. In response to these findings, we offer the following recommendations...

- We recommend that SCU provides consistent and ample funding to the SCU Food Security Program, as well as improved refrigeration and storage space, so that the growing number of students involved in the SCU Food Security Program can have access to sufficient nutritious, fulfilling, and culturally relevant food.
- We recommend that SCU models the structure UC Santa Cruz Basic Needs Program to develop strategies for accessing funding and developing a more holistic basic needs resources on campus.
- We recommend that the SCU Food Security Program strengthens its partnership with SCU's International Students and Scholars (ISS) to offer more support to incoming International Students to provide guidance and resources.
- We recommend that Food Insecurity be a topic at SCU Freshman orientation and included in all SCU syllabi in order to work proactively to provide all students with information about how they can access food-related aid.
- We recommend that SCU implements a redistribution system for students to buy, sell, or trade their meal points to promote equity between students who experience food insecurity towards the end of the quarter and students who have leftover points.

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Appendix - 2022-2023 Codebook

THEME	CODE	DESCRIPTION
Demographics & Equity Gaps	International Student Experience	Interviewee provides insights on what it is like to be an international student
Demographics & Equity Gaps	International Demographic	Interviewee identifies themselves as an international student
Demographics & Equity Gaps	Graduate Student Experience	Interviewee provides insights on what it is like to be a graduate student
Demographics & Equity Gaps	Graduate Student Demographic	Interviewee identifies themselves as a graduate student
Demographics & Equity Gaps	Undergrad Student Experience	Interviewee provides insights on what it is like to be an undergraduate student
Demographics & Equity Gaps	Undergrad Demographic	Interviewee identifies as an undergraduate student
Demographics & Equity Gaps	Hispanic / Latinx	Interviewee identifies as Hispanic/Latinx
Demographics & Equity Gaps	African American / Black	Interviewee identifies as African American/Black
Demographics & Equity Gaps	Southeast Asian	Interviewee identifies as Southeast Asian
Demographics & Equity Gaps	White / Caucasian	Interviewee identifies as White/Caucasian
Demographics & Equity Gaps	Food Insecure	Interviewee identifies themselves as food insecure
Demographics & Equity Gaps	Male	Interviewee identifies as male
Demographics & Equity Gaps	Female	Interviewee identifies as female
Demographics & Equity Gaps	CAS	Interviewee identifies as a CAS student

Demographics & Equity Gaps	Engineering	Interviewee identifies as an Engineering student
Demographics & Equity Gaps	Psychology	Interviewee identifies as a School of Education and Counseling Psychology student
Demographics & Equity Gaps	LSB	Interviewee identifies as a Leavey School of Business student
Food Sovereignty	Self-Advocacy	Interviewee provides insights on what it's like to communicate their needs and wants to the university
Food Sovereignty	Cultural Relevancy	Interviewee provides insights on culturally relevant food.
Food Sovereignty	Ethics / Sustainability	Interviewee provides insights on how ethics and sustainability impacts their food choices / access to food
Food Sovereignty	Self-Sufficiency	Interviewee provides insights on their experience with cooking for themselves, going grocery shopping, knowledge of how to cook for themselves, etc.
Food Sovereignty	Housing Security / Situation	Interviewee relates their level of food sovereignty or security to their housing situation
Food Sovereignty	Health / Nutrition	Interviewee provides insights into the role that health and nutrition play with their food choices and access
Food Security Food Access	Food Security Definition	Interviewee defines food security
Food Security Food Access	Bronco Pantry	Interviewee mentions Bronco Pantry
Food Security Food Access	Food Costs	Interviewee mentions the cost of food on and off campus
Food Security Food Access	Grocery Stores	Interviewee mentions their experience with grocery shopping, whether it relates to store preferences, availability of preferred food, getting to the store, etc.
Food Security Food Access	Resource availability	Interviewee mentions their experience with the availability of food-related resources on or off campus
Food Security Food Access	Resource awareness	Interviewee provides insights on the awareness of resources on campus and in the surrounding area, how they heard of these programs, how this information can be shared better, etc.
Food Security Food Access	Transportation	Interviewee provides insights on how transportation affects their food access
Food Security Food Access	Time / Energy Constraints	Interviewee mentions how lack of time and energy affects how they access food
Mental Health Wellness	Stigma	Interviewee provides insights on stigma, how it affects them, what it means to them, etc.
Mental Health Wellness	Isolation / Community	Interviewee mentions experiences of isolation and/or community

Mental Health Wellness	Coping Mechanisms	Interviewee describes a coping mechanism in relation to basic needs
Mental Health Wellness	Social Relationships	Interviewee provides insights on how the relationships between students can improve food security, as well as how faculty can better communicate to and support students
Mental Health Wellness	Family	Interviewee mentions their familial relationships
Mental Health Wellness	Anxiety / Depression	Interviewee provides insights on how their relationship with food affects their anxiety / depression
Mental Health Wellness	Academics / School Performance	Interviewee provides insight on school performance in relation to basic needs
Student Life	Points System	Interviewee mentions the Benson points payment system
Student Life	Benson Food	Interviewee provides insights on food available at the dining hall
Student Life	Employment	Interviewee mentions anything related to student employment
Student Life	Pandemic	interviewee mentions something related to the pandemic
Student Life	Law School Experience	Interviewee mentions insights on being a student at the Law school and/or using SCU Law eats
Solutions	Increasing Food Access	Interviewee provides a potential solution for improving food access
Solutions	Better Marketing	Interviewee provides a potential solution for better marketing
Solutions	Mutual Aid	Interviewee mentions an experience or suggestion relating to mutual aid
Solutions	Ideal Food Systems	Interviewee provides insight into what their ideal food system at SCU would be like