

Special Section:
Justice and Equity Approaches to College and University Student Food (In)Security

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Students as co-researchers: Using participatory action research to address college food insecurity

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Abstract

Studies indicate that college students experience high rates of food insecurity. Growing awareness of food insecurity on college campuses has resulted in efforts by many institutions to address the problem through innovative programs such as food pantries, campus gardens, and educational workshops. While these initiatives play an important role in facilitating food access, they fall short of meeting students' needs. There is little research on how students' experiences or knowledge can inform strategies to address food insecurity, nor is there extensive research on how students view this issue for themselves and their peers.

This study looks at the benefits of engaging students in participatory action research (PAR) to address college food insecurity. PAR is particularly well suited to address campus food insecurity given its tenets of research, reflection, and action. This paper examines how a PAR project, conducted throughout a semester-long community-engaged learning course at the University of San Francisco (USF), resulted in innovative strategies to address college food insecurity. This justice-based research approach deepened students' understanding of the issue and inspired them to want to change their campus food systems. Students worked to shift the narrative of food insecurity on campus away from an individual experience that carries stigma toward one of community, relationships, and collective action. This study shows the opportunities to address food insecurity not only through immediate needs-based solutions but also through a justice-based research methodology that centers student experiences and knowledge.

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Introduction

Studies indicate that the prevalence of food insecurity among college students is exceptionally high. Close to half of college students in the United States experience varying degrees of food insecurity (Broton & Goldrick-Rab, 2018; Hagedorn-Hatfield et al., 2022; Nazmi et al., 2019). These numbers illuminate a critical challenge that many students face. Over the last decade, research to address this issue has increased (Hagedorn-Hatfield et al., 2022). To date, most studies use quantitative research to assess campus food insecurity, while a small body of literature employs qualitative research to garner student narratives about their lived experiences (Henry, 2020; Stebleton et al., 2020). Although colleges have taken great strides to understand and address campus food insecurity, current efforts fall short. Student-engaged research can play a key role in better understanding and addressing this problem.

While college food insecurity has become more visible, studies rarely use student-centered research methodologies to enhance the understanding of, and identify solutions to, the growing food-security problem. Student knowledge is crucial to understand how this issue affects students' lives and needs, yet the input or guidance of students is rarely part of the solution. To address this gap, I present a study from a semester-long project at the University of San Francisco (USF), where I facilitated a participatory action research (PAR) project with students to examine college food insecurity. PAR's tenets of research, reflection, and action offered an engaging and innovative approach to address food insecurity on campus, through a lens focused on justice and centered on those most impacted by the issue (Duncan-Andrade & Morrell, 2008). This study highlights important student knowledge that emerged from the PAR project and shows how student-centered research and action can advance conversations about college food insecurity.

In the literature review below, I discuss rele-

vant research that examines the impacts of food insecurity on undergraduate students and the solutions currently in place. I also review literature that explores the potential of participatory action research to respond to a community issue and show how this methodology can be used to address college food insecurity.

Food Insecurity in Higher Education

While higher education is often assumed to offer a path for upward mobility and intellectual enrichment, the promises of college and university education are increasingly jeopardized by the fact that college students' basic needs all too frequently go unmet (Shipley & Christopher, 2018; Willis, 2019). The high costs of college tuition, compounded by the additional costs of housing, food, books, and extracurricular activities, place a daunting financial burden on students. Many students will forgo food to save money in the short term in the hope of ensuring long-term economic success with a college diploma (Broton, 2020).

College food insecurity provides a jarring illustration of the disproportionate burdens faced by students from marginalized backgrounds during their college years (Broton, 2020; Haskett et al., 2020; Shipley & Christopher, 2018; Willis, 2019). Food security studies show that students of color, LBGTQ+ students, first-generation students, students with disabilities, and low-income students experience high levels of food insecurity (Broton & Goldrick-Rab, 2018; Shipley & Christopher, 2018; Willis, 2019), as do former foster youth and students with significant family responsibilities (Broton, 2020). Willis (2019) asserts: "though students of color and lower socioeconomic students have been provided increasing access to college, they remain consistently excluded from the material and psychosocial resources that make success in college more likely" (p. 169). Exclusion from material needs, such as food, can have a huge impact on college students' health and overall experience.

The impact of food insecurity is vast and complex. Students who experience food insecurity often suffer adverse physical and mental health effects. Food insecurity can cause anxiety (Stebleton et al., 2020), shame, stigma, and embar-

rassment (Henry, 2020), and can result in students reporting a less favorable overall college experience (Macke et al., 2020). In addition, food-insecure students face higher odds of poor sleep, high stress, and uneven eating (El Zein et al., 2019). Further, suffering from food insecurity can negatively affect a student's relationship with their university (Brotton & Goldrick-Rab, 2018; Haskett et al., 2020; Shipley & Christopher, 2018). To cope, students employ various strategies such as reliance on campus food resources or friends, working more, or applying for loans (Henry, 2020).

To address food insecurity, many colleges have created short-term solutions to meet students' food needs (Cady, 2020; El Zein et al., 2019; Watson et al., 2017). The most visible resource is usually a campus food pantry, which provides immediate food assistance to students. Food pantries offer shelf-stable food items and, in some instances, toiletries, refrigerated food, fruits, and vegetables. Other campus resources often include connections with local food banks and educational interventions such as cooking classes, budgeting workshops, SNAP¹ workshops, and life skills classes (Watson et al., 2017; Willis, 2019).

While food resources on campus have become more readily available, there is little research that evaluates the effectiveness of these strategies. In general, food pantries are regarded as a positive asset, yet studies suggest that campus food pantry usage is low (Buch et al., 2016; Twill et al., 2016). There are many barriers that keep students from utilizing campus resources, including a lack of knowledge about what is available, embarrassment or shame, or inconvenient hours and locations (Hagedorn-Hatfield et al., 2022).

Despite efforts to ameliorate the enormous impacts of food insecurity on college and university students, current strategies are not enough. There is a need to implement student-engaged research to address students' needs and experiences. In their literature review on college food security research, Hagedorn-Hatfield et al. (2022) state that "it is imperative that researchers consider using community-based participatory approaches

that include student insight into the types of programs, interventions, and policies that would be most impactful in meeting their individual needs" (p. 5). This paper explores how participatory action research can help fill this gap.

Participatory Action Research (PAR)

Unlike traditional social science research, PAR is a collective and participatory process that uses community knowledge to understand and address a community problem. Proponents of PAR assert that community members are best equipped to address community problems based on their daily lived experiences (Rodriguez & Brown, 2009). PAR challenges dominant perceptions of knowledge, including what kinds of knowledge are deemed valuable, how knowledge is produced, and who possesses valid knowledge. PAR expands notions of expertise and asserts the validity of the everyday knowledge of community members (Koirala-Azad & Fuentes, 2009). This study demonstrates how PAR can be used to highlight the knowledge and experiences of college students to produce new ideas and strategies to address college food insecurity.

PAR seeks to establish collaborative, nonhierarchical partnerships between researcher(s) and communities to confront an issue that the communities deem important. Youth participatory action research (YPAR) refers specifically to PAR with young people. According to Rodriguez and Brown (2009), YPAR is based on three guiding principles: (1) that the research is situated in the social context and real-life issues of students; (2) that the project is genuinely collaborative in all phases, and (3) that the research aims to transform knowledge to enhance the lives of the youth themselves. YPAR fosters critical consciousness and offers young people the opportunity to engage in critical inquiry and collective action. This experience enables students to reclaim spaces where their voices have been silenced (Camarrota & Romero, 2011). I sought to follow these principles throughout the USF PAR project described below.

¹ SNAP refers to the Supplemental Nutrition Assistance Program (formerly food stamps), a federal program that aids people who qualify as low-income. There are limitations, however, for college students to qualify for SNAP assistance.

Background on the PAR Project at USF

I implemented this PAR project during the fall 2021 semester at the University of San Francisco (USF), where I am both an adjunct professor and a graduate student. While food insecurity is prevalent among both adjunct and graduate student populations (American Federation of Teachers, AFL-CIO, 2020; Coffino et al., 2021), I decided to focus this study on the undergraduate student experience. Students have confided in me about their food struggles, and I hoped this project could highlight their experiences and help alleviate the issue while also examining the possibilities of using PAR in an undergraduate course to address a campus issue.

USF is a Jesuit Catholic liberal arts university with a population of close to 6,000 undergraduate students and around 10,000 total students (College Factual, n.d.). In 2021, 92% of first-year undergraduate students received some type of financial aid (USFCA, n.d.-a). To date, USF does not have data on the overall number of food-insecure students on campus. However, my conversations with students, faculty, and staff, along with small-scale surveys administered on campus and reports from the campus food pantry, indicate that food security is a significant campus issue. USF has food resources in place for students, including a campus food pantry, community garden, and online resources. The most visible resource is the campus food pantry that opened in 2018 and serves as a short-term solution, offering food and toiletry items to all USF students (USFCA, n.d.-b).

I chose to conduct a case study (Yin, 2009) to help understand food insecurity in depth, with attention to the contextual conditions of food insecurity at USF. I conducted this research by implementing a PAR project in two sections of an undergraduate environmental studies course. While teaching these sections, I guided the students (20 students per class) through the PAR process. Each section met once a week for three hours throughout the 15-week semester. This course also meets the university's community-engaged learning (CEL) graduation requirement, meaning that students came to the course expecting a community engagement component. In the course, students learned about pertinent food and agriculture issues before deciding collectively that our PAR project would

address food insecurity at USF. The students decided to focus solely on food insecurity and available resources at USF, rather than in the greater San Francisco community, to enhance campus food initiatives specifically.

In alignment with PAR principles, I strived to create horizontal relationships (Freire, 1970) and center students' voices so that the research was conducted with, rather than on, the students (Duncan-Andrade & Morrell, 2008). Throughout the semester, I was transparent with the students about my positionality as both researcher and professor. We discussed how student-teacher power dynamics embedded in higher education might affect our collaborative process and how the semester may differ from a more standard college course. Some of the concerns that arose as we discussed these dynamics included how students would be graded and the many obligations that students had to juggle in their own lives, making group work outside the classroom difficult to arrange. To address these issues, I purposely designed the course so that the bulk of the PAR process, including data analysis, project development and implementation, and all group work, took place during the weekly class period rather than being assigned as homework. Homework focused on personal journal reflections and responses to related literature. This would allow students to have the same amount of time and resources to put toward their projects. Throughout the semester, I continuously checked in with students about their collective and individual experiences to assess our alignment with the goals of PAR.

While all students in the two course sections participated in the PAR project, data were only analyzed from those students who opted into the analysis. The students who participated were aware that I would record and transcribe the discussion from each class period and have access to their journal responses, peer interviews, homework assignments, and group presentations to use for this study. I received IRB approval for this project at the beginning of the semester and regularly reminded the students that they could opt out of the study at any time. I also received IRB approval for students to collect data from their peers.

Between the two sections, 38 out of 40 students chose to participate in the study.

Throughout the semester, we followed the PAR cycle as outlined by Duncan-Andrade and Morrell (2008). I implemented each phase of this methodology as follows:

A. Identify the problem

Students joined this project with a wide range of understanding about food systems issues. To identify the problem for our PAR project, I gave students reading material that helped them understand food systems issues, with an emphasis on food justice (Glennie & Alkon, 2018). I used a critical food systems education (CFSE) approach wherein students “both learn to analyze their world of food production and access and take actions to change these systems” (Meek & Tarlau, 2016, p. 243). This framework helped to ground students in social justice as an integral part of analyzing food systems. I also used a critical service-learning framework designed to “encourage students to think critically about social issues and act creatively to produce change” (Mitchell, 2007, p. 101). After a review of many food systems issues, students decided collectively that our PAR project would address food insecurity among students at USF. Through class readings such as Koirala-Azad and Fuentes (2009) and Duncan-Andrade and Morrell (2008), students learned about the PAR process and how its many tenets would guide their campus food security research.

B. Research the problem

Students spent significant time engaged in two types of research. First, they conducted a literature review of existing studies about college food insecurity. Students used their literature review to understand the predominant issues related to campus food insecurity and the methods that scholars used to conduct their research. Through discussions and group work, students identified and analyzed the main themes that emerged from their literature review.

Next, the class discussed how they could collect data at USF to understand the problem at their university. The overarching questions students hoped to address were: (1) How can we improve

food security on campus? and (2) How do we give a platform to food-insecure students to address this issue? (Class discussion, October 24, 2021). Given the short time frame of the semester and the desire to collect as much detailed information as possible, most of the students in the class chose to conduct 20-minute, in-depth interviews with their peers. During class, we discussed ethical research practices at length (Kretzmann & McKnight, 1996) and using a desire-based approach in our research (Tuck, 2009). Students collectively developed interview questions that would highlight their peers’ experiences with food insecurity and created student consent forms. In addition, a few students who had experienced food insecurity themselves chose to write testimonials to add to the data collection. These testimonials offered important insight into how students at USF experience food insecurity.

C. Analyze the problem

After students collected data, they coded their findings from the interviews and testimonials and looked for themes. They shared their findings within small groups and identified the main themes that arose across the data. As students learned to grapple with the differences in their experiences with food security, the classroom served as a contact zone (Pratt, 1991) wherein students could work to understand and address the new information they were learning about their peers and themselves. Through class discussions and group presentations, students observed that much of the data was consistent across interviewees and testimonials. The themes that emerged from their data analysis (detailed in the results section) spoke to the specific ways that USF students experience food insecurity. This data became the central knowledge repository that students used to formulate their group action projects.

D. Develop and implement a collective plan of action

The themes that were derived from student data collection and analysis formed the basis for their action projects. Once students in the class understood their peers’ experiences, they began to develop interventions to address campus food inse-

curity. These projects (detailed in the results section of this paper) were collaborative in effort and wide in scope. Students carried out their projects while maintaining the goals of centering those most vulnerable, fostering relationships, and working toward justice.

E. Evaluate the action

Students evaluated their projects through class conversations and input from stakeholders. At the end of the semester, they presented their work to administrators, faculty, staff, and fellow students. In each of these presentations, students adapted to their audience. For instance, with administration, faculty, and staff, they did a PowerPoint presentation, either remotely via Zoom or in person, and asked participants for feedback. To present their work to students, they held a campus event where they offered free food and distributed educational information about campus food resources. At the event, they talked with students about their work and findings. In addition, students garnered feedback from their peers through social media posts. At the end of the semester, students evaluated their own work through written reflections, an exit survey, and group discussions.

Analysis of the USF PAR Project

Throughout the semester, I audio recorded and transcribed every class session. I used these class recordings, along with all student homework assignments, journal entries, class presentations, and my own reflections, as the data for my analysis. In addition, students completed intake and exit surveys with multiple-choice and long-answer questions at the start and end of the course. The questions in the surveys asked about students' knowledge of food systems issues, their experience with PAR, and their interest in social justice.

At the end of the semester, I read through the data multiple times and used coding software to organize the data. I analyzed the data using grounded theory methodology (Strauss & Corbin, 1998) to explore how PAR with college students could offer an innovative, justice-based approach to address food insecurity. The results from this study predominantly demonstrate research from just one course section. I chose to prioritize a

deeper analysis from one section rather than using the vast amount of data collected across both sections. Students in the course were not involved in the final overall analysis due to the short time frame of the semester and the length of time it took to analyze all the data collected. In addition, to ensure privacy, students did not analyze one another's homework or journal reflections.

Results

The results reflect the themes in the data that emerged as students participated in the PAR project. The main findings included (A) the need to develop a collective understanding of food insecurity, (B) the desire to center those most affected by food insecurity, (C) an understanding of the complexities of food insecurity, (D) the impacts of the false perception that "everyone on campus is rich," (E) the stigma and shame embedded in food insecurity, (F) the impacts of food insecurity on student social life and relationships, and finally, (G) how the findings inspired student action projects and visions for a food secure campus.

A. Developing a collective understanding of food insecurity at USF

Students' personal experiences with food security varied greatly. At the start of the semester, I gave students a short intake form with questions about their awareness of food insecurity in their own lives and on campus. I presented the United States Department of Agriculture's (USDA) definition of food insecurity to make sure the class started with a common understanding of the term. The USDA describes food insecurity as "the limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways" (USDA, n.d.). When presented with the statement, "I have faced food insecurity myself," five of the 19 respondents (or 26%) indicated that they had experienced some degree of food insecurity. A follow-up question posed the statement, "I am aware that students on my campus are food insecure." To this, 13 students (or 68%) had some degree of knowledge of student food insecurity among their peers. Finally, when asked if they knew about the food-related resources available on

campus, close to half (47%) said they did not (survey, September 13, 2021).

Given the diversity of students' experiences with food insecurity, our project began with students grappling with this issue collectively. Our classroom community became a space in which students shared their thoughts about food security with one another and noticed their different lived experiences. For example, one student who is food insecure shared her journal response with the class:

Multiple students do not eat throughout their day and go off one meal because that's what they can afford, and it typically is not nutritious; it is what is accessible and convenient. Or at my previous university, many students had to apply for food stamps, but there was a level of shame that went along with it. This was a conversation that was had in my first-generation college student group, or we discussed that there was a sense of pride to be able to do better than where we came from because we had access to this higher education. So, it was challenging to find ourselves struggling and finding ourselves in institutions that did not support us; to be in spaces that are meant to "further" us and still be falling behind. ... I did not have enough money, I had to pay for college, and even with financial aid, I didn't have enough to afford much else, similar to many other college students. So, what had to give was the number of meals I had and the food I purchased. I know my story is not unique and because I know many of my peers experienced the same things, and research and data are documenting this issue. (Sara, college senior, September 25, 2021)²

The students' openness to share with one another created a space in which they could discuss the discrepancies in their life experiences. While some students identified with the findings of their research due to their personal experiences, many students had no prior knowledge about food insecurity. This contrast was present throughout the

semester. Several students commented on their shock upon learning about the extent of food insecurity on campus:

I never knew that there are so many people in college who are suffering from food insecurity. I never suffer from this issue, so I have never paid attention to it. I think it is also because this issue is not addressed widely. I think more people should know about this issue, so people who need help can get help, and people who can help, help. (Caroline, college senior, October 25, 2021)

As students worked to understand the issue, they connected to their peers in new ways. By understanding this as a community issue, it became more relevant and pressing to the students.

B. The importance of centering on those most impacted by the issue

In their drive to address this issue, students felt it was imperative to understand their peers' experiences. They hoped that interviews with peers outside of the class, and testimonials from students in the class who had experienced food insecurity, would give them the most nuanced information about food security at USF. As one student proposed:

I would say having students conduct a lot of the research would be most beneficial. Considering the stigma around food insecurity for many students I think it would help to have students themselves talk to other students so that we can understand the context. Maybe the food pantry hours aren't the most convenient, or maybe donating Flexi (meal plan) isn't what students want, but the only way we're going to know is by asking and having people who are food insecure making the decisions. (Tori, college junior, September 30, 2021)

Laura, a college senior, expressed the importance of involving those closest to the issue in the design of the research. She noted that centering

² All names utilized are pseudonyms.

those most affected also oriented the project towards justice:

I really like using PAR to address and learn more about social justice issues. Honoring the communities affected by social issues by giving them control and autonomy over how they are being studied, represented, and helped is a form of justice itself. (November 7, 2022)

The notion of how to center the experience of food-insecure students played a large part in the design of the data collection. Students agreed that they wanted to interview their peers who were most affected by the issue; however, several students mentioned feeling uncomfortable “seeking out” food-insecure students. They were especially worried they would make students uncomfortable due to the findings in their literature review that suggested that food-insecure students often carry shame and stigma. At the same time, they wanted to normalize the issue, and suggested that talking about food insecurity publicly may be helpful. When one student in the class expressed feeling awkward asking peers if they are food insecure, Sara replied, “people feel embarrassed to ask that question, but if you start normalizing it on campus, we just want to know purely from the point of view where you want to address the issue, not just because you are curious” (October 24, 2021). In addition, Sara suggested that students who are food insecure themselves design the interview questions, suggesting “I wanted to ask the questions that I would want to have since I have had that experience” (October 24, 2021).

As a result of these discussions, the students decided to interview their peers, regardless of their assumed food-security status. They decided that because of how widespread food insecurity has proven to be, the interviews would perhaps garner unexpected information.

C. The complexities of food insecurity

While students expected to find that their interviewees would assign themselves as either food secure or insecure, they were surprised to learn that food security is more complex than they had previously thought. In fact, they found that

several students who identified as food secure at the beginning of the interview would later make comments that would insinuate struggles with food security. In our class reflection about the data collection, Grace, a college senior observed, “people didn’t know how to categorize their situation. They didn’t have time to make food because of work etc. but they didn’t categorize themselves as food insecure” (November 1, 2021).

This theme came up several times as the group members analyzed their data. In a conversation about their interviews, John, a college senior, said, “the person I interviewed was aware of food insecurity, but didn’t identify as that, but in the conversation was saying she was food insecure without saying it.” Gina, also a senior, responded with, “a similar thing happened to me, so maybe we should talk about the stigma behind the term” (November 1, 2021).

As a result of their data collection, students realized that food insecurity was far more widespread and harder to categorize than they had thought. While their interviewees sometimes went without sufficient food or had limited food access, they did not think of themselves as food insecure, nor did they think the college food resources were intended for them. In a written reflection, when asked to discuss an “aha moment,” Grace responded:

One aha moment that I had so far in this semester was discovering that food insecurity is not always chronic. I thought of it as something that people always face once they become food insecure, but it can affect people only sometimes. The idea of money being “tight” or having to stretch groceries until the next payday are forms of food insecurity themselves. (November 20, 2021)

Students realized that there are many ways of being food insecure and even came to wonder if they themselves would fit this category. As Gina wrote:

Definitely, my aha moment was during my interview when my interviewee said that if you are taking out a loan to pay for a meal plan,

then you are food insecure. I find it fascinating the way semantics change person to person; I had never thought of it that way. It makes me look more closely at my own food purchasing habits, as well as my friends and family, to see how often food insecurity is renamed. (November 20, 2021)

This nuanced perspective helped students to understand why their peers did not seek out campus resources or identify as food insecure. Students engaged in multiple conversations about how to help their community understand that there are varying levels of food insecurity and that food insecurity is a flexible category. This was also reflected in how the students' own perspectives shifted throughout the semester:

I had worked a lot with homeless people. But I had never put two and two together, it was like you are homeless or you are thriving, but I had never put two and two together that there is this middle ground, that there are people who go to college but also need help with essentials. . . . You would never expect it to be people in your class, I would never know that. (Cody, fourth-year college student, October 11, 2021)

These complexities also helped students in the class better understand their own experiences with food insecurity. Dave, a college senior, reflected on how the research impacted his perception of his food struggles:

I think our work has made me think about food insecurity on campus in a new way. I think I stopped seeing food insecurity less as a "daily hassle" stressor that affected me solely and more as a deeply nuanced and intricate issue that affects a wide demographic of people entirely. (November 4, 2021)

Through collective analysis and discussions, students suggested that because their peers did not identify as food insecure and saw it as a fixed identity, they were less inclined to utilize campus resources even if they did experience food insecurity

at times. In addition, they found that their peers did not often discuss their struggles with food due to a false perception that most students at their university are wealthy and that food insecurity brings up feelings of stigma and shame.

D. Perceptions of wealth

Students suggested multiple times that because they attend a private university, the assumption is that all students who attend the college have enough money to meet their needs. They noted that people do not discuss their financial hardships even though many students receive financial aid. Ashley, a fourth-year college student, noted, "the assumption that students at USF don't need help in terms of things like food is really strong. This new perspective really makes me understand that there can be issues in any institution no matter how prestigious they may seem" (October 29, 2021).

This same sentiment was echoed during a class discussion. Cody said, "a lot of people think, especially here, since people are paying so much, people are like oh they don't need money for something so simple as food but it's actually really prevalent." Grace responded, "I agree that a lot of people assume that if you go to a private religious college, you are good to go" (October 11, 2021). Similarly, in a written discussion board conversation, Tori wrote about how difficult the false perception of wealth can be for students who are suffering from food insecurity:

People don't talk about food insecurity. I feel like people don't really talk about money or any of the struggles that they're going through being here on campus, and when people do, nobody really takes it seriously. Everybody is like, oh well, you're at USF, so you must be able to afford it and it's just not the case. (October 28, 2021)

Students discussed at length the misperception that college students at private institutions are wealthy, and how difficult this can feel. As an outcome of this discussion, the class came to the consensus that they wanted to normalize using campus resources and talking openly about food insecurity and financial struggles.

E. Stigma and shame

Another theme that arose was students' struggles with stigma and shame. The students found that their peers carried shame about their need for food resources. As Tori explained,

I think our role to address food insecurity is just coming together and making sure that there are practical resources for students. That starts with changing the stigma because for a lot of people it's hushed whispers and talk about how they don't have enough to eat, instead of saying, hey I don't think I'm going to be able to buy food today. We don't solve the problem until we acknowledge it out loud. (October 28, 2021)

While students hoped to encourage visibility about food insecurity to diminish the stigma, Tori also noted the complexities of talking about the issue:

I know that part of dismantling the stigma is us being open about things like that but it's hard to be the first one and when people come from privileged areas, they don't understand the nuances of you saying, hey I can't go out there, or I don't have money this month everything went to tuition and bills. People don't necessarily get that. (October 28, 2021)

In addition, students had complicated feelings about how to reconcile their own experiences with food insecurity and felt at times like they were responsible for their own situation. As Michael, a fourth-year college student, stated:

If I were asked by a different class, I would honestly feel embarrassed to say that my ability to get food was hindered and that's why my academic performance would be hindered. It wasn't an economic issue for me a few years ago. It was an energy issue that the cafeteria was so far away, and I had classes that were back-to-back. That was affecting if I could get food or not, but I felt like a personal blame or responsibility, it wasn't an economic thing. If I were asked if the frequency and quality of

meals affects wellbeing, then yes. But if I was asked if I could access it, I would feel a little shame. (October 21, 2021)

While students discussed different aspects of stigma and shame, the PAR process itself, oriented toward justice, destigmatized food insecurity for some students. In response to having contributed a testimonial to the collective body of work, Sara said:

I feel that I got to dictate how my experiences were shared and framed, which is something I don't often get to do. I think it also made me feel less shameful because now I am openly discussing that I provided a testimonial with the class. I also feel it has been met with gratitude as opposed to judgment. (November 8, 2021)

Students hoped to address their peers' feelings of stigma and shame by creating campus-wide awareness about food insecurity to normalize seeking help.

F. Impacts of food insecurity on social life

In addition to feelings of stigma and shame, students found that food insecurity greatly affects the social life of their peers. They were surprised by how prevalent this theme was throughout their data collection. As Laura noted during a class discussion,

A lot of findings throughout our interviews were about the negative impacts on mental and physical health, and social life. Social life was a big one that came up for all of us. People feel left out when they are not going out with friends. We didn't find too much literature on this, but it was big amongst all our interviews. (November 1, 2021)

From her own experiences with food insecurity, Sara responded in agreement:

One of the things I surprised myself with is that I forgot how much it impacts social life. Having meals is such a social bonding experi-

ence. It is really isolating to not get to do that, and that is something I recognize about food insecurity, it is something where you don't get to bond with your friends. Going out to restaurants is what a lot of people do to hang out, they go out for drinks. (November 1, 2021)

This theme was very meaningful for the class. It cemented their idea that to address food insecurity, strategies needed to be inclusive, normalize discussion about the issue, create access to resources, and make food consumption a social activity. While food resources on college campuses are often distributed in private to maintain anonymity, students in the class wanted to create public food events so that their peers could share meals with one another. They hoped to create less isolation, and more connection around food security. As Andre, a college junior, stated,

Students want to be with other students. Students want to be with friends and go out, or just to be around other people. Food insecurity can affect if people can go to a restaurant one day or have a meal at the caf [dining hall] when you can't afford to pay for that. We want events with food and socializing for everyone. (December 1, 2021)

G. Envisioning a food-secure campus

The students' nuanced understanding of food insecurity and goals to normalize and create visibility about the issue led to the development of several innovative projects. The projects centered justice, relationships, and community in all aspects of their work. The projects were directly tied to themes that emerged from their data collection and analysis. The class broke into small groups based on their interests and created the following projects:

1. A slideshow about the impacts of food insecurity at USF, which they presented to multiple stakeholders and administrators, including the provost of the university.
2. A letter sent to the USF administration that explained their frustrations with the college

meal plan and how the price and structure of the plan affect students. This letter also included ideas for a more equitable meal plan.

3. A website geared toward USF students with free food resources available both on campus and locally, advertised through a QR code distributed throughout campus.
4. A short paragraph about campus food resources that was incorporated into the Simple Syllabus platform used by professors across campus.
5. A campus club called the Food Sovereignty Coalition designed to serve as a hub for students, faculty, staff, and administrators to discuss and work on campus food issues.
6. An end-of-semester event on campus with free food, a seed and plant giveaway, and information about food resources.

When reflecting on their final projects, Grace described her group's goals as follows:

We want people to have access, we want people to be educated and informed, we also want fiscal changes and all that goes to our desired impact; transparency, people to have more food, community building, we want people to come together around the issue and work for change. (November 22, 2021)

Each of the final projects met the students' original project questions, (1) How can we improve food security on campus? and (2) How do we give a platform to food-insecure students to address this issue? (Class discussion, October 24, 2021), but students also noted that the issue became bigger than just a class project. As Olivia, a college senior, said:

So far, I had not thought in depth about the experiences of other students facing food insecurity at our college because sometimes you just gotta worry about yourself and your well-

being. Now though, I have found myself mentioning the pantry and garden casually in conversation to other students regardless of their assumed food insecurity status because if more people know about their options, then the resources can spread further by word of mouth. (November 1, 2021)

In a similar vein, Tami remarked:

Even if USF doesn't implement any of what we do long term, at least students can know that other people in the community are understanding and care. Being involved in the research has made me talk about the issue more with people around me. The more that I know about what my peers are doing/experiencing, the more that I want to do something about it. (November 3, 2021)

Similarly, students noted that PAR helped them recognize their collective and individual power to make change on campus. Through their work, students were able to identify stakeholders in the community who were interested in their projects and make connections with faculty, staff, and administrators. This was especially meaningful because students had expressed doubt earlier in the semester that they could impact their university. In a final class discussion, Cody spoke about the power of the project:

I just didn't really know about food insecurity or anything like that. I was just in my own little bubble, so it was good to see other people's experiences and things like that. I never got into activism or stuff like that I don't know, I was just kinda in my own bubble. So, it was cool to send the letter, I felt proud to send it, so I liked that. It opened a lot of things for me to learn. (December 6, 2021)

Jane, a second-year college student, also discussed the power students hold to make an impact at their university,

I kind of realized through participatory action research and everything, that we as students do

have the power to incite change especially as other people were saying, if we have these shared interests, we are the most effective, we haven't seen the administration do any events like this. It's very inspiring taking that inspiration, so that was a cool part for me. (December 2, 2021)

Discussion

This project demonstrates how a participatory, student-centered approach to address food insecurity can produce innovative outcomes that center student knowledge, and result in student action and advocacy. While studies point to the vast numbers of food-insecure students on college campuses (Broton & Goldrick-Rab, 2018; Hagedorn-Hatfield et al., 2022; Nazmi et al., 2019), research rarely highlights how students perceive and make sense of food insecurity or students' role in addressing the issue. This study suggests that student engagement in research, action, and reflection about food insecurity can open new possibilities for students and their engagement in campus issues.

Results from this study show that when students participate in a PAR project to address a campus issue, new ideas and solidarity can emerge. Because of this project, students engaged in conversations about experiences they rarely discussed with others, such as false perceptions of wealth on campus, issues of stigma and shame, and the impacts of food insecurity on their social experiences. By centering their own community, students obtained a nuanced understanding of campus food insecurity. This information helped students understand why their peers may not always reach out for resources and how they could help strategize around new initiatives. Consistent with other campus food-security studies, students found that although food resources might be available, their peers do not necessarily access them (Buch et al., 2016; Twill et al., 2016). The students strived to address this issue by centering what mattered most to them: authentic relationships, a nuanced understanding of food insecurity, visibility, and a community centered on justice.

Students created several strategies to shed light on this issue. Specific projects, such as the food sovereignty club, presentations to stakeholders

about their findings, and their campus-wide event were enacted to bring attention to the issue while also creating connections with others. While food pantries are often hidden and anonymous by design, students used their research and action projects to make the issue more visible and help their peers see that the campus community is invested in food security for all. Students highlighted the social nature of food and eating and came up with community-based, non-stigmatizing ways to make free food available and enjoyable. In addition, throughout this project, students shared their work with representatives from the food pantry, the campus garden, and other campus stakeholders to support preexisting programs and create meaningful connections with those doing similar work. The students also created initiatives they hoped would institutionalize change within USF, such as an addition about food-security resources to the Simple Syllabus and a letter that addressed issues in the campus meal plan. In alignment with the goals of YPAR (Cammarota & Romero, 2011), this research centered students in the social context of the issue, was collaborative in all phases, and transformed students' knowledge to enhance their lives.

At the end of the semester, the students discussed the limitations of the project. The main limitation was the short time frame of a semester. Several students were interested in continuing their work into the following semester, but only a few ended up with the time to continue to pursue their projects. In addition, had they had more time, students would have been interested in creating a campus-wide survey to understand how food insecurity varied by student demographics.

Conclusion

This study demonstrates how students make sense of food insecurity and offers insights into the complexities of students' lived experiences with this issue. While research shows that food insecurity on campus is a pressing issue, this study expands the current literature by using community-engaged, participatory research methods. This project demonstrates the important ways in which student-centered research can lead to innovative projects and help build new knowledge. Staff and faculty

can create more just and equitable approaches to food insecurity when centering students in the process. To address food insecurity on campus, it is important that campus educators and administrators consider the following:

1. There is a need to address food insecurity through collaborative, participatory-based research methodologies with students to truly understand students' experiences. This process centers students' voices and experiences in the development of campus-wide strategies. This approach can result in solutions that are embedded in students' desires and visions for their community.
2. Food security research can happen in the context of an academic class. This project took place during one semester in a college course; as such, students learned about this issue in a broader academic framework and collectively worked for change. The curriculum and course design supported the use of PAR. In addition, critical education approaches, such as critical food studies education (Meek & Tarlau, 2016) or critical service learning (Mitchell, 2007), can offer ways to analyze food insecurity within a larger educational framework.
3. Relationships are essential. Students repeatedly emphasized that this project helped them feel connected to their peers and helped them believe that people on campus want to enact change. Students centered relationships and community in their research, action projects, and reflections. Relationships were key to how they conceptualized food security on campus. In creating initiatives to address food insecurity, practitioners can consider how to meet students' immediate food needs while also fostering student connections to their campus communities.
4. Students may experience food challenges but still not identify as food insecure. The students who participated in this study saw that while the USDA presents a definition of food insecurity, their peers experience food insecurity in ways

that do not always match this classification. As such, students might not seek out resources or feel they are intended for them. Research is crucial to understand how food insecurity manifests itself at various colleges and how students do or do not identify as food insecure. Students involved in the study suggested that colleges should encourage their community to understand the nuances of food insecurity so that all students feel welcome to utilize resources.

5. Participatory action research can help students work for justice. The results of this project showed that students who participated in the PAR process were driven to make change on campus. Once students gained a nuanced understanding of how food insecurity affected their peers, they wanted to be involved in the solution. Using PAR to work through this issue gave students a community with whom they could engage in action for justice on campus.

This study provides insights into the potential for collaborative, student-centered research as a strategy to address college food insecurity. The results from this study show that PAR can inspire students to work toward justice, understand the experiences of their peers, and create meaningful collaborations across campus. This study serves as an example of how students can build community and center their peers through research and action. While this study looks at food insecurity in particular, this framework can, and should be, applied to a myriad of campus issues. PAR proved to be a practical means for addressing campus issues and empowering students throughout the process. 

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