FOOD SECURITY SURVEY OF HIGHER EDUCATION STUDENTS IN UTAH

2021 WEBER STATE UNIVERSITY REPORT

TABLE OF CONTENTS

ACKNOWLEDGEMENTS

The *Food Security Survey of Higher Education Students in Utah* report would not have been possible without the collaboration of all Utah's public higher education institutions and various non-profit organizations. Guidance and expertise was provided by Melissa Hall, Ph.D., Senior Community Engagement Researcher at the Center for Hope; Alex Cragun, Food Security Advocate at Utahns Against Hunger; Yesenia Quintana, M.Ed., Evaluation and Community Research Supervisor at the Community Research Extension at Weber State University; and Katharine French-Fuller, Ph.D., Director of Research at the Community Research Extension at Weber State University. Authors include Yesenia Quintana, Katharine French-Fuller, Allyse Anderson, and Kary Makela. Special appreciation goes to Cassandra Backman, Alexis Bucknam, and Jessica Miller for their contributions and assistance on various aspects of this project.

The survey design was a collaborative multi-institution effort from participating schools. Committee members include Melissa Hall (Center for Hope), Yesenia Quintana (Weber State University), Alexis Bucknam (United Way of Salt Lake), Amber Hendrickson (Utah Valley University), Cassandra Backman (Weber State University), Alex Cragun (Utahns Against Hunger), Katharine French-Fuller (Weber State University), Mike Braak (Salt Lake Community College), Nelda Ault (Utah State University), Kara Bachman-Einfeldt (Utah State University), Sarah Elizabeth Levitt (University of Utah), Christina Turpin (Huntsman Cancer Institute), Elizabeth Duszak (University of Utah), and Maria Caballero (Davis Technical College). The committee met regularly and provided input and knowledge from their respective fields. The researchers are especially thankful to committee members for their time and expertise on a fast-paced and sensitive project.

Support and collaboration within each USHE institution was critical for success. The chief student affairs officers at each institution provided essential support that resulted in project fruition. Additionally, we thank the following individuals for their assistance and support: Michelle Welker (Bridgerland Technical College); Spencer Kimball (Davis Technical College); Tom Picklesimer and Andrea Bringhurst (Dixie State University); Camille Lyman (Dixie Technical College); David Rees (Mountainland Technical College); Monica Schwenk (Ogden-Weber Technical College); Mike Braak, Mike Nguyen, and Jessie Winitzkey-Stephens (Salt Lake Community College); Beckie Hermansen (Snow College); James Mullenaux (Southwest Technical College); Pam Brannin (Southern Utah University); Patricia Walker and Misty Roberts (Tooele Technical College); Michiel Bostick (Uintah Basin Technical College); Elizabeth Duszak and Jake Lemon (University of Utah); Michael Torrens, James Morales, Nicole Vouvalis, and Suzanne Thorpe (Utah State University); Taylor Lovell and Alexis Palmer (Utah Valley University); and Heather Chapman (Weber State University).

This report is a project of:

<u>Preferred Citation:</u>

Quintana, Y., French-Fuller, K., Anderson, A., & Makela, K. (2022). *Food Security Survey of Higher Education Students in Utah, 2021 Weber State University Report*. Weber State University: Center for Community Engaged Learning - Community Research Extension.

PROJECT INTRODUCTION

Funding for this project was made possible by the Robert Wood Johnson Foundation in partnership with the American Cancer Society's (ACS) health equity work. This project proposal was developed by Gagan Kaur, former ACS employee, and Dr. Melissa Yack Hall, Senior Community Engagement Researcher at the Center for Health Outcomes and Population Equity at Huntsman Cancer Institute and the University of Utah. After receiving notice of funding, the co-chairs, along with Morgan Marietti, Health Systems Manager for ACS, narrowed down the focus to food security on Utah's postsecondary campuses. The co-chairs assembled a project team, which included Alex Cragun, Food Security Advocate for Utahns Against Hunger (UAH) and Alexis Bucknam, Senior Network Director for United Way of Salt Lake. The project team participated in multiple planning and learning sessions sponsored by ACS's health equity team, and conducted various meetings with organizations and individuals working on food security across the state.

During these meetings and through research, the project team realized there was a lack of baseline data in regards to basic needs of postsecondary students. The project team, along with several of the organizations and individuals they met with over the course of this project, conducted a statewide survey to help collect baseline data for individual campuses and the state of Utah collectively. Along with the survey, the project team also arranged for UAH to host two workshops with the Basic Needs student group that meets regularly.

The project team approached the Utah Senior Student Affairs Officers (SSAO) group to obtain interest in and approval to conduct the survey. The SSAO group provided feedback and approval to move the project forward. The project team then approached Weber State University's Community Research Extension (CRE) leadership, including Dr. Katharine French-Fuller and Yesenia Quintana, about contracting their services to develop, conduct and analyze a comprehensive state-wide survey of the 16 Utah System of Higher Education (USHE) campuses, along with creating final reports.

The survey was developed in alignment with other resources to ensure the questions were complementary to other basic needs work being done across Utah and included questions and information from the USDA Household Food Security Survey and the PRAPARE assessment. The survey was developed and reviewed by the CRE and a task force of representatives from some of the campuses. It was piloted with students from some of the campuses.

The survey was conducted over six weeks in the fall semester of 2021, during the ongoing COVID-19 global pandemic. This final report was shared with the campuses, project team members and USHE in February 2022. Each campus also received an individual campus or collective Technical College report as well.

INTRODUCTION TO FOOD INSECURITY

Nationally, food insecurity amongst higher education students has been increasingly noted as a problem, now exacerbated by the COVID-19 pandemic. Other national studies around higher education students and food insecurity have demonstrated that college students are at high risk for being food insecure (Goldrick-Rab, et. al., 2019). Food security is defined by the USDA as "access by all people at all times to enough food for an active, healthy life." Food insecurity is a result of financial resource constraint, meaning that a household cannot afford food (Guide to Measuring Household Food Security, 2000). Being food insecure might not always mean going hungry, but it does mean that an individual is forced to change what they eat—often to less nutritious, cheaper food. Despite its importance, data regarding food security and higher education students in Utah is almost non-existent. Utah institutions have not taken part in other national surveys of food security, and each institution collects different data regarding food security issues (Goldrick-Rab, et. al.).

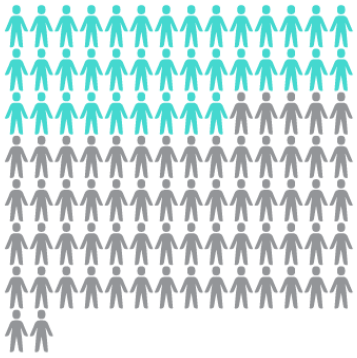
Having a better understanding of food security issues of higher education students is important for a variety of reasons. First, it means that university and college officials can better help get students to graduation and promote student success. Food insecurity can affect students' academic performance and increase the likelihood a student may drop out or take longer to complete their degree (Wolfson, et. al., 2021; Leung, et. al 2021; Breuning, et. al. 2020). It can hinder students from engaging in High Impact Practices (like internships) as they are occupied with taking care of their basic needs, such as housing (Jesch, et. al, 2021). Often times food insecurity issues impact students who already have lower retention rates (first-generation, low-income, ethnic minority, and gender nonconforming) (Bruening, et. al.; Phillips and McDaniel 2018; Payne-Sturges, et. al. 2018). As more parenting students enroll in higher education, issues of food insecurity also affect more children and other dependents (GAO report).

Second, beyond higher education, a strong understanding of food security issues among higher education populations provides statewide data on the food security challenges in a variety of demographic groups, in both rural and urban settings. These data allow government and organizations to align the necessary interventions to help students.

And third, this understanding provides important evidence that those struggling with food are also struggling with other symptoms of poverty and social determinants of health like transportation, housing, health care, and interpersonal violence (Crutchfield et. al, 2020). Those experiencing food insecurity also experienced poorer mental and physical health, including higher rates of hypertension, obesity, depression, diabetes, and anxiety (Hammer, DeWalt, and Berkowitz 2021; Seligman, Laraia, and Kushel 2010; Leung, et. al; Gunderson and Ziliak 2019; Meza, et.al 2019). In order to better meet the needs of students and help promote student success, campuses need to have a better understanding of which students are facing food insecurity, why, and how educational institutions can work with other organizations to help address the intersecting social determinants of health that aggravate food security issues.

Food Insecurity at Weber State University

Key Findings



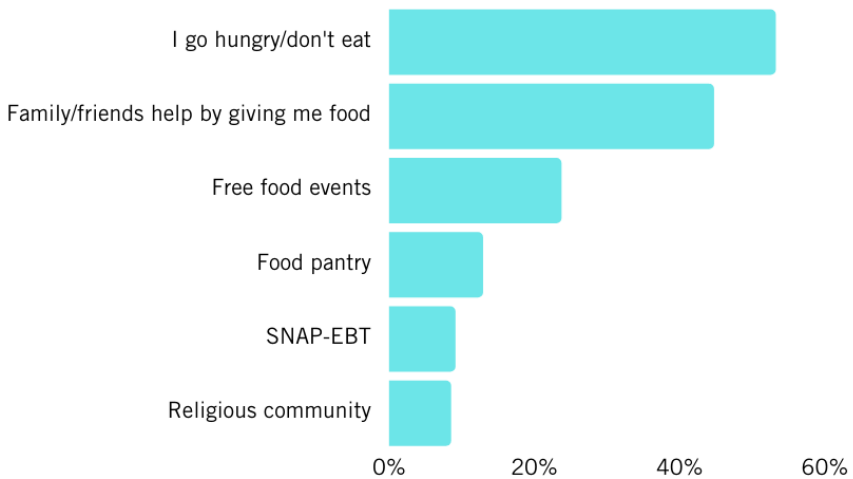
37.3%

of Weber State University students were food insecure within the past year. Twenty-one percent of Weber State University students experienced very low food security.

Food insecure students struggle with other basic needs

About half of food insecure students don't eat when hungry.

How do you cope with not having enough or the right foods to eat?



57.4%

of WSU students who are 'very much' stressed are food insecure.

69.8%

of WSU students who reported 'poor' health are food insecure.

EXTENT AND SEVERITY OF FOOD INSECURITY

The U.S. Department of Agriculture measures food security along a four-point scale ranging from high food security to very low food security. The *Guide to Food Security* describes the different levels as follows:

Food Secure	
High food security	No reported indications of food access problems or limitations.
Marginal food security	One or two reported indications – typically of anxiety over food sufficiency or shortage of food in the house. Little or no indication of changes in diets or food intake.
Food Insecure	
Low food security	Reports of reduced quality, variety, or desirability of diet. Little or no indication of reduced food intake.
Very low food security	Reports of multiple indications of disrupted eating patterns and reduced food intake.

There were 948 Weber State University students who participated in the survey. At Weber State University, 37.3% of students reported experiencing food insecurity within the past year. Twenty-one percent of Weber State University students experienced very low food security. Weber State University students have experienced similar rates of food insecurity compared to the rest of Utah students.

Table 1. Food Security Level of Respondents

Food Security	Weber State University	State of Utah
High Food Security	42.1%	40.0%
Marginal Food Security	20.6%	21.2%
Low Food Security	**16.0%**	**17.7%**
Very Low Food Security	**21.3%**	**21.1%**

USDA Household Survey Question Breakdown

All participants began the survey by answering the questions in the first stage of the USDA Household Food Security Module.

Table 2. USDA Household Food Security Module, Household Stage One

	Often true	Sometimes true	Never true	DK/ refuse
I **worried whether my food would run out** before I got money to buy more.	9.4%	27.7%	62.4%	0.4%
The food that I bought just didn't last, and **I didn't have money to get more**.	5.0%	23.8%	70.3%	0.9%
I **couldn't afford** to eat balanced meals.	19.3%	31.8%	48.3%	0.6%

Respondents who answered 'often true' or 'sometimes true' to any question in household stage one continued to adult stage two. There were 542 respondents who received the questions in adult stage two.

Table 3. USDA Household Food Security Module, Adult Stage Two

In the past 12 months, did (were) you ever…?	Yes	No	DK/refuse
Cut the size of your meals or skip meals because there wasn't enough money for food	50.7%	45.2%	4.1%
Eat less than you let you should because there wasn't enough money for food	53.0%	43.5%	3.5%
Hungry but didn't eat because there wasn't enough money for food	45.2%	52.6%	2.2%
Lose weight because there wasn't enough money for food	20.1%	68.1%	11.8%

Respondents who answered 'yes' to any of the questions in adult stage two continued to adult stage three. There were 336 respondents in adult stage three.

Table 4. USDA Household Food Security Module, Adult Stage Three

In the past 12 months, did you ever…?	Yes	No	DK/refuse
Not eat for a whole day because there wasn't enough money for food	20.2%	76.5%	3.3%

	Almost every month	Some months but not every month	In 1 or 2 months only	DK/Refuse
How often did this happen?	27.9%	48.5%	23.5%	0.0%

Respondents with children under 18 years old received additional questions around food insecurity. There were 223 respondents with children.

Table 5. USDA Household Food Security Module Child Stage One

	Often true	Sometimes true	Never true	DK/ refuse
I relied on only a few kinds of **low-cost food to feed my children** because I was running out of money to buy food.	4.0%	27.4%	66.8%	1.8%
I **couldn't feed my children a balanced meal** because I couldn't afford that.	3.6%	19.3%	74.9%	2.2%
My **children were not eating enough** because I just couldn't afford enough food.	0.9%	4.5%	93.3%	1.3%

Respondents with children who answered 'often true' or 'sometimes true' to any question continued onto child stage two. Eighty-two respondents received the questions in child stage two.

Table 6. USDA Household Food Security Module Child Stage Two

In the past 12 months…	Yes	No	DK/refuse
Did you ever **cut the size of your child(ren)'s meals** because there wasn't enough money for food?	8.5%	89.0%	2.4%
Were the **child(ren) ever hungry** but you just couldn't afford more food?	7.3%	90.2%	2.4%
Did any of the **children ever not eat for a whole day** because there wasn't enough money for food?	0.0%	100%	0.0%
Did you ever **skip meals** because there wasn't enough money for food?	3.7%	96.3%	0.0%

CONTRIBUTING FACTORS TO FOOD INSECURITY AND ITS IMPACT

Housing

Table 7. Current housing situation

What is your housing situation today?	n	%
I have housing	893	94.2%
I DO NOT have housing (staying with others, in a hotel, in a shelter, living outside on the street, in a car, or in a park)	42	4.4%
Prefer not to answer	13	1.4%

- Of the students who do have housing, **36.1%** are food insecure. While there are not many students who lack housing, **57.1%** are food insecure.

Table 8. Worried about losing housing

Are you worried about losing your housing?	n	%
Yes	77	8.8%
No	778	88.8%
Prefer not to answer	21	2.4%

- Of the students who have housing, but are worried about losing their housing, **74.0%** are food insecure. Of students who are not worried about losing their housing, **31.5%** are food insecure.

Table 9. Living arrangements during the academic year

Where do you live during the academic year (August through May)?	n	%
On-campus	63	7.2%
Off-campus	813	92.8%

- Of students who live off-campus, 35.1% are food insecure. Of students who live on-campus, 52.4% are food insecure.

Table 10. Living situation during the academic year

Whom do you live with during the academic year (August through May)?	n	%
Roommates (non-family members)	170	19.4%
My family of origin (father, mother, aunt, uncle, siblings, grandparents, foster parents, etc.)	351	40.1%
My child(ren)	50	5.7%
My partner (no children)	180	20.5%
My partner and child(ren)	156	17.8%
By myself	49	5.6%

- This question was a multiple selection question.
- Food insecurity is more prevalent among students who live with roommates (**58.2%**), who live with children (**58.0%**), and those who live alone (**51.0%**).
- Among students who live with their partner and no children, **33.9%** are food insecure.
- Among those who live with their family of origin, **29.3%** are food insecure, while **26.3%** of those who live with their partner and children are food insecure.

Table 11. Meal plans

Do you have a meal plan through the university/college?	n	%
Yes	41	4.5%
No	823	89.7%
Prefer not to answer	4	0.4%
Not applicable	49	5.3%

Table 12. Primary caregiver

Are you the primary caregiver for any of the following persons?	n	%
Child/ren	179	19.3%
Parents/grandparents	21	2.3%
Siblings	12	1.3%
Other	19	2.0%
None	710	76.6%

- This question was a multiple selection question.
- Food insecurity is very high among students who are primary caregivers for their siblings (**66.7%**).
- Food insecurity has similar rates among students who are primary caregivers for their parents/grandparents (**38.1%**), or for their own children (**37.4%**).

Other Basic Needs

Table 13. Inability to afford basic needs

Have you or any family members you live with been unable to get or pay for any of the following when it was really needed?	Overall	Food secure	Food insecure
Food	19.6%	1.7%	42.4%
Rent/Mortgage	19.2%	6.3%	35.6%
Utilities (electric, gas, internet, water, or sewer, trash, etc.)	18.0%	6.1%	33.1%
Phone	10.9%	3.4%	20.4%
Medicine or health care (dental, mental health, vision, or physical health)	33.5%	20.6%	49.8%
Childcare	3.7%	1.5%	6.5%
Clothing	19.5%	6.6%	35.9%
Other	4.4%	3.6%	5.3%
Prefer not to answer	29.7%	36.7%	20.7%
None	19.9%	33.0%	3.1%

- Among those who are food insecure, **42.4%** could not afford food when it was really needed.
- There were also high rates of food insecure students who could not afford to pay their phone bill (**20.4%**), rent/mortgage (**35.6%**), utilities (**33.1%**), or clothing (**35.9%**).
- Under the 'other' category, most students listed tuition, car repairs, and car insurance.

Health

Table 14. Medical home

Do you have a designated primary care provider or some place you usually go when you need medical advice or care?	n	%
Yes	662	72.2%
No	244	26.6%
Prefer not to answer	11	1.2%

- Among students without a medical home, **52.0%** are food insecure, compared to students with a medical home, **31.4%** of whom are food insecure.

Table 15. Food affordability with medical conditions

Do you have any medical conditions that make it difficult for you to afford the foods you can eat?	n	%
Yes	102	11.1%
No	803	87.6%
Prefer not to answer	12	1.3%

- Students with medical conditions that can make it difficult to afford acceptable foods are much more likely to be food insecure (**73.5%**) compared to students who do not have a medical condition (**32.0%**).

Table 16. Transportation

Has lack of transportation kept you from medical appointments, meetings, work, or from getting things needed for daily living?	n	%
Yes	86	9.4%
No	823	89.7%
Prefer not to answer	8	0.9%

- Students who lack reliable transportation are more likely to be food insecure (**72.1%**) compared to students with reliable transportation (**33.8%**).

Table 17. General health status

Would you say that in general your health is …?	n	%
Excellent	97	10.2%
Very Good	424	44.7%
Fair	382	40.3%
Poor	43	4.5%
Prefer not to answer	2	0.2%

- Food insecurity is more prevalent among students who report 'poor' (**69.8%**) or 'fair' (**53.4%**) health compared to those who report 'very good' (**25.5%**) or 'excellent' (**12.4%**) health.

Social and Emotional Health

Table 18. Social interactions

How often do you see or talk to people that you care about and feel close to?	n	%
Less than once a week	88	9.6%
1-2 times a week	212	23.1%
3-5 times a week	216	23.6%
5 or more times a week	401	43.7%

- Students who see or talk to people that they care about less than once a week are more likely to be food insecure (**63.6%**), compared to students who see or talk to people they care about 1-2 times per week (**48.1%**), 3-5 times a week (**39.8%**), and more than 5 times a week (**24.4%**).

Table 19. Physically and emotionally safe

Do you feel physically and emotionally safe where you currently live?	n	%
Yes	789	86.0%
No	41	4.5%
Unsure	79	8.6%
Prefer not to answer	8	0.9%

- Among students who are not safe at home, **61%** are food insecure. Among students who are unsure of their safety, **57%** are food insecure. Among students who are safe at home, **33.8%** are food insecure.

Table 20. Fear of partner

In the past year, have you been afraid of your partner or ex-partner?	n	%
Yes	51	5.6%
No	821	89.6%
Unsure	26	2.8%
Prefer not to answer	18	2.0%

- Students who fear their partner or ex-partner are more likely to be food insecure (**64.7%**) compared to students who do not fear their partners (**35.6%**).

Table 21. Stress levels

How stressed are you?	n	%
Not at all	22	2.4%
A little bit	113	12.3%
Somewhat	234	25.5%
Quite a bit	292	31.8%
Very much	256	27.9%

- Among students who are 'very much' stressed, **57.4%** are food insecure compared to 'quite a bit' (**37.3%**), 'somewhat' (**26.1%**), and 'not at all' (**22.7%**) respondents.
- Those who responded that they are 'a little bit' stressed, were least likely to be food insecure (**17.7%**).

Employment, Income, and Financial Aid

Table 22. Current work situation

What is your current work situation?	n	%
Unemployed but seeking work	64	7.0%
Unemployed and not seeking work (student or caregiver)	132	14.4%
Temporary work (working for 1 year or less)	26	2.8%
Part-time (less than 40 hours per week)	471	51.4%
Full-time (40+ hours per week)	242	26.4%
Prefer not to answer	12	1.3%

- Among students who work temporarily, **53.8%** are food insecure.
- Among students who are unemployed but looking for work, **43.8%** are food insecure, similar to the **40.1%** food insecure students who work full-time.
- Among students who work part-time, **35.5%** are food insecure, similar to the **32.6%** food insecure students who are unemployed and not looking for work.

Table 23. Work location

Where do you work?	n	%
On-campus employment	79	11.0%
Off-campus employment	607	84.5%
Both	26	3.6%
Prefer not to answer	6	0.8%

- Of students who work on-campus, **49.4%** are food insecure. Among students who work off-campus, **35.4%** are food insecure.

Table 24. Tax dependent

In the past year, did any one claim you as a dependent for tax purposes?	n	%
Yes	248	27.3%
No	597	65.7%
DK/prefer not to answer	64	7.0%

- Students who are not dependents have higher rates of food insecurity (**41.2%**) compared to students who are dependents (**29%**).

Table 25. Financial aid

Do you receive financial aid?	n	%
Yes	675	74.3%
No	216	23.8%
Prefer not to answer	18	2.0%

- Students who received financial aid are more likely to be food insecure (**39.6%**) compared to students who did not receive financial aid (**30.6%**).

Table 26. Household income

During the past year, what was the total combined income for you and the family members you live with?	n	%
Less than $10,000/year	72	7.9%
$10,000-$19,999/year	82	9.0%
$20,000-$29,999/year	92	10.1%
$30,000-$39,999/year	83	9.1%
$40,000-$49,999/year	67	7.4%
$50,000-$59,999/year	77	8.5%
$60,000-$69,999/year	55	6.1%
$70,000+/year	242	26.6%
Prefer not to answer	139	15.3%

- Not surprisingly, students with lower incomes are more likely to be food insecure. Of students who make less than $10,000 a year, **75.0%** are food insecure.
- Of those who make $10,000-$19,999 a year, **62.2%** are food insecure.
- Of those who make $20,000-$29,999 a year, **55.4%** are food insecure.
- Of those who make $30,000-$39,999 a year, **53.0%** are food insecure.
- Of those who make $40,000-$49,999 a year, **32.8%** are food insecure.
- Of those who make $50,000-$59,999 a year, **28.6%** are food insecure.
- Of those who make $60,000-$69,999 a year, **25.5%** are food insecure.
- Of those who make more than $70,000 a year, **12.4%** are food insecure.

Academics

Table 27. Academic performance

Has lack of food affected your academic performance?	n	%
Not at all	319	34.8%
A little bit	159	17.4%
Somewhat	108	11.8%
Quite a bit	31	3.4%
Very much	10	1.1%
Prefer not to answer	7	0.8%
Not applicable	282	30.8%

- Of students who responded that lack of food has impacted their academics 'very much', **100%** are food insecure.
- Of students who responded that lack of food has impacted their academics 'quite a bit', **90.3%** are food insecure.
- Of students who responded that lack of food has impacted their academics 'somewhat', **83.3%** are food insecure.
- Of students who responded that lack of food has impacted their academics 'a little bit', **67.3%** are food insecure.
- Of students who responded that lack of food has impacted their academics 'not at all', **27.9%** are food insecure.

Table 28. GPA

What is your GPA?	Overall	Food secure	Food insecure
Mean	3.43	3.50	3.30
Standard Deviation	0.54	0.49	0.59

- Students who are food insecure have lower GPAs compared to food secure students.

Coping Mechanisms

Table 29. Coping with food insecurity

How do you cope with not having enough or the right foods to eat?	Overall	Food secure	Food insecure
Food pantry	5.9%	1.8%	12.9%
Family/friends help by giving me food	25.9%	14.5%	44.7%
SNAP-EBT benefits	4.0%	0.9%	9.1%
WIC benefits	1.8%	1.8%	1.8%
Assistance from my religious community	4.5%	2.1%	8.5%
I attend free food events	12.6%	5.8%	23.7%
I go hungry/I don't eat	23.8%	6.0%	53.2%
Other	2.8%	1.8%	4.4%
Not applicable	54.5%	78.6%	14.6%

- About **half** of food insecure students rely on family and friends for food and/or don't eat when hungry.

WEBER STATE UNIVERSITY-SPECIFIC QUESTIONS

Weber State University submitted three questions for their student body to consider.

Table 30. Weber Cares Pantry

The Weber Cares Food & Resource Pantry is located on the Ogden Campus. The Weber Cares Pantry strives to increase healthy eating options, decrease food insecurity, and increase students' ability to stay in school and finish their degree. The Weber Cares Pantry provides free food to the WSU community to ensure food is not a barrier to academic success.

Before reading this description, did you know what the Weber Cares Pantry is?	Overall	Food secure	Food insecure
Yes, and I have used it in the last 12 months	1.7%	0.7%	3.3%
Yes, I have used it more than 12 months ago	1.2%	0.2%	3.0%
Yes, but I have never used it	38.3%	43.5%	29.5%
No, I did not know what the Weber Cares Pantry was	58.8%	55.6%	64.3%

Table 31. Barriers

Are there any barriers that prevent you from using the Weber Cares Pantry?	Overall	Food secure	Food insecure
I don't know how to use the Weber Cares Pantry	33.8%	21.8%	53.9%
Culturally appropriate food is not available	0.9%	0.4%	1.8%
I have special dietary restrictions due to medical reasons and the pantry does not carry food I need	2.7%	1.1%	5.4%
I do not like the food available in the pantry	0.9%	0.5%	1.5%
Location is inconvenient	8.5%	6.0%	12.6%
Pantry opens too late	0.9%	0.7%	1.2%
Pantry closes too early	3.1%	1.4%	6.0%
I am embarrassed to use the pantry	15.5%	6.7%	30.2%
It is difficult to carry the food back home	2.7%	0.7%	6.0%
Weber Cares staff are unfriendly	0.3%	0.2%	0.6%
None	57.1%	74.1%	28.4%

Table 32. Pantry met your needs

If you have used the Weber Cares Pantry within the past year, how well did it meet your needs on your most recent visit?	Overall	Food secure	Food insecure
I did not use the Weber Cares Pantry in the past year	38.5%	40.0%	38.1%
Slightly met my needs	34.6%	20.0%	38.1%
Met my needs	23.1%	20.0%	23.8%
Exceeded my needs	3.8%	20.0%	0.0%

APPENDIX A: DEMOGRAPHICS

Table 33. Race and Ethnicity

Race/ethnicity	n	%
Asian	46	5.1%
American Indian or Alaskan Native	20	2.2%
Black or African American	19	2.1%
Hispanic	142	15.6%
Native Hawaiian or Pacific Islander	9	1.0%
Other	34	3.7%
Prefer not to answer	30	3.3%
White (non-Hispanic)	718	79.1%

Note: The 'race' question permitted multiple selections, so percentages exceed 100%.

Table 34. Gender

Gender	n	%
Male	244	26.8%
Female	638	70.2%
Non-binary	18	2.0%
Self-identify	7	0.8%
Prefer not to answer	2	0.2%

Table 35. Special populations

Special populations	n	%
Armed Forces	25	2.8%
Refugee	0	0.0%

Table 36. Legal status

Legal status	n	%
U.S. citizen	875	96.3%
Permanent or conditional resident	11	1.2%
Non-immigrant	14	1.5%
Other status	7	0.8%
Prefer not to answer	2	0.2%

Table 37. Home language

Home language	n	%
English	884	97.2%
Spanish	9	1.0%
Other	11	1.2%
Prefer not to answer	5	0.6%

Table 38. Parental education

What is the highest level of education completed by either of your parents (or those who raised you)?	n	%
Did not finish high school	44	4.8%
High school diploma or G.E.D.	134	14.6%
Technical degree or certificate	40	4.4%
Attended college, but did not complete degree	81	8.8%
Associate's degree	101	11.0%
Bachelor's degree	304	33.2%
Master's degree	163	17.8%
Doctoral or professional degree	39	4.3%
Do not know/prefer not to answer	11	1.2%

Table 39. Academic status

Academic status	n	%
Full-time	693	75.7%
Part-time	223	24.3%

Table 40. Year in school

Year in school	n	%
Technical college student	3	0.3%
First year undergraduate	164	17.9%
Second year undergraduate	205	22.4%
Third year undergraduate	211	23.0%
Fourth year undergraduate	165	18.0%
Fifth year undergraduate	103	11.2%
Graduate student	66	7.2%

APPENDIX B: SURVEY METHODOLOGY

Survey Development Team. As mentioned in the Acknowledgements section, Melissa Hall led the survey development team along with Alex Cragun, Katharine French-Fuller, and primary investigator Yesenia Quintana. Other members of the team provided expertise on food security, higher education safety nets, and survey design. The team met regularly to discuss content issues and concerns around methodology.

USDA Household Food Security Module. The USDA Household Food Security Module is a robust and stable measure of food insecurity. The survey has undergone rigorous analysis and modifications over the course of three decades. The survey is a 10 to 18 question module that measures food insecurity along a continuous linear scale. A higher score indicates higher food insecurity. The questions measure reported behavior based on financial limitations within the past year. The survey has three levels of screeners to reduce respondent burden. As food insecurity increases, participants proceed through the three stages of the survey. Respondents with children answer additional questions to gauge the level of food insecurity experienced by children. To keep survey integrity, there were no modifications to the survey.

According to the Guide to Measuring Household Food Security, the survey is an appropriate tool to measure food insecurity not only nationwide but also among smaller, local, targeted populations. Another tool, the USDA Adult Food Security Module, is shorter but fails to capture the experience of households with children. Considering Utah's demographics, the survey development team moved forward with the USDA Household Food Security Module. Other nationwide surveys that attempt to gauge food insecurity among higher education students have used either the USDA Household or the Adult Food Security Module. Using the USDA surveys allows researchers to draw direct comparisons with other populations.

PRAPARE Assessment Tool. The Protocol for Responding to and Assessing Patients' Assets, Risks, and Experiences (PRAPARE) Assessment Tool is a comprehensive tool used mainly by healthcare providers to "better understand and act" on social determinants of health. Some of Utah's healthcare providers currently use it as part of their intake. The PRAPARE assessment has the following core measures: race, ethnicity, veteran status, language, housing status, housing stability, education, employment, insurance, income, transportation, social integration and support, stress, refugee status, safety, and domestic violence—among others. It is the most comprehensive and validated tool on social determinants of health available. Better understanding how social determinants of health interact with food insecurity provides stakeholders with data to support equitable solutions.

Other Survey Questions. In addition to the questions from the sources listed above, the survey development team also considered and reviewed a number of additional survey questions applicable for higher education as well as additional questions around other stressors. These included questions about caregiver status, health, food accessibility, documentation status, coping mechanisms, and academic performance. Additionally, each school was allowed to submit up to three additional questions for their specific student body. Weber State University submitted three additional questions.

Student Input. To ascertain content validity, the CRE conducted focus groups with several student groups. Student groups included undergraduate students within nutrition programs, undergraduates in unrelated programs, technical college students, and graduate students. Students varied in gender, year in college, race and ethnicity, and major. Focus group questions focused on the PRAPARE assessment and other survey questions. Students did not give feedback on the USDA Household Food Security Module. Students explained their understanding of the questions to the focus group facilitator and reviewed answer options for relevance. Facilitators asked probing questions to generate critical thinking about the questions. To thank them for their time, students received a small incentive gift card. Student feedback led to some modifications to survey questions and response options.

Student Resources. After taking the survey, students were redirected to an incentives and resources page. The resources page included information about campus basic needs programs as well as local community supports.

Sample, Survey Distribution, and Incentives

Weber State University produced a random sample of 5,965 students. Weber State University distributed the survey through email using Qualtrics on September 20, 2021. The survey closed on October 22, 2021. Students received five email reminders to take the survey. The response rate was 15.9% and completion rate was 92.9%.

To incentivize participation, students had the option of entering into a drawing for $25 gift cards. Once a student completed the survey, they were redirected to the incentives and resources survey. If they were interested in entering the drawing, they submitted their name, email, and phone number. A total of 224 $25 gift cards were proportionately distributed to all participating institutions. Distribution was based on response rate with every campus guaranteed at least one gift card. Weber State University received 36 gift cards. Students selected via the drawing received an email notifying them that they were the card recipients, allowing them access to a website that gives them freedom to select the gift card that they desire. United Way of Salt Lake distributed the gift cards.

APPENDIX C: REFERENCES

Bickel, G., Nord, M., Price, C., Hamilton, W., & Cook, J. (2000). *Guide to Measuring Household Food Security, Revised 2000*. U.S. Department of Agriculture, Food and Nutrition Service, Alexandria VA. March, 2000.

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

Crutchfield, R. M., Carpena, A., McCloyn, T. N., & Maguire, J. (2020). The Starving Student Narrative: How Normalizing Deprivation Reinforces Basic Need Insecurity in Higher Education. *Families in Society: Journal of Contemporary Social Services*, *101*(3), 409–421.

Dubick, J., Mathews, B., & Cady, C. (2016). *Hunger on Campus: The Challenge of Food Insecurity for College Students.* College and University Food Bank Alliance.

Goldrick-Rab, S., Baker-Smith, C., Coca, V., Looker, E., & Williams, T. (2019). *College and University Basic Needs Insecurity: A National #RealCollege Survey Report*. The Hope Center. https://hope4college.com/wp-content/uploads/2019/04/HOPE_realcollege_National_report_digital.pdf

Gundersen C, & Ziliak, JP. Food Insecurity And Health Outcomes. *Health Aff Proj Hope*. 2015;34(11):1830-1839.

Hanmer, J., DeWalt, D. A., & Berkowitz, S. A. (2021). Association between Food Insecurity and Health-Related Quality of Life: A Nationally Representative Survey. *JGIM: Journal of General Internal Medicine*, *36*(6), 1638–1647.

Health Research & Educational Trust. (2017, June). Social determinants of health series: Food insecurity and the role of hospitals. Chicago, IL: Health Research & Educational Trust. Accessed at www.aha.org/foodinsecurity

Jesch, E., Colgan, C., Perdomo, K., Pressman, E., & Bajracharya, S. (2021). Food Insecurity (FI) in Colleges and Universities: A Needs Assessment of Student Population. *International Journal of Health, Wellness & Society*, *11*(1), 171–187.

Leung, C. W., Insolera, N., Cohen, A. J., & Wolfson, J. A. (2021). The Long-Term Effect of Food Insecurity During College on Future Food Insecurity. *American Journal of Preventive Medicine*, *61*(6), 923–926.

Leung, C. W., Epel, E. S., Willett, W. C., Rimm, E. B., & Laraia, B. A. Household Food Insecurity Is Positively Associated with Depression among Low-Income Supplemental Nutrition Assistance Program Participants and Income-Eligible Nonparticipants. *J Nutr*. 2015;145(3):622-627.

Martinez, S. M., Frongillo, E. A., Leung, C., & Ritchie, L. (2020). No food for thought: food insecurity is related to poor mental health and lower academic performance among students in California's public university system. *J Health Psychol*, 25 (12), pp. 1930-1939.

Meza, A., Altman, E., Martinez, S., & Leung, C. W. (2019). "It's a Feeling That One Is Not Worth Food": A Qualitative Study Exploring the Psychosocial Experience and Academic Consequences of Food Insecurity Among College Students. *Journal of the Academy of Nutrition & Dietetics*, *119*(10), 1713.

National Association of Community Health Centers. (2021). *PRAPARE Implementation and Action Toolkit.* https://www.nachc.org/wp-content/uploads/2020/07/NACHC_PRAPARE_ALL-Updated-7.13.20-Translations-Included.pdf

Payne-Sturges, D., Tjaden, A., Caldeira, K., Vincent, K., & Arria, A. (2018). *Student hunger on campus: Food insecurity among college students and implications for academic institutions.* University of Maryland School of Public Health.

Phillips, E., McDaniel, A., & Croft, A. (218). Food insecurity and academic disruption among college students. *J Stud Aff Res Pract,* 55 (4) , 353-372.

Seligman, HK, Laraia, BA, & Kushel, MB. Food insecurity is associated with chronic disease among low-income NHANES participants. *J Nutr.* 2010;140(2):304-310.

U.S. Government Accountability Office, Food insecurity: better information could help eligible college students access federal food assistance benefits**,** U.S. Government Accountability Office, Washington, DC (Published December 2018). https://www.gao.gov/assets/gao-19-95.pdf; https://hope4college.com/wp-content/uploads/2020/05/2019_ParentingStudentsReport.pdf

Wolfson, J., Insolera, N., Cohen, A., & Leung, C. (2021). The effect of food insecurity during college on graduation and type of degree attained: Evidence from a nationally representative longitudinal survey. *Public Health Nutrition,* 1-9.