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Food Insecurity on WMU's Campus: Student Satisfaction of The Invisible Need Project

An Undergraduate Thesis

Western Michigan University

Lee Honors College

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Abstract

Previous research suggests that food insecurity is higher among college students and individuals from minority populations than the general population. Many college campuses have recognized this issue and developed on-campus food pantries to mitigate food insecurity among students. Nevertheless, barriers exist that prevent students from utilizing on-campus pantries. The purpose of this study was to investigate college students' relationship to food and food access at Western Michigan University (WMU). Student satisfaction of WMU's on-campus food pantry, The Invisible Need Project, was also explored. Data were gathered through a 28-question online survey and one in-person focus group. Participants were undergraduate and graduate students at WMU. Prior utilization of the food pantry was not required for participation in this study. Results indicate that barriers to food access present a prominent issue at WMU with 51.1% of respondents reporting worrying about running out of food before having enough money to buy more since attending college. A significant relationship was found between incidence of worrying about food access and first-generation college students ($p < 0.05$). Ethnicity was also significantly related to worrying about running out of food ($p < 0.05$). 57.3% of respondents reported awareness of WMU's food pantry, but just 14.8% of those who were aware of the food pantry reported utilizing it. Prevalent reasons for not using the food pantry included: having adequate access to food, being unsure how to utilize the food pantry, and believing that others have a greater need for its resources.

Introduction

This research project was designed to explore college students' relationship to food and food insecurity at Western Michigan University (WMU). Student satisfaction of WMU's on-campus food pantry was also assessed in this study. The following paper includes a literature review, methods, results, and discussion of this study's limitations. This project was completed to fulfill undergraduate requirements of the Lee Honor's College at Western Michigan University.

Literature Review

Each day thousands of college students experience stress regarding their ability to obtain food. When students' minds are flooded with anxious thoughts about where their next meal will come from and exams are interrupted by hunger pangs, achieving academic success can be especially difficult. Tuition costs are on the rise, and many students do not have support systems to rely on (Dubick, Mathews & Cady, 2016). A 2017 systematic review of peer-reviewed studies found that approximately 42% of college students experience food insecurity (Bruening, Payne-Sturges, & Laska, 2017). In recent years, universities have recognized this pressing issue, and many institutions have implemented programs, such as on-campus food pantries, to mitigate food insecurity among their students. Nevertheless, college students continue to be impacted by food insecurity and its multifaceted effects at alarming rates (Bruening et al., 2017 & Dubick et al., 2016).

The USDA (2019a) defines food insecurity as "limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in

socially acceptable ways.” In discussing levels of food security, the USDA characterizes very low food security as a reduction of food intake and disrupted eating patterns due to lack of resources (USDA, 2019a). Low food security implies that individuals experience a reduction in the “quality, variety, and desirability of diets” but not the quantity of food eaten (USDA, 2019a). Individuals who experience marginal food security may experience anxiety about accessing adequate food but do not substantially reduce the quality, variety, and quantity of food in their diet. High food security occurs when people do not experience problems or anxiety regarding food accessibility (USDA, 2019a).

Current research suggests that food insecurity negatively impacts students academically, socially, psychologically, and physically. Patton-Lopez, López-Cevallos, Cancel-Tirado and Vasquez (2014) found that food insecure students attending a rural university in Oregon were more likely to have a GPA below 3.1 than their food secure peers. A cross-sectional analysis conducted by Pruitt et al. (2016) found that food insecure individuals experienced poor physical and mental health days more frequently, lower self-reported health, higher BMIs, and higher prevalence of diabetes. Depressive symptoms are also more common among students experiencing food insecurity (Arria, 2017; Payne-Sturges, Tjane, Caldeira, Vincent, & Pruitt et al., 2016). Food insecurity is undoubtedly detrimental to overall life quality and college students are far more likely to experience these challenges than the general population. Experts estimate that nearly half of all college students experience inadequate access to food, compared to 11% of households in the general population (Dubick et al., 2016; USDA, 2019b).

An extensive body of research suggests that college students who have minority racial identities are more likely to experience food insecurity. Several studies have reported a correlation between African American students and food insecurity. In a study that took place at

34 colleges in 12 different states, Dubick et al. (2016) found that 57% of surveyed African American students experienced food insecurity. In contrast, 40% of their surveyed white peers reported being food insecure. When the Wisconsin Hope Lab conducted the largest national survey assessing the security needs of four-year university students, data revealed similar disparities. According to the survey, African American students reported percentages of food insecurity 17 points higher than white students (Goldrick-Rab et al., 2018). Furthermore, Moroto et al. (2015) found a significant relationship between food insecurity and race in their surveys with 61% of African Americans experiencing food insecurity, while 32% of white respondents reported being food insecure. Payne-Sturges et al. (2017) also found similar disparities between race and food insecurity as African American students were more likely to be food insecure or at risk than their white peers, even after adjusting for age, gender, and family income.

Data also suggest that Latino and Hispanic college students are more likely to experience food insecurity than their white peers. The Wisconsin Hope Survey found that 42% of Hispanic and Latino students reported being food insecure compared to 30% of surveyed white students (Goldrick-Rab et al., 2018). Maroto, Snelling, and Linck (2015) found that 50% of Hispanic students were food insecure, while 32% of white students reported experiencing food insecurity. According to the 2016 Hunger on Campus Report, approximately 56% of Hispanic and Latino students reported experiencing food insecurity, while 40% of surveyed white college students reported being food insecure (Dubick et al., 2018). Very low food security also seems to be alarmingly high among Latino and Hispanic students. The 2016 Hunger on Campus Report found that approximately 25% of Hispanic and Latino students experience very low food insecurity whereas 17% of surveyed white students experienced very low food insecurity (Dubick et al., 2018).

Little data exist regarding the relationship between Asian and Native American students' relationship to food insecurity. The 2016 Hunger on Campus Report found that 44% of surveyed students who are Asian were food insecure (Dubick et al., 2016). According to the Wisconsin Hope Lab, 30% of both Native American and white students attending a four-year institution reported experiencing food insecurity (Goldrick-Rab et al., 2018). However, when incidences of food insecurity among Native American students attending a 2-year college were compared to their white peers attending similar institutions, the disparities were much more evident. While 37% of white students attending a 2-year institution reported incidences of food insecurity, 55% of Native American students were food insecure, which was the highest percentage of food insecurity reported at a 2-year institution by any race (Goldrick-Rab et al., 2018).

Students with minority sexual orientations are also disproportionately impacted by food insecurity when compared to their heterosexual peers. The Wisconsin Hope Lab's research found that 43% of homosexual university students reported experiencing food insecurity, while 33% of heterosexual students attending a four-year university reported being food insecure (Dubick et al., 2016). Bisexual students reported the highest rates of food insecurity than any other sexual orientation accounted for by the survey (Dubick et al., 2016). Researchers at the Wisconsin Hope Lab believe that the elevated incidences of food insecurity among homosexual and bisexual students are due to the risk of family estrangement and lack of support from families that many homosexual and bisexual students experience (Goldrick-Rab et al., 2016).

Research also suggests that food insecurity disproportionately impacts students who identify with minority gender identities. The Wisconsin Hope Lab's research found that 37% of surveyed females attending a four-year institution experience food insecurity whereas 28% of surveyed males experience food insecurity (Goldrick-Rab et al., 2018). Prevalence of food

security was even lower for non-binary students according to the Wisconsin Hope Lab. Of the non-binary students surveyed, 46% attending a four-year institution reported experiencing food insecurity. (Golrick-Rab et al., 2018). Non-binary students are also more likely to experience alienation and lack of financial support from family members, which may contribute to the increased prevalence of food insecurity among non-binary students (Goldrick-Rab et al., 2018).

Limited research also suggests that first-generation college students are more likely to be impacted by food insecurity. A 2018 Governmental Accountability Office identified being a first-generation college student as a risk factor for experiencing food insecurity (GAO, 2018). Dubick et al. (2016) found that 56% of first-generation college students experienced food insecurity, while 45% of students with a parent who attended college were food insecure.

On-campus food pantries are popular programs throughout the country for improving food accessibility among college students. According to Dubick et al. (2016), students are more likely to utilize on-campus food pantries because they do not require students to travel off campus, and students often view the program as a student resource rather than a community program. Several barriers may prevent students from utilizing on-campus food pantries, however the literature is limited. To date, only one study has been identified that assesses barriers and perceived barriers of food pantry use among college students. El Zein, Mathews, House, & Shelnut (2018) found that only 38% of food insecure students at the University of Florida reported using the food pantry. Four main barriers to utilizing the food pantry were insufficient information on pantry policies, inconvenient hours, self-identity, and social stigma (El Zein et al., 2018).

Overall, research suggests that college students are more likely to experience food insecurity than the rest of the population, especially students who are of minority racial, gender,

and sexual orientation identities. Furthermore, research suggests that food insecurity negatively impacts college students in various realms of life. On-campus food pantries can be a helpful resource in mitigating food insecurity, but barriers can exist that prevent college students from utilizing their resources. The purpose of this study is to explore food insecurity on WMU's campus, students' relationship to food, and student satisfaction with the Invisible Need Project, WMU's on-campus food pantry.

Methodology

Qualitative and quantitative data for this research project were collected through an online survey and an in-person focus group. In May 2019, all undergraduate students and a random sample of 1,500 graduate students who were enrolled in spring 2019 classes at WMU were recruited for this study. Students were invited to participate in an online survey containing 28 multiple choice, yes/no, and open-ended questions through the WMU secure survey system. The email list of participants was provided by Western Michigan University's Office of Institutional Research. Potential participants were contacted by the researcher via WMU email.

Interested students followed a link to the online survey (Appendix A), and individuals who completed the online survey were directed to a second survey that asked if they were interested in learning more about a focus group on food insecurity and the Invisible Need Project. Other potential participants for focus groups were recruited at the Invisible Need Project food pantry by providing their contact information on a sheet of paper provided at the pantry. Potential participants were told that 10 focus group participants would receive a \$15 gift card to a local grocery store. Students who expressed interest in participating in a focus group were sent a copy of the focus group informed consent document via email prior to the day of the focus group. Ultimately, two individuals attended the focus group. Participants were asked a series of 5

questions about their relationship to food insecurity and the Invisible Need Project (Appendix B). A voice recording was taken while the focus group took place and a transcription was created for qualitative analysis.

Frequency and cross-tabulation statistics were analyzed using SPSS software of the online survey questions. Open-ended questions were qualitatively analyzed to determine general themes throughout students' answers. This research was approved by Western Michigan University's Human Subjects Institutional Review Board.

Results

Frequency Statistics

A summary of descriptive statistics is displayed in Table 1. In total 403 students completed the survey and 365 expressed interest in learning more about participating in a focus group about food insecurity on WMU's campus and student satisfaction of the Invisible Need Project. The average age of respondents was 22.65 years, and 24.3% were first generation college students. See Appendix C for all descriptive statistics. Students were given the option to identify as female, male, gender-variant/non-conforming, transgender female, transgender male, and prefer not to answer in an effort to identify gender disparities in relation to food insecurity. However, due to very low response rates, transgender males were collapsed to the male category. There were no respondents who identified as transgender female. Individuals who identified as gender variant/nonconforming and prefer not to answer were treated as missing data due to low response rates. Race data were also collapsed into three categories due to low response rates: black/African American, white, and other. Collapsed data showed 69.7% of survey participants

were female and 30.3% were male. 8.2% of participants identified as black/African American, while 80.8% of participants were white. 11.0% of participants fell into the other category.

Table 1: Summary of Data			
	Response	Frequency	Percent
Ethnicity	Black/African American	31	8.2%
	White	307	80.8%
	Other	42	11.0%
Gender	Female	269	69.7%
	Male	117	30.3%
First Generation College Student	Yes	93	24.3%
	No	290	75.7%
Age (mean)	22.65 years		
Worried about running out of food before obtaining money to buy more prior to attending college	Yes	91	23.3%
	No	299	76.7%
Worried about running out of food before obtaining money to buy more since attending college	Yes	206	51.1%
	No	197	48.9%
Worried about running out of food before obtaining money to buy more within the last semester	Yes	175	45.1%
	No	213	54.9%
Typically eat well-balanced meals	Yes	221	57.0%
	No	167	43.0%
Eat breakfast on an average day	Yes	189	46.9%
	No	214	53.1%
Eat meals or snacks throughout the day	Yes	340	84.4%
	No	63	15.6%
Reasons for not eating meals and snacks throughout the day	Limited time	26	
	Limited money	18	
Aware of INP food pantry	Yes	225	57.3%
	No	168	42.7%

INP pantry use in students who were aware of pantry	Yes	34	14.8%
	No	196	85.2%
Reason for not using INP food pantry	Adequate access to food	111	
	Others need the pantry more	20	
	Unsure how to use the pantry	34	

Approximately 53% of students reported that they do not eat breakfast on an average school day, and 15.6% reported not eating meals or snacks throughout the day. Students who stated that they do not eat meals or snacks throughout the day were asked why. During qualitative analysis, two response categories emerged: limited money and limited time. For respondents that included both time and money as reasons why they did not consume meals and snacks throughout the day, the reason stated first in the response determined the category. Only 17.9% of respondents reported having a meal plan and of those respondents 10.2% reported adding additional dining dollars to their student account to pay for more food.

While just 23.3% of students reported worrying about whether their food would run out before obtaining enough money to buy more prior to attending college, 51.1% reported worrying after attending college and 45.1% stated that they had worried in the last semester. 57.3% stated that they were aware of WMU’s on-campus food pantry, the Invisible Need Project, but only 14.8% reported ever using it. Students who reported never having used the pantry were asked why and three themes emerged. 111 students stated that they had adequate access to food, 20 participants were unsure how to use the food pantry, and 34 students felt that other students need its resources more. Analysis of two open-ended questions (Q3 and Q5) on the survey showed no common themes across the responses (Appendix A).

Crosstabulation Results

Several relationships were hypothesized as potentially significant. Each of these is reviewed in this section.

Since attending college, I worried whether or not my food would run out before I got money to buy more.				
Are you the first person in your family to go to college?		Yes	No	Total
	Yes	66	27	93
	No	132	158	290
	Total:	198	185	383
p<0.05				

The data suggest that first generation students were significantly more likely to have worried about running out of food since attending college, while non-first-generation college students were not ($p<0.05$). 71.0% (66/93) of first-generation students reported worrying about running out of food since attending college.

Since attending college, I worried whether or not my food would run out before I got money to buy more.				
Please circle one to specify your ethnicity		Yes	No	Total
	Black/African American	22	9	31
	White	148	159	307
	Other	26	16	42
	Total:	196	184	380
p<0.05				

A significant relationship between ethnicity and worrying about running out of food since attending college was found. 71.0% (22/31) of students who identified as black/African American reported worrying about running out of food since attending college, and 48.2% of white students reported worrying in college. When data from students who identify as Native American or American Indian, Asian/Pacific Islander, or other were all collapsed into an “other” category, 61.9% of students reported food insecurity in college.

Since attending college, I worried whether or not my food would run out before I got money to buy more.				
Gender		Yes	No	Total
	Female	147	122	269
	Male	52	65	117
	Total:	199	187	386
p>0.05				

54.6% of females (147/269) reported worrying about running out of food since attending college while 44.4% (52/117) of male respondents reported worrying about running out of food. However, the relationship was not significant ($p>0.05$).

Do you eat meals or snacks throughout the day?				
Are you the first person in your family to go to college?		Yes	No	Total
	Yes	77	16	93
	No	247	43	290
	Total:	324	59	383
p>0.05				

A significant relationship between first generation college students and consuming meals and snacks throughout the day was not found ($p>0.05$). 17% of first-generation college students

do not eat meals or snacks throughout the day, while 14.8% of non-first-generation college students reported that they typically do not eat meals or snacks throughout the day.

Are you aware of WMU’s on-campus food pantry, the Invisible Need Project?				
Are you the first person in your family to go to college?		Yes	No	Total
	Yes	52	40	92
	No	168	117	285
	Total:	220	157	377
p>0.05				

There was no statistically significant relationship between being a first-generation student and having awareness of the Invisible Need Project food pantry ($p>0.05$). 56.5% (52/92) of first-generation college students were aware of the on-campus food pantry, while 58.9% (168/285) of participants who are not first-generation college students were aware of the food pantry.

Qualitative Survey Summary

When asked what types of foods students hope to find at the Invisible Need Project food pantry, fresh foods and shelf-stable foods were two common themes. Several students reported hoping to be able to find fresh fruits and vegetables when utilizing the Invisible Need Project’s resources, while many students reported hoping to find “whole foods” and “vegetarian options” at the food pantry. However, many students reported looking for foods that would last long periods of time without spoiling and involve limited preparation. Pastas, soups, canned tuna, peanut butter, cereals, and canned goods were common items looked for among users. Respondents also mentioned that they look for foods that could be easily prepared in a microwave oven or with limited kitchen utensils.

Focus Group Narrative

Two WMU students participated in one focus group on June 24, 2019. Students were asked five questions about their relationship to food and food insecurity.

1. Prior to attending WMU, what did a typical day of eating look like for you?

Student one reported that life before college was unpredictable. They mentioned that they were food insecure prior to attending college and often food insecure in college. Student two reported having adequate access to food prior to attending college. However, they discussed experiencing food allergies and digestive issues. Student two mentioned that they ate irregularly and often went long periods of time without eating.

2. Would you like to share what a typical day of eating looks like in college now as opposed to before you started at WMU?

Student one reported that the quality of food that they are able to obtain in college remains unpredictable. They often use the Invisible Need Project's food pantry, which has helped increase their access to food. Student one reported that obtaining fresh fruits and vegetables has been difficult during their time at Western Michigan. Additionally, they mentioned that they have insulin resistance and limited access to food with low carbohydrate and high fiber content. Student one also reported that they wish they could obtain foods with more protein and fiber at the pantry. They also reported that their schedule does not permit them to sit down and eat breakfast in the mornings. Student two reported that they still have access to an adequate amount of nutritious food. Since attending college, they eat three meals each day plus a dessert. They reported consuming large breakfasts in the mornings and loving sugar.

3. Have you had experience using the pantry and if so could you tell me about your experience with the Invisible Need Project?

Student one reported that the Invisible Need Project's food pantry was their primary source of food during their first year at WMU. They also mentioned that they appreciate the variety of foods available at the food pantry, and they enjoy picking up canned soups for on-the-go lunches. Student two stated that they had never been to the food pantry.

4. If you had the opportunity to alter the Invisible Need Project Food Pantry in any way to suit your needs, what would you change?

Student one mentioned that they would like to see more fresh food and frozen vegetables at the food pantry. Student two mentioned again that they had never been to the food pantry, but if they did use the food pantry they would like to see foods without major allergens.

5. If you currently do not use the Invisible Need Project, could you tell me why or why not?

Student two mentioned that they have financial support and have adequate access to food.

Discussion/Conclusion

Overall, results of this study are consistent with prior research regarding prevalence of food insecurity among college students. Data indicate that food insecurity is a prominent issue among students attending WMU. 51.1% of participants worried about running out of food before having enough money to buy more, while 23.3% of respondents reported worrying prior to attending college. 45.1% of students reported worrying about running out of food within the last semester. 15.6% of students reported not eating meals or snacks throughout the day. When asked why students do not eat meals or snack throughout the day, limited time and limited money were prominent answers among participants.

57.3% of respondents were aware of WMU's food pantry, but just 14.8% of those who were aware of the food pantry reported using it. Common reasons for not utilizing the food

pantry include having adequate access to food, being unsure how to utilize the food pantry, and believing that others have a greater need for its resources.

Qualitative data indicate that individuals who utilize the Invisible Need Project's resources hope to see a variety of foods at the pantry. Several students indicated that they hope to find fresh fruits and vegetables, "whole foods," and "vegetarian options" at the food pantry. However, many students reported looking for convenient foods with long shelf lives. Students also indicated that they look for foods that could be prepared with limited cooking utensils.

This study suggests that a significant relationship exists between ethnicity and worrying about running out of food ($p < 0.05$). Being a first-generation college student was also significantly associated with incidence of worrying about running out of food ($p < 0.05$). A significant relationship was not found between gender and food access. Being a first-generation college student was not significantly associated with food pantry awareness or consuming meals or snacks throughout the day.

A major limitation of this study is that it did not use a validated survey to measure food insecurity among college students. To most accurately determine the incidence of food insecurity at WMU, a validated survey tool, such as the U.S. Adult Food Security Survey Module, should be used in future studies (USDA, 2019c). Other limitations include the low response rates among various groups of students and the small focus group size. Although all students enrolled in spring 2019 classes were invited to participate in the survey, there was limited participation among students of minority ethnicities, gender, and sexual identities. Further research should be done to better assess the incidence of food insecurity among Hispanic or Latino, Native American or American Indian, and Asian/Pacific Islander students and ultimately mitigate barriers to food access at Western Michigan University. Additionally, further research should be

done to assess food insecurity among international students and students in the LGBTQ+ community to best understand underlying causes and potential solutions to food insecurity among college students at WMU.

Appendix A—Survey Questions

1. Approximately how many meals do you eat on an average school day?

- 0
- 1
- 2
- 3
- 4
- 5
- 6 or more

2. On an average school day, do you eat breakfast?

3. If you responded yes to question 2, what does a typical breakfast look like for you?

4. Do you eat meals or snacks throughout the day?

- Yes
- No

5. If you responded no to question 4, please explain why.

6. Whether yes or no to question 4, what is an average pattern for your eating in a day?

7. In an average week, please indicate the number of your meals that are prepared at home by combining mostly whole foods.

- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10 or more

8. In an average week, please indicate the number of your meals that are prepared at home from packaged foods.

- 0
- 1
- 2

- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10 or more

9. In an average week, please indicate the number of your meals that are frozen meals eaten at home.

- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10 or more

10. In an average week, please indicate the number of your meals that are fast food eaten while sitting down.

- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10 or more

11. In an average week, please indicate the number of your meals that are fast food eaten in a car.

- 0
- 1
- 2
- 3

- 4
- 5
- 6
- 7
- 8
- 9
- 10 or more

12. In an average week, please indicate the number of your meals that are meals in the dining hall.

- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10 or more

13. Do you have a meal plan?

- Yes
- No

14. If you have a meal plan, what type of meal plan do you have?

- Housing Meal Plan
- Commuter Meal Plan
- Not Applicable

15. Do you add additional dining dollars to your student account to pay for food?

- Yes
- No
- Not applicable

16. *Prior to attending college*, I worried whether my food would run out before I got money to buy more.

- Yes
- No

17. *Since attending college*, I worried whether or not my food would run out before I got money to buy more.

Yes
No

18. *Within the last semester*, I worried whether my food would run out before I got money to buy more.

Yes
No

19. I feel that I typically eat well-balanced meals.

Yes
No

20. Are you aware of WMU's on-campus food pantry, the Invisible Need Project?

Yes
No

21. If you responded yes to question 20, have you ever used it?

Yes
No
Not Applicable

22. If you responded not to question 21, please tell us why.

23. If you currently use the Invisible Need Project's resources, what types of foods do you usually hope to find there?

24. If you currently use the Invisible Need Project's resources, do you feel that you would benefit from recipes using foods available in the food pantry?

Yes
No

25. What is your age in years?

26. Are you the first person in your family to go to college?

Yes
No

27. Please circle one to specify your ethnicity.

- Asian / Pacific Islander
- Black or African American
- Hispanic or Latino
- Native American or American Indian
- White
- Prefer not to say
- Other _____

28. Please circle the gender identity with which you most identify.

- Female
- Male
- Transgender Male
- Transgender Female
- Gender-variant/Non-conforming
- Prefer not to answer

Appendix B—Focus Group Questions

Focus Group Questions:

1. Prior to attending WMU, what did a typical day of eating look like for you?
2. Would any one like to share what a typical day of eating looks like for you in college?
3. Western has an on-campus food pantry called the Invisible Need Project. Does anyone here have experience using the pantry and if so would you tell me more about that?
4. If you had the opportunity to alter the Invisible Need Project food pantry in any way to suit your needs, what would you change?
5. If you currently do not use the Invisible Need Project food pantry, could you tell me why not?

Possible Prompts

“Are you able to elaborate on that?”

“Could you explain that further?”

“What do you mean by that?”

“Could you be more specific?”

Appendix C—Descriptive Statistics for All Variables

Approximately, how many meals do you eat on an average school day?		
# of meals	Frequency	Percent
0	1	0.3%
1	50	12.6%
2	200	50.3%
3	126	31.7%
4	16	4.0%
5	5	1.3%

On an average school day, do you eat breakfast?		
	Frequency	Percent
Yes	189	46.9%
No	214	53.1%

If you responded yes to question 2, what does a typical breakfast look like for you?
No common themes found.

Do you eat meals or snacks throughout the day?		
	Frequency	Percent
Yes	340	84.4%
No	63	15.6%

If you responded no to question 4, please explain why.	
	Frequency
Limited time	26
Limited money	18

Whether yes or no to question 4, what is an average pattern for your eating in a day?
No common themes found.

In an average week, please indicate the number of your meals that are prepared at home by combining mostly whole foods.		
	Frequency	Percent
0	46	11.9%
1	34	8.8%
2	50	12.9%
3	47	12.1%
4	34	8.8%
5	35	9.0%
6	17	4.4%
7	33	8.5%
8	12	3.1%
9	4	1.0%
10	75	19.4%

In an average week, please indicate the number of your that are frozen meals eaten at home.		
	Frequency	Percent
0	138	38.0%
1	51	14.0%
2	69	19.0%
3	33	9.1%
4	18	5.0%
5	23	6.3%
6	8	2.2%
7	13	3.6%
8	2	0.6%
9	2	0.6%
10	6	1.7%

In an average week, please indicate the number of your meals that are prepared at home from packaged foods.		
	Frequency	Percent
0	41	10.5%
1	32	8.2%
2	57	14.7%
3	71	18.3%
4	64	16.5%
5	41	10.5%
6	15	3.9%
7	25	6.4%
8	11	2.8%
9	4	1.0%
10	28	7.2%

In an average week, please indicate the number of your meals that are fast food eaten while sitting down.		
	Frequency	Percent
0	140	38.1%
1	89	24.3%
2	68	18.5%
3	38	10.4%
4	12	3.3%
5	9	2.5%
6	2	0.5%
7	5	1.4%
8	0	0.0%
9	2	0.5%
10	2	0.5%

In an average week, please indicate the number of meals that are fast food eaten in a car.		
	Frequency	Percent
0	212	58.2%

1	69	19.0%
2	42	11.5%
3	19	5.2%
4	6	1.6%
5	7	1.9%
6	4	1.1%
7	1	0.3%
8	1	0.3%
9	0	0.0%
10	3	0.8%

In an average week, please indicate the number of your meals that are meals in the dining hall.		
	Frequency	Percent
0	253	69.7%
1	16	4.4%
2	16	4.4%
3	12	3.3%
4	2	0.6%
5	7	1.9%
6	1	0.3%
7	3	0.8%
8	10	2.8%
9	2	0.6%
10	41	11.3%

Do you have a meal plan?		
	Frequency	Percent
Yes	72	17.9%
No	331	82.1%

If you have a meal plan, what type of meal plan do you have?		
	Frequency	Percent
Housing Meal Plan	62	24.0%
Commuter Meal Plan	11	4.3%
Not Applicable	185	71.7%

Do you add additional dining dollars to your student account to pay for food?		
	Frequency	Percent
Yes	38	10.2%
No	325	87.1%
Unsure	10	2.7%

Prior to attending college, I worried whether my food would run out before I got money to buy more.		
	Frequency	Percent
Yes	91	23.3%
No	299	76.7%

Since attending college, I worried whether my food would run out before I got money to buy more.

	Frequency	Percent
Yes	206	51.1 %
No	197	48.9%

Within the last semester, I worried whether my food would run out before I got money to buy more.

	Frequency	Percent
Yes	175	45.1%
No	213	54.9%

I feel that I typically eat well-balanced meals.

	Frequency	Percent
Yes	221	57.0%
No	167	43.0%

Are you aware of WMU’s on-campus food pantry, the Invisible Need Project?

	Frequency	Percent
Yes	225	57.3%
No	168	42.7%

If you responded yes to question 20, have you ever used it?

	Frequency	Percent
Yes	34	14.8%
No	196	85.2%

If you responded no to question 21, please tell us why.

	Frequency
Adequate access to food	111
Unsure how to use the pantry	20
Others need the resources more	34

If you currently use the Invisible Need Project’s resources, what types of foods do you usually hope to find there?

See qualitative survey summary.

If you currently use the Invisible Need Project’s resources do you feel that you would benefit from recipes using foods available in the food pantry?

	Frequency	Percent
Yes	41	17.7%
No	11	4.7%
Not Applicable	180	77.6%

What is your age in years?		
	Frequency	Percent
18	13	3.3%
19	51	13.0%
20	90	22.9%
21	92	23.4%
22	43	10.9%
23	27	6.9%
24	21	5.3%
25	9	2.3%
26	6	1.5%
27	6	1.5%
28	4	1.0%
29	1	0.3%
30	2	0.5%
31	3	0.8%
32	3	0.8%
34	1	0.3%
35	1	0.3%
36	1	0.3%
37	2	0.5%
38	1	0.3%
39	1	0.3%
40	2	0.5%
41	1	0.3%
42	1	0.3%
43	1	0.3%
44	2	0.5%
45	1	0.3%
48	2	0.5%
49	1	0.3%
50	1	0.3%
53	1	0.3%
62	1	0.3%

Are you the first person in your family to go to college?		
	Frequency	Percentage
Yes	93	24.3%
No	290	75.7%

Please circle the gender identity with which you most identify.		
	Frequency	Percentage
Female	269	67.6%
Gender-variant/Non-conforming	9	2.3%
Male	115	28.9%

Transgender Female	0	0.0%
Transgender Male	2	0.5%
Prefer not to answer	3	0.8%

Collapsed Data-Please circle the gender identity with which you most identify.*		
	Frequency	Percentage
Female	269	69.7%
Male	117	30.3%

Please circle one to specify your ethnicity.		
	Frequency	Percentage
Asian or Pacific Islander	16	4.1%
Black or African American	31	7.9%
Hispanic or Latino	7	1.8%
Native American or American Indian	4	1.0%
White	307	77.9%
Prefer not to say	14	3.6%
Other	15	3.8%

Collapsed Data-Please circle one to specify your ethnicity.*		
	Frequency	Percentage
Black or African American	31	8.2%
White	307	80.8%
Other	42	11.0%

*Some categories were changed to missing data as they could not be added to another category and, by themselves had too few cases to warrant inclusion.

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