Addressing Food Insecurity at WPI

An Interactive Qualifying Project submitted to the Faculty of

WORCESTER POLYTECHNIC INSTITUTE

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by

Daler Kang
Emily Kelley
Steven Phan
Philgen Simpson

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Laura Roberts

Worcester Polytechnic Institute

Abstract

Food insecurity affects students at colleges and universities. While schools have programs to provide meals to students, some students are unable to consistently access food. This project researched effective and sustainable solutions to food insecurity at WPI. We conducted interviews with WPI campus administrators and staff and administrators from other institutions, to gather information on food insecurity, and how to address the issue. From our research we identify meal swipe donation programs, food pantries, and greater advertisement of SNAP benefits as potential solutions. We surveyed WPI students and employees to understand their experience with food insecurity and preferred solutions. From the data collected, we recommended solutions to address food insecurity in sustainable ways.

Executive Summary

Background

Food insecurity is a problem that affects many college students across the United States. In the WPI strategic plan, *Lead With Purpose*, the university commits to, "Increasing the number of Black, Indigenous, People of Color (BIPOC) students and students from low-income families who attend WPI." These students are the ones who face the brunt of food insecurity and WPI must be prepared to extend additional resources and support to ensure success of this population of students. The goal of this project was to assess the level of food insecurity among the student body at WPI and then use that research to develop effective and sustainable ways to address food insecurity.

One of the most common solutions that college administrations employ is to establish food pantries. First, campuses need to assess the need within their community via surveys. Next, the college administration might want to conduct more research or could approve of a food pantry immediately as well. After that, the pantry will need to gather funding and other resources usually by hosting fundraisers and food drives. Finally, the pantry will need an adequate amount of staffing and volunteers in order to run efficiently.

In general, many on-campus food pantries are open only during specific days with colleges requiring students to provide enrollment information to gain access. In addition to providing food, pantries may offer other useful items such as hygienic and cleaning products and school supplies. Pantries may also provide referrals to outside resources such as community based food banks and online services that help with Supplement Nutritional Aid Program (SNAP) benefits.

Although college food pantries are one the most common solutions that institutions implement to address food insecurity, there are questions about their efficacy. An investigation found four main barriers to food pantry usage: social stigma associated with food insecurity and needing assistance, lack of information about pantry operations or eligibility requirements, students self-identifying as being undeserving to use the food pantry, and inconvenient hours of operations (El Zein, et. al, 2018).

Another path many schools took with a meal swipe program that provides no-cost meal swipes to students experiencing food insecurity. There are several elements with which donation programs differ: what swipes are donatable, who can access the donated swipes, and how swipes can be donated. The most prevalent option that we found was to have every student be provided with several "guest meal swipes" for each semester. This provides both a limit for donation for each student and allows a student to donate meals without affecting his or her personal meal schedule. The most comprehensive option we found was proposed by the Rice University student newspaper where all unused meals are automatically donated into the pool of meal swipes. The next element that defines a meal swipe donation program is determining which students experiencing food insecurity can access the donated swipes. Having a list of qualifications to meet to access the program makes it much easier to determine who can be admitted, but it also does not take individual situations into account. Off-campus students are much less likely to have purchased a meal plan. This means that, if they are running low on money, they do not have meal swipes to fall back on. Students without meal plans would be in a similar dilemma. The third element that we found to define a meal swipe donation program is the mechanism for students to opt into donating meal swipes. Another factor we found was that schools can enforce an artificial limit on the number of meal swipes accepted into the meal swipe program.

The third category of programs used to address food insecurity among college students we defined as wellness programs that teaches students how to manage their food budget. Nutrition counseling helps students get counseling on diet based needs such as food allergies, food disorders like body dysmorphia and anorexia, or sports based dietary needs. Programs that teach students to learn how to cook more healthfully and encourage healthy eating practices. Another approach is to provide community municipal gardens and collaborate with local farms and vendors to provide access to fresh and organic food options for their students on meal plans.

Methodology

We researched the demographics and prevalence of food insecurity among the student population, explored community feedback via surveys, and interviewed community leaders and school officials to understand the best methods to alleviate this food insecurity at WPI. We decided that the best way to accomplish these goals would be to conduct a two-pronged survey with questions that ask whether the students of WPI have experienced food insecurity, as well as what their preferred solutions to address the issue would be (i.e., a food pantry, a meal-swipe program). We interviewed multiple employees of WPI and Chartwells, as well as the Director of Dining Services at the Massachusetts Institute of Technology. We asked them questions regarding their perspective on the problem such as what they are personally doing to help and what they think is the best method to address food insecurity. In order to learn about effective solutions for food insecurity currently in-use by other colleges, we conducted online research and reached out to interview people of interest from similar colleges and universities to that of WPI.

Findings

Our team arrived at three findings:

1. food insecurity is a concern among the student population at WPI,

2. there is a lack of awareness in the WPI community when it comes to seeking assistance, and

3. there is no one-size-fits-all solution to food insecurity at WPI.

Of the 621 students who responded to our survey, 67% had encountered at least one time when they did not have enough food to eat and 45% were aware of other student(s) that did not have enough food to eat. A quarter of the students reported skipping one meal every week with 14% skipping two or more meals each week. Of the 71 WPI faculty and staff members surveyed, 95% believe food insecurity to be a problem at WPI. Among those that recognized food insecurity to be an issue 4% believe it is a major problem, 22% believe it to be a minor problem, and 69% believe the scope of the problem falls somewhere between major and minor. Graduate students are also at high risk for food insecurity, however, we did not collect separate data on them, so we cannot make specific conclusions about the risk of food insecurity among WPI's graduate student population.

From our survey, we found that 64% of the employees who responded did not know where they should direct students who come to them in need of help. 41% of the students who responded indicated that they were unsure if they were eligible for financial help. The WPI website has no dedicated space where students or faculty can learn about food insecurity problems or solutions, when conducting a search only articles discussing previous IQP reports

show up. A Canvas page called "The Dimensions of Wellness" to help students with food insecurity and a variety of other wellness concerns is not accessible by students as it is not yet published. Although the page is inaccessible, some of the WPI staff involved with its creation believed that it was published.

The survey offered four solutions that would be beneficial to the student population. Among the respondents, creation of an office for emergency non-academic financial assistance for students was the most popular solution among both students and faculty. The establishment of an off-campus food pantry for students to use was the second most popular solution among students and was the third most popular solution among faculty and staff. Finally, the implementation of a meal-swipe donation program at WPI was the third most popular solution for students and the second most popular solution among faculty and staff.

When it came to SNAP benefits, 4.8% of students said that they were eligible, 53.4% of students said they were not eligible, and 41.8% of students were unsure if they qualified. Similarly, for Emergency Aid Assistance, 5.6% of students were eligible, 52.3% were not, and 42.1% were unsure.

When asked about food pantries, 52.5% of students would be likely to use a food pantry if one was available near campus, 70.6% of students would prefer the shopping-style food pantry, 33.5% of the students we surveyed indicated that they would be willing to volunteer at the food pantry, and 55.5% of students surveyed believe that a food pantry is needed at or near WPI's campus.

In questions about meal swipes, 74.04% of students on meal plans had extra meal swipes at the end of each week, 99.5% had at least one or more leftover swipes each week, 83.1% of these students would be willing to donate their unused swipes into a pool of meal swipes to be

accessed by students in need. Overall, this option was highly favored with 78.4% of the student respondents indicating that a meal-swipe donation program is needed at WPI. Several WPI employees suggested that establishing a meal-swipe donation program put a small financial burden on the school, which would probably lead to higher meal costs over time. A first year student is less likely to have needs associated with food access than perhaps a junior or senior. 92.8% of first-year students had a meal plan compared to 20.9% of juniors and 13.9% of seniors. It is for this reason that the results of the study should encourage multiple of our presented solutions to be implemented.

Recommendations

The first recommendation is to create an office that is connected to financial aid would help students apply to government aid programs like SNAP. A food pantry should be established in a place that is accessible to all students with a shopping-style setup. Another recommendation is to create a meal swipe donation program at WPI that is widely shared and work in campus dining locations would be the most logical plan, with the possibility of working with popular dining service of food trucks. The final recommendation is to create a public webpage that assists food insecure students by compiling the solutions already available on campus available on the main WPI website.

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Authorship & Meet the Team

Daler Kang: Daler is a member of the class of 2022 and is graduating with a Bachelors in Mechanical Engineering. In his time at WPI, Daler helped to found the WPI LEGO Club and served as its treasurer from 2019 to 2022. His desire to leave a positive impact on campus is what led him to pursue this IQP project.

Emily Kelley: Emily is a member of the class of 2023 pursuing a Bachelors in Robotics Engineering. She is passionate about helping underrepresented communities achieve equality, focusing on women in STEM, mental illness, and volunteering for community activities. Emily was a involved member of the mental health and student life movement from the year 2021-2022 and her care for others bled into the work she did for the IQP.

Steven Phan: Steven is Environmental Engineering major at Worcester Polytechnic Institute. Before transferring to WPI, he earned Associate Degrees in both Engineering and Biomedical Engineering from Quinsigamond Community College. Steven has a great interest in studying climate change and renewable energy. Along with his interests, he wants to create a positive impact within WPI's community, which has led to the Addressing Food Insecurity IQP.

Philgen Simpson: Philgen is a Mechanical Engineering and Robotics Engineering major at Worcester Polytechnic Institute. Philgen is currently Vice President of the Cue Sports Club, had a year as a Student Governor Association Senator, and takes part in greek life on campus as a member of Theta Chi Epsilon fraternity. Philgen is known by his professors for his curiosity about the subjects introduced in his courses. It is this curiosity that has led him to explore the clubs and organizations he had, and even pursue the Addressing Food Insecurity IQP.

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Introduction

       Food insecurity is a problem that affects many campuses with around 30% of all students experiencing food insecurity at some point in their college career (Dubick et al., 2016). Research has shown that hunger has a negative impact on academic performance as it can affect focus, mood, and physical and mental wellbeing. To combat the issue, schools have explored a variety of community- or organization- based solutions. In the WPI strategic plan, *Lead With Purpose*, the university commits to, "Increasing the number of Black, Indigenous, People of Color (BIPOC) students and students from low-income families who attend WPI." It is worth noting that these students are the ones who food insecurity affects the most (Patton-López et al., 2014) (Reeder et al., 2020) and WPI must be prepared to extend additional resources and support to ensure success of this population of students. The goal of this project was to assess the level of food insecurity among the student body at WPI and then use that research to develop the best and sustainable ways to address food insecurity. The third category of programs used to address food insecurity among college students we defined as wellness programs.

Background

<u>Food Pantry Establishment</u>

Thousands of college students around the country are suffering from food insecurity. One of the most common solutions that college administrations use to address the problem is to establish food pantries (Freudenberg, et. al, 2019). One of the first things a campus does is to assess the need within its community. A team of researchers will look at the socio-economic demographic of a student population and then determine the level of food insecurity via a survey. The surveys may have a low number of respondents, but the quality of the research might be enough to gauge a desire for a pantry. Next, the college administration might want to conduct more research or could approve of a food pantry immediately as well. After that, the pantry will need to gather funding and other resources. The most common way is by hosting community fundraisers and food drives. There is also the chance that the university could collaborate with a local food bank, as with the case in Worcester State, which relies on the Worcester County Food Bank (Schroth, 2019). Finally, the pantry will need an adequate amount of staffing and volunteers in order to run efficiently.

<u>Food Pantries Operations</u>

In general, many on-campus food pantries are open only during specific days. In order to utilize food pantries, these colleges require the students in need to provide some sources of information of enrollment. The students can only take a certain amount of food per visit. For example, Central Michigan University's pantry is only open on Tuesday, Wednesday, and Friday and students must sign a statement declaring their need. Wright State University's pantry opens 3 days a week, students must fill out an intake form regarding their level of food insecurity and other demographics, and allocates 3 days of food monthly for each student (Central Michigan,

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Waity, et. al, 2020; Schroth, 2019). Locally, Worcester State University also has a food pantry named "Thea's Pantry" that is open on Tuesday and Wednesday. It requires students or alumni to bring their ID cards and allows up to 35 pounds for individuals or 50 pounds of food for families each week (Schroth, 2019). In addition to providing food, pantries may offer other useful items such as hygienic and cleaning products and school supplies offered at Central Michigan (Central Michigan). Pantries may also provide referrals to outside resources. In the case of Wright State, the university helps students connect with other community food banks or refer them to Ohio Benefit Bank, an online service that helps students check their eligibility for the Supplemental Nutrition Assistance Program (SNAP) or for the Home Energy Assistance Program (HEAP) (Waity, et. al, 2020).

Barriers to Food Pantry Usage

Although college food pantries are one the most common solutions that institutions implement to address food insecurity, there are questions about their efficacy. Wright State University had lower utilization of its pantry than expected. They believed that there was not enough communication to spread news of the food pantry (Waity, et. al, 2020). An investigation from El Zein, et. al, at the University of Florida also found four main barriers to food pantry usage. The researchers conducted a survey of 899 undergraduate students in 2018. They found that the first barrier was the social stigma associated with food insecurity and needing assistance, this included examples such as feeling judgment or embarrassment of their problems and visiting pantries being too visible to the public eye. The study also found that the second barrier was not enough information about pantry operations or eligibility requirements, the third barrier was students self-identifying as being undeserving or needy enough to use the food pantry and

therefore are taking away resources that others could use, and the fourth barrier is inconvenient hours of operations (El Zein, et. al, 2018).

Meal Swipe Programs

Another path many schools took with a meal swipe program that provides no-cost meal swipes to students experiencing food insecurity.

In our research, we discovered several different ways to run a meal swipe donation program on a college campus. We found that there are several elements with which donation programs differ: what swipes are donatable, who can access the donated swipes, and how swipes can be donated.

The first element that defines a meal swipe donation program is which swipes can be donated. The most prevalent option that we found was to have every student be provided with several "guest meal swipes" for each semester. These guest meals, which are usually used to swipe in a friend or family member, would be the only swipes that could be donated into the pool of meal swipes for students facing food insecurity. This provides both a limit for donation for each student and allows a student to donate meals without affecting his or her personal meal schedule. From the colleges we researched, donatable guest meal swipes are used by Vanderbilt University, MIT, Central Michigan University, Rice University, Worcester State University ("Student," n.d.; Haberlin, 2017; Konicki, 2019; Mattson, 2019; Thresher Editorial Board [TEB], 2021).

Our research also revealed two additional proposed donation strategies that were more far reaching. At MIT, a proposal allows students to donate any type of meal swipe into the pool of swipes available for students in need (Haberlin, 2017). This would allow students to donate any

unused swipes from a week and does not create an artificial limit on the size of the meal swipe pool. The most comprehensive option we found was proposed by the Rice University student newspaper where all unused meals are automatically donated into the pool of meal swipes (TEB, 2021). This would create a huge pool of meal swipes for students to access, but it may have a negative impact on the financial situation of the school.

The next element that defines a meal swipe donation program is determining which students experiencing food insecurity can access the donated swipes. Vanderbilt University limits access to the pool of swipes to students below certain needs-thresholds (Mattson, 2019). Having a list of qualifications to meet to access the program makes it much easier to determine who can be admitted, but it also does not take individual situations into account. MIT's approach allows any student to apply for access to the program (Haberlin, 2017). Each application is handled on a case-by-case basis with no predetermined requirements for admittance into the program.

At Rice University, off-campus students can access the pool, while at Central Michigan University, students without meal plans have access to the pool of meal swipes ("Student," n.d.; TEB, 2021). Off-campus students are much less likely to have purchased a meal plan. This means that, if they are running low on money, they do not have meal swipes to fall back on. Students without meal plans would be in a similar dilemma. Both of these groups of students could greatly benefit from having access to the pool of swipes.

The third element that we found to define a meal swipe donation program is the mechanism for students to opt into donating meal swipes. The simplest option we found was implemented at Central Michigan University and Worcester State University. At these schools,

students can swipe their ID card to donate meal swipes into the program at a physical location such as an office, a desk, or a kiosk ("Student," n.d.; Konicki, 2019).

At MIT, students can log onto an online portal to donate meal swipes (Haberlin, 2017). Once they log into the website, students would be able to see how many swipes they have left and determine how many swipes they want to donate into the pool.

Vanderbilt University has integrated meal swipe donations into their college's GET App (Mattson, 2019). This would be quite convenient as many students already use the GET App to add money to their student ID cards. With app-integration, students would be able to select how many meals to donate to the pool.

Another factor we found was that schools can enforce an artificial limit on the number of meal swipes accepted into the meal swipe program. This can be seen at Worcester State University where Chartwells set a limit of 400 meal swipes in the pool per semester (Konicki, 2019).

Wellness Programs

The third category of programs used to address food insecurity among college students we defined as wellness programs.

The "Husky Market" run out of the University of Connecticut is a student run organization that provides each student who has been identified as food insecure with a $300 grocery store gift card each semester (UCONN PRAXIS H&H, 2020). This allows the student to practice budgeting their food purchases while giving the freedom to choose what they eat without the fear of stigma.

Other universities focus efforts on providing support and education for healthy eating. "Nutrifests," hosted by Illinois State University, is an annual free event with live cooking demonstrations and food samples to show students some different options for healthy eating (Illinois State, 2022). Nutritional counseling, offered at North Carolina State University as part of their health services, permits two free meetings with a professional in the office each year to get counseling on diet based needs such as food allergies, food disorders like body dysmorphia and anorexia, or sports based dietary needs (NC State University, 2022). An organization called "Teaching Kitchen" was hired at Western University as a free club opportunity run by medical professionals, food system experts, and chefs all dedicated to providing a fun and interactive way for anyone to learn how to cook more healthfully and encourage healthy eating practices (Teaching Kitchen Collaborative, 2022). Another approach is to provide community municipal gardens and collaborate with local farms and vendors to provide access to fresh and organic food options for their students on meal plans similar to what the University of Massachusetts in Amherst instantiated and even got the Skill Performance Evaluation (SPE) Certificate to show their dedication to the sustainability of the food they are providing to students (Hoffman, 2020).

Conclusion

Food insecurity was identified as an issue affecting the WPI student population. Tasked with determining the best way to address this issue, we conducted research to gain a better understanding of it. Through our findings we also discovered WPI students are not alone in our struggle with other colleges and universities facing the same issue. Additionally, some have found ways to address food insecurity on their campuses, whether it is related to developing meal swipe donation programs, establishing food pantries near campuses, and initiating wellness

programs. In our next chapter we will discuss in detail the methodology we used to determine

which course of action would be ideal for WPI and its students.

Methodology

The goal of this project was to find meaningful and sustainable ways to address food insecurity among students at Worcester Polytechnic Institute. We researched the demographics and prevalence of food insecurity among the student population, explored community feedback via surveys, and interviewed community leaders and school officials to understand the best methods to alleviate this food insecurity at WPI. Our objectives are as stated:

1. Confirm the prevalence of food insecurity at WPI by:
   a. Survey the student population. We asked for input on how to best address food insecurity.
   b. Interview officials such as the Dean of Students, student organization leaders, and financial aid offices about their perspective on food insecurity at WPI to learn pertinent information about the student body.
2. Explore solutions to food insecurity introduced at similar universities and ask for input from officials from said universities.
3. Narrow down the options to determine the best and most feasible option to recommend for use at WPI.

Objective 1:

Confirm the Need by Surveying Student Population and Faculty/Staff

In 2019, Worcester Polytechnic Institute published an Interactive Qualifying Project report called "*An Investigation of Food Insecurity at Worcester Polytechnic Institute*", where 24.3% of survey respondents had experienced some level of food insecurity. However, it is highly likely that this number has changed over the past few years due to the nature of the

COVID-19 Pandemic. With this reasoning, we wanted to get more accurate and recent data to assess the level of need on campus. This data would bring attention to the actions the university needs to take in order to properly respond to the situation. We also believe that the best way to help a community with an important problem is to receive input from the community itself. We decided that the best way to accomplish these goals would be to conduct a two-pronged survey with questions that ask whether the students of WPI have experienced food insecurity, as well as what their preferred solutions to address the issue would be (i.e., a food pantry, a meal-swipe program). The survey also requested more specific answers pertaining to subjects like class level (first year, sophomore, junior, senior, graduate), racial/gender identity, and whether they are Federal Pell Grant recipients or first-generation college students to evaluate what groups of students are more likely to face food insecurity. To preserve the anonymity of the students, there are options for them to not disclose their demographics if they so choose. The second branch of this survey is for faculty and staff to get a better understanding of what they are aware of with respect to student hunger and if they themselves experience food insecurity. Many of the questions are adapted from the Student Government Resource Center (SGRC) Toolkit provided by the College & University Food Bank Alliance. The list of survey questions appears in Appendix A and Appendix B. The responses to these questions were used to guide our recommendations.

<u>Confirm the Need by Interviewing Faculty/People of Interest</u>

It was also important to receive input from those in administrative roles and organizations within the community. We interviewed the Dean of Students, the Director of Student Aid and Financial Literacy, the director of dining services, a Chartwells dietitian, two faculty members that are interested in addressing food insecurity, and the Director of Dining Services at the

Massachusetts Institute of Technology. We asked them questions regarding their perspective on the problem such as what they are personally doing to help and what they think is the best method to address it. The list of questions is provided in Appendix C. A few of these questions were also adapted from the SGRC Toolkit. These interview questions served as a guideline with other questions added or eliminated depending on the interviewee and their given expertise or knowledge of the problem. For example, a person within the financial aid office has more knowledge pertaining to questions related to the financial status of the student body rather than a dining hall manager, who has better answers related to students' food preferences.

Objective 2:

Explore Solutions Introduced at other Universities:

In order to learn about effective solutions for food insecurity currently in-use by other colleges, we conducted online research and reached out to interview relevant people from similar colleges and universities to that of WPI. We used search engines, such as DuckDuckGo and Google, and other search tools, such as the WPI Gordon Library search system, to conduct online research into food pantries, meal swipe donation programs, and wellness programs in-use at other institutions, such as Worcester State University, the University of Florida, Rice University, and Vanderbilt University. In addition to our online research, we reached out to local colleges and universities that have food security programs to attempt to interview school officials and student leaders involved with these programs. We conducted an interview with MIT's director of campus dining and discussed MIT's meal swipe donation program and their food security initiatives in general. After conducting this research, we gained insight into effective food security programs around the country.

Objective 3:

Determine the Best Approach for WPI

To determine the best solution for WPI, we weighed the options based on certain criteria. The first criterion was understanding the solution(s) needed to easily implement into the current structure of the school to prevent any major rearrangement of the system in place. To ensure the solution will last and continue to provide the necessary services offered to students who need them, the option needs to be sustainable with a reasonable cost of implementation and number of volunteers/staff needed to assist the program's operation.

Another way we determined how useful a solution would be to WPI was through the feedback we received from the WPI students that took the survey, to identify which method would be most popular among students and which demographics are interested in which options. We also needed to take into account the success rate of the implementations at other colleges and their effectiveness.

Lastly, we needed to discuss the options we have available with WPI administrators to see whether they would accept the options and which ones are most appealing to them. We decided to schedule interviews with each of these individuals for them to offer their insight on food insecurity, and on the ideas we presented to them on addressing the issue.

Using all these frames of reference, we subsequently determined our best recommendations to address food insecurity within the WPI student population.

Ethical Considerations:

Given the minimal risk of our study, we used a verbal informed consent script to let research subjects know about the voluntary nature of their participation as well as the anonymous nature of the research. We also obtained verbal consent from interview subjects for their permission to record the interview.

Findings

After conducting research, our team arrived at three findings:

1. Food insecurity is a concern among the student population at WPI.

2. There is a lack of awareness in the WPI community when it comes to seeking assistance.

3. There is no one-size-fits-all solution to food insecurity at WPI.

<u>Finding 1:</u>

<u>Food insecurity is a concern among the student population at WPI</u>

While conducting interviews with faculty and surveying the student population, we found that food insecurity is a concern for students at WPI. Of the 621 students who responded to our survey, 67% had encountered at least one time when they did not have enough food to eat and 45% were aware of other student(s) that did not have enough food to eat. A quarter of the students reported skipping one meal every week with 14% skipping two or more meals each week.

We surveyed 71 WPI faculty and staff members and found that 95% believe food insecurity to be a problem at WPI. Among those that recognized food insecurity to be an issue 4% believe it is a major problem, 22% believe it to be a minor problem, and 69% believe the scope of the problem falls somewhere between major and minor.

From our conversations with Professor Ayobami and Associate Dean of Students Perlow we found that graduate students are also at high risk for food insecurity. Although graduate students receive stipends and funding to complete their degree or fellowships, that money is put

towards monthly rent payments with food becoming a lower priority. Some graduate students may also have families to provide for, which further exacerbates their budget for food. We received 50 survey responses from graduate students, but did not collect separate data on them, so we cannot make specific conclusions about the risk of food insecurity among WPI's graduate student population.

Finding 2:

<u>There is a lack of awareness in the WPI community when it comes to seeking assistance</u>

Our research indicates that most students and employees were not aware of what food assistance is available and where to find it. From our survey, we found that 64% of the employees who responded did not know where they should direct students who come to them in need of help. 41% of the students who responded indicated that they were unsure if they were eligible for financial help. When reviewing the WPI website, we found there is no dedicated space on the WPI website where students or faculty can learn about food insecurity problems or solutions. Searching for food insecurity on WPI's website will not bring up any resources for students in-need; the only results come in the form of articles discussing previous IQP reports. From our discussion with Chartwells dietician Shavaun Cloran, we learned of a Canvas page called "The Dimensions of Wellness" to help students with food insecurity and a variety of other wellness concerns, but the page is not accessible by students as it is not yet published. Although the page is inaccessible, some of the WPI staff involved with its creation believed that it was published for students to use.

Finding 3:

<u>There is no one-size-fits-all solution to food insecurity at WPI</u>

After analyzing our interview data and survey results, we found that there is no one solution to food security at WPI that will address all students in need. Instead, there are many different solutions that would be beneficial to the student population. From our research, we arrived at a list of three potential solutions:

1. Creating an office for emergency non-academic financial assistance for students

2. Establishing an off-campus food pantry for student use

3. Implementing a meal-swipe donation program at WPI

By applying weights to our survey data based on the rang the survey respondent provided, we found that the creation of an office for emergency non-academic financial assistance for students was the most popular solution among both students and faculty. The establishment of an off-campus food pantry for students to use was the second most popular solution among students and was the third most popular solution among faculty and staff. Finally, the implementation of a meal-swipe donation program at WPI was the third most popular solution for students and the second most popular solution among faculty and staff. A fourth solution of creating an on-campus food pantry placed fourth among both students and faculty.

The creation and advertisement of an office for emergency non-academic financial aid for students would both give employees a place to direct in-need students and would make the student body more aware of what resources are available for them. In our survey, we asked students about their knowledge of their eligibility for various forms of financial aid. When it came to SNAP benefits, 4.8% of students said that they were eligible, 53.4% of students said they were not eligible, and 41.8% of students were unsure if they qualified. Similarly, for

Emergency Aid Assistance, 5.6% of students were eligible, 52.3% were not, and 42.1% were unsure. The result of around 42% of students being unsure if they are eligible for either SNAP benefits or Emergency Aid Assistance showcases the need for an office to help students navigate non-academic financial assistance.

The establishment of an off-campus food pantry for students to use would help provide students living off-campus with the resources needed to create their own meals. From our survey, we found that 59.19% would be likely to use a food pantry on campus and 52.5% of students would be likely to use a food pantry if one was available near campus. When given the choice between a food pantry that provinces grocery-store-style shopping and a food pantry that provides pre-packaged boxed meals, 70.6% of students would prefer the shopping-style food pantry. An off-campus food pantry would allow students to volunteer to help students in-need. 33.5% of the students we surveyed indicated that they would be willing to volunteer at the food pantry. Overall, 55.5% of students surveyed believe that a food pantry is needed at or near WPI's campus.

Implementing a meal-swipe donation program at WPI would help provide in-need students that do not have kitchens or time to prepare a meal with a convenient way to get enough food to eat. We asked 313 students on meal plans if they have extra meal swipe at the end of each week with 74.04% indicating that they did. Of these students, 99.5% had at least one or more leftover swipes each week, with 6.9% having 10 or more leftover swipes each week. 83.1% of these students would be willing to donate their unused swipes into a pool of meal swipes to be accessed by students in need. A meal-swipe donation program would help provide a sense of community at WPI. Students donating swipes would feel good about contributing to help their fellow students, and those receiving swipes feel good that the community cares about them and is

trying to help. Overall, this option was highly favored with 78.4% of the student respondents indicating that a meal-swipe donation program is needed at WPI. We learned from several WPI employees that establishing a meal-swipe donation program put a small financial burden on the school, which would probably lead to higher meal costs over time.

Limitations of Study:

While our study has uncovered useful information establishing the problem of food insecurity, identifying the need for effective solutions, and determining the solutions students deemed appropriate, there were areas where our study lacked. One example is the oversight that there can be different needs present for each academic class year. A first year student, as seen in the study, is less likely to have needs associated with food access than perhaps a junior or senior. From the survey, 92.8% of first-year students had a meal plan compared to 20.9% of juniors and 13.9% of seniors. It is for this reason that the results of the study should encourage multiple of our presented solutions to be implemented. The food pantry would best attenuate food security among juniors, seniors, and graduate students while a meal swipe program might better serve the needs of first and second year students.

In the next chapter, we will discuss what recommendations we have for WPI to implement based on the findings we discussed in this chapter.

Recommendations

There is no singular solution to a problem that is as complex as addressing every individual needs as it relates to food insecurity. However, there are multiple solutions that can contribute to WPI's effort. From research and survey preferences, we will now present our recommendations on the best and sustainable solutions in addressing food insecurity.

Establishing an Office for Emergency aid assistance and SNAP for students

The first recommendation is to create an office that would help students to apply for government programs such as SNAP. The office of Student Aid and Financial Literacy already helps students with emergency aid relief, so having another office that is connected to financial aid would help students apply to government aid programs like SNAP as well. It is also beneficial if the school administration provides information on SNAP and other emergency financial assistance options to students during First Year orientation or when they first arrive on campus. However, international students will not be able to apply for SNAP or other government aid programs. That is why multiple solutions must be available to help all students in need.

Establishing a Food Pantry

From the survey, over half of the students believed that a food pantry is needed either on or near campus. The food pantry should be located in a place that is accessible to all students with a shopping-style setup to preserve some integrity of those using the pantry. There also needs to be a dedicated staff that will maintain and run the pantry. With over 30% of the students willing to volunteer, recruiting will not be an issue. Making it part of community service would also encourage students, especially members of fraternities and sororities, to volunteer. Graduate students would likely benefit the most from the food pantry. The problem lies within the stigmas

associated with food insecurity, therefore the food pantry should be strategically placed and operated so as to not arouse any notice.

Implementing a Meal-Swipe donation program

Another recommendation is to create a meal swipe donation program at WPI. From our interviews with the Dean of Students and the Director of Dining Services, there already is a bank of meal swipes available for students to use. However, it is underutilized due to students not knowing about it or being willing to go directly to the Dean of Students for help due to the stigmas associated with food insecurity. Creating a meal swipe donation program would remove some of the stigmas depending on how it is implemented. From our research, some universities have online forms that students can fill out to receive extra swipes. Some colleges also host a community event where there is a day that students can donate their meal swipes, which not only promotes students helping their fellow classmates but also serves as a reminder that a program exists for students experiencing food insecurity. Having the meal swipes work in campus dining locations would be the most logical plan. However, WPI should also consider working with popular dining services such as food trucks to accept these meal swipes.

Creating a Website for Food Insecurity resources

One of the pitfalls discovered when conducting interviews with employees of WPI is that there is not an easily accessible place to learn about resources that is widely shared with the community. Therefore, the final recommendation is to create a public webpage that assists food insecure students with recommendations on what to do or where to go for help. Making a webpage compiling the solutions already available on campus available on the main WPI website would increase traffic and ensure that it appears if students are using search terms such as "WPI" and "food assistance." Widely sharing a resource like this can be easily accomplished

by sending an email to students a few times every semester or making it part of WPI's Mental

and Wellbeing emails.

Conclusions

Over the course of three terms, we learned a lot about the background and inner workings of WPI. The exterior of WPI presents a wealthy, well-rounded lifestyle in which the student life is idealized to be perfect and have no struggles or burdens outside of academic success. College students across the US struggle with the financial burdens of living costs, school expenses, utilities bills, and food, with WPI being no different.

Through the process of this project, we discovered the prevalence of food insecurity among students and identified options for resolving the issue. Students attend WPI for quality education, but one thing the school overlooks is the necessity to maintain physical and mental well-being in order to attain a well-balanced education. The amount of sleep and quality of food students have access to directly correlates to their ability to perform well in their academics. The perceived idea among our survey respondents is that food insecurity is a problem that needs to be addressed, however, few know where to send a student or how to help a student who is struggling.

It was found that more than a quarter of the student respondents have skipped meals due to lack of resources from circumstances beyond their control; this is equivalent to at least 100 students who voluntarily disclosed their situation, many of which are part of the population the school is aiming to grow.

In WPI's Strategic Plan: Lead With Purpose, the university commits to "Increasing the number of Black, Indigenous, People of Color (BIPOC) students and students from low-income families who attend WPI." Our research indicates that these populations are at least 50% more likely to struggle with affording nutritious food and balancing lifestyle costs. Since these demographics are the populations WPI is aiming to serve, it is imperative the school implements

and advertises a comprehensive plan with resources for students regarding financial, food,

mental, and academic well-being. These resources are crucial to the success of students and the

credible reputation WPI has assembled for itself.

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Appendix A: Survey for Student Population

- Are you an undergraduate or graduate student?

  - Undergraduate

  - Graduate

- While a student at WPI, has there ever been a time when you did not have enough food for yourself?
  - Yes
  - No

- How often have you had to skip a meal due to lack of money or resources?
  - Never
  - Once a week
  - 2-3 times a week
  - 4-6 times a week
  - Daily

- While a student at WPI, has there ever been a time when you were aware of another student (not yourself) who did not have enough food for themselves?
  - Yes
  - No

- In your opinion, if there was an occasion when you or other students didn't have enough food, would you or other students use a food pantry if one were available on campus?
  - Extremely Unlikely
  - Somewhat Unlikely
  - Neither likely or unlikely
  - Somewhat Likely

- ○ Extremely Likely

- Would you or other students use a food pantry if one were available adjacent to campus?
  - ○ Extremely Unlikely
  - ○ Somewhat Unlikely
  - ○ Neither likely or unlikely
  - ○ Somewhat Likely
  - ○ Extremely Likely

- If you were in need and considered using a food pantry, which option would you prefer?
  - ○ A pre-packaged box of food that can be picked up
  - ○ A shopping-style pantry where each student can select their own food items

- For a food pantry to operate efficiently, it would need a group of committed volunteers. Would you be willing to volunteer on occasion in the pantry?
  - ○ Yes
  - ○ No
  - ○ Maybe

- Do you believe that a student food pantry is needed at WPI?
  - ○ Strongly Disagree
  - ○ Disagree
  - ○ Undecided
  - ○ Agree
  - ○ Strongly Agree

- Are you on a Meal Plan?
  - ○ Yes
  - ○ No

- Do you generally have any left-over meal swipes at the end of the week?
  - Yes
  - No

- If so, how many on average do you leave unused?
  - 0; 1; 2; 3; 4; 5; 6; 7; 8; 9; 10 or more

- Would you be willing to donate some of your unused meal swipes to help students facing food insecurity?
  - Yes
  - No
  - Maybe

- Do you believe that a meal-swipe donation program is needed at WPI?
  - Definitely Not
  - Probably Not
  - Might or might not
  - Probably Yes
  - Definitely Yes

- Do you know if you are eligible for Supplemental Nutrition Assistance Program (SNAP) benefits?
  - Yes
  - No
  - Unsure

- Do you know if you are eligible for emergency aid assistance?
  - Yes
  - No
  - Unsure

- Where do you live?
    - On-campus
    - Off-campus

- What is your class year?
    - First Year
    - Sophomore
    - Junior
    - Senior

- What race/ethnicity do you identify as?
    - White
    - International
    - Hispanic
    - Asian
    - Black or African American
    - Multi-Ethnic
    - Native Hawaiian or Pacific Islander
    - Prefer not to say
    - Other_____

- What gender do you identify as?
    - Male
    - Female
    - Non-binary
    - Prefer not to say

- Are you a recipient of the Federal Pell Grant?
    - Yes
    - No

- ○ Unsure

- ○ Prefer not to say

- ● Are you a first-generation college student?
  - ○ Yes
  - ○ No
  - ○ Prefer not to say

- ● What do you think would be the most effective method to address food insecurity? (Rank from 1 to 5 with 1 being the most effective and 5 being the least effective)
  - ○ Establishing a main food pantry on-campus at WPI. __
  - ○ Using a local food pantry located near Faraday, off-campus. __
  - ○ Implementing a Meal-Swipe donation program in WPI dining halls.__
  - ○ Having an office that will help students apply for SNAP and other forms of aid.__
  - ○ Other:_____

Appendix B: Survey for WPI Faculty/Staff

- Do you know of any student(s) currently struggling with food insecurity?

    ○ Yes

    ○ No

- Do you know where to direct students towards support if they are struggling with food insecurity?
    ○ Yes
    ○ No

- Would you donate to a food pantry if one were established on WPI?
    ○ Yes
    ○ No

- Are you on a Faculty/Staff Meal Plan?
    ○ Yes
    ○ No
- Do you generally have any left-over meal swipes at the end of the week?
    ○ Yes
    ○ No

- On average, how many meal swipes do you leave unused each week?
    ○ 0; 1; 2; 3; 4; 5; 6; 7; 8; 9; 10 or more

- Would you be willing to donate some of your unused meal swipes to help students facing food insecurity?
    ○ Yes
    ○ No

- ○ Maybe

- ● Have you worked in any way to address food insecurity at WPI?
  - ○ Yes
  - ○ No

- ● Can you explain what you have done?

- ● What do you think would be the most effective method to address food insecurity? (Rank from 1 to 5 with 1 being the most effective and 5 being the least effective)
  - ○ Establishing a main food pantry on-campus at WPI. __
  - ○ Using a local food pantry located near Faraday, off-campus. __
  - ○ Implementing a Meal-Swipe donation program in WPI dining halls.__
  - ○ Having an office that will help students apply for SNAP and other forms of aid.__
  - ○ Other:_____

Appendix C: Interview Questions for Faculty/People of Interest

- Questions for all:
  - Do you have personal knowledge of any students at WPI who are experiencing food insecurity?
  - In your opinion, to what degree is food insecurity a problem among the WPI student population? Minor, major, somewhere in-between?
  - What have you done personally to address food insecurity?
  - What do you think is the best method that WPI should implement to address food insecurity?
  - Finally, would you like to give your final thoughts on WPI's situation with food insecurity?
- Questions for food services:
  - Do you know what type of foods that students generally prefer to eat the most?
- Questions for financial aid:
  - Do you know how many, if any, students have used emergency aid for obtaining food?
  - Do you know how many students receive the Federal Pell Grant at WPI?
  - What would the financial implications be if WPI were to implement a meal-swipe donation program?

Appendix D: Informed Consent Script

A prelude to completing this survey:

We are a student-run IQP team for a project called *Food Security at Worcester Polytechnic Institute* (WPI). We are conducting surveys and interviews with students and faculty at WPI to identify the prevalence and preferences associated with solving food insecurity for students on WPI's campus. This research will be used to decide the most sustainable way to manage food insecurity on WPI's campus.

Participating in this survey is completely voluntary and you may withdraw at any time. All answers given will remain anonymous. No names or identifying information will appear on the questionnaires or in any of the project reports or publications. We ask that you please share this survey with all your friends, colleagues, and fellow students at WPI. **If you are currently struggling with food insecurity or are interested in volunteering at a WPI affiliated food pantry, we suggest you reach out to the dean of students' office located at the Rubin Campus Center or email the Dean of Students Greg Snoddy at: gsnoddy@wpi.edu.**

Appendix E: Survey Results for Students

Default Report

Food Security at WPI

April 26th 2022

Q40 - Are you a WPI student or part of WPI Faculty/Staff?

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	Are you a WPI student or part of WPI Faculty/Staff?	2.00	3.00	2.10	0.30	0.09	692

#	Answer	%	Count
2	Student	89.74%	621
3	Faculty/Staff	10.26%	71
	Total	100%	692

Q37 - Are you an undergraduate or graduate student?

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	Are you an undergraduate or graduate student?	1.00	2.00	1.08	0.26	0.07	542

#	Answer	%	Count
1	Undergraduate	92.44%	501
2	Graduate	7.56%	41
	Total	100%	542

Q1 - While a student at WPI, has there ever been a time when you did not have enough food for yourself?

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	While a student at WPI, has there ever been a time when you did not have enough food for yourself?	1.00	2.00	1.33	0.47	0.22	547

#	Answer	%	Count
1	No	66.91%	366
2	Yes	33.09%	181
	Total	100%	547

Q3 - How often have you had to skip a meal due to lack of money or resources?

How often have you had to skip a meal due to lack of money or resources?

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	How often have you had to skip a meal due to lack of money or resources?	1.00	5.00	1.59	0.89	0.80	547

#	Answer	%	Count
1	Never	60.88%	333
2	Once a week	24.68%	135
3	2-3 times a week	10.42%	57
4	4-6 times a week	2.19%	12
5	Daily	1.83%	10
	Total	100%	547

Q4 - While a student at WPI, has there ever been a time when you were aware of another student (not yourself) who did not have enough food for themselves?

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	While a student at WPI, has there ever been a time when you were aware of another student (not yourself) who did not have enough food for themselves?	1.00	2.00	1.45	0.50	0.25	547

#	Answer	%	Count
1	No	55.39%	303
2	Yes	44.61%	244
	Total	100%	547

Q5 - In your opinion, if there was an occasion when you or other students didn't have enough food, would you or other students use a food pantry if one were available on campus?

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	In your opinion, if there was an occasion when you or other students didn't have enough food, would you or other students use a food pantry if one were available on campus?	1.00	5.00	3.45	1.23	1.51	544

#	Answer	%	Count
1	Extremely unlikely	9.19%	50
2	Somewhat unlikely	15.81%	86
3	Neither likely nor unlikely	15.81%	86
4	Somewhat likely	39.34%	214
5	Extremely likely	19.85%	108
	Total	100%	544

Q6 - Would you or other students use a food pantry if one were available adjacent to campus?

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	Would you or other students use a food pantry if one were available adjacent to campus?	1.00	5.00	3.29	1.17	1.37	546

#	Answer	%	Count
1	Extremely unlikely	8.79%	48
2	Somewhat unlikely	18.68%	102
3	Neither likely nor unlikely	20.15%	110
4	Somewhat likely	39.38%	215
5	Extremely likely	13.00%	71
	Total	100%	546

Q7 - If you were in need and considered using a food pantry, which option would you prefer?

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	If you were in need and considered using a food pantry, which option would you prefer?	1.00	2.00	1.71	0.46	0.21	544

#	Answer	%	Count
1	A pre-packaged box of food that can be picked up	29.41%	160
2	A shopping-style pantry where each student can select their own food items	70.59%	384
	Total	100%	544

Q8 - For a food pantry to operate efficiently, it would need a group of committed volunteers. Would you be willing to volunteer on occasion in the pantry?

Would you be willing to volunteer on occasion in the pantry?

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	For a food pantry to operate efficiently, it would need a group of committed volunteers. Would you be willing to volunteer on occasion in the pantry?	1.00	3.00	2.19	0.66	0.44	545

#	Answer	%	Count
1	No	14.31%	78
2	Maybe	52.11%	284
3	Yes	33.58%	183
	Total	100%	545

Q9 - Do you believe that a student food pantry is needed at WPI?

Q9 - Do you believe that a student food pantry is needed at WPI?

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	Do you believe that a student food pantry is needed at WPI?	1.00	5.00	3.58	0.94	0.89	547

#	Answer	%	Count
1	Strongly disagree	2.74%	15
2	Somewhat disagree	8.23%	45
3	Neither agree nor disagree	33.46%	183
4	Somewhat agree	39.85%	218
5	Strongly agree	15.72%	86
	Total	100%	547

Q10 - Are you on a meal plan?

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	Are you on a meal plan?	1.00	2.00	1.57	0.49	0.24	546

#		Answer	%	Count
1		No	42.67%	233
2		Yes	57.33%	313
		Total	100%	546

Q11 - Do you generally have any left-over meal swipes at the end of the week?

Do you have any left-over meal swipes at the end of the week?

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	Do you generally have any left-over meal swipes at the end of the week?	1.00	2.00	1.74	0.44	0.19	312

#	Answer	%	Count
1	No	25.96%	81
2	Yes	74.04%	231
	Total	100%	312

Q14 - On average, how many meal swipes do you leave unused each week?

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	On average, how many meal swipes do you leave unused each week?	1.00	11.00	5.23	2.41	5.81	218

#	Answer	%	Count
1	0	0.46%	1
2	1	5.96%	13
3	2	21.56%	47
4	3	18.81%	41
5	4	15.14%	33
6	5	13.76%	30
7	6	7.80%	17
8	7	5.50%	12
9	8	2.75%	6
10	9	1.38%	3
11	10 or more	6.88%	15
	Total	100%	218

Q15 - Would you be willing to donate some of your unused meal swipes to help students facing food insecurity?

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	Would you be willing to donate some of your unused meal swipes to help students facing food insecurity?	1.00	3.00	2.81	0.43	0.19	219

#	Answer	%	Count
1	No	1.83%	4
2	Maybe	15.07%	33
3	Yes	83.11%	182
	Total	100%	219

Q16 - Do you believe that a meal-swipe donation program is needed at WPI?

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	Do you believe that a meal-swipe donation program is needed at WPI?	1.00	5.00	4.11	0.90	0.81	521

#	Answer	%	Count
1	Definitely not	0.96%	5
2	Probably not	4.61%	24
3	Might or might not	16.12%	84
4	Probably yes	39.35%	205
5	Definitely yes	38.96%	203
	Total	100%	521

Q17 - Do you know if you are eligible for Supplemental Nutrition Assistance Program (SNAP) benefits?

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	Do you know if you are eligible for Supplemental Nutrition Assistance Program (SNAP) benefits?	1.00	3.00	1.51	0.59	0.35	521

#	Answer	%	Count
1	No	53.55%	279
2	Unsure	41.65%	217
3	Yes	4.80%	25
	Total	100%	521

Q18 - Do you know if you are eligible for emergency aid assistance?

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	Do you know if you are eligible for emergency aid assistance?	1.00	3.00	1.53	0.60	0.36	521

#	Answer	%	Count
1	No	52.40%	273
2	Unsure	42.03%	219
3	Yes	5.57%	29
	Total	100%	521

Q19 - Where do you live?

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	Where do you live?	1.00	2.00	1.40	0.49	0.24	522

#	Answer	%	Count
1	On-Campus	59.58%	311
2	Off-Campus	40.42%	211
	Total	100%	522

Q20 - What is your class year?

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	What is your class year?	1.00	5.00	2.05	1.19	1.42	519

#	Answer	%	Count
1	First Year	47.04%	238
2	Sophomore	24.11%	122
3	Junior	13.24%	67
4	Senior	15.61%	79
	Total	100%	506

Q21 - What race/ethnicity do you identify as? (Select one or more)

Data source misconfigured for this visualization

#	Answer	%	Count
1	White	60.58%	355
2	International	1.71%	10
3	Hispanic	9.39%	55
4	Asian	17.41%	102
5	Black or African American	5.12%	30
6	Multi-Ethnic	1.54%	9
7	Native Hawaiian or Pacific Islander	0.34%	2
8	Prefer not to say	2.05%	12
9	Other	1.88%	11
	Total	100%	586

Q21_9_TEXT - Other

Other - Text
Indigenous American
Middle eastern
Arab
Desi(Indian)
Native mixed
human
Sicilian

Q22 - What is your major? (Select one or more)

#	Answer	%	Count
1	Robotics Engineering	9.33%	54
2	Aerospace Engineering	5.53%	32
3	Biology	6.22%	36
4	Chemistry	1.73%	10
5	Computer Science	17.27%	100
6	Data Science	2.59%	15
7	Electrical and Computer Engineering	4.84%	28
8	Humanities and Arts	0.69%	4
9	Interactive Media and Game Design	2.59%	15
10	Mathematics	2.25%	13
11	Mechanical Engineering	16.93%	98
12	Physics	2.42%	14
13	Other	26.08%	151
14	Biomedical Engineering	1.55%	9
	Total	100%	579

Q22_13_TEXT - Other

Other - Text

Chemical engineering

Architectural Engineering

Biochemistry

Applied Physics

IMGD

Architectural engineering

Civil

Architecture Engineering

Architectural Engineering

Architectural Engineering

Architectural Engineering

Architectural engineering

Architectural Engineering

Civil Engineering

Architectural Engineering

environmental

Environmental Engineering

Society, Technology & Policy (within the Social Science & Policy Studies department)

arch eng

Business and Psychological Science

Civil Engineering

Civil and Fire Protection

Architectural engineering

Chemical engineering

Chemical Engineering

Chemical Engineering

Architectural engineering

Chemical Engineering

Biomedical Engineering

Industrial Engineering

Chemical Engineering

Biomedical engineering

Business and economic

BCB

Civil Engineering

Biology and biotechnology

Civil Engineering

environmental engineering

architectural engineering

Biomedical Engineering

Environmental engineering

Biochemistry

BCB

Civil engineering

MIS

BME

Biomedical engineering

Biomedical Engineering

Biochemistry

IT

Biochemistry

Bme

Architectural Engineering

Civil

Biochemistry

Industrial

Civil engineering

BME

Bio medical engineering

Management Information Systems

BME

User Experience Design

Environmental Engineering

Chemical engineering

Chem Eng

Industrial Engineering

Biomedical Engineering

Environmental engineering

Chemical Engineering

Biomedical Engineering

Civil

Environmental Engineering

environmental engineering

BME

Biomedical engineering

Architectural engineering

Biomedical engineering

BME

Biomedical Engineering

Robotics Engineering

Industrial Engineering

Industrial Engineering

Chemical Engineering

Robotics

Biomedical engineering

Chemical Engineering

Civil

Biomedical engineering

Architectural Engineering

Architectural engineering

Architectural engineering

CE

IMGD

Civil Engineering

Industrial Engineering

Society technology and policy

Chemical Engineering

Civil engineering

Environmental Engineering

Biochemistry

Biochemistry

Chemical Engineering

Chemical Engineering

Biochemistry

Biomedical Engineering

Q23 - What gender do you identify as?

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	What gender do you identify as?	1.00	4.00	1.60	0.71	0.50	519

#	Answer	%	Count
1	Male	49.90%	259
2	Female	42.58%	221
3	Non-binary	4.82%	25
4	Prefer not to say	2.70%	14
	Total	100%	519

Q24 - Are you a recipient of the Federal Pell Grant?

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	Are you a recipient of the Federal Pell Grant?	1.00	4.00	1.51	0.78	0.61	520

#	Answer	%	Count
1	No	65.00%	338
2	Unsure	20.19%	105
3	Yes	13.27%	69
4	Prefer not to say	1.54%	8
	Total	100%	520

Q25 - Are you a first-generation college student?

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	Are you a first-generation college student?	1.00	3.00	1.19	0.43	0.18	520

#	Answer	%	Count
1	No	82.31%	428
2	Yes	16.35%	85
3	Prefer not to say	1.35%	7
	Total	100%	520

Q26 - What do you think would be the most effective method to address food insecurity at WPI? (Rank from 1 to 5 with 1 being the most effective and 5 being the least effective)

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	Establishing a main food pantry on-campus at WPI.	1.00	5.00	3.15	1.28	1.64	370
2	Using a local food pantry located off-campus near Faraday.	1.00	5.00	2.95	1.04	1.07	396
3	Implementing a Meal-Swipe donation program in WPI dining halls.	1.00	5.00	3.30	1.61	2.59	408
4	Having an office that will help students apply for SNAP and other forms of aid.	1.00	5.00	3.06	1.12	1.26	447
5	Other	1.00	5.00	2.91	1.82	3.33	111

#	Question	Establishing a main food pantry on-campus at WPI.		Using a local food pantry located off-campus near Faraday.		Implementing a Meal-Swipe donation program in WPI dining halls.		Having an office that will help students apply for SNAP and other forms of aid.		Other	
1	1	11.62%	43	8.59%	34	23.28%	95	8.50%	38	42.34%	47
2	2	23.78%	88	23.74%	94	12.75%	52	24.16%	108	6.31%	7
3	3	19.73%	73	37.88%	150	11.52%	47	30.20%	135	7.21%	8
4	4	27.84%	103	23.23%	92	15.93%	65	26.85%	120	6.31%	7
5	5	17.03%	63	6.57%	26	36.52%	149	10.29%	46	37.84%	42
	Total	Total	370	Total	396	Total	408	Total	447	Total	111

Appendix F: Survey Results for Faculty/Staff

Q32 - In your opinion, to what degree is food insecurity a problem among the WPI student population?

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	In your opinion, to what degree is food insecurity a problem among the WPI student population?	1.00	4.00	2.73	0.61	0.38	67

#	Answer	%	Count
1	Not a problem	4.48%	3
2	Minor problem	22.39%	15
3	Somewhere in-between	68.66%	46
4	Major problem	4.48%	3
	Total	100%	67

Q33 - Do you know of any student(s) currently struggling with food insecurity?

Do you know of any student(s) currently struggling with food insecurity?

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	Do you know of any student(s) currently struggling with food insecurity?	1.00	2.00	1.22	0.42	0.17	67

#	Answer	%	Count
1	No	77.61%	52
2	Yes	22.39%	15
	Total	100%	67

Q34 - Do you know where to direct students towards support if they are struggling with food insecurity?

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	Do you know where to direct students towards support if they are struggling with food insecurity?	1.00	2.00	1.36	0.48	0.23	66

#	Answer	%	Count
1	No	63.64%	42
2	Yes	36.36%	24
	Total	100%	66

Q41 - Would you donate to a food pantry if one were established on WPI?

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	Would you donate to a food pantry if one were established on WPI?	1.00	2.00	1.94	0.24	0.06	67

#	Answer	%	Count
1	No	5.97%	4
2	Yes	94.03%	63
	Total	100%	67

Q42 - Are you on a Faculty/Staff meal plan?

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	Are you on a Faculty/Staff meal plan?	1.00	1.00	1.00	0.00	0.00	67

#	Answer	%	Count
1	No	100.00%	67
2	Yes	0.00%	0
	Total	100%	67

Q43 - Do you generally have any left-over meal swipes at the end of the week?

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	Do you generally have any left-over meal swipes at the end of the week?	0.00	0.00	0.00	0.00	0.00	0

#	Answer	%	Count
1	No	0.00%	0
2	Yes	0.00%	0
	Total		0

Q44 - On average, how many meal swipes do you leave unused each week?

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	On average, how many meal swipes do you leave unused each week?	0.00	0.00	0.00	0.00	0.00	0

#	Answer	%	Count
1	0	0.00%	0
2	1	0.00%	0
3	2	0.00%	0
4	3	0.00%	0
5	4	0.00%	0
6	5	0.00%	0
7	6	0.00%	0
8	7	0.00%	0
9	8	0.00%	0
10	9	0.00%	0
11	10 or more	0.00%	0
	Total		0

Q45 - Would you be willing to donate some of your unused meal swipes to help students facing food insecurity?

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	Would you be willing to donate some of your unused meal swipes to help students facing food insecurity?	0.00	0.00	0.00	0.00	0.00	0

#	Answer	%	Count
1	No	0.00%	0
2	Maybe	0.00%	0
3	Yes	0.00%	0
	Total		0

Q35 - Have you worked in any way to address food insecurity at WPI?

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	Have you worked in any way to address food insecurity at WPI?	1.00	2.00	1.24	0.43	0.18	67

#	Answer	%	Count
1	No	76.12%	51
2	Yes	23.88%	16
	Total	100%	67

Q36 - Can you explain what you have done?

Can you explain what you have done?

Hired Doughboyz to keep they're business offering free breakfast to WPI students

Trying to open a food pantry

Purchase healthier food for my student athletes

Started a food bin available at our office for students to access. Worked with students to find resources on campus and off campus that they can use. Provided gift cards directly to a student in an emergent situation.

Baked for my students, provided year-end meals

I have cans of soup on the top of my hutch, so someone can reach in and take one if they need it. I also treat my workers to dunks and have been told that sometimes that is the only meal they get.

Tried to ensure that there are a variety of small snacks available for student "grazing" in the administrative offices.

I have helped individuals privately.

In the past we have provided left over food from large scale events to students who might have needed it.

Advising IQP projects addressing food insecurity :)

Q38 - What do you think would be the most effective method to address food insecurity at WPI? (Rank from 1 to 5 with 1 being the most effective and 5 being the least effective)

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	Establishing a main food pantry on-campus at WPI.	1.00	5.00	2.89	1.37	1.88	37
2	Using a local food pantry located off-campus near Faraday.	1.00	5.00	3.04	1.15	1.32	50
3	Implementing a Meal-Swipe donation program in WPI dining halls.	1.00	5.00	3.08	1.61	2.60	53
4	Having an office that will help students apply for SNAP and other forms of aid.	1.00	5.00	3.05	1.11	1.22	58
5	Other	1.00	5.00	3.45	1.88	3.52	11

#	Question	1		2		3		4		5		Total
1	Establishing a main food pantry on-campus at WPI.	16.22%	6	29.73%	11	24.32%	9	8.11%	3	21.62%	8	37
2	Using a local food pantry located off-campus near Faraday.	10.00%	5	24.00%	12	28.00%	14	28.00%	14	10.00%	5	50
3	Implementing a Meal-Swipe donation program in WPI dining halls.	26.42%	14	15.09%	8	15.09%	8	11.32%	6	32.08%	17	53
4	Having an office that will help students apply for SNAP and other forms of aid.	10.34%	6	20.69%	12	29.31%	17	32.76%	19	6.90%	4	58
5	Other	36.36%	4	0.00%	0	0.00%	0	9.09%	1	54.55%	6	11