



DIVISION OF
STUDENT AFFAIRS
COUNSELING CENTER

UMD Food Access & Student Well-being Study



A Report by the University of Maryland Counseling Center Research Unit
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Executive Summary

The United States Department of Agriculture (USDA) defines food insecurity as an “economic and social condition of limited or uncertain access to adequate food” (USDA Economic Research Service, 2019a). Food insecurity on college campuses is a pervasive concern, which has demonstrated adverse effects on students’ academic performances and self-reported physical and mental health. This report presents the results of a mixed-methods research study that assessed the prevalence of food insecurity among University of Maryland, College Park (UMD) students and examined its impacts on student academic success and subjective well-being. In combining a large-scale survey of 4,901 UMD undergraduate and graduate students (77% and 23% of the total participants, respectively) and in-depth interviews with 23 survey respondents who experienced food insecurity, we found the following:

- About 20% of UMD students surveyed were food insecure at some point in the 12 months preceding the survey, with 13% experiencing low levels of food security and 7% experiencing very low levels of food security. An additional 21% of the respondents reported marginal food security levels.
- Food insecurity has pervasive impacts on student well-being, academic performance, and professional/career development. Food insecure students reported poorer general health, and experienced higher levels of depression, anxiety, distress, anger, and loneliness than their peers. On average, compared to their counterparts, food insecure students had lower GPAs and were more likely to withdraw from the University before completing their degrees. Some food insecure students also reported

High Food Security:

No reported concerns over accessing sufficient food.

Marginal Food Security:

Some anxiety or concerns over having insufficient food, but no or small changes in diets or quantity of food.

Low Food Security:

Decreased quality, variety, or desirability of food, but no or small changes in the amount of food intake.

Very Low Food Security:

Reduced quantity, quality, variety, and desirability of diets due to the inability to obtain adequate food.

(USDA Economic Research Service, 2019a)

concerns over self-image, causing them to feel like a “failure at adulthood.” Additionally, food insecure students reported missing out on professional and social development opportunities (e.g., unpaid internships) which may benefit their future career pursuits.

- Food insecurity disproportionately affects certain college students. First-generation college students, racial/ethnic minority students, international students, those with an immigrant background, transfer students, those who identified as transgender/gender non-conforming, students with a disability, students who were divorced/separated/widowed, and those from lower socioeconomic (SES) backgrounds, as well as students who worked longer hours and/or were financially independent were at greater risk of being food insecure than their peers. Budget shortages, lack of access to a vehicle or reliable transit to the grocery store, knowledge and perceptions about using food assistance services, and dietary needs served as additional barriers to food access.
- Food security levels are variable and can change rapidly for students who lack reliable financial resources. Access to healthy and nutritious food can depend on a variety of intertwining demographic and economic factors—such as SES, cultural, and immigration backgrounds. On the one hand, an unexpected expense (e.g., a car breaks down, a laptop crashes, or the student has a large medical bill to pay) may put a strain on already limited budgets and have a downward-spiral effect on financially insecure students’ food access, psychological and physical well-being, and ultimately, the ability to stay in school. These experiences cause intense levels of stress and worry for food insecure students, some of whom have used food assistance services in the past or know other students struggling with similar issues. On the other hand, a little help—such as the availability of free shuttle services to a grocery store, a small scholarship, and emergency food or crisis fund—goes a long way and may help food insecure students stay in school and eventually complete their degrees.
- Students coped with food insecurity in a number of ways. Food insecure students found lower cost or free food, earned food credit, skipped or cut the size of meals, skipped class to attend free food events, found ways to cut expenses or make extra income, relied on friends and family for food, or used other activities (e.g., taking naps) to distract themselves from feelings of hunger.

- Stigma is an ongoing issue. Some students did not use food access resources they qualified for because of feelings of embarrassment or shame, or because they felt that other students were in greater need.
- In addition to providing more support to food insecure students, students indicated that it is critical to increase awareness of food insecurity on campus. Educating faculty, staff, and students about food insecurity on campus and promoting campus resources will enhance awareness of this issue and help food insecure students “know they are not alone.”

Because of the extent and pervasive impacts of food insecurity on our students’ health and academic experiences, a number of actions have been taken on the UMD campus to mitigate the effects of student food insecurity. In sum, our study shows that there is a great need for a systemic intervention and coordinated efforts to alleviate food insecurity and eliminate hunger at UMD and universities at large.



Context

The Food Access and Student Well-Being Study was designed to foster a greater understanding of food insecurity issues at UMD. In 2017, the prevalence of food insecurity in U.S. households was estimated at 11.8% (7.3% low food security and 4.5% very low food security; USDA Economic Research Service, 2019b). Research suggests that food insecurity is pervasive on college and university campuses in the United States (for a review, see the United States Government Accountability Office Report to Congressional Requesters, 2018).

For example, a study conducted on 34 college campuses (8 community colleges and 26 four-year institutions; $N = 3,765$) found that approximately 48% of their survey respondents were food insecure at one point in the previous 30 days, with 22% experiencing very low levels of food security (Dubick, Mathews, & Cady, 2016). Among the respondents at four-year institutions, 47% were food insecure with 20% experiencing very low levels of food security, and 43% participating in a meal plan were still food insecure. Another study of 43,000 students on 66 college and university campuses by the Wisconsin HOPE Lab showed that 36% of four-year college/university students and 42% of two-year college students who participated in the survey were considered food insecure over the past 30 days (Goldrick-Rab, Richardson, Schneider, Hernandez, & Cady,

2018). Among the four-year university students, 14% reported low food security and 22% very low food security. Across 31 studies on college campuses, food insecurity rates ranged from 9% to over 50%, with 22 of the studies reporting food insecurity rates that were higher than 30% (for a review, see the U.S. GAO Report, 2018).

Food insecurity is also often intertwined with housing insecurity and homelessness. The most recent college student basic needs study by the Hope Center for College, Community, and Justice (formerly the Wisconsin HOPE lab) found that 45% of nearly 86,000 respondents at 123 institutions (90 two-year colleges and 33 four-year institutions) were food insecure at some point in the month preceding the survey, while 56% of the respondents were housing insecure (e.g., unable to pay rent/utilities or having to move due to financial issues) in the previous year (Goldrick-Rab, Baker-Smith, Coca, Looker, & Williams, 2019). At four-year institutions, approximately 41% of the students were food insecure, and 48% were housing insecure. Furthermore, 30% of the students at four-year institutions were both food and housing insecure, while 9% were food insecure and homeless (Goldrick-Rab et al., 2019).

Findings across numerous studies suggest that certain groups of students are at greater

risk of food insecurity (for a review, see the U.S. GAO Report, 2018). For example, research has shown that racial/ethnic minorities, international students, first-generation college students, and students with disabilities are more likely to be food insecure, in comparison to their counterparts (e.g., Broton, Weaver, & Mai, 2018; Chaparro, Zaghoul, Holck, & Dobbs, 2009; Dubick et al., 2016; El Zein, Matthews, House, & Shelnutt, 2018; Forman, Mangini, Dong, Hernandez, & Fingerman, 2018; Goldrick-Rab et al., 2019; Martinez, Webb, Frongillo, & Ritchie, 2017; Morris, Smith, Davis, & Null, 2016; Phillips, McDaniel, & Croft, 2018). Also,



research has demonstrated that students' SES and financial backgrounds are associated with the risk of food insecurity. Students with childhood history of food insecurity, recipients of financial aid (e.g., Pell Grants) and food assistance, and those who reported that they were financially independent are more likely to be food insecure than their peers (e.g., Dubick et al., 2016; Gaines, Robb, Knol, & Sickler, 2014; El Zein et al., 2018; Martinez et al., 2017).

Overall, there is an inverse relationship between food insecurity and (a) psychological/physical well-being and (b) student academic performance. Food insecurity has been shown to be associated with poorer physical and mental health (e.g., Bruening, van Woerden, Todd, & Laska, 2018; Martinez, Frongillo, Leung, & Ritchie, 2018; Patton-López, López-Cevallos, Cancel-Tirado, & Vazquez, 2014; for a review, see the U.S. GAO Report, 2018). For example, compared to food secure students, students with very low levels of food security were more likely to report symptoms of depression, anxiety, eating disorders, and suicidal ideation (Goldrick-Rab, Broton, & Eisenberg, 2015). In addition to the adverse effects on physical and psychological well-being, food insecurity has negative effects on students' academic performance, class attendance, and retention (e.g., Silva et al., 2015). Food insecure students had lower GPAs

than food secure students (Morris et al., 2016; Patton-López et al., 2014; Phillips et al., 2018). Food insecurity, mental health, and GPA are also intertwined; recent studies have shown that food insecure students are more likely to report poorer mental health which is related to lower GPA (Martinez et al., 2018; Raskind, Haardörfer, & Berg, 2019).

Clearly, there is a need for urgent attention to this issue given the high prevalence of food insecurity on college campuses and the demonstrated negative effects of food insecurity on students' health and academic experiences. Our study aimed to help clarify the impacts of food access on student academic success and well-being at UMD, and inform the efforts of campus initiatives in mitigating food insecurity. The study expanded on the pilot

study by Payne-Sturges, Tjaden, Caldeira, Vincent, and Arria (2017), which found that among 237 undergraduate students surveyed at UMD, 15% were food insecure, and an additional 16% were at risk of food insecurity. To further examine these findings in a larger campus sample, the Counseling Center Research Unit designed a mixed-methods study, consisting of an electronic survey distributed to a randomly selected sample of UMD students and in-depth interviews with 23 survey participants who reported low or very low food security. We aimed to use this mixed-methods research study to shed light on challenges students face in accessing food, impacts of food insecurity, strategies they use to get by, and potential solutions to the food insecurity crisis on college campuses.

Descriptions of the Mixed Methods Research

The Survey Study

Procedures

In Fall 2017, we distributed an electronic survey to a randomly selected sample of over 20,000 UMD students. Basic demographic and enrollment data (e.g., age, GPA, entry status, and class standing at the University) were pulled from the University Data Warehouse. After completing the survey, participants could choose to be entered into a raffle to win one of 104 (four \$50, twenty \$20, and eighty \$10) gift cards that students may use on campus.

Measures

The survey consisted of stand-alone demographic items, multiple scales measuring rates of food insecurity and student physical and mental health, and one open-ended question inquiring about students' suggestions for improving food access. The USDA 18-Item Household Food Security Module (2012), which measures self-reported household food security status in the past 12 months, was used to calculate rates of food insecurity amongst UMD students.¹ Sample items included: "Were you ever hungry but didn't eat because there wasn't enough money for food?" and "Did you ever cut the size of your child's/any of the children's meals because there wasn't enough money for food?" Subjective social status was measured using the MacArthur Scale of Subjective Social Status (Adler & Stewart, 2007), which uses a numbered ladder image to measure social status. Student physical and mental well-being was measured using four scales: (1) The Emotion Thermometers (Mitchell, 2007) which measure self-reported levels of distress, anxiety, depression, and anger; (2) the General Health scale from the RAND 36-Item Health Survey Short Form (RAND Corporation, 1993) which measures self-reported health; (3) the Three-Item Loneliness Scale (Hughes, Waite, Hawkley, & Cacioppo, 2004) which assesses individual sense of loneliness; and (4) the Rosenberg Self-Esteem Scale (Rosenberg, 1965) which measures global self-worth by measuring both positive and negative feelings about the self.

Survey participants

Out of 22,745 successfully emailed invitations, a total of 4,901 students (3,791 undergraduate and 1,110 graduate students; 12% of total UMD enrollment in the Fall semester of 2017) submitted responses, yielding a response rate of 22%. See Table 1 on the next page for a snapshot of the respondents (age range = 18-61 years old, $M_{\text{age}} = 22.2$ years).

¹ This module takes into account whether or not respondents have children under the age of 18 in their households.

Table 1. Demographic and Financial Stability Variables – All Survey Respondents

Demographics and Financial Stability Variables (N = 4,901)	Percent
Undergraduate student ²	77.4
Graduate student (Master's or Doctoral) ²	22.6
Students who live on campus	45.4
Students who live off campus	54.6
Students with a meal plan	34.2
Students without a meal plan	65.8
Woman	59.5
Man	39.4
Transgender/gender non-conforming/different identity	1.2
American Indian/Alaska Native	0.7
Asian/Asian American	26.6
Black/African American	12.0
Chicano, Hispanic, or Latino/a	7.1
Middle Eastern/North African	2.7
Native Hawaiian/Pacific Islander	0.4
White	55.5
Biracial or Multiracial ³	7.1
International ²	15.8
Domestic ²	84.2
Born in the U.S. ⁴	52.5
At least one parent born in another country ⁴	25.1
Born in another country and came to the U.S. as child, adolescent, or adult ⁴	21.3

² Data from the UMD Data Warehouse.

³ It should be noted that 7.1% of students identified more than one racial background, so percentages in this area do not sum to one hundred percent.

⁴ 1% of participants did not know which generational status applied to them, or they lacked some information to respond.

Demographics and Financial Stability Variables (N = 4,901)	Percent
Transfer student ^{5,6}	17.6
Non-transfer student ^{5,6}	82.4
First-generation college student	11.8
Non-first-generation college student	88.2
Students with a disability/disabilities	4.1
Students without reported disabilities	95.9
Divorced/separated/widowed	0.5
Single (never married)	93.1
Married/domestic partner/living as married	6.3
Lower or lower middle SES	12.8
Middle SES	30.5
Upper or upper middle SES	56.7
Could <i>rarely</i> or <i>never</i> make ends meet growing up	4.6
Could <i>sometimes</i> make ends meet growing up	8.0
Could <i>most of the time</i> or <i>always</i> make ends meet growing up	87.4
Can <i>rarely</i> or <i>never</i> make ends meet now	6.0
Can <i>sometimes</i> make ends meet now	14.2
Can <i>most of the time</i> or <i>always</i> make ends meet now	79.8
<i>Personally</i> responsible for <i>more than half</i> of their educational cost	24.2
<i>Personally</i> responsible for <i>half or less</i> of their educational cost	75.8
Employed	31.7
Unemployed	68.3

⁵ Data from the UMD Data Warehouse.

⁶ Percentage of undergraduate students only ($n = 3,791$).

Students were asked how they support themselves financially while attending college. Table 2 below lists how often each option was reported by participants who were food secure or insecure.

Table 2: Sources of Financial Support

	% of Food Secure Students (n = 3,956)	% of Food Insecure Students (n = 945)
Financial support from parent(s)/family member(s)/significant other(s)	55	41
Personal savings	38	41
Scholarship or fellowship	32	35
Federal or private student loans	21	39
On-campus employment (non-FWS employment)	16	22
Federal or state grant and/or scholarship	14	30
Off-campus employment (non-FWS employment)	14	26
Tuition remission from working on campus/parent working on campus	12	15
University grant (e.g., University of Maryland Grant)	11	28
Relying on credit cards	5	16
Federal Work Study (FWS)	2	5
Veterans education benefits (e.g., National Guard/G.I. bill)	2	2
Employer tuition assistance program (does NOT include tuition remission)	1	0.5
Other (e.g., summer internship, AmeriCorps Grant)	0.2	0.3

The Interview Study

Procedures

To further explore the experience of food insecure students, we invited 23 students to come in for phase two of the study—an in-depth interview with the research team about students' experiences. Potential interview participants were identified based on USDA module scores for “low food security” or “very low food security,” and previously expressed interest in being contacted for a follow-up study. Among those who fit these two criteria to participate in the interviews, we reached out to the students with diverse personal, cultural, and educational backgrounds, which were related to higher risk of food insecurity based on the survey results.

Interviews were approximately 60 minutes in length and were conducted by one to three members of the research team in a private room. Participants who completed an interview were given a \$25 gift card for their time. Some students were invited back for follow-up interviews if their original interviews revealed themes or topics that warranted further exploration. The follow-up interviews were approximately 30 minutes in length, and these students were given an additional \$15 gift card.

Interview protocol

In the interviews, we asked students if there had been any change in their access to food since they took the survey, and tailored our questions based on their survey responses. We also asked open-ended questions about their eating patterns, impacts of food insecurity on their health and academic experiences, unexpected events that might have affected their ability to obtain healthy and nutritious food, specific issues they faced related to their personal or cultural backgrounds (e.g., as a racial/ethnic minority, parent, immigrant, or international student), coping strategies, and suggestions for how the University can help students struggling with food access.

Interviewees

In total, we completed interviews with 23 students with low or very low food security and follow-up interviews with five of these students. They ranged in age from 18-32 years old ($M_{age} = 22.9$ years). See Table 3 on the next page for a description of the interviewees.

Table 3: Demographic and Financial Stability Variables – Interviewees

Demographics and Financial Stability Variables (N = 23)	Percent
Undergraduate student ⁷	65.2
Graduate student (Master's or Doctoral) ⁷	34.8
Students who live on campus	26.1
Students who live off campus	73.9
Students with a meal plan	21.7
Students without a meal plan	78.3
Woman	73.9
Man	21.7
Transgender/gender non-conforming/different identity	4.3
American Indian or Alaska Native	4.3
Asian/Asian American	39.1
Black/African American	17.4
Chicano, Hispanic, or Latino/a	17.4
Middle Eastern/North African	4.3
Native Hawaiian/Pacific Islander	0.0
White	43.5
Biracial or Multiracial ⁸	17.4
International ⁷	21.7
Domestic ⁷	73.9
Undocumented	4.3
Born in the U.S.	43.5
At least one parent born in another country	26.1
Born in another country and came to the U.S. as child, adolescent, or adult	30.4

⁷ Data from the UMD Data Warehouse.

⁸ It should be noted that 17.4% of students identified more than one racial background so percentages in this area will not sum to one hundred percent.

Demographics and Financial Stability Variables (N = 23)	Percent
Transfer student ^{9,10}	26.7
Non-transfer student ^{9,10}	73.3
First-generation college Student	34.8
Non-first-generation college Student	65.2
Students with a disability/disabilities	13.0
Students without reported disabilities	87.0
Divorced/separated/widowed	4.3
Single (never married)	91.3
Married/domestic partner/living as Married	4.3
Lower or lower middle SES	47.8
Middle SES	34.8
Upper or upper middle SES	17.4
Could <i>rarely or never</i> make ends meet growing up	21.7
Could <i>sometimes</i> make ends meet growing up	30.4
Could <i>most of the time or always</i> make ends meet growing up	47.8
Can <i>rarely or never</i> make ends meet now	21.7
Can <i>sometimes</i> make ends meet now	39.1
Can <i>most of the time or always</i> make ends meet now	39.1
<i>Personally</i> responsible for <i>more than half</i> of their educational cost	30.4
<i>Personally</i> responsible for <i>half or less</i> of their educational cost	69.5
Employed	69.6
Unemployed	30.4

⁹ Data from the UMD Data Warehouse.

¹⁰ Percentage of undergraduate students only (n = 15)

For comparison to the larger survey sample, Table 4 lists how often the interviewee students reported each option on how they are financially supporting themselves while in college.

Table 4: Sources of Financial Support for Interviewees

	% of Interviewees (<i>N</i> = 23)
Financial support from parent(s)/family member(s)/significant other(s)	22
Personal savings	48
Scholarship or fellowship	48
Federal or private student loans	35
On-campus employment (non-FWS employment)	30
Federal or state grant and/or scholarship	30
Off-campus employment (non-FWS employment)	26
Tuition remission from working on campus/parent working on campus	17
University grant (e.g., University of Maryland Grant)	30
Relying on credit cards	13
Federal Work Study (FWS)	0
Veterans education benefits (e.g., National Guard/G.I. bill)	4
Employer tuition assistance program (does NOT include tuition remission)	0
Other (e.g., summer internship, AmeriCorps Grant)	0

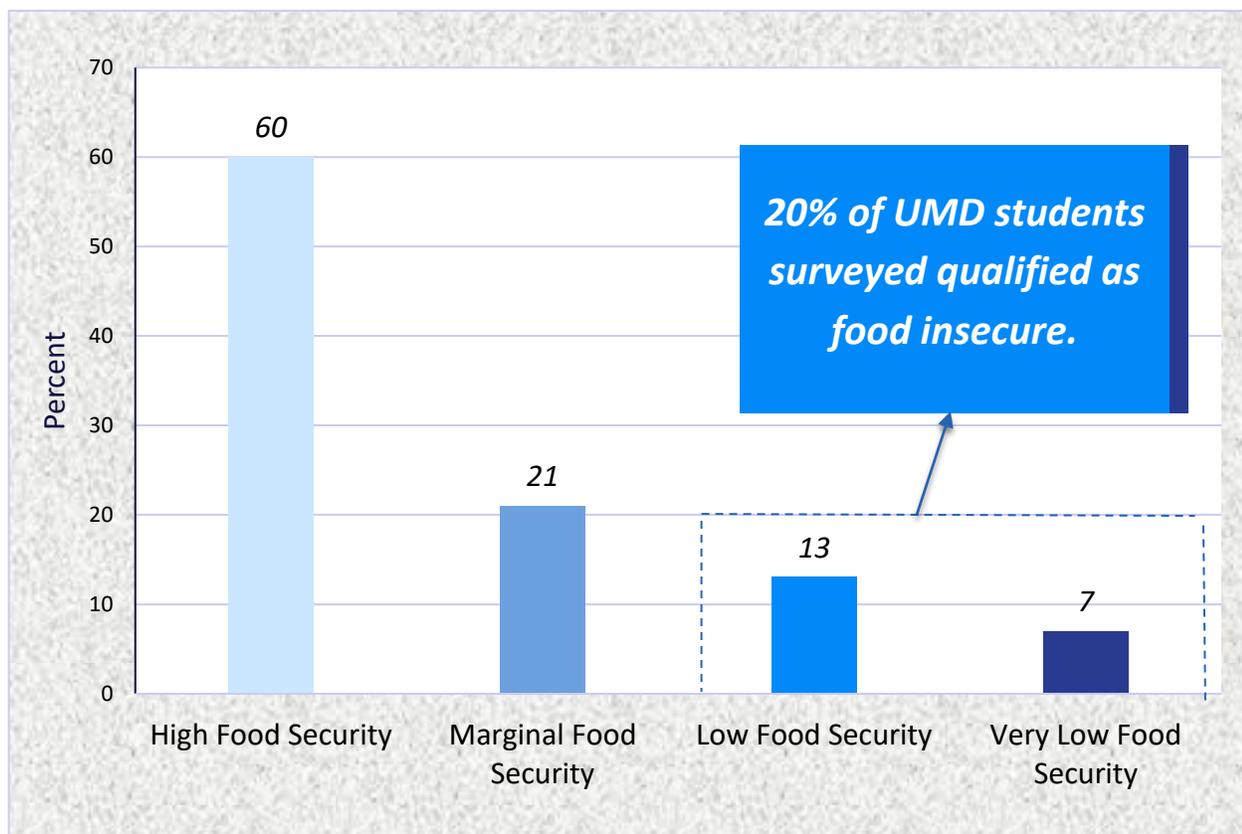
Study Findings

Findings from the survey and interview studies are summarized below. Quotes from the survey responses and interviewees are included to illustrate the findings.

Prevalence of food insecurity¹¹

According to the USDA Household Food Security Module (2012), 60% of the survey respondents experienced high food security. However, 20% of UMD students surveyed qualified as food insecure (“low food security” or “very low food security”). An additional 21% of the respondents experienced marginal food security (see Figure 1).

Figure 1: Food Security Status



¹¹ A smaller sample of students – 4,171 in total – provided valid responses to all stand-alone questions and scale items. This sub-sample of students is used for further analyses and reported on from this point forward.

Impacts on Student Academic Success, Well-Being, & Professional/Career Development

We identified six thematic categories of negative outcomes related to food insecurity: (a) academic impacts, (b) impacts on physical health, (c) impacts on mood or mental health, (d) self-esteem or body image concerns, (e) relational or social impacts, and (f) impacts on professional and career development.

Academic impacts

Students shared that they fell asleep in class, were unable to concentrate on their academics, or had to miss class because of hunger. Food insecure respondents were also more likely to report failing an assignment or exam, and even failing or withdrawing from a class, compared to their counterparts. In fact, they earned significantly lower cumulative GPAs than their food secure peers did (across multiple semesters). In addition, food insecure students were more likely than food secure students to leave or not return to UMD before they completed their degrees (see Table 5).

Food insecure students earned significantly lower cumulative GPAs and were more likely to leave the University before finishing their degrees, compared to their peers.

Table 5: Academic Impacts of Food Insecurity

Academic Impacts	Food Secure Students	Food Insecure Students
Falling asleep or being unable to concentrate in class ¹²	2.7%	40.1%
Missing class ¹²	1.4%	18.0%
Failing an assignment or exam ¹²	1.2%	12.6%
Failing or withdrawing from a class ¹²	0.3%	4.4%
Planning to withdraw from the university ¹²	0.2%	3.8%
Average cumulative GPA (by Fall 2017) ¹³	3.47	3.25
Average cumulative GPA (by Spring 2018) ¹³	3.49	3.27
Withdrawal (by Summer 2019) ¹³	3.4%	5.9%

¹² Percentage of students who selected this impact when asked, "Have you experienced any of the following in the past 12 months because you couldn't afford enough food?"

¹³ Data from the UMD Data Warehouse.

Impacts on physical health

Our interviewees reported that food insecurity affected their health in a number of ways: gaining or losing weight, changing their sleep patterns, and feeling lethargic, dizzy, or ill from lack of nutrition. Our survey findings showed that food insecure students rated their general health significantly lower than their food secure counterparts. Food insecure respondents were also more likely to have lost weight, develop health problems, develop an unhealthy relationship with food (e.g., binge eating when food is available), and have a lower energy level, in comparison to their peers (see Table 6).

Table 6: Physical Health Impacts of Food Insecurity

Physical Health Impacts	Food Secure Students	Food Insecure Students
General health ¹⁴	68.8	55.3
Losing weight because there wasn't enough money for food ¹⁵	0.5%	31.8%
Developing health problems ¹⁶	0.6%	16.9%
Developing an unhealthy relationship with food ¹⁶	2.0%	29.1%
Energy levels ¹⁷	4.1	3.5

“That cheeseburger is a dollar fifty.... Sugary sodas are cheaper than ... milk.... People who don't have good access to food are heavier because ... they're eating the cheeseburgers.”

“I feel like if I ate more, I'd not be as skinny as I am right now.... Because I have been starving before—like actually really, really hungry, I don't know what the difference between being hungry and starving is sometimes.”

¹⁴ From the General Health subscale of the RAND 36 Item Short Form Health Survey with higher scores indicating better self-reported, general health (score range = 0 - 100; RAND Corporation, 1993).

¹⁵ From the USDA Household Food Security Module (2012).

¹⁶ Percentage of students who selected this impact when asked, “Have you experienced any of the following in the past 12 months because you couldn't afford enough food?”

¹⁷ This is an average rating on a Likert-type scale of 1 = “Very poor” to 6 = “Excellent.” Higher scores indicate higher self-reported energy levels.

Impacts on mental health

Insufficient access to healthy food had negative impacts on students' mental health. Our survey findings showed food insecure respondents reported higher levels of distress, anxiety, depression, and anger than their food secure peers (see Table 7).

Table 7: Mental Health Impacts of Food Insecurity

Mental Health Impact	Food Secure Students	Food Insecure Students
Feeling down or depressed ¹⁸	3.1%	46.7%
Anxiety levels ¹⁹	5.4	6.7
Distress levels ¹⁹	4.4	6.0
Depression levels ¹⁹	3.0	4.8
Anger levels ¹⁹	2.5	3.7

“So stressed because you have to always think about the budgeting, always think about ... how to get food, where to get it cheaper ... rather than spending the time studying your subject, studying academically.”

“I was more depressed than usual, and at one point, I ended up having to go to the hospital because of it. So, it just got really bad. And doctors and my mom probably thought that the food played a big part on my mood being bad. I needed more nutritious food.... I had suicidal ideation, and one of the biggest concerns was financial stuff.”

¹⁸ Percentage of students who selected this impact when asked, “Have you experienced any of the following in the past 12 months because you couldn’t afford enough food?”

¹⁹ From the Emotion Thermometers with higher scores indicating higher levels (0 = “None” to 10 = “Extreme”; Mitchell, 2007).

Self-esteem or body image concerns

Lack of food access negatively affected some students' self-images by a) causing them to feel like a "failure at adulthood" (see quote below) because they lacked the money or food they needed to get by, or b) by creating concerns over their body image. According to our survey, food insecure students reported significantly lower levels of self-esteem (average score = 2.7) as compared to their food secure counterparts (average score = 3.0).²⁰

"I definitely felt guilty.... I'm in graduate school.... I should be able to handle this.... I felt like ... I have failed at being an adult because I wasn't able to pay for my own groceries and to get by.... So, that was definitely like a feeling of shame and stress ... trying to figure out what I was going to eat.... I really felt like I was spending so much time thinking about that."

Relational or social impacts

Students missed out on activities with friends and felt excluded from social events or social gatherings because they couldn't afford to participate in such activities and had to save their money for groceries. Some students shared they felt isolated or lonely as a result. This is consistent with our survey findings which suggested that food insecure students felt lonelier ($M = 2.05$) than their food secure peers ($M = 1.75$)²¹ and were more likely to avoid dining out with friends because they couldn't afford enough food (61.5%), compared to their counterparts (10.5%).²²

"It's hard for me to tell them [my friends] ... I don't have enough money, and sometimes embarrassing to say that out loud to your friends.... that you don't have enough money to participate in a social event also puts a lot of stress on people because it feels like you're being outcast or being left from the crowd."

²⁰ From the Rosenberg Self-Esteem Scale (Rosenberg, 1965) with 1 = "Strongly disagree" to 4 = "Strongly agree," with higher scores indicating higher levels of self-esteem.

²¹ From the Three-Item Loneliness Scale with higher scores indicating higher levels of loneliness (1 = "Hardly ever" to 3 = "Often," Hughes, Waite, Hawkley, & Cacioppo, 2004).

²² Percentage of students who selected this impact when asked, "Have you experienced any of the following in the past 12 months because you couldn't afford enough food?"

Impacts on professional and career development

Food insecurity appeared to limit students' ability to network with future colleagues or potential employers (e.g., unable to attend official or social functions—such as conferences—because of budget shortages). Some interviewees expressed that they worried about feeling judged by their classmates or colleagues in their major or field if they shared their struggles with food access. Also, some students shared that they could not take unpaid training opportunities such as internships—some of which may require commutes to off-campus locations—due to budget constraints or lack of transportation. Food insecure students needed to use their spare time to take a paid job even though they understood that certain unpaid training opportunities might benefit their career development in the future. Therefore, food insecurity may have long-term, negative impacts on students' professional development.



“Some things that would build your financial future are unpaid internships... opportunities on campus like being a TA, being in a club. These things that require financial input ... time input. These are things we can't do.”

Barriers to Food Access

We found that food insecurity disproportionately affects certain college students. Demographic and cultural factors, such as immigration and racial/ethnic backgrounds, are associated with barriers to food access. Factors related to family, household, and SES; physical access constraints; knowledge, perceptions, and stigma about using food access resources; and dietary restrictions form additional barriers, leaving certain students at greater risk for food insecurity.

Cultural, personal, and immigration factors

According to the survey findings, (a) undergraduate and graduate students and (b) women and men did not differ significantly in their levels of reported food security. However, students were more likely to be food insecure if they identified as any of the following (see Table 8 on the next page):

- Transgender/gender non-conforming/different gender identity
- Racial/ethnic minorities
- International students
- Students with an immigrant background
- Transfer students
- First-generation college students
- Students with disabilities
- Students who were divorced, separated, or widowed

“A source of big issues in ethnic minorities is lack of generational wealth.... My parents ... are the first generation of immigrants here. And obviously my dad was the most education [trade school] we had in my family.... Then, he had a major accident which left him unable to work.... So, when you don't have family financial support ... well, where are you supposed to get it from?”

Table 8: Cultural, Personal, and Immigration Factors of Food Insecurity

Group Demographics (N = 4,171)	% of Certain Group Considered Food Insecure
Transgender/gender non-conforming/different identity	32.0
Woman	19.8
Man	19.8
Racial/ethnic minorities	25.6
White	14.6
International ²³	25.0
Domestic ²³	19.1
Born in another country and came to the U.S. as child, adolescent, or adult ²⁴	25.8
At least one parent born in another country ²⁴	19.9
Born in the U.S. ²⁴	17.7
Transfer student ^{23, 25}	34.4
Non-transfer student ^{23, 25}	16.8
First-generation college student	43.1
Non-first-generation college student	17.0
Students with a disability/disabilities	38.3
Students without reported disabilities	19.2
Divorced/separated/widowed	61.9
Single (never married)	19.8
Married/domestic partner/living as married	16.2

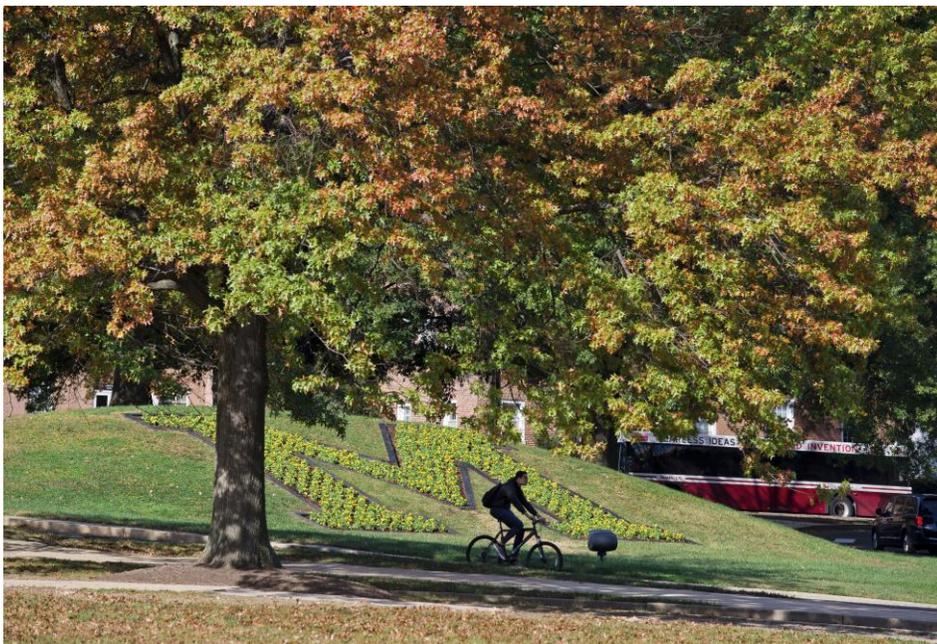
²³ Data from the UMD Data Warehouse.

²⁴ 1% of participants did not know which generational status applied to them, or they lacked some information to respond.

²⁵ Percentage of undergraduate students only (n = 3,217).

International students expressed that they could not afford food because of legal restrictions related to their work. Nor are International students qualified for certain federal food assistance programs.

“Most graduate students, and particularly international graduate students in doctorate programs, can relate to the constant anxiety of living on a really tight budget, with no other alternative income due to legal restrictions. That is the main factor that affects our well-being, and it makes us consider alternatives such as skipping meals to make ends meet.”



Family, household, and SES factors

Food insecure students noted that they couldn't afford healthy or nutritious food on their limited budgets. Specific circumstances—like unexpected medical bills, loss of income, or a broken laptop—also led to budget shortages. For many students, particularly commuter students, food access depended on other people in their household (e.g., parents or relatives), and the household income was insufficient to buy enough food for everyone. Also, some students contributed to the family income and financially supported their parents and/or siblings. For students with children, the high cost of raising children added an additional strain on their already limited food budget, and created added food-specific struggles that non-parents did not experience such as having to worry about their children's health and nutrition as well as their own.

“I would only have to go a couple of days without substantial food, and usually ... there was some nice rice that I was giving my son, and I just didn't eat any of it. Or there would be banquets ... that I had to go to for school, and I would just take all the food [so I had something to give my son later].... The process of having food is different [when you have children]. I have to ... have the food in my house because I have to feed my kids.”

“Because I had a child, I had extra expenses, but no increase in the amount of money I was able to get to go to school. Also, SNAP only allowed money for my child's food, so our budget was \$230.00 a month.... This did not leave much for clothing. My boy wore his summer shirts all winter, but wore his coat everywhere, for example.”

According to the survey findings, food insecure students were more likely to come from lower socioeconomic backgrounds, report a less stable family financial situation, and experience a less stable current financial situation than their peers.²⁶ Furthermore, food insecure students reported being personally responsible for significantly more of their own education costs, being more likely to be employed, and working more hours on average than their food secure counterparts. Additionally, those who were food insecure were more likely to report being housing insecure in the last year, compared to their counterparts (see Table 9).

Table 9: Family, Household, or SES Factors of Food Insecurity

Family, household, or SES Factor	Food Secure Students	Food Insecure Students
Lower or lower middle SES	8.3%	30.6%
Could <i>rarely</i> or <i>never</i> make ends meet growing up	3.5%	8.0%
Can <i>rarely</i> or <i>never</i> make ends meet now	3.2%	15.6%
<i>Personally</i> responsible for <i>more than half</i> of their education cost	20.4%	38.4%
Employed	30.8%	49.3%
Hours worked per week	16.3	18.9
Were without housing at some point in the last 12 months	0.9%	5.0%

“That was mostly last spring ... a real crunch because ... I was making like 500 dollars a month and my rent was 400 dollars a month so ... that was basically impossible to buy what I wanted to in terms of food.”

“When the recession hit, my stepdad lost his job, and there was a month where my mom wasn’t sure if she’d be able to make all the bills. And I actually ended up giving her my savings so that we could afford to make all the bills and get food.”

²⁶ Research shows that family income is not a reliable source of information for determining student financial needs. For example, some students may not receive financial support from their parents, while some families have low income but considerable inheritance. Therefore, we did not inquire about students’ family income.

Physical access constraints

Some students described College Park as a “food desert” where grocery stores and other sources of fresh food were difficult to access without a vehicle. According to the survey results, students who lived off-campus are more likely to report food insecurity than those who lived on-campus (lack of food storage and insufficient cooking facilities limited their ability to access healthy and fresh food), and those who reported having a meal plan were less likely to be food insecure, compared to their counterparts (see Table 10). Students spoke about not having the time and money to find and eat nutritious meals because they were so busy balancing classes, studying, and employment.

Students who were food insecure were significantly more likely to be housing insecure.

Table 10: Physical Access Constraints

Physical Access Constraint	Food Secure Students	Food Insecure Students
Living off campus	50.6%	69.4%
Having a meal plan	38.5%	17.0%

“I have a two hour commute every day, both ways.... Whatever you have, you brought yourself to having the availability of food on campus, not having to go home or not having to spend money and try to find the cheapest vegetarian option.... I check [apps] to see if there was a free food event.... if there was a food coupon going on anywhere.... The first meal consisting entirely of coffee. That's breakfast.... It was still really stressful because ... I have to bring all that stuff with me.... So, that's like a good hundred pounds? seventy-five pound duffel bag right there.... There was like a permanent imprint on ... my left shoulder for a while.”

Knowledge, perceptions, and stigma about using food access resources

Stigma was also a barrier to food access: Some students felt embarrassed to ask about food assistance or were reluctant to ask for help because they were afraid of being judged by others. Some felt that other students “are worse off than me” or they believed that other students needed the resources more, while others were unaware of campus resources that might be able to alleviate their struggles. In fact, 80% of the food insecure respondents and 78% of the food secure students were not aware of the services provided by the UMD Campus Pantry before they completed our survey. However, food insecure students were more likely to have used food assistance programs than their peers (see Table 11).

Table 11: Use of Food Assistance Programs

	% of Food Secure Students (<i>n</i> = 3,956)	% of Food Insecure Students (<i>n</i> = 945)
UMD Campus Pantry	0.5	3.2
Emergency food from a church, other food pantry/bank, or emergency kitchen	1.2	2.6
Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)	0.1	1.1
Supplemental Nutrition Assistance Program (SNAP)	0.6	3.7
Private Organizations	1.1	2.5
Other	0.2	0.4

Dietary needs

Some students described the inability to find affordable culturally or religiously preferred food, gluten/dairy free items, or vegetarian food on campus and/or in College Park as barriers to food access.

Experiences Related to Food Insecurity

We found that food security is variable, often changing over time to reflect students' changing circumstances. Access to healthy and nutritious food often depended on a number of intertwining demographic and economic variables discussed above. Students shared stories with us about how their food access changed over time, which caused intense worry and stress. Students discussed their experiences using government support programs and some of them shared that they also knew other Terps who were food insecure.

“Early in my graduate school experience I went through incredible financial difficulty, a brief period of homelessness escaping domestic violence, and limited food access. I cried most nights because I didn't have enough money to make ends meet. Many people thought I was anorexic because I didn't eat much, but there wasn't food at home or time to go grocery shopping, let alone prepare food. I took 3 classes at night, taught 2 during the day and worked another part-time job, still only earning \$1000/month. I was ashamed to tell anyone how bad things were and was scared to ask for help. I didn't know about any resources to help me. A friend was on food stamps and I started an application but with my pay, it seemed I didn't qualify (I made \$50 too much per month to qualify in [a nearby city], where I lived).”

Food access changing over time

For many students, food access changed over time, getting better or worse based on their situation in life. For some students, food access struggles have been ongoing since childhood. For others, coming to the University and becoming financially independent was the first time they experienced food insecurity. Common topics discussed were changes in food access when growing up, starting at UMD, transferring from community college to UMD, and yearly or semester-long changes due to reduced scholarships or variable funding mechanisms.

Worry and stress

Students described food insecurity as a constant source of stress and worry. In addition to the chronic stress, students described weighing daily decisions about food and money, concern over meeting cultural or family expectations, and worrying about burdening their families. Ultimately, some students felt that food access was a “weight on their minds”—another thing in a long list of responsibilities they needed to balance, think about, and plan for.

“That definitely still worries me because it puts a lot of stress knowing that my family is struggling, but yet they're able to put a smile on their faces and say hey, ‘We're doing fine.... Just do your best in school’ ‘cause they know I'm doing my best in school, and they know I will be successful in life. But, at the same time, I feel like I don't want to disappoint them later in life, so that does put a lot of stress on me, too.”

Experience with using government support programs

Some students who had experience using government support programs (e.g., WIC or SNAP) shared their stories about applying for, obtaining, or maintaining participation. Some students were confused or frustrated with program eligibility requirements or restrictions and shared their general thoughts and feelings about using support programs.

“Getting food at home was difficult since we rely on my grandmother's food stamps. We could only get food once a week and we would have to make it work until we were able to get more food.”

Having and helping friends who are food insecure

Many food insecure students know others who are also food insecure or struggling with similar issues. According to our survey findings, food insecure students were twice as likely to know someone else who also struggled with food access; nearly half of the food insecure students (45.9%) reported having a friend or acquaintance who had trouble buying food because they couldn't afford it. Students shared stories with us in the interviews about hearing about homeless Terps and knowing friends or classmates who struggled to afford food. Some students who experienced food insecurity also discussed buying food for friends and students in need, driving friends without vehicle access to grocery stores, and sharing information about culturally preferred food, to help others manage their food access struggles.



“One of my friends [a first-generation college student] actually had to drop out of school because she couldn’t afford to come here anymore.... She struggled a lot with finding food.... Her Dad had passed away so that was loss of one income, and her mother was struggling with three kids [my friend and her two younger siblings].... So, she had to drop out to come back home and help out.... There were days when she was visibly shaky, so I knew she was struggling. So, I would force her to come to lunch with me, and I would buy her food. She would be like ‘I’ll pay you back.’ But, I didn’t need her to pay me back.”

Coping Strategies

To learn more about how students cope with food insecurity, we asked the students how they “got by” when times were tough and money was tight. It should be noted that even though some food secure students may choose to engage in these behaviors, food insecure students have to utilize these coping strategies in order to survive.

- Finding lower cost food
- Finding free food or earning food credit
- Skipping meals or cutting the size of meals
- Skipping class
- Adjusting the budget; cutting expenses or making more money
- Distraction and avoidance
- Seeking support

Finding lower cost food

Common strategies to “get by” often involved eating cheap food with low nutritional value. Students described using coupons to purchase food, eating inexpensive or poor-quality food such as fast food or packaged food, subsisting on staple food such as rice or beans, using vending machines to purchase inexpensive snacks as meal replacements, or “batch cooking” meals once a week to save money and time. Our survey showed that students who were food insecure reported eating significantly fewer fruits and vegetables than their food secure counterparts. Interviewees confirmed this to be their experience mainly stating that fruits and vegetables were too expensive to consume regularly.

“Most of the time I find we're just eating pasta, 'cause ... the fresher vegetables are too expensive.... We'll just buy things that last longer, that are shelf stable, that we can, that aren't as good as having vegetables.”

Table 12: Average Servings of Fruits and Vegetables

Fruit and Vegetable Servings	Food Secure Students	Food Insecure Students
Vegetable servings per day (average)	1.83	1.26
Fruit servings per day (average)	1.61	1.11

Finding free food or earning food credit

Students often discussed taking advantage of opportunities to obtain free food or earn food credits. Examples included attending free food events on campus, using social media accounts to locate free food events, accessing local food banks or food pantries, or volunteering at the University food co-op in exchange for food credit.

“I really had a tough time the first year as a grad student...my husband had a hard time finding a job...my assistantship is very small...we have two small kids who needed daycare...we basically put all our food budget on making sure they were fed.... Many days my hubby and I ate as inexpensive as possible. It was really tough. I did not feel comfortable sharing with anyone in my program as I didn't want them to reconsider accepting me. I tried to attend as many grad student events that offered free food so I could stretch our food budget. It was very stressful.... I almost decided to transfer as the cost of living here is so high and the grad assistantship is so low...it felt like a huge burden. Especially having two very young children.”

Skipping meals or cutting the size of meals

Students recounted occasions when they skipped meals to save money or time, cut the size of their meals, or ate snacks instead of meals to make the food budget last longer.

“Currently stretching out the last bit of food I have left until my parents are visiting this weekend and they can drive me to the grocery store.”

Skipping class

Food insecure students skipped class to attend free food events on campus or because they were too tired from lack of food to concentrate on their schoolwork.

“There have been a couple of times this semester where I skip my 1pm [class] to go back home ‘cause I can’t deal with it anymore. I gotta go home and eat something.”

Adjusting the budget; cutting expenses or making more money

Students described cutting extraneous expenses and looking for extra ways to make money to avoid dipping into their savings (if they had any savings at all). Strategies included sticking strictly to a tight budget or “doing without,” finding creative ways to make money or getting an extra job, seeking scholarships or additional financial aid, relying on credit cards for temporary relief, or even dropping classes or temporarily withdrawing from the university because they could not afford to continue being enrolled at the University.

“I’m an immigrant, and I lost my job because ... they [the company] don’t want to work with me and my immigration status. So, that put me on the spot for like good three weeks. Actually, I was fortunate to get a scholarship ‘cause I was about to drop out of school because I wouldn’t have any means to pay.”

Distraction and avoidance

Some students engaged in activities, such as taking a nap, smoking, playing video games, or drinking water, to distract themselves from the physical symptoms of hunger.

“‘Cause I would choose going to school..., I made sure that I drink a lot of water because that’s free, and it fills you up and makes you feel fuller, I guess? So, I’m used to powering through the pain.”

Seeking support

Many students reached out to friends, family, or their local or faith community for help when the budget was tight. Specific strategies included eating meals at parent's or relative's homes, taking food from the family home, sharing food and cooking meals with friends to save cost, receiving emotional support from family, friends, and/or their religious community, borrowing money from friends or family, and seeking professional help or guidance such as counseling or nutrition education.

“I definitely am in debt to my friends, definitely, because there were moments when I would ask, ‘Hey, can I have a piece of your food and stuff?,’ and they would definitely give some to me, and then sometimes I would go over to a friend's apartment and eat dinner with them or at least help them cook, too, to compensate for them giving me food.... So, I ‘m really grateful for them.”



Suggestions

Students provided a number of suggestions for the University, to work towards mitigating food insecurity issues at UMD.

- Having access to more food options & facilities
- Having more affordable or free food
- Having more financial support or help with applying for food assistance programs
- Having support for students from certain backgrounds
- Receiving education on cooking, nutrition, and financial wellness
- Having greater public awareness about food insecurity and resources
- Reducing stigma

Having access to more food options & facilities

Many students felt that food should be easier to access in College Park. UMD was described a “food desert” where grocery stores were too far away from campus.²⁷ Students would like to have free transportation (e.g., campus shuttles) that will take them to more affordable grocery stores.²⁸ Commuter students expressed that they would like to have space on campus for them to store and reheat food brought from home and more campus cafés and grab-and-go locations that are open late.

“My main problem with food access besides money is transportation. I can't drive. That means I have to walk 20 minutes one way to the grocery store. It's just close enough that the public bus is pointless, and the UMD bus doesn't go near it. So, oftentimes I'll eat snacks for meals, instead of going shopping, because I don't have the energy to walk there. Or, I have to spend extra money I don't really have to order a car home if I've bought stuff that's too heavy to carry home. I wish there was a grocery shuttle.”

²⁷ A new discount grocery store opened in Summer 2019, which is approximately a 10 to 15-minute walk from campus.

²⁸ Starting in Fall 2018, the UMD Department of Transportation Services renamed one of the shuttle routes to “Grocery Shopping Shuttle,” which runs on Saturdays during the Fall and Spring semesters.

Having more affordable or free food

Students stated that they would like to have access to less expensive but healthy food on or near campus. Additional suggestions included lower-cost commuter or discounted meal plans, reduced prices at the dining halls and campus shops, or a federally subsidized “free lunch” program (similar to what is available to high school students) for students experiencing financial hardship.²⁹ Students also suggested that the University offer more free food events or create programs for students to donate their unused dining dollars/dining hall guest passes or leftovers from dining halls/campus events to students in need.

Having more financial support or help with applying for food assistance programs

Many students stated that they simply need more money so they can buy the things that they need. Some felt they needed additional personal income, while others felt they need additional scholarships and financial aid to get by. Some suggested that it would be helpful to be able to charge food on campus to student accounts or anonymously receive meal funds, while others suggested that they would like to have some help with applying for food assistance programs such as SNAP.

“Perhaps an on campus office to apply for services such as state food assistance, utility assistance, rental assistance (students are most vulnerable in meeting financial obligations from December-January and the summer months). Subsidized on campus meal/dining plans especially for graduate students to supplement times when money to buy food isn't available.”

Having support for students from certain backgrounds

Some students shared that it would be helpful for the University to provide support for students from backgrounds similar to their own (e.g., racial/ethnic minority students, first generation college students, international students, graduate students, students with dependents, or students in science, technology, engineering, and math).

²⁹ UMD Dining Services introduced “Connector Meal Plans” geared toward commuter students in Fall 2018.

Receiving education on cooking, nutrition, and financial wellness

Some students suggested that the University provide education on healthy eating habits on limited budgets or offer cooking classes for preparing food using the ingredients available from the Campus Pantry.

“If you have financial burdens and other critical issues, it would be highly unlikely for a student to invest his/her time thinking about food. So, a possible remedy would be to provide support such as meal planning or cooking sessions using easily accessible and cost-friendly materials to help them adopt healthy eating as part of their lives.”

Having greater public awareness about food insecurity and resources

Students stated that it would be helpful if more people know that student food insecurity is a major issue. Suggestions included promoting the campus pantry and other resources through flyers, newsletters, and new student orientations, and/or implementing programs to raise awareness of wealthy inequality.

Reducing stigma

Some students stated that they felt it would be helpful if more people know that it is ok to get help to meet their basic needs.

Students want others to know that it is okay to get help and that they are not alone in struggling with food insecurity.

“Reducing the stigma is a big part of going to food pantry or not. I did not know what going to a pantry would be like until I finally tried it, and it was wonderful. People don’t know they have access to normal and even better than normal food options there. They don’t know that they won’t be judged, either.”

Research Impacts

The Counseling Center Research Unit has shared the research findings at professional conferences and to numerous members of the UMD community [see Appendix]. As a result, there has been an outpouring of support to fight food insecurity. Several initiatives have been launched at the University to mitigate the effects of student food insecurity:



- Notably, Terps continue to conduct food drives on and off campus, resulting in the donation of thousands of items to the UMD Campus Pantry.
- Campus stakeholders continue to support the UMD Campus Pantry and the Student Crisis Fund through financial donations on Maryland Giving Day and throughout the year.
- The Department of Dining Services introduced the Connector Dining Plans, smaller, less expensive meal plan options for commuter students to meet off-campus students' lifestyles. Dining Services has received feedback that this has helped students on tight budgets.
- The Department of Transportation Services renamed one of the shuttle routes to "Grocery Shopping Shuttle" to help students living on or near campus get to the grocery store. Participants told researchers that this change was very helpful.
- The Counseling Center has added the USDA Food Security measure to the intake survey completed by clients who seek therapy at the Counseling Center, which allows staff psychologists/counselors to attend to clients' basic needs and connect food insecure clients to available campus resources.

- The Counseling Center Research Unit has added the USDA Food Security measure to two ongoing surveys: (a) University New Student Census – completed by incoming undergraduate students during the summer or winter break prior to starting their enrollment at UMD and (b) Withdrawal Survey – completed by students who leave the University during the academic semester. Gathering these data from multiple sources will help the Research Unit to better understand the extent, trends, and impacts of food insecurity on student health and academic success.
- The Counseling Center Research Unit compiled a list of campus and local resources in a Resource Directory <<https://www.counseling.umd.edu/resourcedirectory/>> which contains information about emergency food access.
- Multiple classes were included in a pilot (conducted in Spring 2019) to include a Basic Needs Statement in course syllabi to alert students to campus resources that can help meet student basic needs.
- The Orientation Office partnered with the UMD Campus Pantry to raise awareness about the program to incoming students and their families and to collect food to support Terps in need.
- The Student Government Association (SGA) collaborated with campus departments to launch a pilot of an Emergency Meal Fund program offering meal cards to students in need which can be used in campus dining halls.
- Maryland Public Interest Research Group (MaryPIRG) began a campaign to destigmatize hunger, collect donations for the Campus Pantry, and lobby members of Congress to pass the Campus Hunger Reduction Act.
- The INNOVO Scholars Consulting class at the Robert H. Smith School of Business conducted a semester-long project on the financial and food insecurity problem in Fall 2018 and made recommendations for possible solutions.
- Students in the Department of Nutrition and Food Science received grant funding for [an educational video series](#) about nutrition and will include an introduction to the Campus Pantry.

Conclusion and Next Steps

As has been found among other four-year universities, the findings of this research clearly demonstrate that food insecurity is a serious issue among students at UMD. For the students in this study, food insecurity was a constant burden of worry and had pervasive impacts on students' physical and psychological health, and academic and career success. This study also underscores that food insecurity disproportionately affects students from certain demographic backgrounds, indicating the continuing need for the University's responses to food insecurity to reach at-risk students.

These findings, particularly in the interview study, also show that food security is variable for many students, and that small changes can make a large difference. For many students, levels of food security can change from year to year or even from semester to semester depending on financial and family circumstances. Receiving even a small scholarship or additional funding can make the difference between staying enrolled at UMD and dropping out, as expressed in this quote from one of the interviewees:

"I didn't know [if I had a scholarship this semester until one to two weeks ago]. I was thinking ... 'I don't have enough money to buy ... food and pay rent....' So, that was kinda tough ... I was thinking: 'Should I do part time? ...should I drop the semester?'"

Therefore, this study also underscores the importance of taking action to address food insecurity. In addition to the immediate impacts of this study discussed in the previous section, the findings also provide many opportunities for further inquiry and additional ways to address and eliminate food insecurity at UMD, and at colleges and universities across the country.

One impact that was a common theme of discussion throughout this project was the idea of increasing awareness of food insecurity issues and food assistance resources. The more students are aware of resources available to them, and the more students access these resources, the larger reduction in stigma we may see surrounding the use of those resources. Students' suggestions for the University to combat food insecurity were often framed in ways to reduce stigma, such as promoting the Campus Pantry through flyers and signs in highly trafficked locations, and creating a meal fund donation program where students in need can anonymously receive meal funds. Publication of these findings will additionally help to reduce the stigma of food insecurity on our campus by increasing awareness of the issue. Disseminating the findings to the greater community of university educators and professionals across the country may potentially empower them to introduce changes to better meet students' basic needs.

Now that the USDA Food Security questions have been added to the Counseling Center intake questionnaire, the University New Student Census, and the Withdraw Survey, the Research Unit can measure students' food insecurity over time starting with before they begin classes at UMD their first semester. Having multiple points of data collections will allow the Research Unit team to track trends and can even serve as a means to assess the effectiveness of the University's initiatives. It will be extremely valuable moving forward to be able to see if, for example, the number of withdrawals from the university that are a direct result of food insecurity (or other basic needs) goes down, or to assess how students' levels of food security are associated with students' academic success and need for counseling services.

In the summer of 2019, the University launched Campus Compact Mid-Atlantic (CCMA) AmeriCorps VISTA projects to build capacity for a comprehensive intervention to eliminate food insecurity at UMD. In partnership with CCMA, along with support from partners at the Capital Area Food Bank and Maryland Hunger Solutions, UMD implemented an innovative three-year project to address hunger in our community through programmatic interventions led by students who have experienced food-insecurity as well as through strengthening policies on campus for sustainable change. The effort has created a new Hunger Free UMD Work-Group to expand community and off-campus collaborations, and empower UMD students. The Hunger-Free UMD Work-Group is responsible for convening campus stakeholders to implement student recommendations from this study and subsequent projects with the goal of eliminating food insecurity at UMD.

Additionally, the University continues its capital fundraising campaign to expand the infrastructure at the UMD Campus Pantry to better meet the needs of food insecure students. Expansion of the space will include refrigeration for perishable products, demonstration space for education about healthy cooking and eating, and private meeting space for meeting with social workers and/or counselors.

Ultimately, this research is incredibly important to the success of all students, and the information gained from this study has been immensely impactful. It is important to continue to do the work of ensuring that students' basic needs are being met, so they can thrive in their time as students on the UMD campus. It is also powerful for students to know that the university community is working to make their lives better, and that they are being supported.

*“I felt that my voice was heard.
And that this University is doing
something to make sure that
students who don’t have access
to meal plans have some sort of
help.”*



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Appendix

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- Bush, L. & Cruz, T. E. (2018, August). *The food access & student well-being study*. Presented to the University of Maryland Campus Pantry Interns, College Park, MD.
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