

# University of Ottawa

## 2021 Student Food Experience Survey Report

### Introduction

Inadequate or insecure access to food, referred to as food insecurity, is a serious issue impacting post-secondary students in Canada (Silverthorn, 2016). This includes the inability to access adequate quality or quantity of food, or the uncertainty that one will be able to do so (Health Canada, 2020). Food insecurity negatively impacts student physical and mental health, as well as academic performance (Hattangadi et al, 2021; Maroto, 2015). Those most at risk of food insecurity are households with low incomes and limited assets (PROOF, 2020).

Prior to the COVID-19 pandemic, 1 in 8 households were food insecure in Canada (PROOF, 2020). The rate of food insecurity amongst post-secondary students is reported to be higher than amongst the general population, at almost 2 in 5 students (Silverthorn, 2016). Since the pandemic, food insecurity has been increasing in prevalence amongst the Canadian population. In a Statistics Canada survey during May 2020, 1 in 7 households reported experiencing food insecurity, representing a 39% increase from pre-pandemic data (Statistics Canada, 2020). Demand on community food organizations supporting people affected by food insecurity also increased significantly during the pandemic (Gooch et al, 2021).

As post-secondary institutions closed or limited campus services, students were faced with a sudden impediment in accessing former resources, including food banks, campus food services, and residence housing (Klemmensen, 2021). Unemployment has impacted youth disproportionately due to closures in the service sector and organizations laying off younger and newer employees first (Ricci, 2021). Youth unemployment rose by 6% from 2019 to 2020, almost double the rate amongst older Canadians (Statistics Canada, 2021). As a result, student food insecurity has likely been exacerbated during the pandemic (Laban et al, 2021; Meal Exchange, 2021).

During October 2021, Meal Exchange - a national charity - conducted a survey of students attending post-secondary institutions across Canada to better understand how students have been impacted by food insecurity during the pandemic and to inform programs and initiatives to improve student access to food. This report assesses survey responses from students attending the University of Ottawa (uOttawa).

### Methods

#### Survey Design and Distribution

The *2021 Student Food Experience Survey* was designed by Meal Exchange to assess how students have been impacted by food insecurity during the pandemic and to inform programs

and initiatives to improve student access to food. The online survey was conducted from October 4th - 29th, 2021. The survey was disseminated to The University of Ottawa Students' Union (UOSU), People's Republic of Delicious (PRD), the Office of Campus Sustainability, and more to promote student participation via newsletters, listservs, and social media. The survey was also shared with over 500+ uOttawa employees, including professors, program coordinators, and residence services, newsletters, and various uOttawa associated social media pages to extend its reach as much as possible. Completion of the survey was voluntary and anonymous. As an incentive for participation, respondents had the option to submit their contact information in a separate form for a chance to win one of many \$25 grocery gift cards.

The survey was bilingual and available in both English and French. The survey included 34 questions collecting socio-demographic details and information on food access and food security from respondents. Socio-demographic questions included: gender, age, race, postal code, academic program, living arrangement, employment status, and financial sources for education and basic necessities. Questions to evaluate food access explored the following: food insecurity, use of campus meal plans, where food was regularly accessed, ways to improve food access, impacts of COVID-19, and ways students would like to be engaged in decision making regarding campus food.

### Food Insecurity Analysis

Rates and status of student food security were calculated based on six questions adapted from the Household Food Security Status Module found in the Canadian Community Health Survey (CCHS) (see Table 1). These six questions were asked in reference to two time frames: the previous academic year (2020/21) and the current semester (Fall 2021). This method of assessing food security status was also used in Meal Exchange's 2016 *Hungry for Knowledge* study (Silverthorn, 2016). Students were asked to answer the following questions with Never, Sometimes, Often, or Always:

**Table 1:** Questions used to assess food insecurity

Have any of the following situations applied during this semester so far (Fall 2021)? Did any of the following situations apply during the previous academic year (2020/21)?
1) I worried my food would run out before I got money to buy more
2) The food that I bought just didn't last, and I didn't have money to buy more
3) The cost of food prevented me from eating balanced or nutritious meals
4) I regularly relied on a few low-cost foods in order to avoid running out of money to buy more food
5) I skipped meals because I didn't have enough money for food

6) I did not eat for an entire day because I didn't have enough money for food

The survey respondents were categorized into one of three categories of food insecurity status: *Food Secure*, *Moderately Food Insecure*, and *Severely Food Insecure*. Food security status was calculated by coding responses to the six food access questions. Affirmative responses (Sometimes, Often, and Always) were coded as 1, while negative responses (Never) were coded as 0. A tallied score was then assigned to each survey respondent. A score of 0-1 was coded as *Food Secure*, 2-4 as *Moderately Food Insecure*, and 5-6 as *Severely Food Insecure*. Table 2 from the *Hungry for Knowledge* study details how each status is defined.

**Table 2:** Definition of each food security status (Silverthorn, 2016)

Status	Definition
Food Secure Score: 0-1	Sufficient and adequate access to food that meets quality and quantity of needs.
Moderate food insecurity Score: 2-4	Significant food access issues, including income-related concerns and reduced quality and/or quantity.
Severe food insecurity Score: 5-6	Extreme food access issues, including income-related concerns and reduced quality and/or quantity

## Student Demographics

### University of Ottawa Student Demographics

This survey was conducted at the University of Ottawa, the largest co-educational English-French bilingual university in the world, providing ten different faculties from all disciplines with two campuses in downtown Ottawa. There are 44,693 students attending uOttawa as of the Fall 2021 semester, of which:

- 17% are international students.
- 30% use French as their language.
- 24% are in Social Sciences, the highest of the disciplines.

547 uOttawa students responded to the survey, of which 547 responses were deemed valid for analysis.

### Demographics of Student Respondents

**Enrollment Type:** Student respondents by their enrollment type

- 91.2% Full-time (n=499)
- 4.3% Part-time (n=24)
- 0.4% Other (n=2)

This data is in line with the uOttawa 2020 attendance status, where the number of full-time students (n=38,273) far outweighs the number of part-time students (n=6,420) (University of Ottawa, 2020).

**Type of Student:** Student respondents by their enrollment type

- 70.9% Studying in home province (n=388)
- 13.9% Studying out of home province (n=76)
- 9.9% International (n=54)
- 1.3% Other (n=7)

The survey data is in line with the 2020 uOttawa attendance data, where the number of Canadian citizens and permanent residents (n=36,040) is much more than the number of foreign students (n=8,653) (University of Ottawa, 2020).

**Program Type:** Student respondents by their program type

- 73.5% Undergraduate Degree (Bachelors) (n=402)
- 8.5% Graduate Degree (Diploma, Masters, PhD) (n=101)
- 1.1% Other (n=6)
- 1.1% Continuing Education (n=6)
- 1.1% Diploma (n=6)
- 0.5% Certificate (n=3)
- 0.2% Apprenticeship (n=1)

This data is in line with uOttawa 2020 attendance data, where there are many more undergraduate students (n=37,449) than graduate students (n=7,244) (University of Ottawa, 2020).

**Gender Identity:** Student respondents self-identified their gender as:

- 74.9% Women (n=410)
- 16.4% Men (n=90)
- 2.9% Non-Binary (n=16)
- 1.6% Gender Fluid (n=9)
- 0.5% Transgender (n=3)
- 0.4% Other (n=2)

The survey data saw many many women, non-binary, gender fluid, and transgender students responding than official uOttawa data that states that 17,388 men, 25,959 women, 1,311 unknown, and 35 other students attended the university in 2020 (University of Ottawa, 2020).

**Sexual Orientation:** 20.3% of students identified as part of the LGBTQ2S+, including:

- 4.4% Lesbian (n=21)
- 2.4% Gay (n=13)
- 14.1% Bisexual (n=77)
- 5.1% Queer (n=28)
- 3.1% Other (n=17)
- 2.2% Prefer not to say (n=12)

**Age:** Student respondents by age group:

- 32.7% 16-19 (n=179)
- 45.5% 20-24 (n=249)
- 9.0% 25-29 (n=49)
- 3.8% 30-34 (n=21)
- 1.8% 35-39 (n=10)
- 0.7% 40-49 (n=4)
- 0.5% 50-59 (n=3)
- 0.5% Prefer not to say (n=3)

**Student with disabilities or conditions:** ongoing disabilities or physical and/or mental health conditions that affect everyday functioning

- 26.7% Yes (n=146)
- 58.1% No (n=318)
- 5.7% Unsure (n=31)

**Racial/Ethnic Background:** Student respondents self-identified their racial backgrounds as:

- 3.3% Indigenous (n=18)
- 6.6% Black (n=36)
- 11.9% East/South-East Asian (n=65)
- 2.7% Latinx (n=15)
- 8.6% Middle Eastern (n=47)
- 6.8% South Asian descent (n=37)
- 60.1% White (n=329)
- 1.1% Don't know (n=6)
- 2.2% Prefer not to answer (n=12)
- 2.0% Other (n=11)

**Living Arrangement:** Student respondents by living arrangements:

- 7.9% Alone in house/apartment (n=43)
- 14.6% Student residence (n=80)
- 30.2% With family (n=165)
- 27.4% With roommates (n=150)
- 9.3% With partner, no children (n=51)

- 2.7% With partner and child(ren) (n=15)
- 0.7% Single parent with child(ren) (n=4)
- 0.4% Prefer not to say (n=2)
- 0.9% Other (n=5)

**Employment Status:** Student respondents identified their employment status as:

- 7.9% Full-time employment (n=43)
- 49.2% Part-time employment (n=269)
- 0.9% Self-employed (n=5)
- 12.8% Unemployed and actively seeking work (n=70)
- 20.7% Unemployed and not seeking employment (n=113)

**Primary Sources of Financing:** Student respondents by their top 3 sources of financing for education and basic necessities

- 17.7% Personal savings (n=290)
- 15.5% Employment (n=255)
- 19.4% Help from personal relationships (n=319)
- 7.8% Government student loans (n=128)
- 1.6% COVID government assistance (n=26)
- 1.3% Bank or other loan (n=22)
- 2.9% Credit card (n=48)
- 11.7% Scholarship, bursary or other merit-based funding package (n=192)
- 2.6% Bursary, financial aid or other needs-based support (n=43)
- 0.3% Other (n=5)

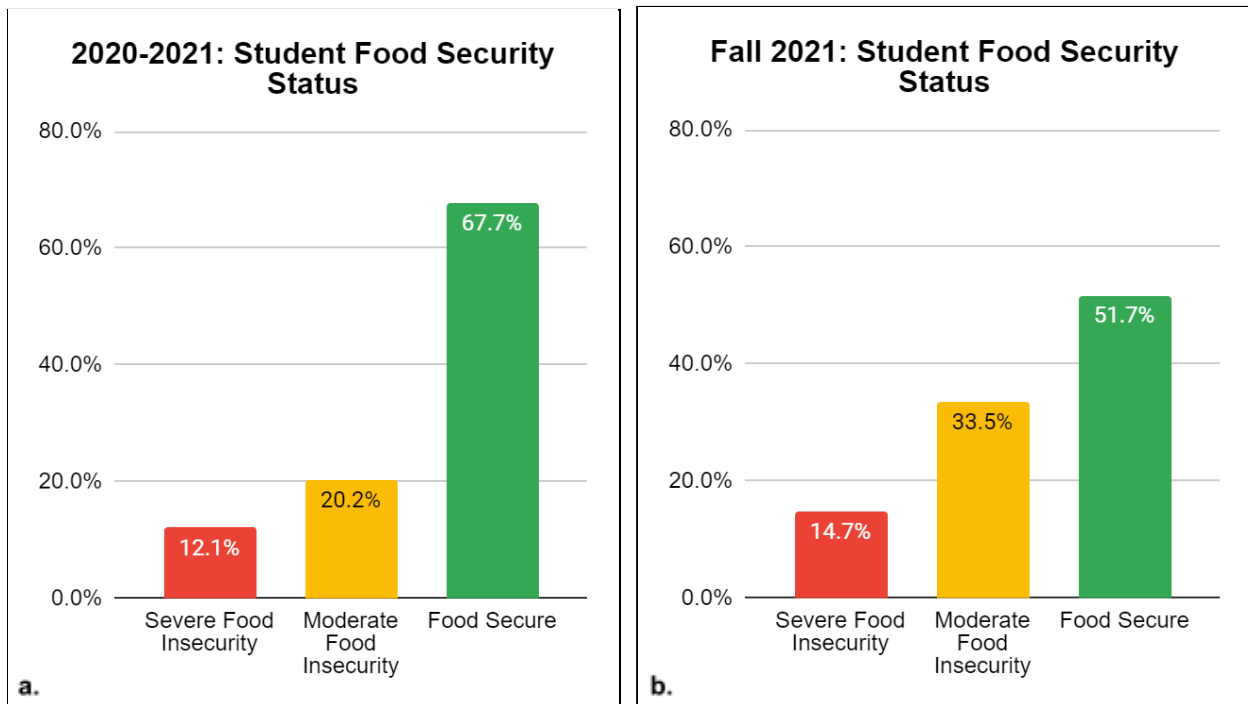
**Where Students Regularly Access Food:** Student respondents regularly accessed food from:

- 21.6% Campus dining hall or restaurant (n=118)
- 4.7% Free/pay-what-you-can meals on campus (n=26)
- 3.8% Free/discounted fresh produce and bulk food (n=21)
- 2.6% Campus food bank (n=14)
- 1.5% Food bank (in local community) (n=8)
- 63.2% Grocery store/delivery (n=346)
- 11.5% Farmers market/CSA (n=63)
- 5.8% Meal kits (n=32)
- 58.1% Restaurant/café/take-out (n=318)
- 44.4% Friends/family/partner (n=243)
- 6.6% Harvested/grown (n=36)

## Results & Discussion

### Student Food Insecurity Prevalence & Severity

The data indicates that food security is a serious issue students are facing at uOttawa during the COVID-19 pandemic. Based on the coding system described in Table 2, 32.3% of survey respondents face some level of food insecurity, with 20.2% (n=72) facing moderate levels of food insecurity and 12.1% (n=43) of respondents facing severe food insecurity in the 2020-2021 school year. Only 67.7% of respondents, (n=241) are food secure (see Figure 1a). When looking at the current Fall 2021 semester, 48.2% of survey respondents face some level of food insecurity, 33.5% (n=155) being moderately food insecure and 14.7% (n=68) of respondents severely food insecure (see Figure 1b).



**Figure 1:** Student food security status breakdown. Figure 1a. Displays student food security status during the 2020-2021 school year. Figure 1b. Displays student food security status during the current Fall 2021 school year.

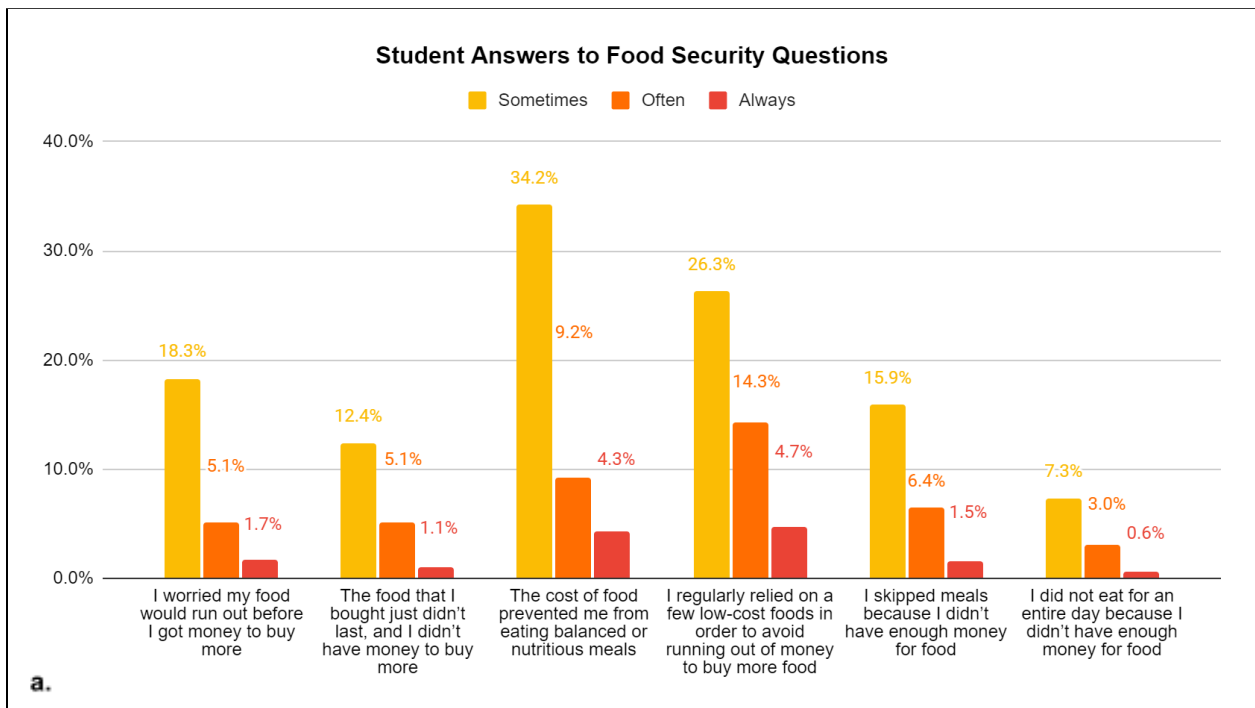
The proportion of food insecure respondents from the 2020-2021 semester is notably lower between the 2020-2021 school year and the current Fall 2021 semester. The food insecurity levels for the 2020-2021 school year (32.3%) are notably lower than that found in the 2016 *Hungry for Knowledge* study, in which 39% of study respondents were found to face food insecurity (30.7% moderately food insecure and 8.3% severely food insecure) However, the food insecurity levels for the Fall 2021 semester are notably higher (48.2%) than that found in the 2016 *Hungry for Knowledge* study. The largest difference is the great decrease in food secure students between the 2020-2021 school year and the Fall 2021 semester, dropping by 16.0%, with more students falling into either food insecure categories.

Of the six food access experiences used to determine food insecurity, the factors most commonly experienced by students were *The cost of food prevented me from eating balanced or nutritious meals* (47.7%) and *I regularly relied on a few low-cost foods in order to avoid running out of money to buy more food* (45.3%). While, *I did not eat for an entire day because I didn't have*

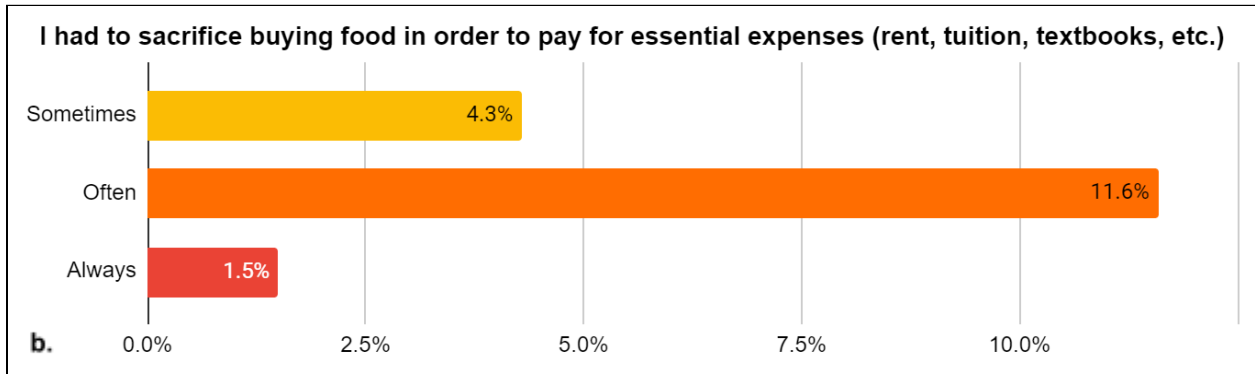
*enough money for food* (10.9%) were the least common experiences faced by the survey respondents (see Figure 2a).

In addition to these six questions, students were also asked *how often students had to sacrifice buying food in order to pay for essential expenses*. 1.5% (7 of 547) of students selected *Always*, 11.6% (20 of 547) of students selected *Often* and, 4.3% (54 of 547) of students selected *Sometimes* (see Figure 2b).

Compared to the 2016 Hungry for Knowledge survey in which the same six questions were asked, there were some similarities and differences. The *I regularly relied on a few low-cost foods in order to avoid running out of money to buy more food*, *The cost of food prevented me from eating balanced or nutritious meals*, and the *I worried my food would run out before I got money to buy more* options were all in the top three in both findings with slight variation in placement. The lowest options in both reports are both *I did not eat for an entire day because I didn't have enough money for food*, with 11.0% of respondents in total in both reports choosing that option.





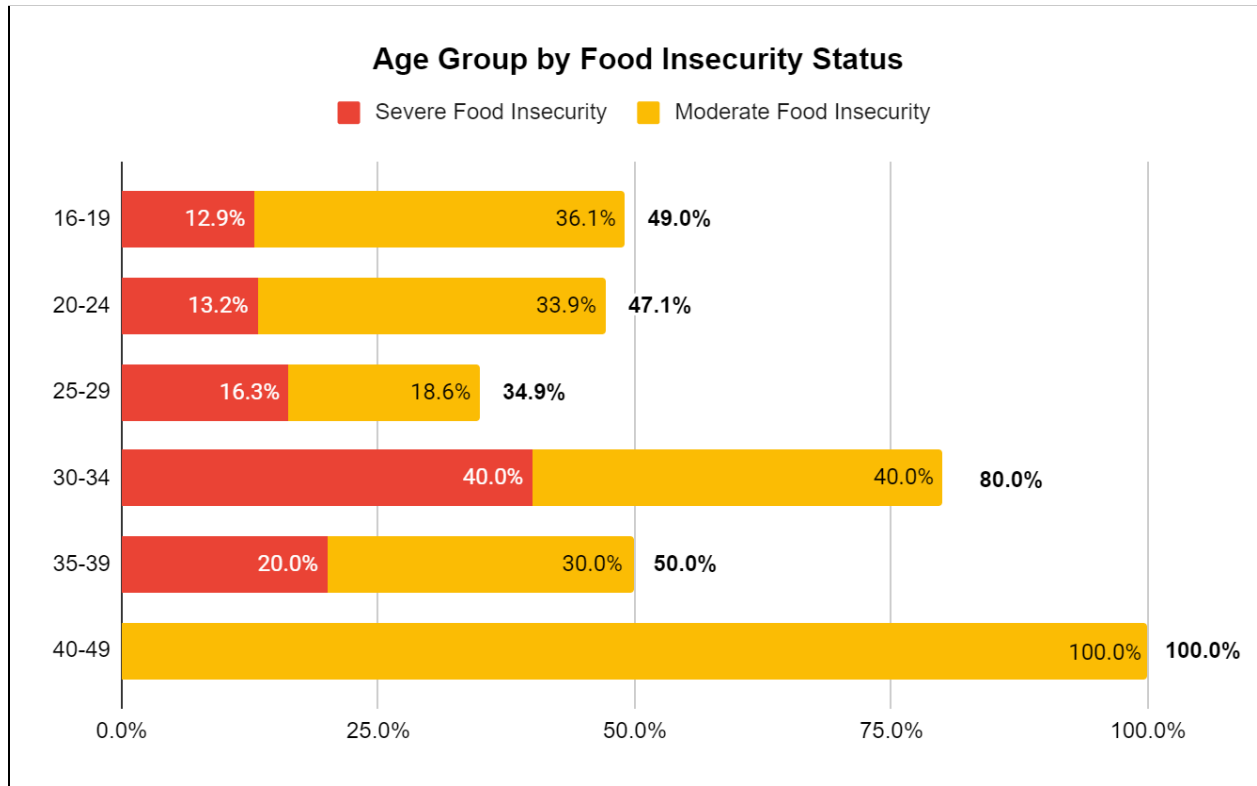


**Figure 2:** Breakdown of student answers to food access questions derived from the CCHS. Figure 2a. Food access questions used to determine level of food insecurity. Figure 2b. How often students had to sacrifice buying food in order to pay for essential expenses (rent, tuition, textbooks, etc.).

### Examining student food insecurity by various demographic factors

**Age:** The prevalence of food insecurity is highest among those aged 40-49 with 100.0% (2 of 2) of students in that age bracket responding being moderately food insecure. The second-highest level of food insecurity were those aged 30-34 (80.0%) The third-highest level of food insecurity were those aged 35-39 (50.0%). The lowest rates of food insecurity was seen in those aged 25-29 with an overall rate of 34.9% food insecurity (see Figure 3).

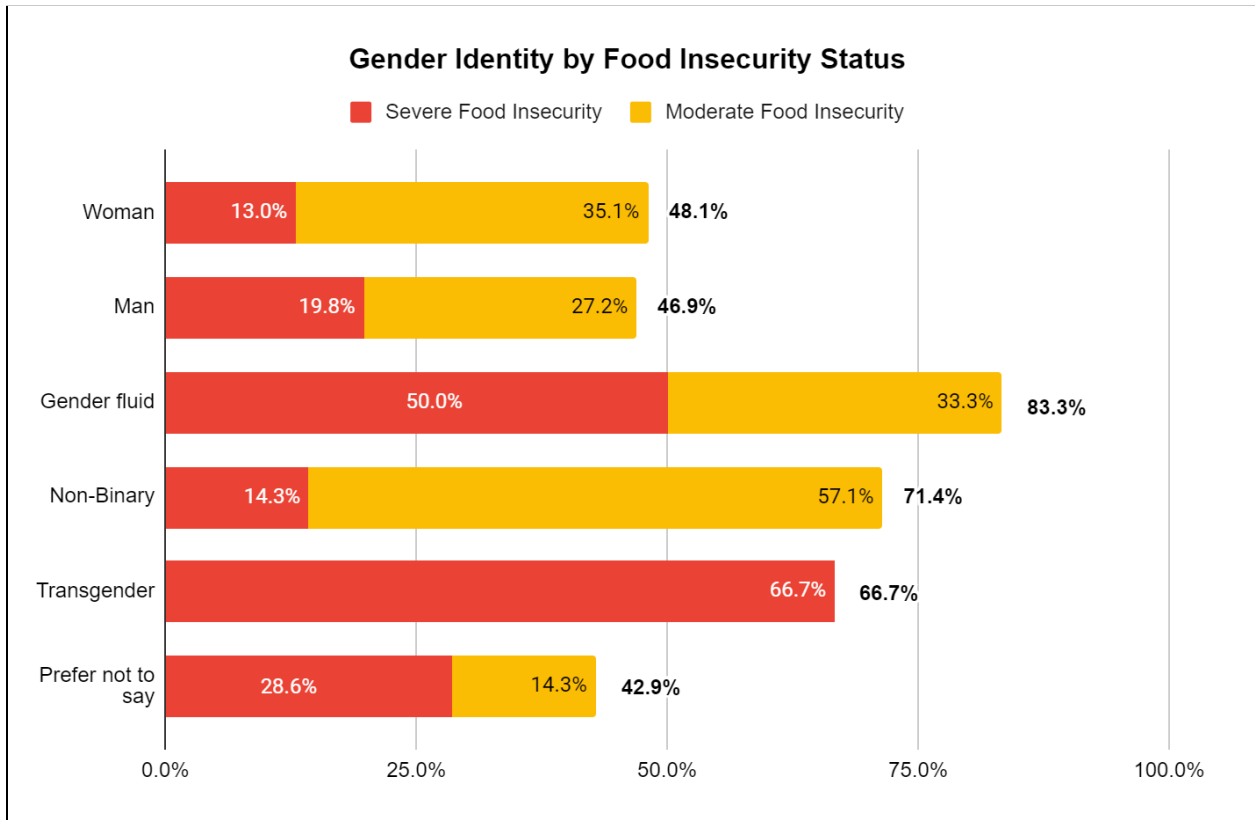
Compared to the 2016 Hunger for Knowledge survey, this survey’s older age groups face much higher rates of food insecurity. The findings from this survey might be skewed as only 2 of the 547 respondents were in the age group with the highest levels of food insecurity. If there were a larger pool of respondents of all age categories, the findings might be altered. Further study is required.



**Figure 3:** Breakdown of food insecurity status by age group. Each bar represents the percentage of students experiencing levels of food insecurity within their age group. Bars have been weighted to represent food insecurity status out of 100% of respondents who selected that age group. For example, out of the respondents who are 16-19 years old, 49% are food insecure (12.9% severely food insecure and 36.1% moderately food insecure).

**Gender Identity:** The highest percentage of food insecurity, 83.3%, was seen in students that identify as gender fluid. Of those impacted by the highest percentage of food insecurity, 33.3% (2 of 6) of the respondents who identified as gender fluid face moderate food insecurity, while 50.0% (3 of 6) of gender fluid people face severe food insecurity. Alongside gender fluid people, the other two gender identities with the highest food insecurity rate were non-binary and transgender people. The lowest rates of food insecurity was seen in those who identify as a man and those who preferred not to say, with an overall rate of 46.9% food insecurity for men and 42.9% food insecurity for those who prefer not to say (see Figure 4).

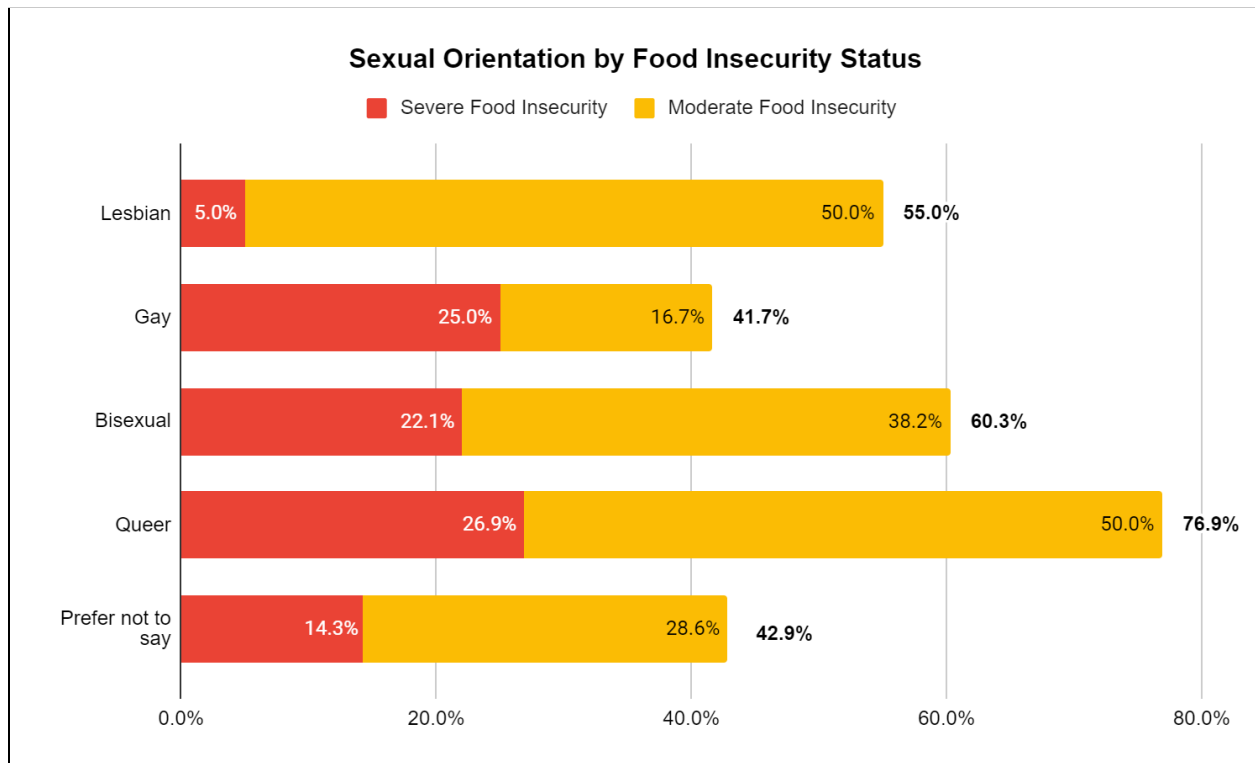
Women and people who are outside of the traditional gender binary are much more likely to experience higher levels of food insecurity than men (Haskett et al., 2020). Transgender people, genderfluid people, and non-binary people face the highest risk and levels of food insecurity (Silverthorne, 2016). This is in line with the findings of the survey. Compared to the 2016 Hungry For Knowledge survey, transgender people were 100.0% food insecure, gender fluid and non-binary people were 66.7% food insecure (Silverthorne, 2016).



**Figure 4:** Breakdown of food insecurity status by gender identity. Each bar represents the percentage of students experiencing levels of food insecurity within that gender identity.. Bars have been weighted to represent food insecurity status out of 100% of respondents who selected that gender identity. For example, out of the respondents who identified as gender fluid, 83.3% are food insecure (50% severely food insecure and 33.3% moderately food insecure).

**Sexual Orientation:** The highest percentage of food insecurity, 76.9%, was seen in students that identify as queer. Of those who identify as queer, 50.0% (13 of 26) of the respondents who identified as queer face moderate food insecurity, while 26.9% (7 of 26) of queer people face severe food insecurity. The other highest rates of food insecurity were seen in those who identify as bisexual (60.3%) and lesbian (55.0%). The lowest rates of food insecurity was seen in those who identify as gay with an overall rate of (41.7%) food insecurity (see Figure 5).

This survey is in line with previously conducted research that are in agreement that those who identify as bisexual and lesbian are more likely to experience food insecurity than other sexual orientations (Gibb et al., 2021). This is mainly due to economic vulnerabilities or disadvantages in the labour market, such as households of non-heterosexual couples are less likely to own their homes than heterosexual couples (Cho, 2021).

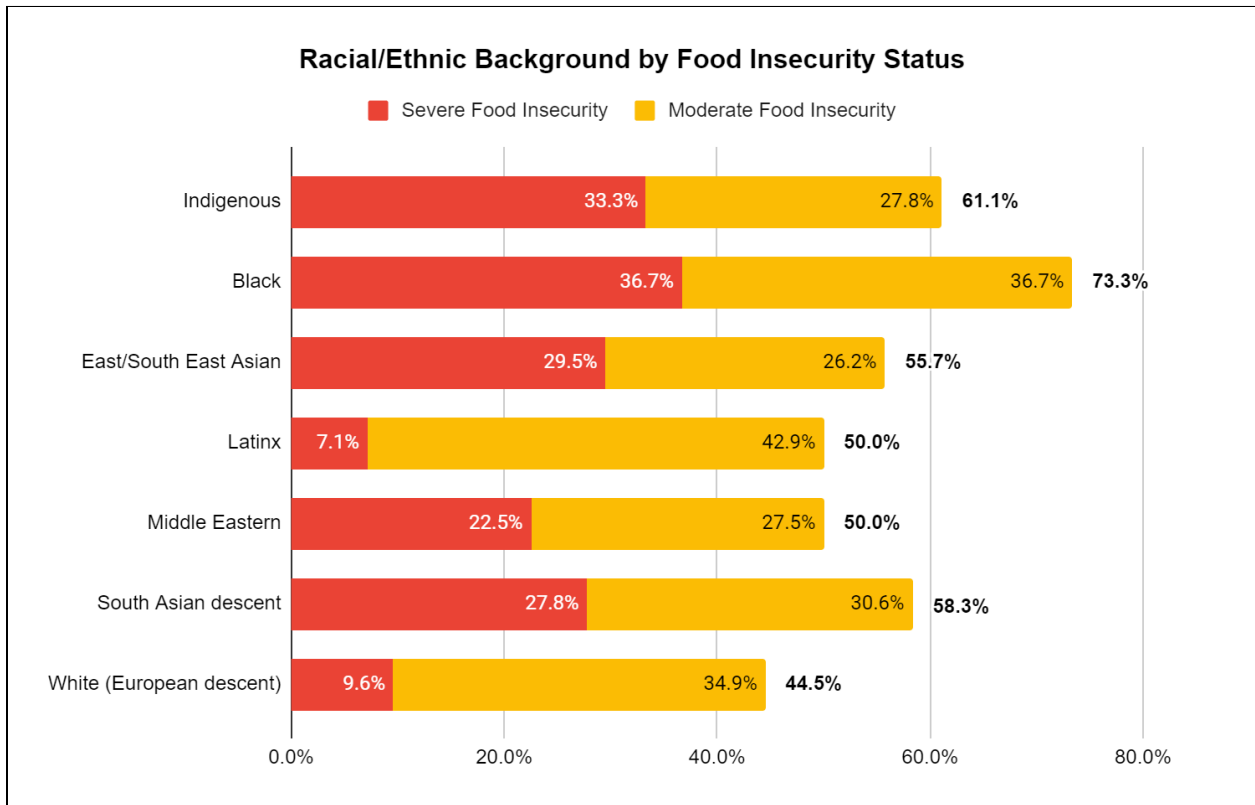


**Figure 5:** Breakdown of food insecurity status by sexual orientation. Each bar represents the percentage of students experiencing levels of food insecurity within that sexual orientation. Bars have been weighted to represent food insecurity status out of 100% of respondents who selected that orientation group. For example, out of the respondents who identified as gay, 41.7% are food insecure (25% severely food insecure and 16.7% moderately food insecure).

**Ethnic/Racial Identity:** PROOF’s 2017-2018 *Household Food Security in Canada* study found that the prevalence of household food insecurity differs by Indigenous status and racial/cultural group. The highest percentage of food insecurity, 73.3%, was seen in students that identify as Black. Of those who identify as Black, 36.7% (11 of 30) of the respondents face moderate food insecurity and 36.7% (11 of 30) of Black people face severe food insecurity. Indigenous peoples follow as the second highest racial/cultural group to face insecurity, with 61.1% of Indigenous survey respondents facing some level of food insecurity. Of those who identify as South Asian, 58.3% of survey respondents face food insecurity, with 30.6% (11 of 36) being moderately food insecure and 27.8% (10 of 36) facing severe food insecurity. The lowest rates of food insecurity was seen in those who identify as White with an overall rate of 44.5% food insecurity (see Figure 6).

Food security levels and the racial background of post-secondary students are greatly connected, with non-white students facing higher levels of food insecurity (Morris et al., 2016). African American individuals are the most likely to face lower levels of food security (Morris et al., 2020), which is in line with the responses from the survey. A lower proportion of White (of European descent) students experience food insecurity, especially compared to other racial groups (Tarasuk & Mitchell, 2020). This is reflected in the results of the survey run at uOttawa, with White (European) respondents demonstrating the lowest rates of food insecurity. The survey

results also reflect the high levels of food insecurity that Indigenous students in Canada due to higher food prices, inadequate diet qualities, and socioeconomic dimensions they face (Richmond et al., 2020).

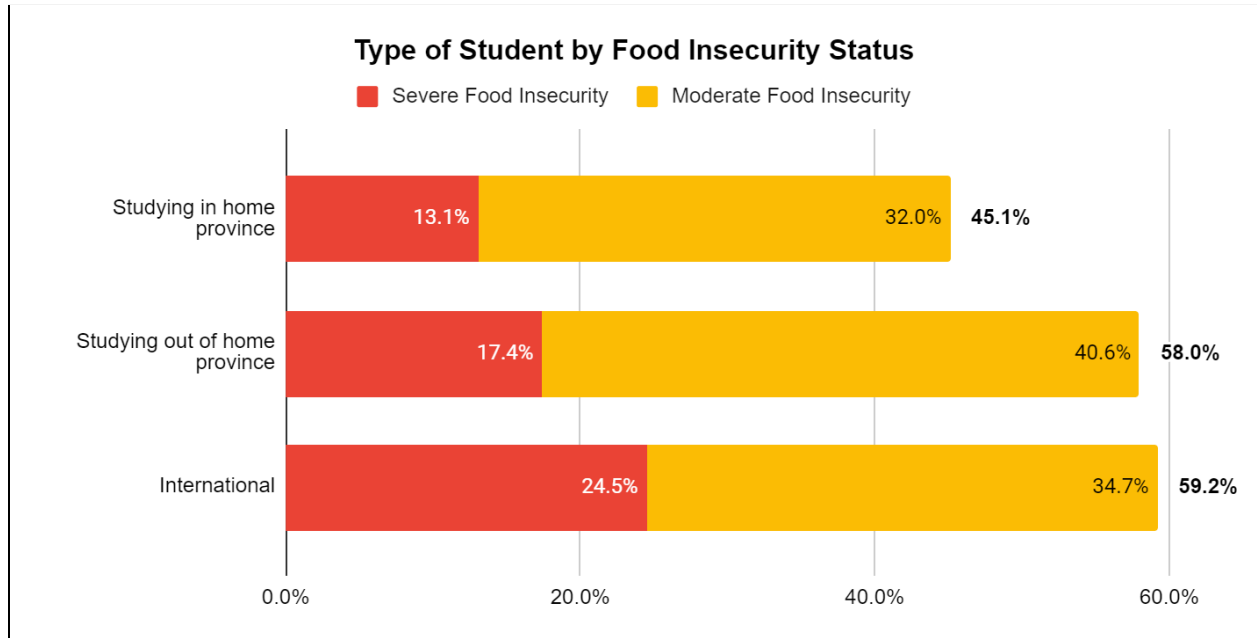


**Figure 6:** Breakdown of food insecurity status by racial/ethnic background. Each bar represents the percentage of students experiencing levels of food insecurity within their racial/ethnic group. Bars have been weighted to represent food insecurity status out of 100% of respondents who selected that racial/ethnic group. For example, out of the respondents who identified as Latinx 50% are food insecure (7.1% severely food insecure and 42.9% moderately food insecure).

**Type of Student:** The highest percentage of food insecurity, 59.2%, was seen in international students. Of those international students, 34.7% (17 of 49) of the respondents who are international students face moderate food insecurity, while 24.5% (12 of 49) of international students face severe food insecurity. Students who are studying outside of their province are also facing the same levels of food insecurity as international students, with an overall rate of 58.0%. The lowest rates of food insecurity among those who are studying in their home province with an overall rate of 45.1% food insecurity (see Figure 7).

These findings are in line with those published by Maynard et al (2018), which found that international students are vulnerable to financial precarity and food insecurity for reasons including high tuition fees and costs of living, as well as difficulties navigating the Canadian banking system and transferring money from their home country. On average, international students pay \$25,589.00 per year for a general arts degree in Canada, which is nearly four times

the tuition of domestic students (Canadian Federation of Students, 2021). Compared to a similar survey run in 2016, Hungry For Knowledge, the rate of food insecurity in international students has increased from 46.2% (Silverthorne, 2016) to 59.2% from the survey we conducted.

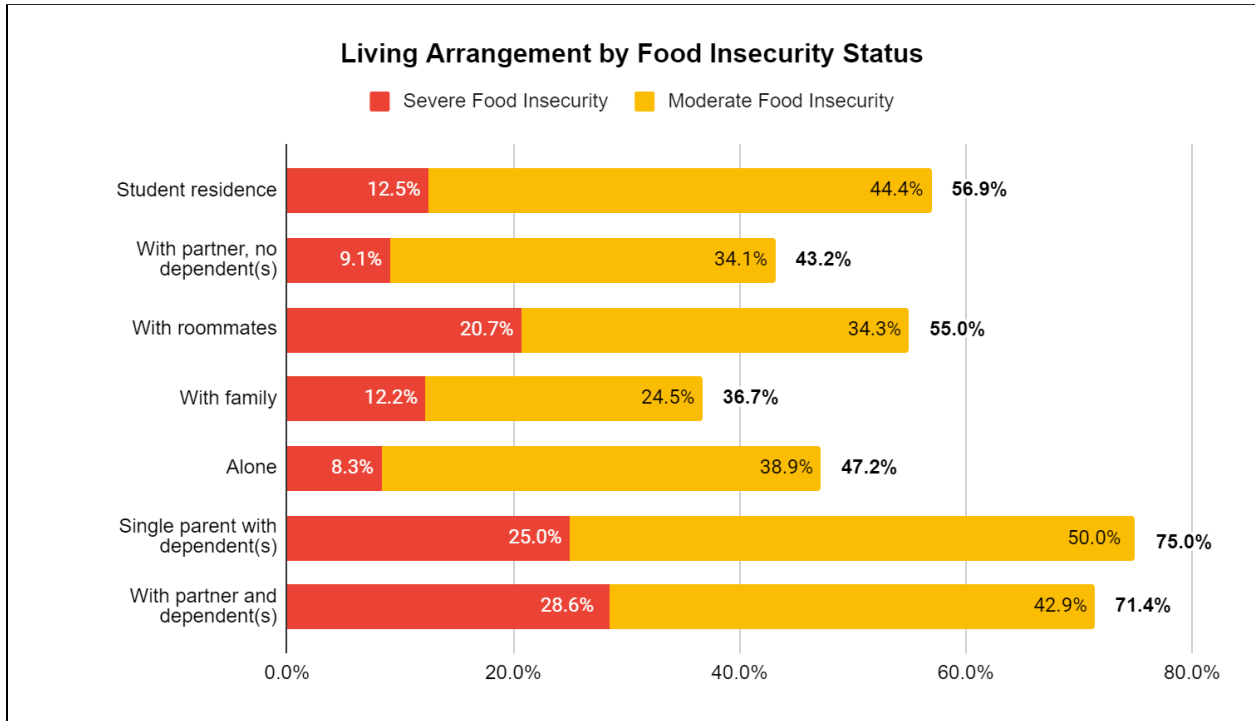


**Figure 7:** Breakdown of food insecurity status by student type. Each bar represents the percentage of students experiencing levels of food insecurity within their student type group. Bars have been weighted to represent food insecurity status out of 100% of respondents who selected that student type. For example, out of the respondents who are international students, 59.2% are food insecure (24.5% severely food insecure and 34.7% moderately food insecure).

**Living Arrangement:** The highest percentage of food insecurity, 75.0%, was seen in students that are single parents with dependents. Of the single parents with dependent(s), 50.0% (2 of 4) of the respondents who identified as single parents with dependent(s) face moderate food insecurity, while 25.0% (1 of 4) of parents with dependents face severe food insecurity. The second highest rate of food insecurity by living arrangement was seen in students with partners and dependent(s) (71.4%) and third highest percentage of food insecurity was seen in those living in student residences (56.9%) The lowest rates of food insecurity among those that live with family with an overall rate of (36.7%) food insecurity (see Figure 8).

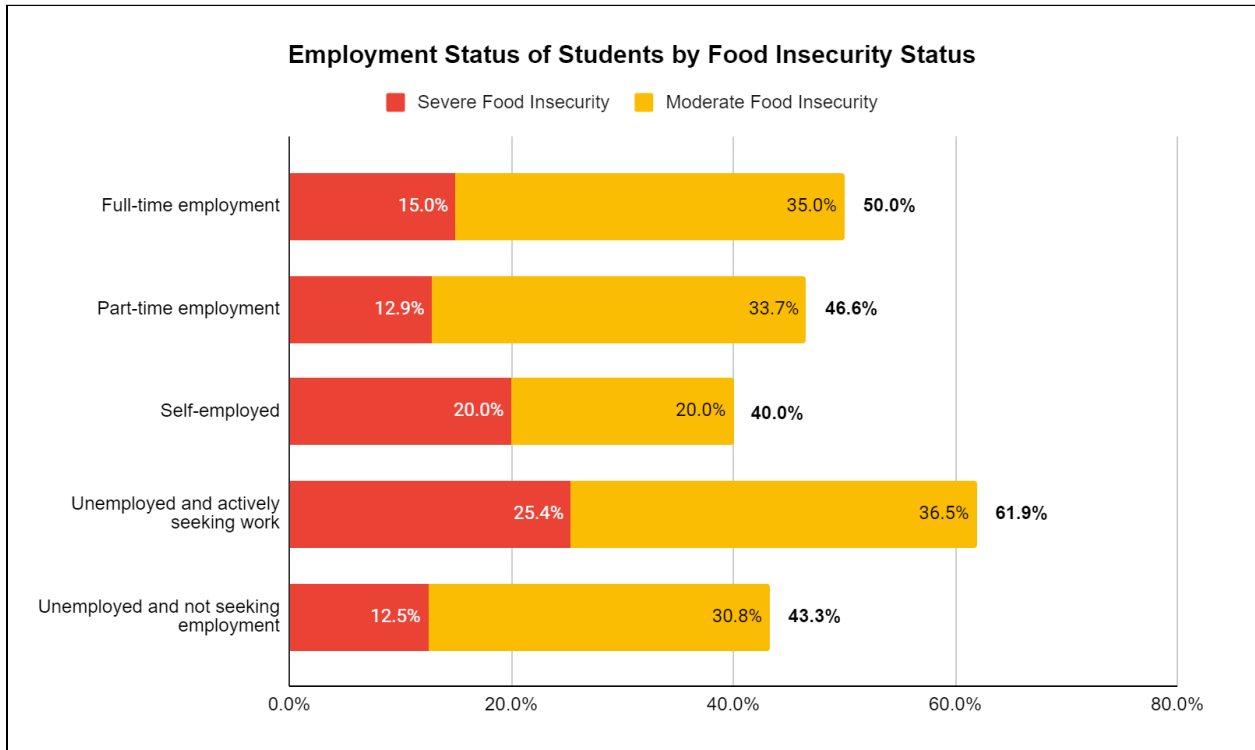
The high rate of food insecurity among single parent households is in line with findings published by Statistics Canada based on the 2017/2018 Canadian Community Health Survey whereby the proportion of food insecure households was over twice as high for lone-parent families with children (25.1% of female lone-parent families and 16.3% for male lone-parent families) than for couples with children (7.3%) (Statistics Canada, 2020c). Of the student parent respondents of this survey compared to the Canadian Community Health Survey, the results show much more drastic levels of food insecurity. The pandemic has had intense negative effects on students with dependents. The survey is also in line with findings that state that food security levels are highly related to whether or not students were living with their families during the COVID-19 pandemic,

finding that these students consumed more nutritious and balanced meals, face lower levels of stress, and experience fewer barriers to food access (Davitt et al., 2021)



**Figure 8:** Breakdown of food insecurity status by living arrangements. Each bar represents the percentage of students experiencing levels of food insecurity within their living arrangement. Bars have been weighted to represent food insecurity status out of 100% of respondents who selected that arrangement group. For example, out of the respondents who are living with roommates, 55% are food insecure (20.7% severely food insecure and 34.3% moderately food insecure).

**Financial Status:** The highest percentage of food insecurity, 61.9%, was seen in students that are unemployed and actively seeking work. 36.5% (23 of 63) of the respondents who identified as unemployed and actively seeking work face moderate food insecurity, while 25.4% (16 of 63) face severe food insecurity. The second highest percentage of food insecurity by employment status was self-employed (60.0%) and the third highest is full-time employment (58.6%). The lowest rates of food insecurity are students who are unemployed and not seeking employment with an overall rate of (48.9%) food insecurity (see Figure 9).

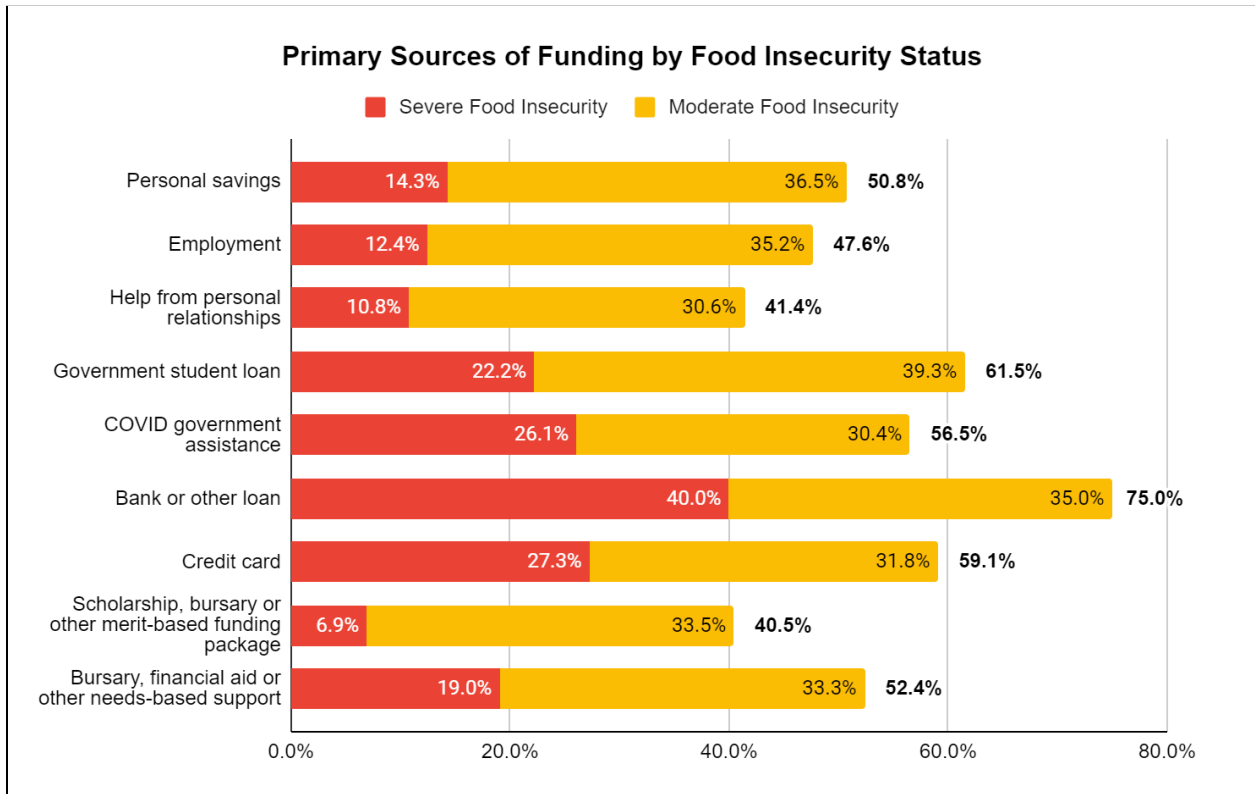


**Figure 9:** Breakdown of food insecurity status by employment status. Each bar represents the percentage of students experiencing levels of food insecurity within their employment group. Bars have been weighted to represent food insecurity status out of 100% of respondents who selected that employment group. For example, out of the respondents who are employed full-time, 50% are food insecure (15% severely food insecure and 35% moderately food insecure).

The highest percentage of food insecurity, 75.0%, was seen in those whose primary funding is a bank or other other loan. 35.0% (7 of 20) of the respondents whose primary funding is a bank or other other loan face moderate food insecurity, while 40.0% (8 of 20) face severe food insecurity. The second highest rate of food insecurity was seen in those whose primary funding is government student loans (61.5%) and third highest is credit card (59.1%). The lowest rates of food insecurity were seen in students whose primary funding is a scholarship, bursary, or other merit-based funding package with an overall rate of (40.5%) food insecurity (see Figure 10).

Maynard et al (2018) explain that a common issue precipitating food shortages among students is the mismatch between student loan amounts and tuition and living costs. The levels of financial assistance allotted to students via government loans are based on assumptions regarding parental financial support, which is not universally available or sufficient due to other demands on families' resources. Students who are reliant on financial assistance from loans and credit cards are more likely to be food insecure (Meldrum & Willows, 2006). Even with budgeting and financial knowledge, it is not sufficient enough to alleviate food insecurity for those who rely on financial aid as the money received from loans is still not enough to cover the, in comparison, higher costs of food (Meldrum & Willows, 2006).





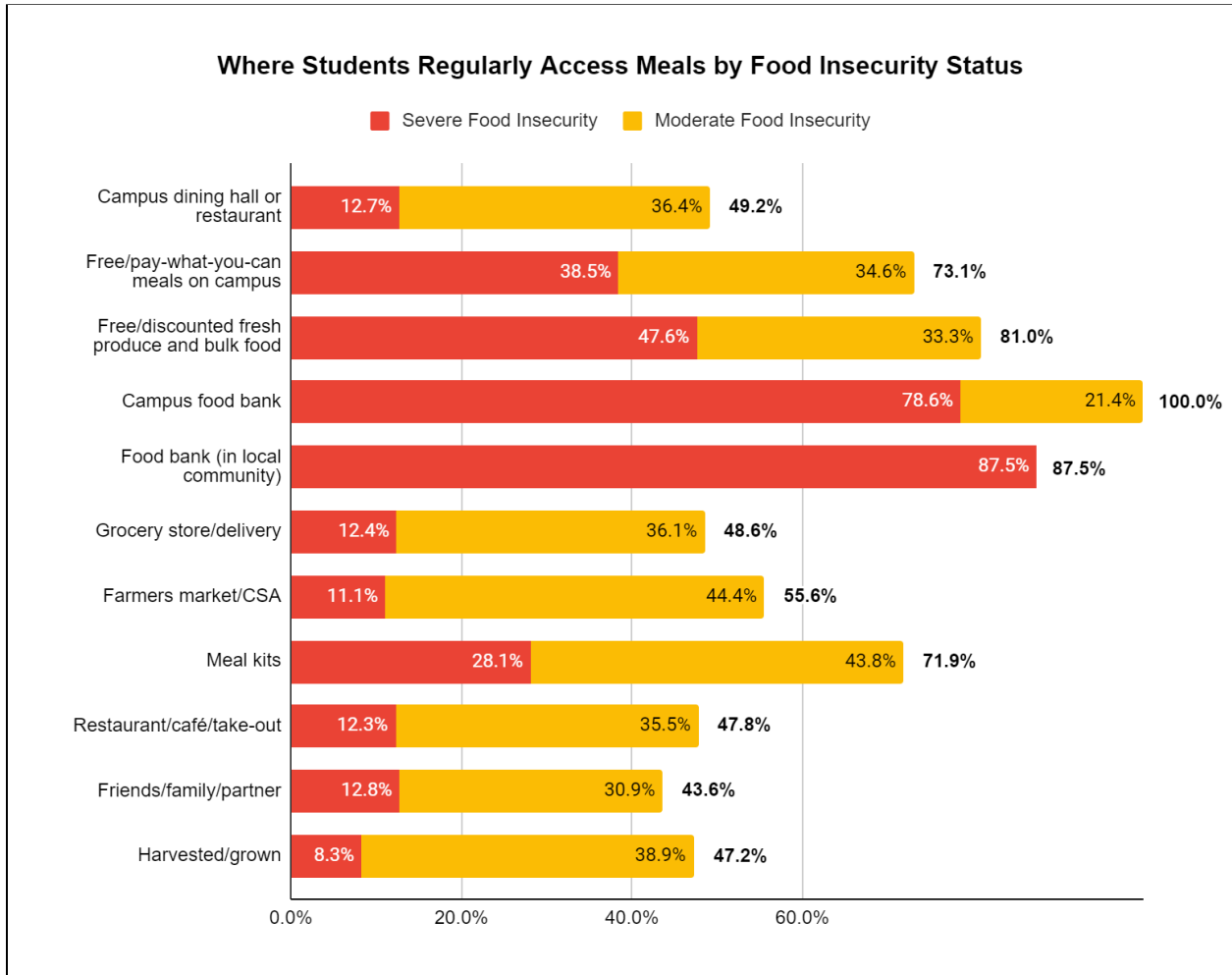
**Figure 10:** Breakdown of food insecurity status by source of funding. Each bar represents the percentage of students experiencing levels of food insecurity within their funding source group. Bars have been weighted to represent food insecurity status out of 100% of respondents who selected that funding source. For example, out of the respondents who relied on personal savings for funding, 50.8% are food insecure (14.3% severely food insecure and 36.5% moderately food insecure).

## Student Food Experience

**Regular Food Access:** The highest percentage of food insecurity, 100.0%, was seen in uOttawa students that regularly access food through a campus food bank. Of those accessing food by the campus food bank, 21.4% (3 of 14) of the respondents face moderate food insecurity, while 78.6% (11 of 14) face severe food insecurity. The second highest percentage of those facing food insecurity are those who access food through food banks in a local community with 87.5% (7 of 8) of respondents being severely insecure. The third highest percentage of food insecurity was found in those who accessed meals through free/discounted fresh produce and bulk food with 81.0% (17 of 21) of respondents. The lowest rates of food insecurity are students who access food through friends, family, or a partner with an overall rate of (43.6%) food insecurity (see Figure 11).

The results of the survey are in line with studies conducted by PROOF. Policy responses in Canada have been focusing on providing food even though it is widespread knowledge that food insecurity is mainly due to inadequate income (PROOF, 2019). There is a large disconnect between the continuous primary response to food insecurity being food banks and food insecure

households that actually use food banks. From a 2016 survey, it was found that food bank use “was one of the least common strategies employed by severely food-insecure households when they were short of money” (PROOF, 2019). Those who do use food banks are more desperate compared to food-insecure households that do not, having substantially lower incomes leading to the use of food banks instead of seeking aid from family and friends (Tarasuk et al., 2019).



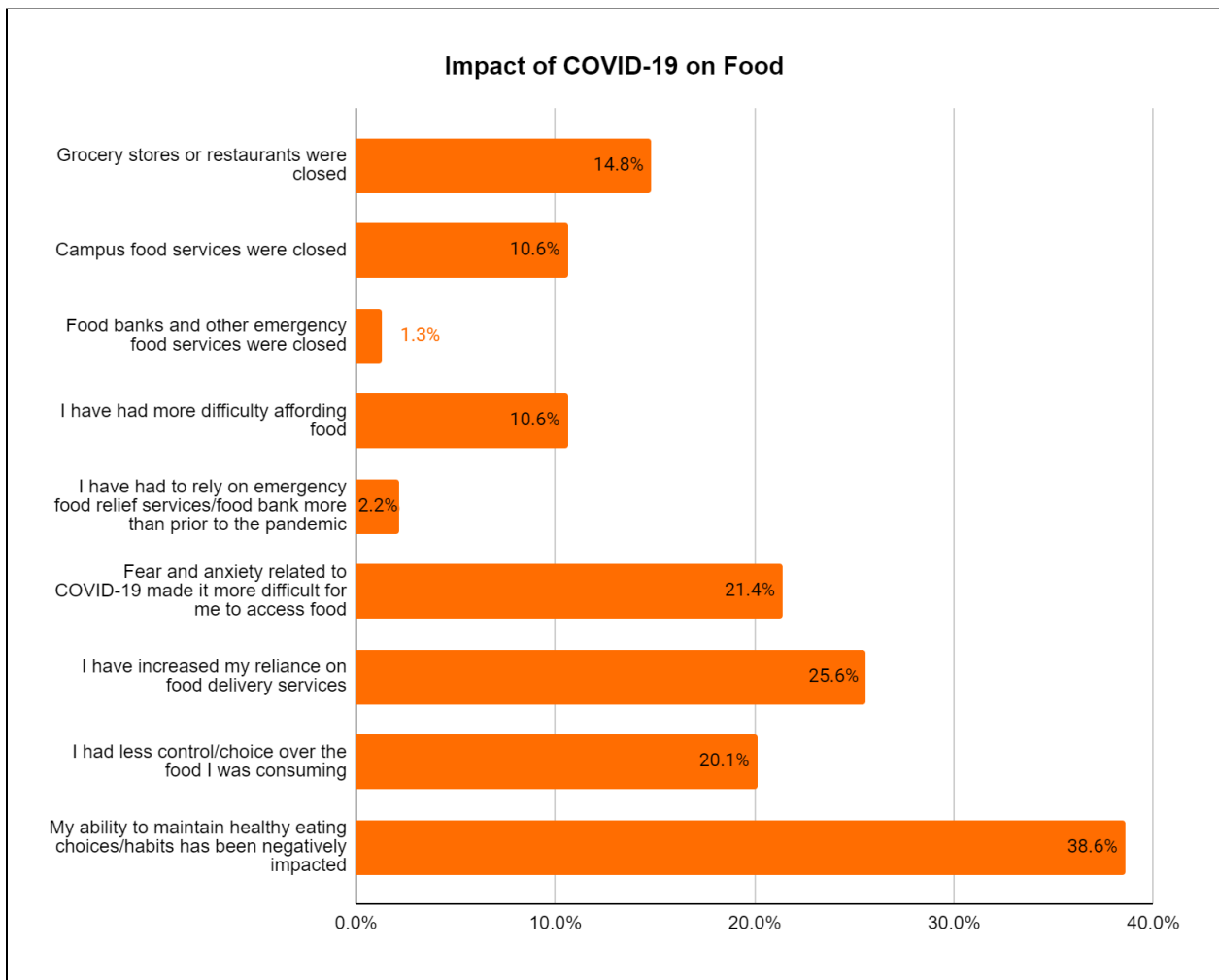
**Figure 11:** Breakdown of food insecurity status by where students accessed their meals. Each bar represents the percentage of students experiencing levels of food insecurity within the group where they accessed meals. Bars have been weighted to represent food insecurity status out of 100% of respondents who selected that group. For example, out of the respondents who regularly accessed meals via meal kits, 71.9% are food insecure (28.1% severely food insecure and 43.8% moderately food insecure).

### Impacts of COVID-19 on Food Access and Student Wellbeing

The COVID-19 pandemic continues to have a direct impact on student food insecurity. 38.6% (211 of 547) of respondents answered that their ability to maintain healthy eating choices/habits throughout the pandemic has been negatively impacted. The second highest impact of COVID-19 on uOttawa students was increased reliance on food delivery services with 25.6%

(140 of 547) facing food insecurity. The third highest impact of COVID-19 was fear and anxiety related to COVID-19 made it more difficult for me to access food, with 21.4% (117 of 547) of respondents facing food insecurity (see Figure 12).

The results of the survey are in line with other findings concerning the relationship between food insecurity and COVID-19 in post-secondary students. Many students who faced new food insecurity due to the pandemic have reported being less likely to meet the proper nutritional consumption rates, such as fruits, vegetables, and fibres (Davitt et al., 2021), ultimately unable to maintain their healthy eating choices and habits to the same degree as before the pandemic. The survey results are also in line with the survey results that demonstrate food insecurity is closely related to anxiety and fear, with more than seven times higher odds of severely food insecure households reporting moderate or severe anxiety symptoms (Statistics Canada, 2020b).



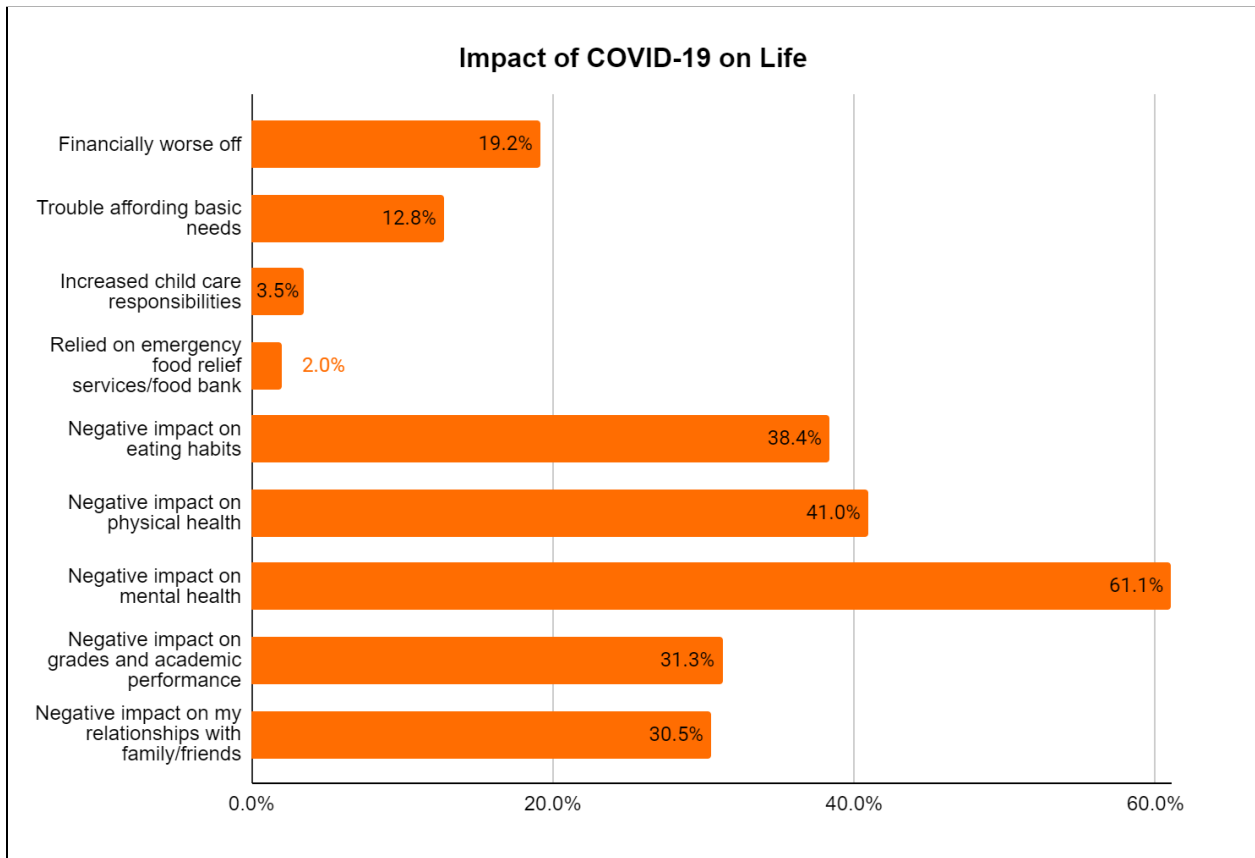
**Figure 12:** Percentage of how COVID-19 impacted student’s relationships with food.

The survey results also showed that food insecurity was not the only issue that has been exacerbated by the pandemic. When asked how COVID-19 has impacted their lives, 334 of 547 respondents, (61.1%), reported that their mental health was negatively impacted. 41.0% (224 of

547) of respondents with negatively impacted physical health face moderate food insecurity as the second highest impact, while 38.4% (210 of 547) faced negative impacts on eating habits as the third highest impact (see Figure 13). The lowest percentage of respondents stated that they relied on emergency food relief services/food banks, with only 2.2% (11 of 547) students.

There are additional COVID-19-related factors contributing to the high rate of food insecurity among students at uOttawa: 31.7% of the survey respondents reported that their eating habits have been negatively impacted by the pandemic and 12.8% reported having more trouble affording basic needs than before COVID-19.

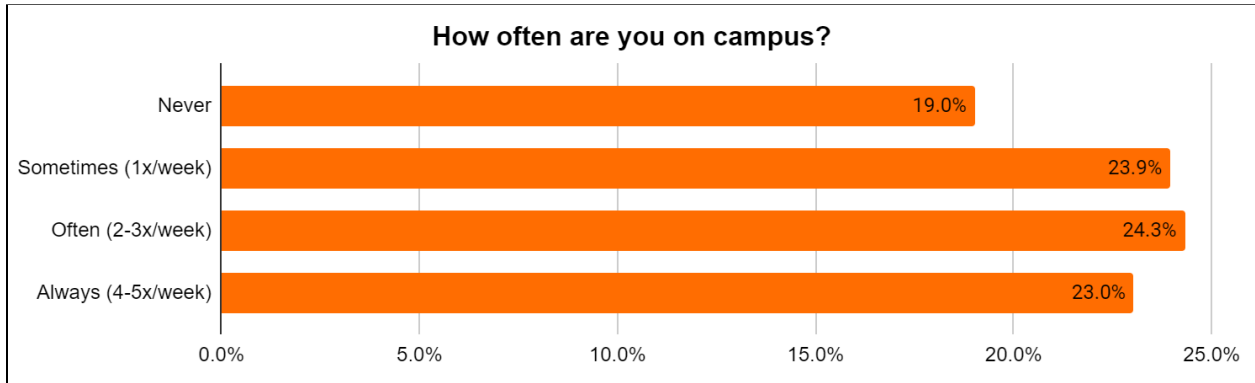
61.1% of respondents indicated that their mental health was negatively impacted by the pandemic. In general, adults living in food insecure households are more likely to experience a wide range of adverse mental health outcomes compared to those living in food secure households (Jessiman-Perreault & McIntyre, 2017). The pandemic may also exacerbate this; among the general Canadian population, those who have experienced food insecurity during the pandemic reported significantly worse mental health outcomes than food-secure households (Statistics Canada, 2020b).



**Figure 13:** Percentage of how COVID-19 impacted student’s overall life.

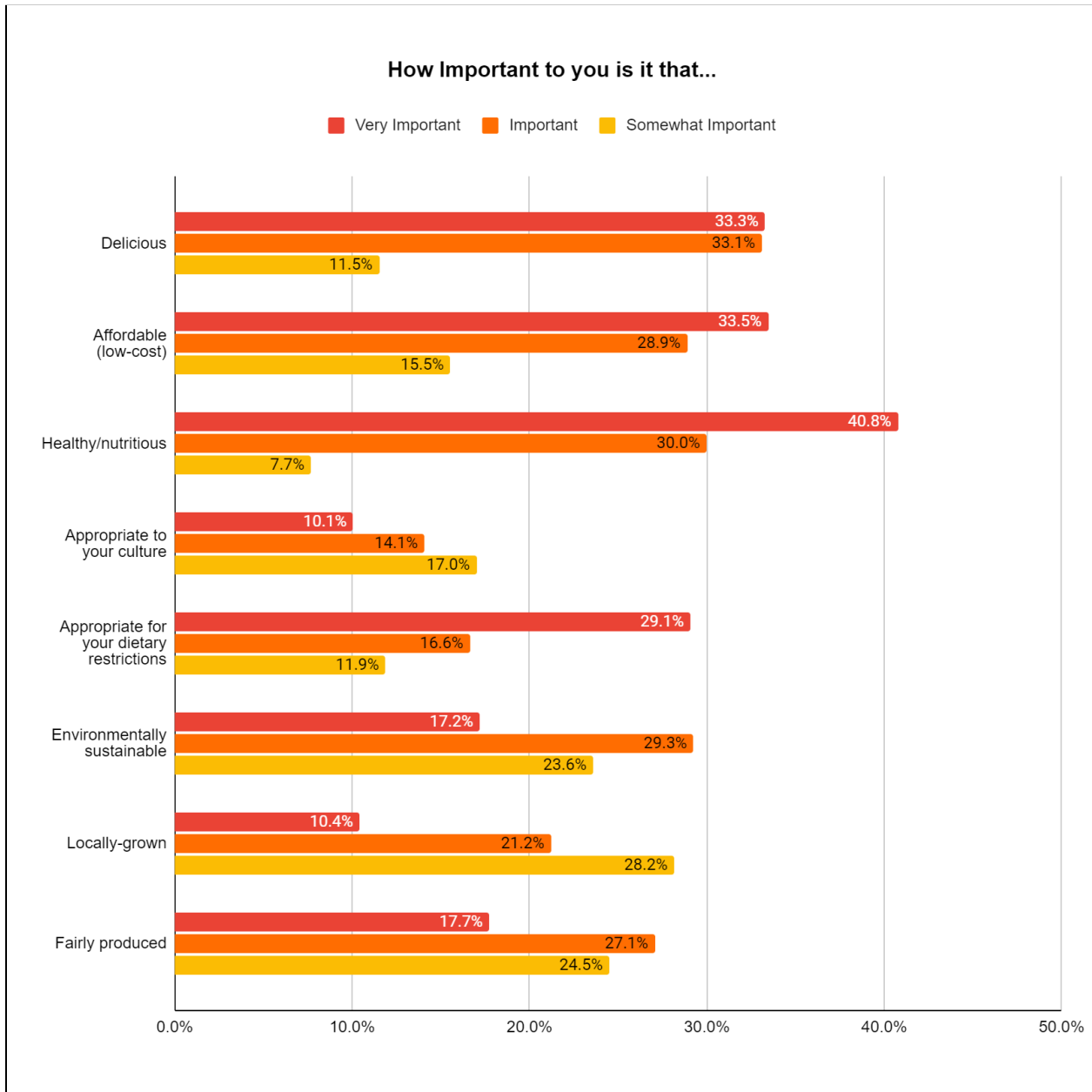
**Student Priorities for Food**

Students were asked how frequently they were on campus on a weekly basis. 24.3% of respondents (133 of 547) were on campus “often” as the highest response. This is followed by 23.9% of respondents (131 of 547) who were on campus “sometimes”, 23.0% of respondents (126 of 547), were on campus “always” as the third highest response , and 19.0% of respondents (104 of 547), were on campus “never” as the lowest response (See Figure 14).



**Figure 14:** Percentage of how often respondents are on campus.

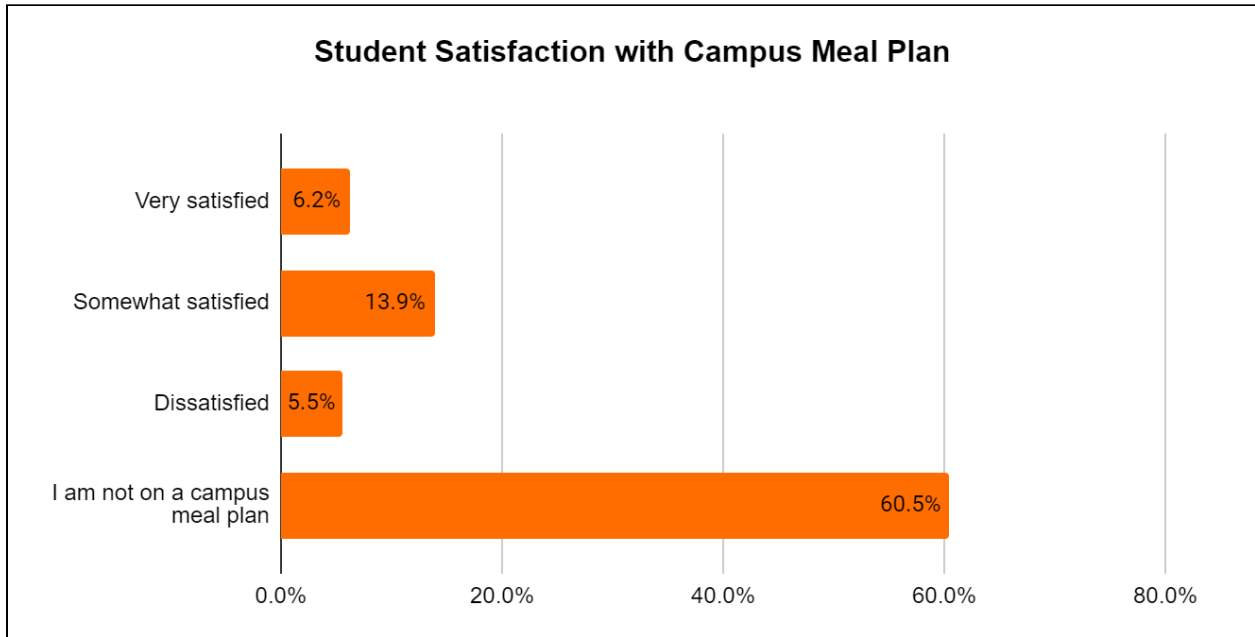
Students were asked to rate the level of importance of eight different factors of food they eat with *Not important, Somewhat Important, Important, or Very Important*. Figure 15 shows the breakdown of the responses outlining the percentage of students that found each factor *Very Important, Important, and Somewhat Important*. Students found that “healthy/nutritious” was the most important at 40.8% of respondents (n=223) finding it *Very Important*, 30.0% of respondents (n=164) finding it *Important*, and 7.7% of respondents (n=42) finding it *Somewhat Important*. This is closely followed by “delicious” with 77.9% (n=426) of respondents finding it of importance, and the food being “affordable (low cost)” with 77.9% (n=426) of respondents finding it of importance (See Figure 15).



**Figure 15:** Percentage of respondents by importance of various factors in food.

Students were also assessed on their satisfactions with their campus meal plan. 6.2% of respondents, (n=34) are *Very Satisfied* with their campus meal plan, 13.9% of respondents, (n=76) are *Somewhat Satisfied* with their campus meal plan, 5.5% of respondents, (n=30) are *Dissatisfied* with their campus meal plan, and 60.5% of respondents, (n=331) are not on a campus meal plan (See Figure 16).

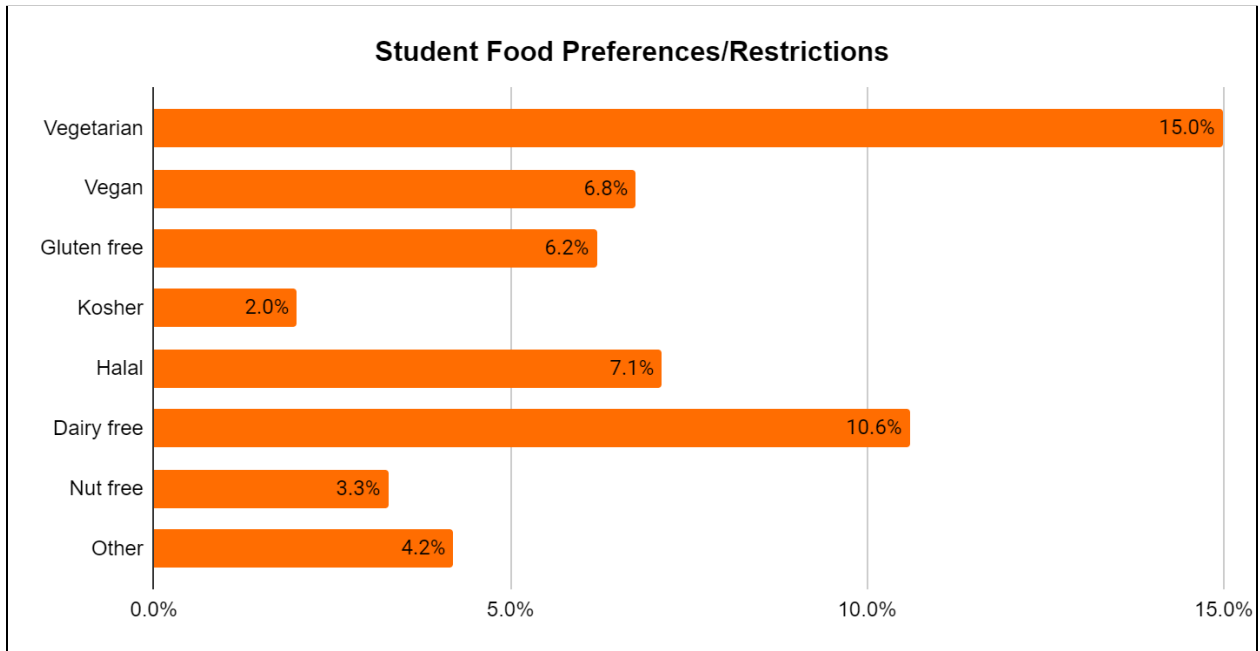
The level of food security is related to the dissatisfaction of campus meal plans. Being dissatisfied with a meal plan is related to food insecurity as students who are dissatisfied are more likely to be food insecure. Students with unlimited meal plans are less likely to face food insecurity than students who are unable to afford the unlimited meal plan (Heying, 2019).



**Figure 16:** Percentage of students satisfied with their meal plan.

Student food preferences and restrictions may impact their access to food, particularly if there is a limited availability of options that meet their needs. When looking at the most prevalent food restrictions and preferences, 15.0% of respondents (n=82) are vegetarian, 10.6% of respondents (n=58) are dairy free, and 7.1% of respondents (n=39) selected halal (See Figure 17).

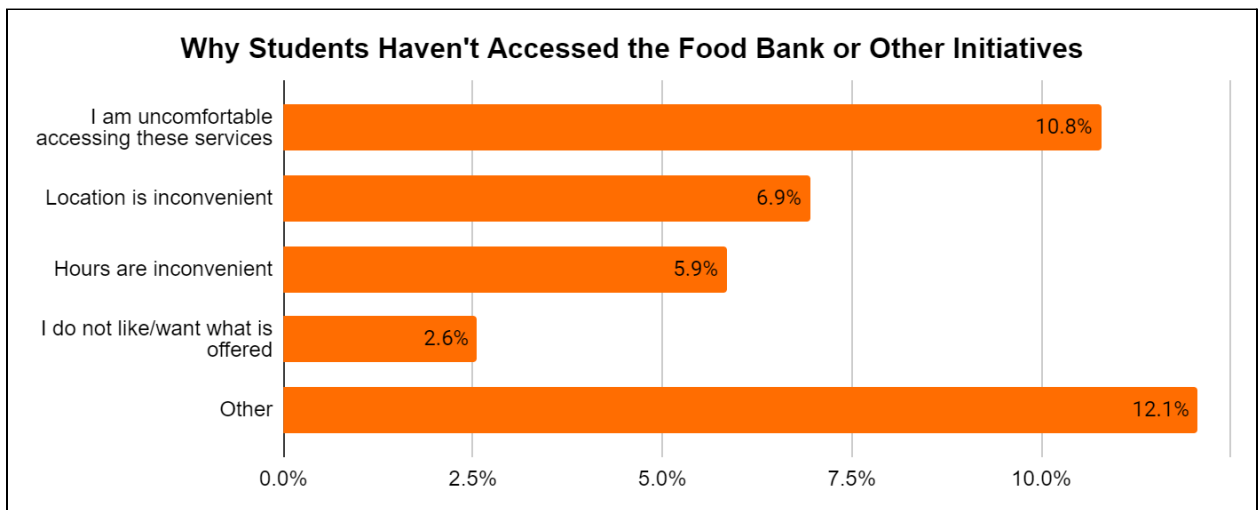
Students have reported that dietary restrictions have made it difficult to access good food, both on campus and off-campus. Some students have reported not enough variety, or very few, options that comply with their preferences (Sharma, 2019). Another important aspect that connects food insecurity among students with dietary restrictions is the extra cost and financial burden of purchasing and maintaining the different food preferences (Henry, 2017).



**Figure 17:** Percentage of respondents who picked each preference/restriction.

**Ideas for improving access to food**

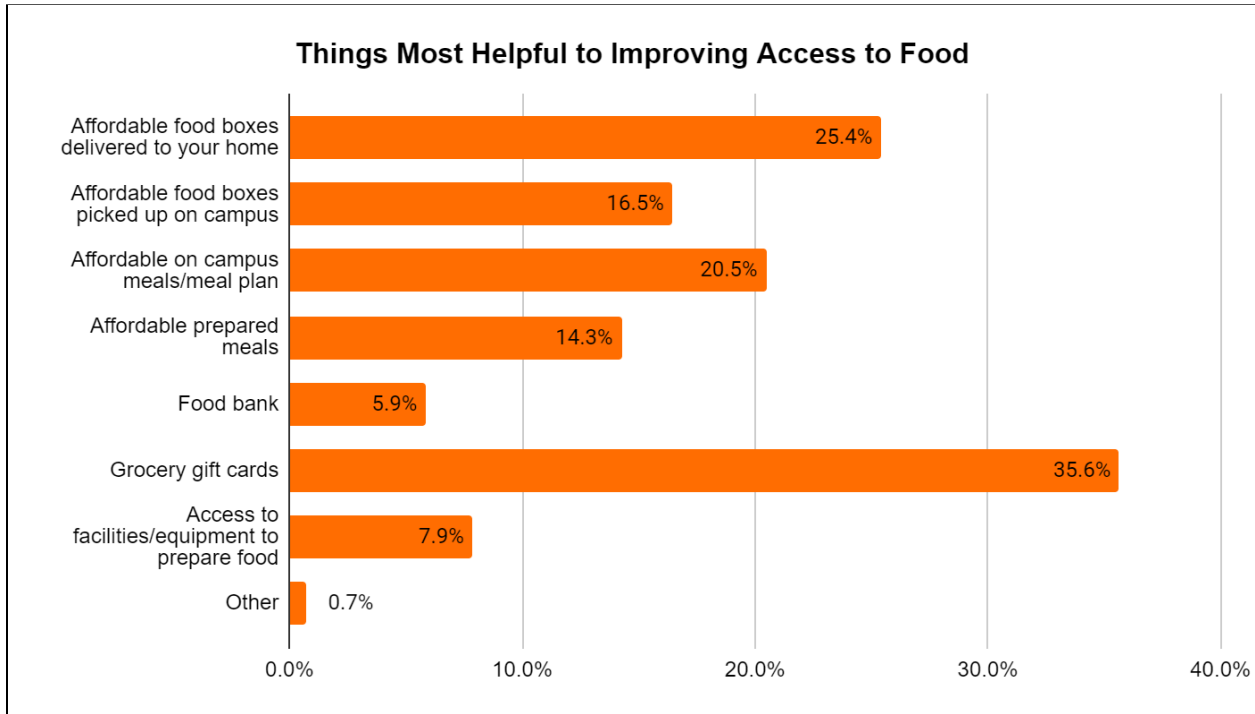
While food banks and other food initiatives are available to help those that are food insecure meet their needs, there are various reasons they may not be accessing these services. When looking at the most common reasons why students have not accessed food banks and other good initiatives, 12.1% of respondents, (n=66) stated that “Other” was the highest reason, 10.8% of respondents, (n=59) stated that “I am uncomfortable accessing these services”, and 6.9% of respondents, (n=38) stated that “location is inconvenient” (See Figure 18).



**Figure 18:** Percentage of respondents who picked each reason for why they haven't accessed food banks and other food initiatives.

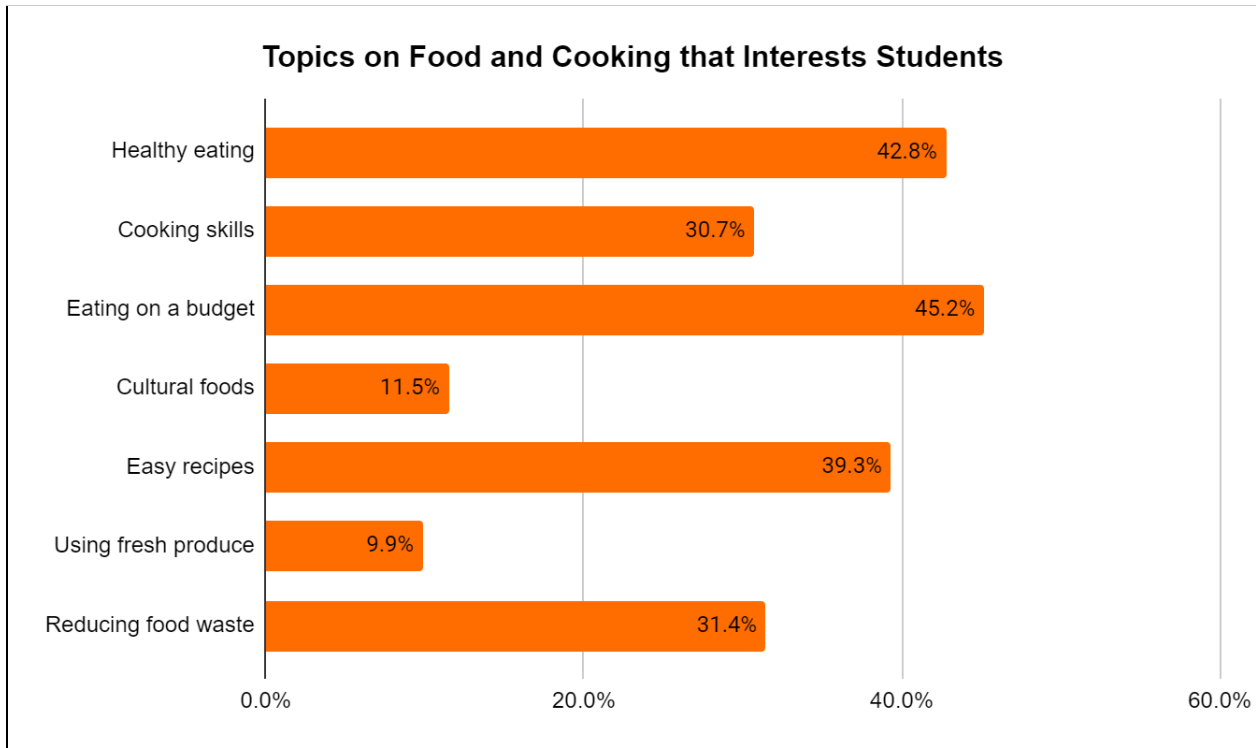


Grocery gift cards were the most chosen option to help improve student access to food when students were asked to select three items from a predefined list of factors that would be most helpful in improving their access to food. “Grocery gift cards” was the top item, selected by 35.6% of the survey respondents, (n=195). This was followed by “affordable on campus meals/meal plan”, which was selected by 25.4% of respondents, (n=139) and then “affordable food boxes delivered to your home” and “affordable on campus meals/meal plan” (see Figure 19).



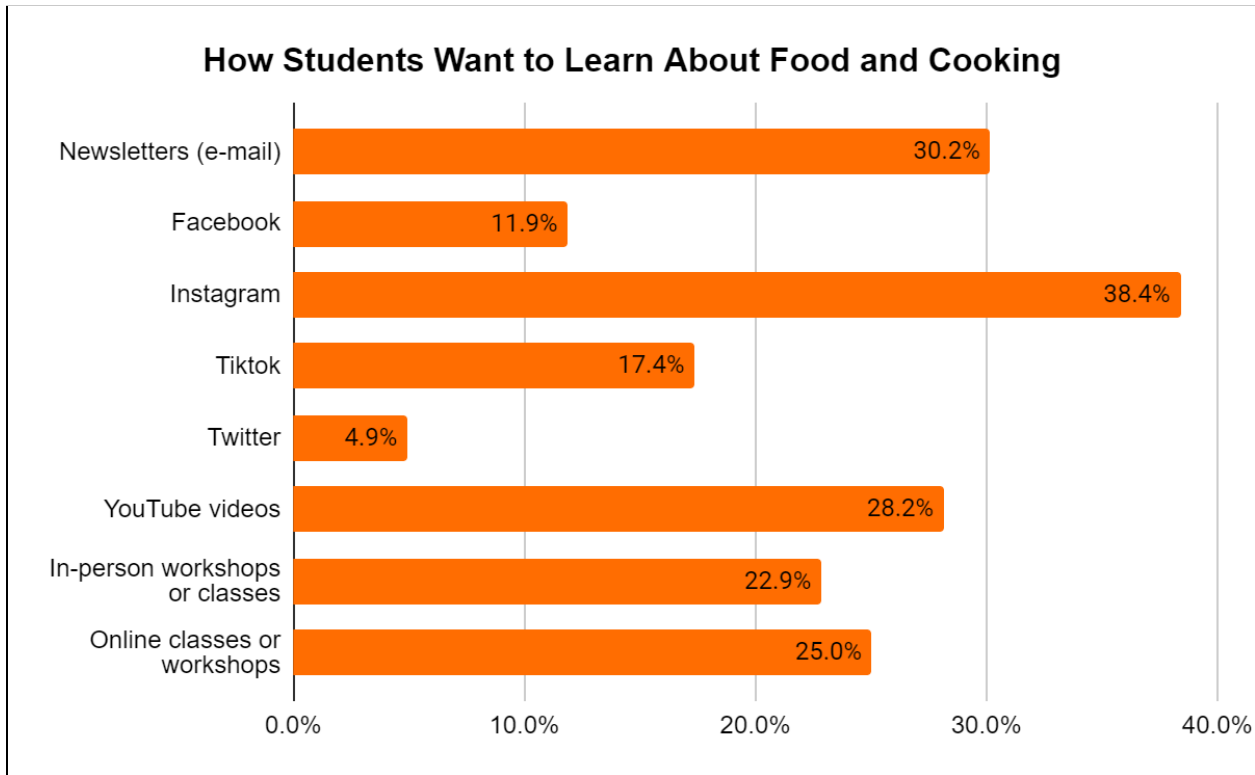
**Figure 19:** Percentage of respondents who picked each option that would be most helpful in improving student access to food.

Eating on a budget is most interesting to students when asked which topics of educational information about food and cooking they would like to know more about. “Eating on a budget” was the top item, selected by 45.2% of the survey respondents, (n=247). This was closely followed by “healthy eating”, which was selected by 42.8% of respondents, (n=235) and then “easy recipes” and “reducing food waste” (see Figure 20).



**Figure 20:** Percentage of respondents interested in each food and cooking topic.

Students selected three preferred methods of communication from a predefined list; Instagram was the students' top medium for receiving educational information about food and cooking. "Instagram" was the top item, selected by 38.4% of the survey respondents, (n=2). This was followed by "Newsletters", which was selected by 30.2% of respondents, (n=165) and then "YouTube videos" and "Online classes or workshops" (see Figure 21).



**Figure 21:** Percentage of respondents who picked each method to receive educational information about food and cooking.

### Survey Limitations

Firstly, the Student Food Experience Survey is self-reported. The voluntary and anonymous nature of the survey means that there are potential sources of bias that may have impacted the results. There is a possibility of having selection bias, since the study was distributed through student networks, the sample population for this survey may not be completely representative of the student body. Additionally, since the study was conducted on only 547 of the 44,693 (uOttawa Enrollment, 2020) students attending uOttawa, the results are not statistically significant to represent overall food insecurity prevalence rates among post-secondary students. Lastly, due to the small financial incentive offered upon completion of the survey, food insecure students may have been more likely to respond to the survey. As a result, the percentage of food insecure students may be over reported leading to an overestimation on the food insecurity prevalence among our study populace.

Other limitations to factor in are related to student outreach. We attempted to share the survey with as many students from diverse and various backgrounds as possible, distributing the survey through as many outlets as possible. However, not every club, professor, administrator, and others that we reached out to for the survey distribution did not respond, thus, not every population was reached in the same capacity. The survey was also only running for a short period of time, being open for responses from October 6th, 2021 to October 29th, 2021.

Providing more time could have resulted in more answers, especially from such a large institution, which could have greatly altered the results. This short time period might not have provided enough time to allow all those willing to fill out the survey. This time period also coincided with mid-term examination season, with the final week of the survey being open taking place during the fall reading week for the University of Ottawa. Outreach may have been limited due to these factors as many students might not have had the time, desire, or awareness to fill out the survey, skewing data further.

## Summary and Recommendations

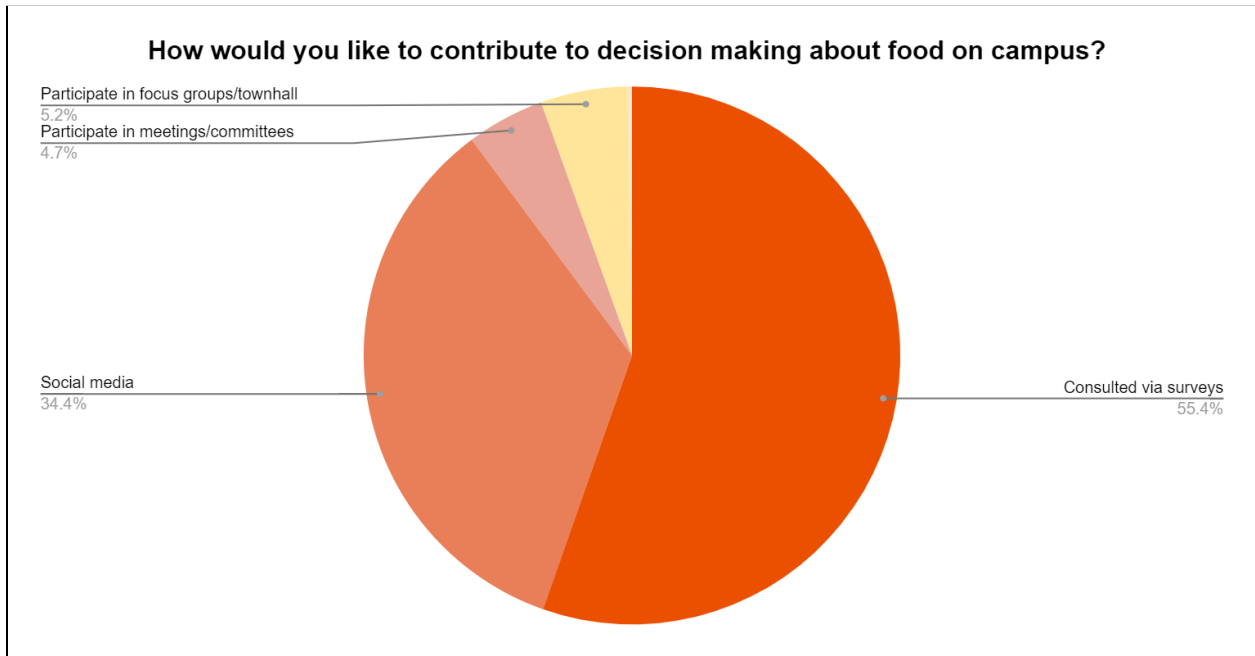
The survey results indicate that 48.2% students who responded to this survey at uOttawa are facing food insecurity and we recommend that uOttawa takes action to address this issue. In particular, the following groups of students are most impacted by food insecurity:

- Queer, bisexual, and lesbian students
- Genderfluid, non-binary, and transgender students
- Black and Indigenous students
- International students

We recommend that major stakeholders, including students, convene to discuss student food insecurity and come up with actionable, immediate and long-term solutions to address food insecurity issues. We recommend further consultation with the student community, particularly those most impacted by food insecurity, in order to further develop appropriate interventions. If committees or working groups are formed in order to address food insecurity, we highly recommend that student leaders be regularly and meaningfully invited to participate in decision making.

Of the students who filled out this survey, grocery gift cards and affordable food boxes delivered to your home were ranked as top priorities to address food insecurity (See Figure 19). Based on survey results and student consultation, the following initiatives could be implemented to improve student food access:

- Collect and make public uOttawa's student demographic information for future use and study concerning student well-being such as racial/ethnic backgrounds, sexual orientation, gender, disabilities, etc.
- Conduct yearly food insecurity surveys to obtain and share more information concerning the food insecurity that uOttawa's students face
- Write yearly reports concerning student food insecurity at uOttawa
- Collaborate with student bodies and initiatives to help bring awareness to student food insecurity and begin aiding students faced with food insecurity
- Consult students via the survey and social media methods (See Figure 22 below) to allow student voices and opinions to be heard



**Figure 22:** Ways student respondents would like to contribute to decision making on campus

## References

Canadian Federation of Students. (2021). *Fairness for International Students*. Retrieved from: <https://cfs-fcee.ca/campaigns/ffis/>

Cho, S. (2021). *Food insecurity of households with sexual minorities*. Applied Economics Letters. DOI: 10.1080/13504851.2021.1910131

Davitt, Heer, M. M., Winham, D. M., Knoblauch, S. T., & Shelley, M. C. (2021). *Effects of COVID-19 on University Student Food Security*. *Nutrients*, 13(6), 1932–. <https://doi.org/10.3390/nu13061932>

Health Canada. (2020). *Household food insecurity in Canada: Overview*. Retrieved from: <https://www.canada.ca/en/health-canada/services/food-nutrition/food-nutrition-surveillance/health-nutrition-surveys/canadian-community-health-survey-cchs/household-food-insecurity-canada-overview.html>

Gibb, J. K., Shokoohi, M., Salway, T., & Ross, L. E. (2021). Sexual orientation-based disparities in food security among adults in the United States: results from the 2003-2016 NHANES. *The American journal of clinical nutrition*, nqab290. Advance online publication. <https://doi.org/10.1093/ajcn/nqab290>

Gooch, M., Bucknell, D., LaPlain, D., Nikkel, L. & Summerhill, V. (2021). *Canada's Invisible Food Network*. Second Harvest and Value Chain Management International. Retrieved from: [www.SecondHarvest.ca/Research](http://www.SecondHarvest.ca/Research)

Haskett, Kotter-Grühn, D., & Majumder, S. (2020). Prevalence and Correlates of Food Insecurity and Homelessness Among University Students. *Journal of College Student Development*, 61(1), 109–114. <https://doi.org/10.1353/csd.2020.0007>

Hattangadi, N., Vogel, E., Carroll, L.J. & Côté, P. (2021). Is Food Insecurity Associated with Psychological Distress in Undergraduate University Students? A Cross Sectional Study. *Journal of Hunger & Environmental Nutrition*, 16(1), 133-148. <https://doi.org/10.1080/19320248.2019.1658679>

Henry, L. (2017). Understanding Food Insecurity Among College Students: Experience, motivation, and local solutions. *Annals of Anthropological Practice*, 41(1), 6–19. <https://doi.org/10.1111/napa.12108>

Heying, E. (2019). O7 More for Your Money? Understanding Campus Meal Plan Choice in Relation to Food Insecurity Risk at a Rural Liberal Arts Institution. *Journal of Nutrition Education and Behavior*, 51(7), S3–S4. <https://doi.org/10.1016/j.jneb.2019.05.313>

Jessiman-Perreault G. & McIntyre L. (2017). The household food insecurity gradient and potential reductions in adverse population mental health outcomes in Canadian adults. *SSM-Population Health*, 3, 464-72. <https://doi.org/10.1016/j.ssmph.2017.05.013>

Klemmensen, H. (2021). *Covid-19 and Campus Food Insecurity*. Feeding City. Retrieved from: <https://www.utoronto.ca/projects/feedingcity/2021/05/05/covid-19-and-campus-food-insecurity/>

Laban, S., Jackson, E., Maynard, M. & Loring, P. (2020). *Student food insecurity: a problem before, during and after COVID-19*. Retrieved from: <https://www.universityaffairs.ca/opinion/in-my-opinion/student-food-insecurity-a-problem-before-during-and-after-covid-19/>

Maroto, M. (2015). Food Insecurity Among Community College Students: Prevalence and Association With Grade Point Average. *Community College Journal of Research and Practice*, 39(6), 515–626. <https://doi.org/10.1080/10668926.2013.850758>

Maynard, M., Meyer, S., Perlman, C., Kirkpatrick, S. (2018). Experiences of Food Insecurity Among Undergraduate Students: “You Can’t Starve Yourself Through School”. *Canadian Journal for Higher Education*, 48(2): 130-148. Retrieved from: <https://journals.sfu.ca/cjhe/index.php/cjhe/article/download/188121/pdf/>

Meal Exchange. (2021). George Brown College: COVID-19 and Student Food Insecurity Survey Report. Meal Exchange.

Meldrum, L. A., & Willows, N. D. (2006). Food insecurity in university students receiving financial aid. *Canadian journal of dietetic practice and research : a publication of Dietitians of Canada = Revue canadienne de la pratique et de la recherche en dietetique : une publication des Dietetistes du Canada*, 67(1), 43–46. <https://doi.org/10.3148/67.1.2006.43>

Morris, Smith, S., Davis, J., & Null, D. B. (2016). The Prevalence of Food Security and Insecurity Among Illinois University Students. *Journal of Nutrition Education and Behavior*, 48(6), 376–382.e1. <https://doi.org/10.1016/j.jneb.2016.03.013>

Ontario Association of Food Banks. (2017). *Hunger Report: The Rising Cost of Housing and its Impact on Hunger in Ontario*. Retrieved from: <https://feedontario.ca/wp-content/uploads/2017/11/Hunger-Report-2017.pdf>.

PROOF: Food Insecurity Policy Research. (2020). *More Canadians are food insecure than ever before – and the problem is only getting worse*. Retrieved from: <https://proof.utoronto.ca/more-canadians-are-food-insecure-than-ever-before-and-the-problem-is-only-getting-worse/>

PROOF: Food insecurity Policy Research. (2019). *Relationship Between Food Banks and Food Insecurity in Canada*. Retrieved from: [https://proof.utoronto.ca/wp-content/uploads/2019/11/PROOF\\_FACTSHEET\\_Foodbanks-112019.pdf](https://proof.utoronto.ca/wp-content/uploads/2019/11/PROOF_FACTSHEET_Foodbanks-112019.pdf)

Reeder, Tapanee, P., Persell, A., & Tolar-Peterson, T. (2020). Food insecurity, depression, and race: Correlations observed among college students at a university in the Southeastern United States. *International Journal of Environmental Research and Public Health*, 17(21), 1–11. <https://doi.org/10.3390/ijerph17218268>

Ricci, T. (2021). *Students having trouble finding work during pandemic hoping for help in federal budget*. Retrieved from: [cbc.ca/news/canada/toronto/students-describe-the-stress-of-job-searching-1.5985168](https://www.cbc.ca/news/canada/toronto/students-describe-the-stress-of-job-searching-1.5985168)

Richmond, C., Steckley, M., Neufeld, H., Bezner Kerr, R., Wilson, K., Dokis, B. (2020). *First Nations Food Environments: Exploring the Role of Place, Income, and Social Connection, Current Developments in Nutrition*. 4(8). <https://doi.org/10.1093/cdn/nzaa108>

Sharma, S. (2019). *International Students and Food Insecurity*. The Argus Student Newspaper. Retrieved from: <https://www.theargus.ca/march-2019/international-students-and-food-insecurity>

Silverthorn, D. (2016). *Hungry for knowledge: Assessing the prevalence of student food insecurity on five Canadian campuses*. Meal Exchange. Retrieved from: <https://mealexchange.com>

Statistics Canada. (2020a). *Food insecurity during the COVID-19 pandemic, May 2020*. Retrieved from: <https://www150.statcan.gc.ca/n1/en/pub/45-28-0001/2020001/article/00039-eng.pdf?st=EPFxfiD5>

Statistics Canada. (2020b). *Food insecurity and mental health during the COVID-19 pandemic*. Retrieved from: <https://www150.statcan.gc.ca/n1/pub/82-003-x/2020012/article/00001-eng.htm>

Statistics Canada. (2020c). *Household food insecurity, 2017/2018*. Retrieved from: <https://www150.statcan.gc.ca/n1/pub/82-625-x/2020001/article/00001-eng.htm>

Statistics Canada. (2020d). *COVID-19 Pandemic: Financial impacts on postsecondary students in Canada*. Retrieved from: <https://www150.statcan.gc.ca/n1/pub/45-28-0001/2020001/article/00016-eng.htm>

Tarasuk, V. & Mitchell, A. (2020). *Household Food Insecurity in Canada, 2017-2018*. Toronto: Research to identify policy options to reduce food insecurity (PROOF). Retrieved from: <https://proof.utoronto.ca>

Tarasuk V., Fafard St-Germain, AA., & Loopstra, R. (2019). *New Research – The Relationship Between Food Banks and Food Insecurity: Insights from Canada*. [doi.org/10.1007/s11266-019-00092-w](https://doi.org/10.1007/s11266-019-00092-w).

University of Ottawa. (2020). *Student Registrations by Level of Study, Attendance Status, Student's Gender, Language in Use, Immigration Status, and Co-Op Enrollment*. Ontario Ministry of Training, Colleges and Universities (MTCU). Retrieved from:



[https://www.uottawa.ca/institutional-research-planning/sites/www.uottawa.ca.institutional-research-planning/files/uottawa\\_-\\_enrolment\\_-\\_report\\_-\\_v0.1\\_english-pdf\\_0.pdf](https://www.uottawa.ca/institutional-research-planning/sites/www.uottawa.ca.institutional-research-planning/files/uottawa_-_enrolment_-_report_-_v0.1_english-pdf_0.pdf)

uOttawa Enrollment. (2020). *Institutional Research Planning*. University of Ottawa. Retrieved from: <https://www.uottawa.ca/institutional-research-planning/resources/facts-figures/quick-facts>