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# Student Food Security Status at Virginia Tech

*Virginia Tech Food Access and Wellbeing Survey*



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### Overview

There has been a growing acknowledgment and concern about college students experiencing food insecurity at institutions of higher education [1]. Experiencing food insecurity can impact educational attainment and performance as well as student quality of life [2]. This report describes the findings of the 2023 Virginia Tech Student Food Access and Wellbeing Survey, which was administered online during the Spring of 2023. The survey aimed to examine the level of food security among Virginia Tech undergraduate and graduate students.

### Highlights

- A little over a third (34.51%) of student respondents can be classified as being food insecure (having a low or very low food security status).
- Around 2 out of 10 respondents (22.63%) were found to be experiencing transient or chronic reductions in food intake and disrupted eating patterns.
- Both undergraduate and graduate students had comparable levels of food insecurity (33.81% vs. 35.71%, respectively).
- Those students most at risk of having a low or very low food security status include international students and Black or African American and Hispanic or Latino students.

### Methodology

The 2023 Virginia Tech Student Food Access and Wellbeing Survey was distributed online between April and May 2023 to the entire Virginia Tech’s student undergraduate and graduate student population (n=38,170). The survey asked respondents about their food security, housing security, mental wellbeing, educational status, and socio-demographic characteristics. The four levels of food security (Figure 1) were measured using the USDA’s 10-item Household Food Security Survey Module (FSSM) with a screener question. The U.S. Department of Agriculture defines food insecurity as “the limited or uncertain availability of nutritionally adequate and safe food, or limited or uncertain ability to acquire acceptable foods in socially acceptable ways.”[3]

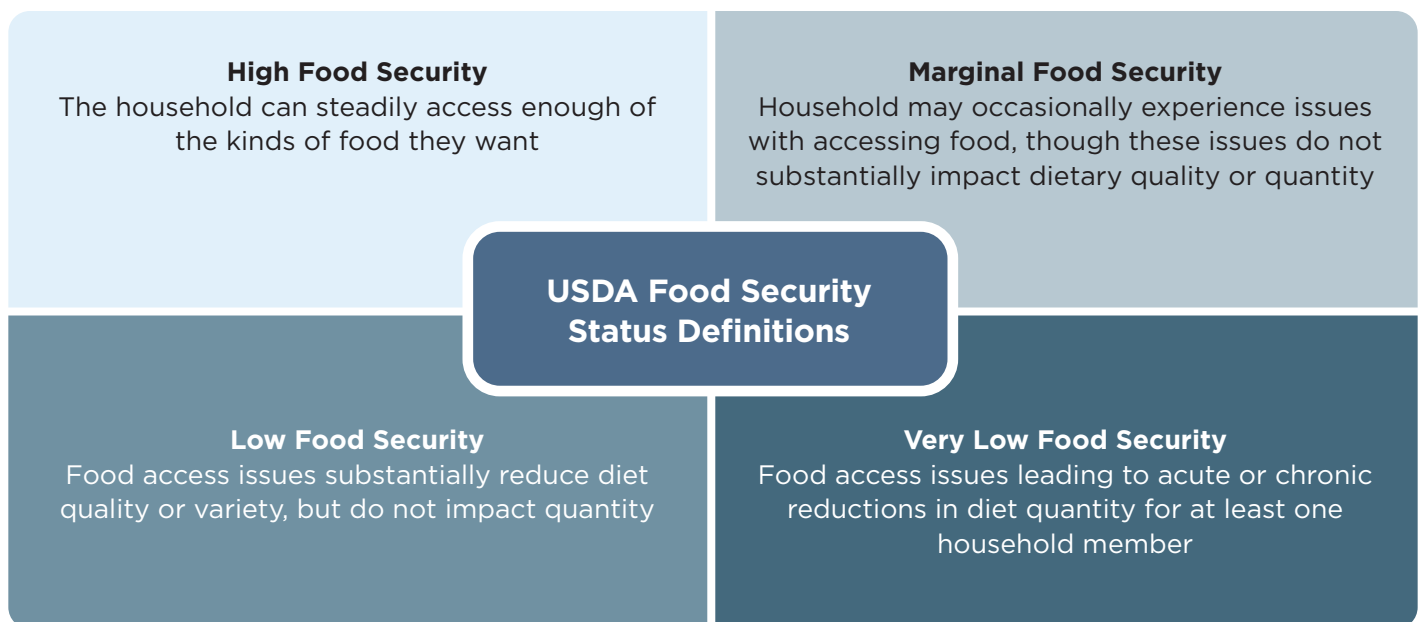


Figure 1: USDA Food Security Status Levels Defined<sup>5</sup>

Food security status can also be categorized as:

1. High Food Security – No problems or anxiety about consistently accessing adequate food.
2. Marginal Food security – Some problems or anxiety about accessing adequate food but little changes in the quality, variety, and quantity of food intake.
3. Low food security – Reduction in the quality, variety, and desirability of diets but little changes to the quantity of food intake and eating patterns.
4. Very low food security – Multiple indications of disrupted eating patterns and reduced food intake.

## Findings

The report sample includes 2,315 students – 1,458 undergraduates (representing about 5% of Virginia Tech’s undergraduate population) and 857 graduates/professional students (representing 11% of Virginia Tech’s graduate/professional population). Together, the collected responses represent about 6% of the student population (Table 1).

**Table 1: Characteristics of Survey Respondents**

Socio-Demographic Information		Sample n (%)	University n (%)
Virginia Tech Campus	Blacksburg	2182 (94.7)	34174 (93.1)
	Northern Virginia	67 (2.9)	702 (1.9)
	Roanoke	43 (1.9)	36 (0.1)
	Others (except Abingdon)	12 (0.5)	1777 (4.8)
Student Type	Full-time	2155 (93.5)	33034 (90.0)
	Part-time	149 (6.5)	3655 (10.0)
Degree Type	Undergraduate degree	1458 (63.0)	29228 (79.7)
	Graduate and Professional degree	857 (37.0)	7461 (20.3)
Assigned Gender	Female	1216 (64.1)	15901 (43.3)
	Male	680 (35.9)	20661 (56.3)
Race	Alaskan Native & Pacific Islander	7 (0.4)	37 (0.1)
	Asian	349 (20.4)	4044 (11.0)
	Black/African American	107 (6.3)	2074 (5.7)
	White or Caucasian	1247 (72.9)	20846 (56.8)
First Generation	Yes	469 (25.1)	5864 (16.0)
	No	1398 (74.9)	30825 (84.0)
Residency	In-state	1173 (60.9)	22852 (62.3)
	Out-of-state	479 (24.9)	10089 (27.5)
	International	273 (14.2)	3748 (10.2)
Disability	Yes	202 (10.8)	-
	Maybe	143 (7.7)	-
	No	1518 (81.5)	-

Socio-Demographic Information		Sample n (%)	University n (%)
Marital Status	Single	1162 (60.8)	-
	In Relationship	522 (27.3)	-
	Married	211 (11.0)	-
	Separated	17 (0.9)	-
Dependent	No	1781 (93.2)	-
	Yes, one or more child	87 (4.6)	-
	Yes, one or more adult dependents	35 (1.8)	-
	Yes, both children and adult dependents	7 (0.4)	-

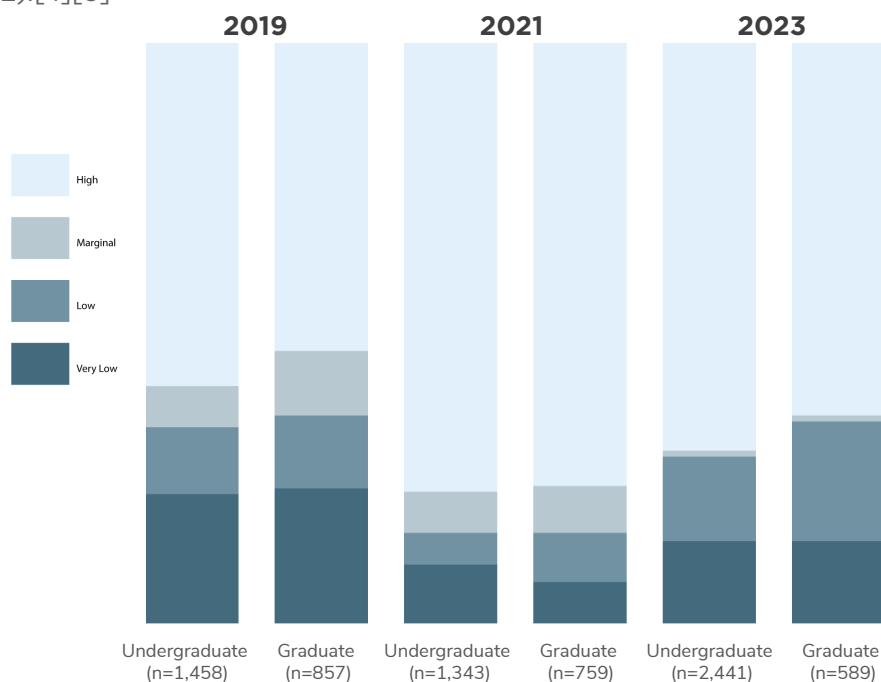
### Food Security at Virginia Tech

A little over a third (34.51%) of student respondents can be classified as being food insecure (having a low or very low food security status - Table 2). Notably, of those who are food insecure, 22.63% reported experiencing very low food security. This suggests that 2 out of 10 students who responded to the survey were experiencing transient or chronic reductions in food intake and disrupted eating patterns.

**Table 2. Food Security Status of Respondents**

Food security	Percent	Frequency
High	57.15	1,323
Marginal	8.34	193
Low food	11.88	275
Very Low	22.63	524

Although the cross-sectional nature of each survey prevents a direct comparison between years, the rates of food insecurity for 2023 were higher than for the 2019 and 2021 Virginia Tech Food Security studies (Figure 2).[4][5]



**Figure 2: Food Security Status of Virginia Tech Students for 2019, 2021, and 2023**

### Food Security by Student Type

The findings from the 2023 survey are similar if we examine food security by student type. Around 1 in 5 undergraduate (22.22%) and graduate (23.34%) students reported experiencing very low food security (Table 3).

**Table 3. Food Security by Student Status**

Food security	Undergraduate		Graduate	
	Percent	Frequency	Percent	Frequency
High	59.05	861	53.91	462
Marginal	7.13	104	10.39	89
Low food	11.59	169	12.37	106
Very Low	22.22	324	23.34	200

Some students describe the barriers they face to accessing the food they need:



“Less Halal options, the halal options given is always expensive without a meal plan and the wait time is too much due to understaffed dining halls.”

“I never went without food, but I made choices that I wouldn’t have made if I had more money (ate ramen instead of buying more nutritious foods that cost more).”

“I want to eat nutritious food, such as whole grains, fresh/frozen fruits & veggies, etc, but these are expensive so I end up eating white bread and canned foods. I can’t eat foods like peanut butter because of allergies, and that cuts out many cheap foods with nutrition.”

“... ADHD makes planning harder, and I have to prioritize planning school things over planning food packing/access to keep up with school demands on my executive functioning.”

“Autism makes me incredibly picky about food and makes it difficult to cook. I cannot eat out at restaurants because I don’t like being around people. I have a hard time eating leftovers due to texture problems so I need to set aside time to cook every day or else I will not eat anything but like maybe an orange and some chips.”

“As food prices continue to rise, I find that salary compensation does not follow this increase, making it increasingly difficult for people to afford food - especially “healthy” food which is more expensive and also does not keep fresh as long. This is very difficult for those of us who are trying to eat better or lose weight, when we can’t afford the foods we should be eating due to our low salary in comparison to cost of living.”

“I have money for food, but my money lasts longer when I don’t spend it on healthy food.”



A third of both undergraduate and graduate students reported being worried about food running out before they had money to buy more and had to eat less than they should because there wasn't enough money for food (Table 4). A substantial portion of students (44% graduate and 36% undergraduate) reported being unable to eat balanced meals. Additionally, around 10% of both graduate and undergraduate students stated they went without eating for a whole day because there wasn't enough money for food.

**Table 4. Concerns About Food Lasting for Undergraduate and Graduate Students**

	<b>Undergraduate (n=1,458)</b>	<b>Graduate (n=857)</b>
I worried whether my food would run out before I got money to buy more	33.37%	32.51%
The food I bought didn't last, and I didn't have money to buy more	26.37%	23.39%
I couldn't afford to eat balanced meals	35.53%	44.11%
Did you ever cut the size of your meals, or skip meals because there wasn't enough money for food?	32.44%	31.62%
Did you ever eat less than you felt you should because there wasn't enough money for food?	32.09%	30.73%
Were you ever hungry but didn't eat because there wasn't enough money for food?	23.57%	25.31%
Did you lose weight because there wasn't enough money for food?	28.26%	26.06%
Did you ever not eat for a whole day because there wasn't enough money for food?	9.80%	9.40%

Students describe why they cannot access additional resources to help them pay for food:



**“My annual income is too high for most programs but we have medical expenses (plus other expenses) that affect our food insecurity. The VT food pantry starting survey felt like an obstacle. We should be able to go and get what’s needed (even on a limited basis) without it.”**

**“Because my parents make a bunch of money no where accepts the fact that they aren’t sharing any of it with me.”**

**“[I] make \$40 too much every month to use SNAP and other food banks/pantries in the area. I am declined assistance because of \$40 that I earn here. Either y’all can pay me more or figure out a way to help me access SNAP benefits. It is ridiculous that I am declined because I make \$40 too much.”**

**“I’m eligible for SNAP, applied once earlier this year but it’s hard because they want info of others in household and they’re random roommates I don’t control or contribute to. When I applied to my best ability, it came back a week later saying it needed editing and to call a case worker for help but she was busy and the edits were about the others in my household. I sent back and it came back again in the mail, and gave a deadline before my application closed and I just got busy with school and never completed. Got another email from the school this month about SNAP again but I just don’t have the time or energy to go through that. Saying that sounds dumb now but I’m on campus 9-5, 8-8 some days with classes and TAing and research so once I get home I don’t think about it. And I try not to go to Christiansburg where an office is because of gas and time.”**



### Food Security by Student Characteristics

There were disparities in food security status by race (Table 5). Students who identify as “Asian” or “White Caucasian” were more likely to be food secure, whereas food insecurity is more prevalent among students who identify as “Black or African American” or “Hispanic or Latino.” An alarming 39% of Black or African American students experienced very low food security.

**Table 5. Food Security by Race**

	High (%)	Marginal (%)	Low (%)	Very Low (%)	N
Asian	51.08	11.99	13.43	23.5	417
Black\African American	39.42	5.11	16.79	38.69	137
Hispanic\Latino	45.97	11.85	15.64	26.54	211
White\Caucasian	61.74	7.65	11.02	19.59	1516
Two or more race	53.72	4.96	9.92	31.4	121

Females and Males experienced roughly the same level of food security with about 57% of both males and females experiencing high food security and just over 20% experiencing very low food security (Table 6).

**Table 6. Food Security by Sex**

	High (%)	Marginal (%)	Low (%)	Very Low (%)	N
Female	57.15	8.54	12.92	21.39	1440
Male	57.18	8.05	10.27	24.5	857

Underserved students were more likely to experience food insecurity than other students (Table 7). International students were more likely to report having very low food security compared to domestic students (in-state and out-state).

**Table 7. Food Security by Student Status**

	High (%)	Marginal (%)	Low (%)	Very Low (%)	N
Domestic Status					
In-state	61.13	6.48	11.85	20.55	1173
Out-state	61.8	8.14	10.02	20.04	479
International	39.93	12.82	14.62	32.6	273
Underserved*	45.52	6.54	15.25	32.69	413
Transfer	58.06	7.53	10.22	24.19	186
Parental Education					
High School\ Associate	46.34	8.84	15.55	29.27	328
Bachelor\Masters	61.78	7.33	10.91	19.98	1146
PhD\Professional	63.5	9.13	10.62	16.73	263

\*Underserved students are non-international students who (1) are of the first generation in a family where neither parent completed a bachelor’s (4-year or higher) degree at any college or university, or (2) are qualified to receive a Pell Grant based on federal eligibility, or (3) are students who self-identify as veterans and who, with the exception of dependents/family, received GI benefits at any time.

## Food Security, Housing, and Mental Wellbeing

While the vast majority of students indicated they had stable housing, three-quarters (74.41%) of students experiencing low or very low food security were worried about losing their housing in the future (Table 8).

**Table 8. Housing Situation**

	Total (n=1942)	High/Marginal Food Security (%)	Low/Very Low Food Security (%)
Living situation			
I have a steady place to live	1672	72.25	27.75
I have a steady place to live, but I am worried about losing it in the future	254	25.59	74.41
I am in a temporary and/or unstable living space, or I find spaces to sleep	16	56.25	43.75

The survey revealed that poor mental health is related to food insecurity. For example, more than half of students who indicated they were depressed in the last week were also experiencing low or very low food security (Table 9). Further, 68.29% of students who stated that the quality of their life over the last week was terrible were experiencing low or very low food security. In contrast, only 8.29% of students who stated their quality of life was excellent were experiencing food security challenges.

**Table 9. Mental Wellbeing**

	Total	High/Marginal Food Security (%)	Low/Very Low Food Security (%)
<b><i>In the past week, I have been depressed</i></b>	1903		
Describes me extremely well	203	45.81	54.19
Describes me moderately well	188	43.62	56.38
Describes me slightly well	313	55.59	44.41
Describes me very well	518	68.73	31.27
Does not describe me	681	81.20	18.80
<b><i>Considering all parts of my life - physical, emotional, social, spiritual, and financial - over the last week the quality of my life has been</i></b>	1902		
Excellent	217	91.71	8.29
Good	726	78.51	21.49
Average	665	55.34	44.66
Poor	253	42.29	57.71
Terrible	41	31.71	68.29

## Implications

The efforts made by Virginia Tech to address the food insecurity status of students highlighted in the 2019 Virginia Tech Student Food Security Survey include the launch of the Market of Virginia Tech and multiple pop-up markets across the university. While these services are essential for those students receiving support, disparities in food access persist. The data in this report highlights the pressing need to continue targeted

efforts and programming to reduce disparities in food access – e.g., for international or African American and Hispanic or Latino students. Students noted specific barriers to food security, including but not limited to finding foods that meet religious and cultural needs, the prices of food on campus, and the inability to prioritize food access.

Higher education is a pathway to upward mobility, greater financial stability, increasing opportunities, and enhanced well-being. As we reflect on the invaluable resources available at Virginia Tech, it is essential to recognize the challenges our students face, particularly concerning food security. This issue is occurring in the midst of recovering from a global pandemic and navigating economic shifts, including inflation and stagnant wages, which can significantly impact our student’s ability to maintain food security and pursue their academic goals.

With this report, we aim to foster awareness and initiate constructive conversations to address these pressing issues. By coming together as a community, we can explore effective solutions and support mechanisms to ensure that every student has the resources they need to thrive.

## References

1. Goldrick-Rab, S., Richardson, J., Hernandez, A. (2017). Hungry and homeless in college: Results from a national study of basic needs insecurity in higher education. Wisconsin, Madison: Wisconsin HOPE Lab; p. 32.
2. Ahmad, N. S. S., Sulaiman, N., & Sabri, M. F. (2021). Food insecurity: is it a threat to university students’ well-being and success?. *International journal of environmental research and public health*, 18(11), 5627. <https://doi.org/10.3390/ijerph18115627>
3. U.S. Department of Agriculture, Economic Research Service. (n.d.). Definitions of food security. Retrieved March 11, 2023, from <https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-u-s/definitions-of-food-security/>
4. Hall, R.P., Agnew, J., Liu, W., Petrie, L., & North, C. (2024). Systematic investigation of inadequate food access at a large southeastern land grant university. *Plos one*, 19(3), e0298041. <https://doi.org/10.1371/journal.pone.0298041>
5. Hall, R.P., Ranganathan, S., Agnew, J., Christie, M.E., Kirk, G.R., Lucero, C., Clark, S.F., & Archibald, T.G. Virginia Tech Food Access and Security Study. Blacksburg: Virginia Tech; 2019 p. 42. Available: <http://hdl.handle.net/10919/95218>



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