

**Sociodemographic Predictors of University Students' Food Insecurity: Insights From a Large University
in Canada**

Candice Rideout, Carrie James

University of British Columbia

HUNU 547

January 19, 2017

Disclaimer: "UBC SEEDS Program provides students with the opportunity to share the findings of their studies, as well as their opinions, conclusions and recommendations with the UBC community. The reader should bear in mind that this is a student project/report and is not an official document of UBC. Furthermore readers should bear in mind that these reports may not reflect the current status of activities at UBC. We urge you to contact the research persons mentioned in a report or a SEEDS team representative about the current status of the subject matter of a project/report".

Sociodemographic Predictors of University Students' Food Insecurity: Insights From a Large University in Canada

Carrie E James, BSc, Integrated Studies in Land and Food Systems, UBC, Vancouver, British Columbia
Candice Rideout, PhD, Department of Food, Nutrition and Health. UBC, Vancouver, British Columbia

Executive Summary

Approximately 13% of Canadian households experience food insecurity,¹ defined as “the inability to obtain sufficient, nutritious, personally acceptable food through normal food channels or the uncertainty that one will be able to do so.”² A recent study investigating food security at 5 universities across Canada reported rates of food insecurity ranging from 29% to 46%.³ Given the potential associations between food insecurity, reduced academic achievement,⁴ and negative health-related outcomes,⁵ the objectives of this study were to (1) estimate the prevalence of food insecurity among undergraduate students in the Faculty of Land and Food Systems (LFS) at the Vancouver campus of the University of British Columbia, and (2) investigate socio-demographic predictors of students' food security status.

In March of 2016, LFS undergraduate students enrolled in 6 core curriculum courses ranging from first year to fourth year were invited to complete a survey about their food security experiences (N=836, 55.0% of students enrolled in LFS). The survey included the 9-item Household Food Insecurity Access Scale⁶ as well as 15 questions about socio-demographic factors previously associated with food insecurity among young adults.⁷⁻¹¹ Correlations between food insecurity and socio-demographic categories were determined using chi-square tests for categorical factors and t-test for continuous variables, and we conducted a stepwise multiple binary logistic regression analysis to predict food insecurity among respondents.

Among the 138 respondents (a 16.5% response rate), 55% were food secure and 45% food insecure. Each additional year of education was associated with a 39% decrease in food insecurity risk, while having a parent as the primary food purchaser was associated with an 80% decrease in risk. Having moved to Vancouver within 3 years was associated a 279% increase in food insecurity risk. Only 6 food insecure students used emergency food programs.

Forty-five percent of our sample was classified as food insecure, which is more than 3 times the national prevalence,¹ suggesting that food insecurity is more common among LFS students than among the general population. The use of campus food banks is increasing in Canada,¹² but few of our respondents accessed the campus food bank or other emergency food programs, highlighting a need to increase awareness of or improve access to food resources among those at risk. Food insecurity is a topic that student advisors should consider addressing with undergraduate students to ensure that those in need are connected with appropriate support services. There is a need for public support, such as the Guaranteed Income Supplement (GIS) credited for lower rates of food insecurity among low income seniors in Canada,¹³ to better support food security among undergraduate students. Longitudinal research should be conducted to assess food insecurity in representative samples at multiple universities, to better characterize its prevalence, provide more conclusive evidence of who is particularly vulnerable, and to identify when those at risk would benefit most from food security interventions.

We would like to express our sincere thanks to SEEDS for supporting this project, and to Rashedul Hoque and SCARL for statistical advising.

1. Tarasuk V, Mitchell A, Dachner N. Household food insecurity in Canada, 2012. Toronto, ON: Research to Identify Policy Options to Reduce Food Insecurity; 2012. <http://nutritionalsciences.lamp.utoronto.ca/>. Accessed August 8, 2016.
2. Davis B, Tarasuk V. Hunger in Canada. *Agric Human Values*. 1994;11(4):50-7. doi:10.1007/BF01530416
3. Silverthorn D. Hungry for knowledge: Assessing the prevalence of student food insecurity on five Canadian campuses. Toronto: Meal Exchange; 2016. <http://mealexchange.com>. Accessed December 20, 2016.
4. Jyoti DF, Frongillo EA, Jones SJ. Food insecurity affects school children's academic performance, weight gain, and social skills. *J Nutr*. 2005;135(12):2831-9.
5. Alaimo K, Olson CM, Frongillo EA. Food insufficiency, family income, and health in US preschool and school-aged children. *Am J Public Health*. 2001;91(5):781-6. doi:10.2105/AJPH.91.5.781
6. Coates J, Swindale A, Bilinsky P. Household Food Insecurity Access Scale (HFIAS) for measurement of food access: Indicator guide version 3. Washington, DC: Food and Nutrition Technical Assistance III Project (FANTA); 2007.
7. Gaines A, Robb CA, Knowl LL, Sickler S. Examining the role of financial factors, resources and skills in predicting food security status among college students. *Int J Consum Stud*. 2014;38(4):374-84. doi:10.1111/ijcs.12110
8. Che J, Chen J. Food insecurity in Canadian households. *Health Rep*. 2001;12(4):11-22.
9. Matheson J, McIntyre L. Women respondents report higher household food insecurity than do men in similar Canadian households. *Public Health Nutr*. 2014;17(1):40-8. doi:10.1017/S136898001300116X
10. Olabiyi OM, McIntyre L. Determinants of food insecurity in higher-income households in Canada. *J Hunger Environ Nutr*. 2014;9(4):433-48. <http://dx.doi.org/10.1080/19320248.2014.908459>
11. Gallegos D, Ramsey R, Wen Ong K. Food insecurity: Is it an issue among tertiary students? *High Ed*. 2014;67(5):497-510. doi:10.1007/s10734-013-9656-2
12. Botelho-Urbanski J. Back to school, back to hunger: Foods bank use at post-secondary institutions going up. <http://www.winnipegfreepress.com/local/Starving-students-323526391.html>. Accessed August 19, 2016.
13. Emery JH, Fleisch V, McIntyre L. How a guaranteed annual income could put food banks out of business. *SPP Res Papers*. 2013;6:1-20.

FOOD INSECURITY AT UBC:

Prevalence and Correlates Among Undergraduate Land and Food Systems Students

Carrie E. James, BSc, Integrated Studies in Land and Food Systems
Candice Rideout, PhD, Department of Food, Nutrition and Health

BACKGROUND

In 2016, 39% of post-secondary students surveyed at 5 Canadian institutions experienced food insecurity, which was defined as a only being able to consume a limited quality and quantity of food [1].



2 in 5

students were food insecure



1 in 4

food insecure students reported negative health impacts

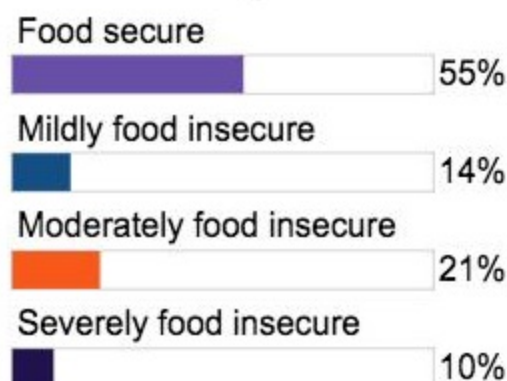
Student loans are meant to cover the cost of food, but research from Alberta suggests that the amount is insufficient for a nutritious diet, no matter how economically it is obtained [2].

OUR STUDY'S PURPOSE:

To estimate the prevalence of food insecurity among undergraduate students enrolled in the Faculty of Land and Food Systems (LFS) at UBC and identify factors that may predict students' food security status

BASED ON OUR SURVEY OF 138 UNDERGRADUATES...

Food Security Status



Students classified as food insecure did not often use services such as the campus food bank: only 6 reported using emergency food programs.

LFS Students are:

- 39%** less likely to be food insecure for every additional completed year of post-secondary education
- 80%** less likely to be food insecure if their parents purchase food for them
- 279%** more likely to be food insecure if they moved to Vancouver recently (within the last 3 years)

MOVING FORWARD, WE NEED...



1. Longitudinal research at post-secondary institutions for more conclusive evidence about who is most vulnerable to food insecurity and when food security interventions would be most effective



2. Research and funding for initiatives that better support food security among post-secondary students



3. Outreach to enhance awareness and use of emergency food programs, such as campus food banks

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

[2] Meldrum, L. A., Willows, N. D. (2006). Food insecurity in university students receiving financial aid. Canadian Journal of Dietetic Practice and Research, 67(1), 43-36.