

Source (PR, Gray, Abstract, Report, Poster, etc.) or Journal	Author(s) or Institution, publication date	Title and link	Country	Data collection time frame	Setting	Sample demographic characteristics gender, age, race, year in school/level of study	Study design and analytical approach Cross-sectional or Panel; Sampling: Inclusion Criteria; Response Rate; Methods	FI measures, survey name, number of questions, modified yes/no	Prevalence of FI FI, moderately, severely	Sociodemographic characteristics and related factors	Physical and mental health	Academic	Notes
PR	Blundell and colleagues, 2016	Determining Student Food Insecurity at Memorial University of Newfoundland	Canada	Sept. - Oct. 2016	Memorial University of Newfoundland, Canada	N=971 Women: 73.2% Age: 61.6% 18-23 y 38.1% 24+ y Student's level of study: 77.4% undergraduate 22.6% graduate 3.8% medicine 0.5% diploma program Current Year of Program: 12.2% First 27.9% Second 22.5% Third 20.8% Fourth 12.8% Fifth or greater 3.8% Not in a degree program	Cross-sectional Sampling: students registered on St. John's campus Response rate: 9.4% Methods: Chi-squared or Fisher's exact (for small samples) tests and multiple logistic regression	10 question Canadian Household Food Security Survey Module	Two measures of FI used: Health Canada: 39.9% FI 70.8% moderately FI 29.2% severely FI PROOF: 68.0% FI 31.3% marginally FI 48.7% moderately FI 20% severely FI	Health Canada: FI associated with being graduate students, OOP or INT students, partnered, parents, 24 years or older, living off-campus w/o family, reliant on government funding, non-student loan students, or other employment as their primary source of income, and employed PROOF: FI associated undergraduate or graduate students, OOP or INT students, partnered, parents, 24 years or older, living off-campus w/o family, reliant on government funding, non-student loan students, or other employment as their primary source of income, and employed	N/A	N/A	
PR: Journal of College Student Development	Allen, C.C. and colleagues, 2019	A Private Struggle at a Private Institution: Effects of Student Hunger on Social and Academic Experiences	U.S.		undisclosed affluent private university with selective admissions	n = 10 Sex/Gender 80% Female Race/Ethnicity 10% Black 10% "mixed" 30% Hispanic 50% White	Phenomenological approach Qualitative study Sampling: campus-wide survey of those indicating a willingness to be interviewed and experienced the most severe level of food insecurity Methods: Exploratory qualitative phenomenological approach with semi-structured interviews	6-item USDA Food Security Module	Students were selected based on experience of severe FI	Food insecurity complicates students' experiences in college; being of low-socioeconomic status adds additional complications; food insecurity accentuated social class sensitivity	health-related side effects that interfered with academics in interviews, including migraines that accompanied inadequate food access, fainting from hunger, and trouble staying awake to study because of lack of food.	Food insecurity worsened time-use strategies limiting social and academic participation that the students' perceived affluent peers were able to take advantage of	Students responded with suggestions that included program-oriented initiatives, policy changes, and suggestions for campus climate improvements that echo the best practices recommended by experts in the field (Goldrick-Rab et al., 2018).
PR: Journal of American College Health	Secora, M. B. and colleagues, 2018	Sleepless in school? The role of social determinants of sleep health among college students	U.S.	N/A	N/A	n = 282 Sex Male 13.2% Female 86.8% Race/ethnicity Hispanic 64.8% White, non-Hispanic 17.8% Other 17.4% Grade level First or second year 34.2% Third or fourth year 48.8% Fifth or more year 17.1%	Sampling: Convenience sample of student from psychology course Methods: chi-squared tests, descriptive statistics, sample mean t-tests	Items from USDA Food Security Module	31.9% Could not afford balanced meal 19.9% Skipped or reduced size of meal 17.7% Food didn't last 9.9% Went hungry	n/a	Low duration of sleep was significantly more prevalent among respondents who could not afford balanced meal, skipped or reduced size of meal, and reported that their food did not last; Feeling tired, fatigued, or sleepy during day time was significantly associated with not being able to afford balanced meal compared to those who could; respondents who reported stopping breathing during sleep were also more likely to skip or reduce size of meals, go hungry, and report that their food did not last	n/a	Research is on the role of social determinants of sleep health among college students with FI overlap
PR: Journal of Applied Research in the Community College	Blevins, Darlene, 2016	Experiences with Housing Insecurity Among African American Women in Community College	U.S.	N/A	community colleges in the United States	N = 343 Sex/Gender 100% female Race 100% African American	Cross-sectional Sampling: From a sample of more than 7,000 diverse were delimited to African American women (n=343) Methods: Descriptive, logistic regression	N/A	"Hunger Stress" 13% Presence of food insecurity and challenges with transportation are strong predictors of housing insecurity for African American women in community colleges.	N/A	N/A	N/A	This study sought to understand the extent to which external factors and the presence of insecurity predicts housing insecurities for African American women in community colleges. Table 2 Summary of Logistic Regression Analysis for Predictors of Housing Insecurities for African American Women (N=343) - has "Hunger" stats
Journal: Social Sciences	Broton, K. M., Weaver, K. E., Mai, M., 2018	Broton, K. M., Weaver, K. E., Mai, M., 2018, Hunger in higher education: Experiences and correlates of food insecurity among Wisconsin underserved students from low-income families	U.S.	Fall 2009	42 public 2-year & 4-year colleges and universities in Wisconsin in 2008	Quantitative n=1339 Sex/Gender 60.8% Female Race/Ethnicity 26.1% Racial/ethnic minority 7.6% African American 5.7% Latino 9.0% Southeast Asian 3.8% Native American	Cross-sectional, Mixed-Methods Sampling: Used data from the Wisconsin Scholars Longitudinal Study (WSLS) conducted in 2008, survey and interview data from low income students Methods: Cross sectional survey data collection (n=1339), Longitudinal qualitative interview data (60 from stratified sample, 6 selected)	Part 1: USDA screener - modified	FI with hunger 30%.	FI significant associated with race/ethnicity, past experiences of food insecurity, current residence, and geographic location. Those growing up in a food insecure home have a significant higher chance of food insecurity compared to those who grew up in a food secure home. Those who live in off-campus housing have a significant higher chance of food insecurity compared to those who live at home with their parents and among those who live on campus.	N/A	N/A	Additional findings from 6 qualitative interviews suggested that... "Students explain that challenges stemming from the interrelationship of lack of time and inadequate money are their biggest barriers to food security. Most rely on friends or family for support, but few students draw on the social safety net, in part due to eligibility restrictions. In recognition of the diversity of students' experiences, we discuss the need for a multi-faceted response to promote food security and student success".
PR Journal: Educational Researcher	Broton, K. M. and Goldrick-Rab, S., 2018	Broton, K. M. and Goldrick-Rab, S., 2018, Going Without: An Exploration of Food and Housing Insecurity Among Underserved Students	U.S.	Data from surveys done in 4 studies: 1 during 2009 and the other 3 between 2015-2016; Study 1: 2016 community colleges in 24 states Study 2: 2015 public community colleges in 7 states Study 3: 2015 public and private 2- and 4-year colleges in Wisconsin Study 4: 2009 Wisconsin's 42 public 2- and 4-year colleges and universities	121 colleges and universities across 26 states	Study 1 Female (%) 71.80 Average Age (years) 27.73 Race/Ethnicity Non-Hispanic White (%) 43.58 African American or Black (%) 11.14 Hispanic or Latino (%) 24.44 American Indian or Pacific Islander (%) 1.34 Southeast Asian (%) 2.07 Other Asian or Asian American (%) 4.17 Two or More Races (%) 11.34 Unknown (%) 1.91 Year in College 1st Year 28.26 2nd Year 39.30 3rd or Later Year 32.45 Study 2 Female (%) 55.29 Average Age (years) 29.80 Race/Ethnicity Non-Hispanic White (%) 54.68 African American or Black (%) 14.93 Hispanic or Latino (%) 19.61 American Indian or Pacific Islander (%) 4.36 Southeast Asian (%) 3.78 Other Asian or Asian American (%) 6.20 Two or More Races (%) 5.02 Unknown (%) 7.24 Year in College 1st Year 42.37	Cross-sectional Sampling: Data from four surveys that represent the experiences of more than 30,000 2- and 4-year college students Study 1: convenience sample Study 2: convenience sample Study 3: random sample Study 4: random sample Methods: Descriptive, chi-square tests for categorical data and t tests for continuous data	Study 1, 2, and 3 used USDA's validated 6-item food security scale. Study 4 used USDA food screener and part of the 6-item scale.	High Security Study 1: 32.62% Study 2: 47.90% Study 3: 39.42 % Study 4: 43.17 % Marginal Security Study 1: 11.56 % Study 2: 12.88 % Study 3: 10.03 % Study 4: 47.23 % Low Security Study 1: 22.81% Study 2: 19.41 % Study 3: 23.63 % Very Low Security Study 1: 33.01 % Study 2: 19.81% Study 3: 26.91 % Study 4: 9.60%	Students at 2-year colleges are more likely to experience FI and housing insecurity.	N/A	N/A	Data from the study conducted in 2009 has outlier data compared to the other studies, but this is stated in the discussion as well.

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PR Journal of the Academy of Nutrition and Dietetics	Bruening, M. PhD and colleagues, 2016	Bruening, M. PhD and colleagues, 2016. Factors Related to the High Rates of Food Insecurity among Diverse Urban College Freshmen	U.S.	Fall and spring of the 2014–2015 academic year; two time points	Arizona State University, two residence halls	N=209 mean age=18.8±0.5 years 62% female.	Cross-sectional Sampling: Convenience sample of college freshman living in a residence hall Methods: Chi-square and t-test, mixed effects logistic regressions	U.S. Household Food Security Survey Model (modified) and a validated two-item screening instrument (Pfeger, et al., 2010)	32% reported inconsistent access to food in the past month, 37% in the past three months.	Gender, age, race/ethnicity, meal plan, Pell Grant status, highest parental education, and current residence hall.	Food insecure freshman have higher odds of being depressed than their counterparts.	There is a link between FI and poor academic performance, but more research is needed on this area.	
PR Journal of the Academy of Nutrition and Dietetics	Bruening, M. PhD and colleagues, 2017	Bruening, M. PhD and colleagues, 2017. The Struggle is Real: A Systematic Review of Food Insecurity on Postsecondary Education Campuses	U.S.	Between January 2001 and August 2016	N/A	N/A	Systematic review; Seventeen peer-reviewed studies and 41 sources of gray literature were identified (out of 11,476 titles). Inclusion criteria: must have assessed FI among postsecondary student populations (including vocational, undergraduate, graduate, and professional students)	NA	Average rate of FI of 42.0% (range 12.5% to 84%). Average rate of FI was 32.9% (range 14.1% to 58.8%) for 9 peer-reviewed US studies. Average FI prevalence was 35.6% (range 12.4% to 56%) within the gray literature.	Students of color, younger students, students with children, and students who were financially independent were more likely to report FI. The most common demographic factors related to FI: independence among students (including living, financial, and food independence from parents).	FI was associated with lower overall self-reported health	Lower grade point average associated with FI	
PR Journal of Behavioral Nutrition and Physical Activity	Bruening, M. PhD and colleagues, 2018	Bruening, M. PhD and colleagues, 2018. Hungry to learn: the prevalence and effects of food insecurity on health behaviors and outcomes over time among a diverse sample of university freshmen	U.S.	Data collected between 2015 and 2016; analyses done in 2017	Arizona State University	n = 1138 65% female 49% non-white College freshmen	Secondary analysis of survey data and measured anthropometrics Sampling: Six residence halls on three campuses of a single metropolitan university during the fall and spring of the 2015–2016 academic year Methods: Pairwise chi-square tests, repeated measures logistic regression generalized estimating equations (GEE) models, structural equation path models (SEMs)	The USDA 6-item food security short form - modified	FI significantly higher at the end of each semester (35% and 36%, respectively) than at the start of the year (28%).	Pell grant status and current residence hall were significantly associated with FI.	FI increases the risk of experiencing stress and/or depression.	FI associated with poor academic performance due to inability to concentrate.	
Journal: Hunger & Environmental Nutrition	Davidson, AR & Morel JS, 2018	Davidson, AR & Morel JS, 2018. Food insecurity, prevalence, among university students in New Hampshire	U.S.	October 2015 - December 2015	State universities in New Hampshire	n=943 First-year students 63% Age 18 16.8% 19 19.7% 20 23.2% 21 19.7% 22 20.6% Gender Female 78.6% Male 20.6% Other 0.6% Race White 91.9% Asian or Pacific Islander 3.2% Other/choose not to answer 4.9% Degree Bachelor 85.4 Graduate 11.7 Associate 2.3 Non-degree/certificate 0.5	Cross-sectional Methods: Chi-square goodness-of-fit test.	USDA 6-Item Short-Form US Household Food Security Survey USDA Child Food Security Survey 11 specific questions related to food access on campus	17.7% of students reporting low food security; 7.5% reporting very low food security. 74.8% were classified as food secure; 9.6% classified as having marginal food security; 3.9% reported cutting the size of their meals or skipping meals because they had not had enough money for food in the last year; 11.6% were hungry but did not eat because there was not enough money for food within the last year.	First-generation and/or receiving financial aid put students at a higher risk for FI.	NA	No relationship found between GPA and FI.	I have some confusion with how the data was collected based on the various places and times the online survey was placed and done - what you have looks correct to me - CM
PR Journal of American College Health	Cuy Castellanos, D. and Holcomb, J., 2018	Food insecurity, financial priority, and nutrition literacy of university students at a mid-size private university	U.S.	Fall 2017	mid-sized Catholic university, US Midwest, USA	N=560 33.5% first year 16.5% second year 15.4% third year 24% fourth year 2.5% fifth year 8.2% graduate students	Sampling: Convenience sample of undergraduate and graduate students; Response rate: 560/10,900 total students = 5.14% Methods: Chi-square analysis; Multinomial logistic regression	USDA 6-question screener	35.8% FI 25.4% low FI 11.3% very low FI	NA	Students who highly prioritized alcohol spending had increased odds of classifying as food insecure. There was a significant correlation in food security and nutrition literacy. 80.8% of participants had adequate nutrition literacy with 17.0% having a possibility of having limited literacy and 2.1% a high likelihood of limited literacy)	NA	I decided only alcohol spending was important here because it fit under Physical and Mental Health: Students who highly prioritized tuition or alcohol had increased odds of classifying as food insecure where those who prioritized shopping for clothing had decreased odds. - I agree this is interesting - CM
PR Journal of Health Psychology	Darling, K. E. and colleagues, 2017, USA	Physical and mental health outcomes associated with poor food insecurity among young adults	U.S.	N/A	Northeastern Ohio university	N=98 mean age= 18.23, standard deviation (SD) = 0.74 years) Women: 75% 66% Caucasian 20% African American 10% more than one race 4% other	Methods: Tests Sampling: Convenience sample of first year college freshman living on campus with a meal plan	2 items from the USDA 18-item FI Module with follow-up questions to assess duration and time frame of FI	28% had at least one episode of prior food insecurity	NA	Young adults with a history of food insecurity had higher average levels of body mass index, waist-to-height ratio, depressive symptoms, stress, and disordered eating scores than individuals with no history of food insecurity. No differences were found with symptoms of anxiety.	NA	
PR Journal: Academic Advising Journal	Diamond, K. K. and Stebleton, M. J., 2018	Do You Understand What It Means to be Hungry? Food Insecurity on Campus and the Role of Higher Education Professionals	U.S.	N/A	U.S.	Selections from interview with four Mexican immigrant college students from a pool of 100 students at three large public universities in the Upper Midwest, Pacific Northwest, and Southwest regions of the U.S., includes at least one undocumented student	Qualitative Methods: Interviews conducted previously in a multi-institutional qualitative study on foreign-born immigrant students, focusing on their experiences as undergraduates.	NA	NA	NA	Students discuss difficulty of trying to do homework when she hasn't eaten for 72 hours.	Students discuss difficulty of accessing services, thankfulness that some specific services exist	
PR Journal of the Academy of Nutrition and Dietetics	Ei Zeh, A. and colleagues, 2017	Socio-demographic Correlates and Predictors of Food Insecurity among First Year College Students	U.S.	April-May 2015	8 universities U.S.	N=659 (this was a poster, only sample demographics provided in abstract was the N)	Sampling: students at the end of their first academic year Methods: multivariate logistic regressions	USDA Adult Food Security Survey	19% FI 11.9% low FI 6.9% very low FI 25.4% at-risk for FI	FI significantly associated with race, Pell Grant, parental education, place of residence, and GPA Compared to those who were food secure, FI students more frequently identified as: Black 22% vs. 10%, Hispanic/Latino 16.7% vs. 8.9% living off campus 24% vs. 13%, Pell grant recipients 58% vs. 35% having one or both parents not educated above H.S. 57% vs. 41%	NA	significant associations were found between FI and GPA Compared to those who were food secure, FI students more frequently identified as a GPA <3.0 (29% vs. 18%)	Same study - different abstract

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PR Journal Abstract - Journal of the Academy of Nutrition and Dietetics	Ellis, A. and colleagues, 2017	Food Insecurity among College Students Does Not Differ by Affiliation in Greek Life	U.S.	N/A	large public university	N=344 86.9% female mean age 19.0 yrs	Methods: Chi-square tests Sampling: undergraduate students	USDA 6-item short form	61.9% - sometimes or often true that "the food I bought just didn't last, and I didn't have money to get more." 60.2% - "I couldn't afford to eat balanced meals."	Chi-square tests revealed no differences in any measure of food insecurity between Greek members and non-members.	N/A	N/A	
PR Journal Advances in Nutrition	Elzein, Aseel and colleagues, 2017	The Prevalence of Food Insecurity and Its Association with Health and Academic Outcomes among College Freshmen	U.S.	April-May 2015	8 colleges in the U.S.	N=859 (only sample demographic provided)	Cross-sectional Sampling: freshman at end of academic year Methods: Independent-samples t tests, multivariate logistic regression	US Adult Food Security Survey National Cancer Institute's Dietary Screener Questionnaire	19% FI Among food-insecure participants, 36.8% reported very low food security Among food-secure participants, 31% reported marginal food security.	N/A	FI associated with higher odds of reporting disordered eating patterns (OR: 2.4, 95% CI: 1.2, 4.9), perceived stress (OR: 5.9, 95% CI: 1.7, 19.5), poor sleep quality (OR: 2.3).	FI associated with higher odds of a GPA of <3.0 (OR: 1.9, 95% CI: 1.1, 3.0).	Same study - different abstract - I agree - CM
PR Journal Nutrition and Dietetics	Farahbaksh, Jasmine and colleagues, 2017	Food insecure student clients of a university-based food bank have compromised health, dietary intake and academic quality	Canada	April 2013 - April 2014	University of Alberta, Canada	N=58 60.3% Female	Cross-sectional Sampling: Convenience sample of students receiving emergency food hampers from the Campus Food Bank Methods: Binary logistic regression models, t-tests, chi-square test, Fisher's exact test	Adult Food Security Survey Module (AFSSM) Health Canada scoring	69.8% FI 44.8% severely FI 44.8% moderately FI	N/A	Severe food insecurity associated with greater likelihood of fair/poor general health (odds ratio (OR) 4.03, 95% CI 1.10-14.78), fair/poor mental health (OR 4.96, 95% CI 1.28-19.19); relying on food hampers (0.46% vs 9.7%, $\chi^2 = 5.57, p = 0.018$); and consuming fewer daily fruits, vegetables and legumes (2.12 vs 2.97 cup equivalents, $p = 0.009$)	Severe food insecurity was significantly associated with difficulty concentrating in class or during an exam ($P=0.013$) and falling or withdrawing from a course ($P=0.048$) but not significantly associated with being unable to study for an exam ($P=0.472$), being unable to complete an assignment ($P=0.098$), or being unable to attend class ($P=0.110$).	
PR Journal Canadian Journal of Higher Education	Frank, L., 2018	"Hungry for an Education": Prevalence and Outcomes of Food Insecurity among Undergraduate University in Rural Nova Scotia	Canada	2015	university in rural Nova Scotia	N=1030 74.1% Female 95.8% undergraduate 29.6% 1st year 25.4% 2nd year 22.3% 3rd year 20.6% 4th year 3.1% 5+ years	Cross-sectional Sampling: Convenience sample Methods: Chi-square analysis logistic regression, qualitative analysis	Household Food Security Survey Module (HFSSM) from the Canadian Community Health Survey - modified Items adapted from survey created by Dr. Noreen Wilton's team at the University of Alberta, which measured the food security status, food insecurity coping strategies, and characteristics and experiences of clients of the campus food bank	38.1% FI 23.0% moderately FI 14.2% severely FI	49.9% living off-campus were moderately or severely FI 24.0% On-campus were FI 43.1% Currently working were FI Moderately FI: 23.7% full-time 29.6% part-time ($P=7.41$) Living arrangement: 15.5% residence (on-campus) 32.9% off campus alone 29.9% off campus with roommates 27.9% off campus with family of origin 28.7% off campus with spouse and/or child(ren) ($P<.001$) 26.0% currently working 22.7% not currently working Year of Study: 19.6% 1st year 25.0% 2nd year 25.2% 3rd year 25.3% 4th year 36.1% 5+ years Level of Study: 23.2% undergraduate 35.7% graduate 18.8% had meal plan	Poor overall health, poor mental health, high stress, and poor academic performance were significantly higher for food-insecure students. odds of self-reported fair or poor overall health status was 3.39 times higher (95% CI [2.09-5.50]) for moderately food insecure students, and 6.59 times higher (95% CI [3.73-11.63]) for severely food insecure students, independent of sociodemographic factors significantly higher odds of reporting fair/poor mental health status, and high levels of stress most days, for both moderately and severely food insecure students	Moderately food insecure students were more than twice as likely to report overall grades in the C, D, and F range than food-secure students, while severely food insecure students were over five times as likely to report poorer grades.	
Report	Goldrick-Rab, S., Richardson, J., Hernandez, A., 2017	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"	U.S.	Fall 2016	70 community college institutions across 24 states	n=33, 934 Female 72% White, non-Hispanic or Latino - 44% African American - 11% Hispanic - 25% Native American - 1% SE Asian - 2% Other Asian - 5% More than one race - 12% 18-20: 30% 21-25: 26% 26-30: 15% Over 30: 29% Have children - 28% Married or domestic partnership - 18% Year in college Less than 1 - 29% 1 to 2 - 39% More than 2 - 32%	Cross sectional Sampling: Survey sent to all enrolled students Response rate: 4.5% Methods: Descriptive statistics	USDA 6-item food security scale	Food Security (Last 30 days) High security (score = 0) - 33% Marginal security (score = 1) - 12% Low security (score = 2-4) - 23% Very low security (score = 5-6) - 33%	29% of former foster youth surveyed were homeless, a far higher rate than that of non-former foster youth attending community college (13%); Students with children were disproportionately likely to experience food and housing insecurity; 31 and 32% of community college students experiencing food and/or housing insecurity were both working and receiving financial aid; 63% of parenting community college students surveyed were food insecure and almost 14 percent were homeless but only about five percent received any child care assistance.	N/A	N/A	Housing insecurity (past 12 months) Any of the below items (51%) - Didn't pay full amount of rent or mortgage (21%) - Didn't pay full amount of utilities (28%) - Moved 2 or more times per year (14%) - Doubled up (17%) - Moved in with other people due to financial problems (18%) Homelessness (past 12 months) Any of the below items (14%) - Thrown out of home (8%) - Evicted from home (3%) - Stayed in a shelter (2%) - Stayed in an abandoned building, auto, or other place not meant as housing (4%) - Did not know where you were going to sleep, even for one night (8%) - Didn't have a home (2%) Characteristics of 70 Participating Community Colleges vs. National Averages West - 47% Midwest - 27% South - 18% Northeast - 9% City - 58% Suburb - 31% Town - 4% Rural - 7% Students Receiving Pell Grant - 37% Non-white Students - 57%
Journal Nutrients	Hagedorn, R. L., Olfert, M.D., 2018	Hagedorn, R. L., Olfert, M.D., 2018, "Food insecurity and behavioral characteristics for academic success in young adults attending an Appalachian University"	U.S.	Fall 2016	Large Appalachian University (rural area)	n=692 white (87.3%) single (94.3%) females (71.0%) average age 21.3 years \pm 4.0 standard deviation (SD)	Cross sectional Sampling: nonprobability sample Methods: Descriptive statistics, Pearson Chi-square analyses, Wilcoxon analysis, simple logistic regression, forward selection multivariate logistic regression	USDA AFSS USDA Household Food Security Module, scored using Guide to Measuring Household Food Security	36.6% were classified as food-insecure (16.6% low food security, 20.0% very low food security).	Highest prevalence among sophomores (46.0%) and junior (45.8%) year students. Students who lived off campus (36.9%); Lowest prevalence among graduate students (29.4%).	Higher prevalence of obese classification in the food-insecure population.	Average GPA of food-insecure students was 3.33 \pm 0.03 and average GPA of food secure students was 3.51 \pm 0.02 ($p < 0.0001$).	

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Poster Presentation	Halafre, K. and colleagues, 2017	Halafre, K. and colleagues, 2017. Financial Strain and Food Preparation Ability May Be Important Factors for Food Insecurity and Fruit and Vegetable Consumption among University Students	U.S.	N/A	large southern state university	n=89	Cross sectional Sampling: Undergraduate students Methods: descriptive statistics and Pearson correlations. Response rate: 4.45%	USDA's 10-question food security survey module National Cancer Institute's Multifactor Screener	46.1% food insecure; 24.7% very low food security.	Student loans (n=42, 47.2%) were positively associated with very low food security.	N/A	N/A	
Journal: Journal of Hunger & Environmental Nutrition	Hanbazaza, M. and colleagues, 2016	Hanbazaza, M. and colleagues, 2016. Filling a need: sociodemographic and educational characteristics among student clients of a university-based campus food bank	Canada	September 2010 to July 2013	University of Alberta	n = 568 Age (years) 27.9 Female 58.8% Male 41.2% Undergraduate student 66.1% Graduate student 33.9%	Cross sectional Sampling: registered food bank student clients Methods: z-tests	N/A	N/A	Graduate students were overrepresented among CFB clients compared to the general University of Alberta student population; Most CFB students living with children or living alone with children were female; The majority of CFB student clients at the University of Alberta were domestic students; CFB student clients were older (27.9 vs 23.9 years old; P < .05); more likely to be international students (33% vs 13.7%, P < .05); more likely to attend university full-time (95.7% vs 90.9%, P < .05); more likely to be enrolled in a graduate program (33.9% vs 19.3%, P < .05)	N/A	N/A	"The objective of this study was to characterize student clients of a campus-based food bank (CFB) and compare student clients with the greater population of university students... CFB student clients are distinct from the general student population and may be at increased risk of food insufficiency."
Journal: Canadian Journal of Dietetic Practice and Research	Hanbazaza, M. PhD and colleagues, 2017	Hanbazaza, M. PhD and colleagues, 2017. A comparison of characteristics and food security coping strategies between international and domestic postsecondary students using a food bank located on a university campus	Canada	April 2013 to April 2014	University of Alberta	n = 27 international; n = 31 domestic. International students were younger. (only demographic information provided)	Cross-sectional Sampling: convenience sample of students from campus food bank Methods: chi-squared, Fisher's exact test, and Mann-Whitney U test	10-item Adult Food Security Survey Module coded using the Health Canada method	Marginal (14.8%), moderate (37.0%), or severe (44.4%) household food insecurity was 96.2% for international students, Marginal (5.2%), moderate (51.6%), or severe (45.2%) household food insecurity was 100% for domestic students.	N/A	Compared with domestic students, international students were younger (27.4 ± 5.8 vs 32.2 ± 9.5, P = 0.03), more likely to be graduate students (73.1% vs 29%, $\chi^2 = 10.88$, P = 0.001), and less likely to report poor/fair mental health (14.8% vs 38.7%, $\chi^2 = 4.125$, P = 0.04) (as compared with excellent/very good/good mental health).	N/A	"When they did not have money for food, international students were less likely than their domestic peers to get food from friends or relatives as a strategy to address food insecurity." Table 2. Coping strategies used by international and domestic postsecondary student clients of the Campus Food Bank at the University of Alberta when they did not have money for food.
Research Showcase in Canadian Journal of Dietetic Practice and Research	Hattangadi, N. and colleagues, 2018	Hattangadi, N. and colleagues, 2018. Exploring the prevalence and association of food insecurity and psychological distress in university students	Canada	October 2017	University of Ontario Institute of Technology in Oshawa, Ontario	n=882 (only demographics provided)	Cross sectional Sampling: Undergraduate students (all years) in the Faculty of Health Sciences and Education Methods: Logistic regression	USDA 6-item food security scale	27% (95% CI: 24.1–29.9) over 12 month period prevalence of marginal to severe food insecurity.	N/A	Those with marginal food insecurity or moderate severe food insecurity were more likely to report psychological distress (i.e.: Depression, Anxiety, etc.)	N/A	It seems like this is something the authors elaborated on during the showcase presentation and this is a summary that was given to attendees - yes this is the abstract for the presentation - CM
Journal: Annals of Anthropological Practice	Henry, L., 2017	Henry, L., 2017. Understanding Food Insecurity Among College Students: Experience, motivation, and local solutions	U.S.	not available	University of North Texas (UNT)	n=27 Women (87%) Men (33%) 18-22 years (63%) 23-49 years (37%) Unmarried (96%) Married (4%) White (40.7%) African-American (33.3%) Hispanic (14.8%) Mixed (7.4%)	Methods: Semistructured interviews Sampling: Convenience sampling through campus-wide email, flyer distribution, and announcements posted in the university's assignment portal.	FI was described as constantly searching, worrying, and wondering about food. (no survey measures provided)	N/A	N/A	More Caucasian participants detailed accounts of severe depression, mood changes, and anxiety.	30% of students cited dropping grades due to hunger; about half experienced difficulty concentrating; 12 female participants (70%) reported poor concentration and were more likely to report lacking energy and dropping grades; None of the African-American respondents noted these kinds of severities due to lack of food and four indicated that food insecurity did not affect class participation or grades in any way.	One goal was to capture the perceptions of food security and insecurity on campus and hearing the voices of food secure students was necessary to compare their thoughts to food insecure students.
Journal of Public Affairs	Ileva, R. T.; Ahmed, T.; Yan, A.; 2018	Ileva, R. T.; Ahmed, T.; Yan, A., 2018. Hungry needs: Investigating the food insecurity of minority, community, college students	U.S.	Fall 2017 semester	Urban Community College Hispanic Serving Institution (HSI) in New York City	n=50 mean age 25.74 years (SD=7.03); 31 Female & 19 male Latino/a (54%) African-American (34%) African Caribbean-American (8%) Mixed ethnicities (8%) Asian(6%)	Mixed methods Methods: Reliability coding and value analysis on narratives, bivariate correlation analyses. Sampling: Subsample of a larger, ongoing study, recruited undergraduates from a Northeastern American public community college for this study in exchange for research credit in Psychology	USDA's 10-item Adult Food Security Survey Module - modified	74% very low food security and 26% low food security.	N/A	N/A	Significant positive relationship between the students' level of food insecurity and academic difficulties (r = 0.478, p < 0.01)	

Source (PR, Gray, Abstract, Report, Poster, etc.) or Journal	Author(s) or Institution, publication date	Title and link	Country	Data collection time frame	Setting	Sample demographic characteristics gender, age, race, year in school/level of study	Study design and analytical approach Cross-sectional or Panel; Sampling; Inclusion Criteria; Response Rate; Methods	FI measures, survey name, number of questions, modified yes/no	Prevalence of FI FI, moderately; severely	Sociodemographic characteristics and related factors	Physical and mental health	Academic	Notes
Journal of American College Health	Keogh, B., Kushinagar, P., Engelman, A., 2018	Peer support and food security in deaf college students	U.S.	May and October 2017.	Gallaudet University, private university in Washington D.C.	n=166 Food Secure: Male 45 (63%) Female 51 (60%) Nonbinary 3 (4%) Hispanic 15 (8%) Non-Hispanic White 46 (61%) Non-Hispanic Black/AA 23 (82%) Other Race 15 (60%) 1st year UG 19 (56%) 2nd year UG 23 (64%) 3rd year UG 21 (55%) 4th year UG 27 (61%) Graduate/special 9 (75%) Low or Very Low Food Security: Male 26 (37%) Female 34 (40%) Nonbinary 4 (57%) Hispanic 10 (40%) Non-Hispanic White 30 (39%) Non-Hispanic Black/AA 14 (38%) Other Race 10 (40%) 1st year UG 14 (42%) 2nd year UG 13 (38%) 3rd year UG 17 (45%) 4th year UG 17 (39%) Graduate/special 3 (25%)	Cross sectional Methods: Participants completed a bilingual online survey in American Sign Language (ASL) and English. Chi-square analyses, logistic regression analyses. Sampling: deaf college students at Gallaudet University	USDA 6-item food security scale.	39.3% food insecure; 12.9% had very low food security; about 26.4% were at risk for low food security	Food insecure students more frequently identified as nonbinary (57% vs. 43%). Those who were obese were more likely to report FI.	Significant relationship between confidence in taking care of one's own health and food security. Compared to those who reported always receiving peer support, people who never received peer support were 16.3 times more likely to experience food insecurity (adj OR: 16.325, 95% CI 1.824-146.107). Those who were obese were more likely to report food insecurity (55%) compared to being food secure (45%). About 46% of respondents self-rated their health status as "very good" or "excellent," with a majority within this group identifying as food secure.	N/A	
PR: Children and Youth Services Review	Kinanky, Alana R, 2017	Fostering success: Understanding the experience of foster youth undergraduates	U.S.	Fall 2015	selective public university in California	N = 59 41% female Age 19 to 40, with a mean age of 22.87 (SD = 4.9) 32.5% white/caucasian 31.1% Mexican American/Chicano 27.9% African American/Black 24.8% Multiracial 11.5% East Asian 11.5% Other Latino 4.9% Other Asian 3.3% Southwest Asian 1.8% Puerto Rican 1.8% Filipino 19.3% First year 15.8% Second year 29.8% Third year 35.1% Fourth year	Cross-sectional Response rate: 75.9% Sampling: Former foster youth currently enrolled at a public university and involved in a specified campus support program	Single question from the USDA's Food Insecurity Measure	47.5% Cut or skipped meal 28.6% Almost every month 50% Some but not every month 21.4% Only 1 or 2 months	N/A	N/A	N/A	only 15 of the 28 students indicating food related support on campus, suggesting that not all students felt comfortable or knew about the resources available on campus.
PR: Journal of Nutrition Education & Behavior	Knol, L. L., and colleagues, 2018	Very Low Food Security Status is Related to Lower Cooking Self-Efficacy and Less Frequent Food Preparation Behaviors Among College Students	U.S.	February and April 2016	University of Alabama	N=368 70.4% female 20.5 +/- 1.4 years of age Race/Ethnicity: 83.4% Non-white hispanic 7.1% non-hispanic black 9.5% hispanic Class standing: 35.1% sophomore 33.4% junior 31.5% senior 46.2% employed	Cross-sectional Methods: Descriptive statistics, multiple regression analysis Inclusion criteria: undergraduate students living off campus who were 19 years of age or older	Adult Food Security Survey Module (AFSSM), 10-item validated questionnaire	38.3% low or very low FI 24.7% marginal FI	Demographic characteristics (gender, class standing and race/ethnicity) were not associated with food security status.	Very low food secure students had significantly lower cooking self-efficacy scores and food preparation scores than food secure students (P = .001) Cooking self-efficacy scores differed only by food security status (F = 3.31, P = .02); cooking self-efficacy scores continued to differ significantly by food security status (P = .008), after adjusting for covariates. Those who were food secure had significantly higher cooking self-efficacy than participants who had low (P = .02) and very low food security status (P = .001).	N/A	In univariate analysis, food preparation scores differed significantly by gender (t = 4.1, P < .001), food security status (F = 5.21, P = .002), and financial aid debt (F = 4.54, P = .011). After adjusting for covariates, food preparation scores differed significantly by gender (P < .001), food security status (P = .009), and financial aid debt (P = .03). Very low food secure participants reported engaging in food preparation behaviors significantly less often than their food secure (P = .001), marginally food secure (P = .005), and low food secure counterparts (P = .03).
PR: American Journal of Health Education	Knol, L. L. and colleagues, 2017	Food Insecurity, Self-rated Health, and Obesity among College Students	U.S.	February and April 2016	University of Alabama	N = 351 72.4% female Race/ethnicity: 7.4% non-hispanic/black 84.8% non-hispanic/white 8.0% hispanic and other races Class standing: 34.5% sophomore 34.2% junior 31.3% senior	Cross-sectional Methods: logistic regression, chi-square analysis Inclusion criteria: undergraduate students living off campus who were 19 years of age or older	Adult Food Security Survey Module (AFSSM), 10-item validated questionnaire Guide to Measuring Household Food Security	22.2% very low FI 15.4% low FI 25.1% marginal FI	N/A	Food insecurity was not associated with obesity. Food insecure students had significantly higher rates of fair/poor health when compared to their food secure (odds ratio [OR] = 2.1, 95% confidence interval [CI], 1.1, 4.3); food insecurity was not associated with overweight/obesity (odds ratio [OR] = 1.0, 95% confidence interval [CI], 0.6, 1.7). fair/poor self-rated health status was associated with weight status (χ ² = 23.24, P < .001), food security status (χ ² = 8.59, P < .003), and family financial support (χ ² = 5.38, P = .02); food insecure students were more likely to report fair/poor health than food secure students (OR = 2.2, 95% CI, 1.1, 4.3).	N/A	
PR: Journal of the Academy of Nutrition & Dietetics - Poster	Lahnar, M., 2016	Prevalence of Food Insecurity and Associated Health Behaviors among College Freshmen	U.S.	N/A	9 universities	N=1035 age: 18.2+0.7 years 72.2% white	Cross-sectional Methods: measured anthropometrics, independent-samples t-test Sampling: Incoming students from eight US universities	USDA Food Security Module	25.7% FI	N/A	FS participants had lower BMIs [(392.2)-2.88, p<.004], lower stress levels [(1033)5.93, p<.001], and better quality sleep [(1033) 5.76, p<.001]; FS participants reported lower levels of fruit and vegetable intake [(340.7) 2.63, p<.009]. (note: the NCI screener includes fried potatoes and tomato sauce as part of vegetable intake, both of which are associated with a poorer quality diet)	N/A	NCI Fruit and Vegetable Screener, Pittsburgh Sleep Quality Index, and Cohen's Perceived Stress Scale
PR: Journal of Hunger and Environmental Nutrition	Lee, S., 2018	Exploring the Experience of Food Insecurity among University Students Caring for Children: A Qualitative Descriptive Study	Canada	September 2013 to April 2014	University of Alberta	N = 9 5 male 9 full-time 5 undergraduate	Methods: Qualitative descriptive study, content analysis Inclusion criteria: must have had at least one child (<18 years old) in their care, been verified as food insecure	10-item Adults Food Security Survey Module	all	N/A	Students tried to shield their children from the negative effects of food insecurity by sacrificing their own nutrition in times of food shortage. Food insecure postsecondary students with children may therefore be at risk for compromised dietary intake and other negative health and academic consequences by limiting their own diet in order to ensure their children's nutritional needs are met. The majority of participants (n = 5) felt that the nutritional quality of their diet had decreased since beginning university or having children	N/A	Observations from interviews fall into the following categories: - Parents Protect Their Children from Food Insecurity - Impact of Food Insecurity on Children's Perceived Wellbeing - Experience with Food in the Hamper (re: children) - Changes in Perceived Nutritional Quality of the Diet - Coping Strategies

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PR, British Food Journal	Lee, S. D., 2018	Food insecurity among postsecondary students in developed countries	USA, Australia, Canada, Poland	January 2000 to November 2017	reviewed studies from USA, Australia, Canada, and Poland	37 quantitative studies, 3 mixed-methods, 3 qualitative studies; 80,814 students total; USA (n=30 studies), Australia (n=4), Canada (n=6) and Poland (n=1)	Methods: Narrative Review, used the Quality Assessment Tool for Quantitative Studies Inclusion criteria: English articles published between January 2000 and November 2017 were identified using electronic databases	varied	Precise estimate of the prevalence of food insecurity in postsecondary students is unknown; FI ranged 9-89%	Risk factors for food insecurity included being low income, living away from home or being an ethnic minority.	Negative consequences of food insecurity were reported, including reduced academic performance and poor diet quality.	Negative consequences of food insecurity were reported, including reduced academic performance and poor diet quality.	
Journal: <i>Hunger & Environmental Nutrition</i>	Martinez, S. M. & colleagues, 2017	Martinez, S. M., & colleagues, 2017. Food insecurity in California's public university system: What are the risk factors?	U.S.	Spring 2015	University of California 10 campuses	n=8705 Female (67%) Male (33%) Non-Hispanic White (34%) Non-Hispanic Black (2%) Hispanic (21%) Asian (31%) Mixed race or other (11%) Undergraduate (66%) Graduate (34%)	Cross-sectional Sampling: Random sampling at 10 campuses Response rate: 18% Methods: Chi-square tests and independent t-tests, linear regression analysis, complex sample logistic regression	USDA 6-item short form food security module	40% (42% when weighted)	Age 17-34, students of color, students with a childhood history of food insecurity, students receiving need-based financial aid, fifth year students, and students living off campus are at higher risk.	N/A	N/A	
Journal: <i>Journal of Health Psychology</i>	Martinez, S. M. & colleagues, 2018	Martinez, S. M., & colleagues, 2018. No food for thought: Food insecurity is related to poor mental health and lower academic performance among students in California's public university system	U.S.	Spring 2015	University of California 10 campuses	n=8705 Female (67%) Male (33%) Non-Hispanic White (34%) Non-Hispanic Black (2%) Hispanic (21%) Asian (31%) Mixed race or other (11%) Undergraduate (66%) Graduate (34%)	Cross-sectional Sampling: Random sampling at 10 campuses Response rate: 18% Methods: Structural equation modelling; Confirmatory factor analysis (CFA)	USDA 6-item short form food security module	40% (42% when weighted)	Age 17-34, students of color, students with a childhood history of food insecurity, students receiving need-based financial aid, fifth year students, and students living off campus are at higher risk.	Mental health assessed using nine items from the National College Health Assessment II survey. Students experiencing FI had significantly higher proportions of poor mental health indicators (22-83%) compared to students experiencing food security.	A significantly higher proportion of students experiencing food insecurity had a C average (19%) compared to students experiencing food security (9%).	
Journal: <i>Canadian Journal of Higher Education</i>	Maynard, M. & colleagues, 2018	Maynard, M., & colleagues, 2018. Experiences of Food Insecurity among Undergraduate Students: "You Can't Starve Yourself through School"	Canada	November 2015 to May 2016	University of Waterloo (Ontario)	n=14 Female = 8, Male = 6. Age: 19-25. Year: Sophomore to Senior	Mixed-methods Sampling: Convenience sampling with flyers on campus Methods: Qualitative, Descriptive statistics	10 adult-referenced items from the Household Food Security Survey Module (HFSSM)	1 = marginal food security over the past 12 months, 6 = moderate food insecurity, and 4 = lived in households characterized by severe food insecurity, 3 = did not complete the HFSSM items.	N/A	N/A	N/A	
Journal: <i>Journal of Nutrition Education and Behavior</i>	McArthur, L. H. & colleagues, 2018	McArthur, L. H., & colleagues, 2018. A High Prevalence of Food Insecurity Among University Students in Appalachia Reflects a Need for Educational Interventions and Policy Advocacy	U.S.	November 2015 - March 2016	University in Appalachia, NC	n=1093 Male (30.1%) Female (69.4%) Other (1.5%) White, non-Hispanic (91.7%) Hispanic (0.6%) Asian (1.6%) African American (1.3%) American Indian (0.6%) Other (1.2%) Not married (95.2%) Married (4.8%) Sophomore (29.9%) Junior (25.6%) Senior (29.2%) Graduate (14.1%) Other (1.2%)	Cross-sectional Sampling: Random sample using online questionnaire. Methods: Descriptive statistics, Correlational, chi-square, and regression.	10-item USDA Adult Food Security Survey (AFSS)	Low food security (21.9%); Very low food security (24.3%)	Greater food insecurity was associated with higher MES (money expenditures scale), higher CSS (coping strategy scale), and lower GPA. The significant Gender, car ownership, financial aid, and cooking for self or others significantly associated with FI. Greater food insecurity was seen in males, those who did not own a car, those who received financial aid, those who rated themselves in fair or poor health, and those who never cooked for themselves or others.	Self-rated health status significantly associated with FI	4-item academic progress scale (APS) FI significantly associated with lower GPA; FI significantly associated with 1 point lower APS score; Significantly lower proportion of FI students rated their overall progress in school as excellent or good; Significantly lower proportion of FI students chose the excellent or good responses when rating class attendance, attention span in class and understanding of concepts taught in class; Higher APS scores also showed a small but significant negative correlation with scores on the AFSS, which indicated that food-secure students perceived their progress in school more favorably than did their food-insecure peers.	
Journal: <i>Journal of Community Health</i>	McArthur, L. H. & colleagues, 2018	McArthur, L. H., & colleagues, 2018. Freshmen at University in Appalachia Experience a Higher Rate of Campus than Family Food Insecurity	U.S.	Spring 2017	University in Appalachia, NC	n=456 Male (25.9%) Female (72.7%) Other (1.32%) Age 18-25 (99.3%) 26-30 (0.22%) 31-40 (0.44%) White (82.5%) African American (5.68%) Hispanic (5.47%) Asian (3.58%) American Indian (1.47%) Other (1.26%)	Cross-sectional Sampling: Computer-generated randomized sample of all freshmen (n=2744) enrolled during 2017 spring semester Methods: T-tests and Chi square analyses.	10-item USDA AFSSM	21.5% were food insecure at some point during their first year of college	The freshmen in this study experienced food insecurity at a rate that was three times higher on campus compared to when they lived at home.	Significantly greater proportion of food secure students regarded their eating habits as "healthy" or "very healthy"; Significantly greater proportion of food secure students perceived their health status as "good" or "excellent", compared to food insecure students	Significant difference in mean scores on the Academic Progress Scale earned by the food insecure students and food secure students	
Journal: <i>Journal of the Academy of Nutrition and Dietetics</i>	Meza, A. & colleagues, 2018	Meza, A., & colleagues, 2018. It's a Feeling That One is Not Worth Food: A Qualitative Study Exploring the Psychosocial Experience and Academic Consequences of Food Insecurity Among College Students	U.S.	January to May of 2017	Large public university in California	n=25 Male (36%) Female (64%) Race/ethnicity White (8%) Asian (48%) Latino (44%) Mean age, 22.9 years	Cross-sectional Sampling: Convenience sampling at campus food pantry. Methods: Qualitative coding for categories of themes.	USDA 10-item Adult Food Security Module	12% high or marginal food security, 28% low food security, 60% very low food security.	N/A	Themes in interviews relating to: 1) the stress of food insecurity interfering with daily life, 2) fear of disappointing their family, 3) jealousy or resentment of students in more stable food and financial situations, 4) inability to develop meaningful social relationships, 5) sadness from reflecting on food insecurity, 6) feeling hopeless or undeserving of help, and 7) frustration and anger directed toward the academic institution for not providing enough resources to support students.	Themes in interview included participants describing how food insecurity presented a significant challenge to their academic success because of the physical manifestations of food insecurity and the mental trade-off between focusing on food and focusing on academic; Many students discussed feeling tired and lacking energy to perform well in school	

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PR- Journal of Social Work Education	Mies, R., 2017	Prevalence and Predictors of Social Work Student Food Insecurity	U.S.	April 2013	public university in the Pacific northwest	N=496 86% female 20% person of color 12% Hispanic 48% MSW 18% MSW distance or off-campus students 14% BSW students 15% child and family studies (CFS) undergraduate program 4% doctoral students 47% 25-34 yrs old 33% at least one child under 18	Cross-Sectional Sampling: Convenience sample of students enrolled in school of social work, grocery gift certificate raffle incentive Response rate: 55% Methods: Basic univariate descriptive analyses, various bivariate statistical tests	USDA measurement of food insecurity -modified	43% FI (Table 1 breaks down prevalence by question)	FI students were significantly more likely to be female than male. FI students significantly more likely to be a person of color. FI students significantly more likely to be Hispanic. FI students significantly more likely to be a first-generation college student. Students in the BSW program were significantly more likely to be food-insecure than students in other programs. Students identified as food-insecure were also significantly less likely than non-food-insecure students to be enrolled full-time, although this difference was substantively negligible.	FI students significantly more likely to be able to afford to see a doctor. FI students significantly more likely to have stayed in an unhealthy living situation. Students who experienced food insecurity in the past 12 months were significantly more likely to have used a food bank and SNAP benefits, as compared with non-food-insecure students.	N/A	Not sure which category to place this in: FI students were more likely than food-secure students to have enrolled their children in the free and reduced school lunch program (2.3 vs. 1.0, respectively; F(1, 103) = 7.9, p < .01).	
PR- Journal of American Health	Mirabitor, E., 2016	Predictors of College Student Food Security and Fruit and Vegetable Intake Differ by Housing Type	U.S.	winter academic term 2012 and 2013	large Midwestern, public university	N=514 72.2% Female (52.7% weighted) Race Ethnicity 65.6% White (74.5%) 18.7% Asian (13.5%) 15.8% Underrepresented minorities (12.1%) Degree 60.3% Undergraduate (69.1%) 20.8% Master's (14.8%) 18.9% PhD/graduate professional (16.1%)	Sampling: Anonymous surveys emailed to random sample of 5,000 students, at least 18 years old Methods: Ordered logistic regression, Rao-Scott-adjusted chi-square tests, multivariable linear regression	USDA 6-item Food Security Survey Module	47.9% high FI (unweighted) 13.6% marginal FI (unweighted) 24.5% low FI (unweighted) 14.0% very low FI (unweighted)	Students in housing without food provision, underrepresented minorities were 2.73 times more likely to have lower food security than were white students (95% CI: 1.56, 4.73; p < .001), and students without car access were 2.24 times more likely to have lower food security than were students with car access (95% CI: 1.09, 4.59; p = .03). The odds ratio corresponding to PhD/graduate-professional students' risk of lower food security was 0.32 (95% CI: 0.18, 0.56; p < .001), which means that undergraduate students were 3.13 times more likely to have lower food security. These associations were not significant among students living in housing with food provision. Among those in housing without food provision, students with marginal food security ate 1.09 daily servings fewer fruits and vegetables (95% CI: -1.72, -0.46; p = .001) than students with high food security did, and students with low food security ate 0.74 daily servings fewer (95% CI: -1.44, -0.03; p = .04) than students with high food security did.	Students with high food security ate, on average, 4.9 daily servings, whereas those with marginal food security consumed the least, 4.0 daily servings (p = .01). Although students without car access and students with marginal food security had lower mean daily FV servings among those in housing without food provision (p less than or equal to .05), these significant associations were not observed among those in housing with food provision.	N/A		
PR- Journal of Nutrition Education & Behavior	Morris, L. M., 2016	The Prevalence of Food Security and Insecurity Among Illinois University Students	U.S.	April and May 2013	4 public Illinois universities: Eastern Illinois University, Northern Illinois University, Southern Illinois University, and Western Illinois University	N=1882 66.6% female Race 9.6% African American 4.9% Hispanic 77.4% White/Caucasian 8.1% American Indian, Asian/Pacific Islander, other Academic Level 14.3% Freshman 15.9% Sophomore 28.2% Junior 41.6% Senior	Cross-sectional Methods: Frequencies and chi-square tests. Inclusion criteria (1) enrollment in the undergraduate programs at any of the 4 state institutions. (2) access to university e-mail system. (3) the ability to read and respond in English. (4) being age 18 years or older. Response rate: 3.87% Study updated analysis in 2016 response: odds ratio analysis and chi-square testing of dichotomous variables	USDA 10-item Adult Food Security Survey Module - modified	35% low or very low FI 23.1% Marginal FI 16.6% Low FI 18.4% Very Low FI	There was a significant association between food security status and race, GPA, living situation, and student loan use. Updated results from 2016 response: 1.7 times higher odds of FI if you were African American (45% vs 34%) 2.4 times higher odds of FI with a low GPA (56% vs 35%) 2 times higher odds of FI if you have to repay loans (40% vs 25%) 1.8 times higher odds if you live off campus without parents (40% vs 25%)	N/A	GPA was significantly associated with food security status.		
PR- Journal of Hunger and Environmental Nutrition	Nazmi, A., 2016	A systematic review of food insecurity among US students in higher education	U.S.	-	-	N=52085	Methods: Systematic Review Inclusion criteria: included analyses that collected primary data on food security prevalence, utilized random or representative sampling strategies, and utilized any of the three standardized, validated USDA food security assessment tools. A total of eight studies met inclusion criteria In supplemental analyses, we expanded inclusion criteria to studies utilizing any sampling strategies and any food security assessment tools for studies conducted in the US.	-	Unweighted mean food insecurity prevalence among this sample was 43.5% (SD = 12.4).	-	-	-	Reviews studies we already include in this document or in the original literature review. The Master's Thesis is the only new document. Should it be included? New: 2016 Bedore California State University Chico suburban setting, approx. 18k students (May-June 2016) - MASTERS THESIS IN FIRST REVIEW 2016 Maguire California State University Humboldt, small town rural, approx. 5k students (Nov 2015) IN FIRST REVIEW - 2009 Chapano University of Hawaii Manoa, flagship campus of UH system, urban public research university, approx. 20k students (Oct-Nov 2006) 2015 Goldrick-Rab 10 community colleges in 7 states (LA, PA, NY, CA, NJ, WI, WY), mostly small town, approx. 3-20k students/campus (Winter-Spring 2015) IN FIRST REVIEW 2014 Patton-Logg	
PR- Journal of Hunger and Environmental Nutrition	Olausson, C., 2018	Student food insecurity: Examining barriers to higher education at the University of Saskatchewan	Canada	3 weeks	University of Saskatchewan	N=1359 response rate of 30.2% N=1282 66% Female 34% Male 0.23% Other (3 people) 8% One or more children 84% Undergraduate 16% Graduate	Cross-sectional Sampling: random sample Response rate: 30.2%	USDA 10-item Adult Food Security Survey Module PROOF Food Insecurity Policy Research criteria	39.5% some FI 11% marginal FI 21.1% moderate FI 7.5% severe FI	International student status, First Nations student, newcomers to Canada, living arrangements, being a parent, and primary source of income were significantly associated with FI.	Significance testing not available: Students who experienced food insecurity self-reported that their mental and physical health had suffered as a result of food insecurity (25% and 23%, respectively).	Students who experienced food insecurity self-reported that their academic standing had suffered (21%). Twenty-nine percent of food insecure students reported that they had to drop a course within the last 12 months as a result of food insecurity.	Calculated percentages from numbers in Table 1 for sociodemographic characteristics.	

Source (PR, Gray, Abstract, Report, Poster, etc.) or Journal	Author(s) or Institution, publication date	Title and link	Country	Data collection time frame	Setting	Sample demographic characteristics gender, age, race, year in school/level of study	Study design and analytical approach Cross-sectional or Panel; Sampling; Inclusion Criteria; Response Rate; Methods	FI measures, survey name, number of questions, modified yes/no	Prevalence of FI FI, moderately, severely	Sociodemographic characteristics and related factors	Physical and mental health	Academic	Notes
PR: Health Behavior and Policy Review	Paola, J.	Employment Evaluation Research to Inform Campus Food Pantry Policy	U.S.	2016-2017 academic year	University of South Florida	N = 221 Sex Female (66.5%) Male (33.5%) Ethnicity White 57 (32.4) Hispanic 49 (27.8%) Black 30 (17.0%) Non-Resident Alien 23 (13.1%) Other 17 (9.7%) Institutional Level Freshman 6 (3.4%) Sophomore 31 (17.6%) Junior 44 (25.0%) Senior 72 (40.9%) Graduate 19 (10.8%) Undersclassified 4 (2.3%)	Sampling: University students who frequented the food pantry Methods: Descriptive statistics, chi-squared tests, t-tests, and correlations Response Rate: 10%	US Department of Agriculture Household Food Security Survey, 6-Item short form	FI: 88.2% with hunger, and 11.8% without hunger	Low vegetable consumption was significantly associated with FI with hunger			
PR: American Journal of Health Promotion	Payne-Sturges D. C., 2018	Student Hunger in Campus Food Insecurity Among College Students and Implications for Academic Institutions	U.S.	Fall 2015	Large, public mid-Atlantic university	N=237 19% Male Age, years = 20.69 (4.30) Race/ethnicity 1% American Indian/Alaska Native 20% Black or African American 49% White 22% Asian/Native Hawaiian/Pacific Islander 6% Hispanic (of any race) 2% Other	Cross-sectional Methods: Multivariate logistic regression analysis, bivariate comparisons Response rate: 62%	18-item USDA Household Food Security Survey Module	15% FI 16% at risk for FI Among the food insecure, a subset of 15 (43%) students had indications of very low food security or food insecurity with hunger.	Students who were African American, other race/ethnicity, receiving multiple forms of financial aid, or experiencing housing problems were significantly more likely to be food insecure or at the risk of food insecurity. Food secure students were significantly less likely to report depression symptoms than at-risk or food insecure students.	Food insecure and at-risk students were significantly more likely to report their overall health as fair, poor, or very poor and reported lower energy levels compared with food secure students. Food insecure students reported significantly more frequent depression symptoms (little interest, feeling down, feeling tired, poor appetite, and feeling bad about oneself). Significance testing not available: Food insecure students were more likely to report inability to eat balanced meals (80%), eating less (69%), and being hungry (69%) because there wasn't enough money for food during the past year.	There was no statistically significant difference in self-reported GPA by food security status.	
Journal of American College Health	Poll, K. L. and colleagues, 2018	Poll, K. L. and colleagues, 2018. Food insecurity is associated with disrupted eating behaviors in NCAA Division I male collegiate athletes	USA	August and September 2016	University of Mississippi	n=111 Football (55.9%) Cross country and track (15.3%) Baseball (18.0%) Golf (3.6%) Basketball (7.2%) Race White (56.8%) Black or African American (34.2%) Hispanic or Latino (0.9%) American Indian or Native Alaskan (1.8%) Hawaiian or Pacific Islander (0.9%) Other/more than race (5.4%)	Cross-sectional Sampling: Collegiate athletes Methods: Kendall's Tau-B correlation analyses	US Adult Food Security Survey Model	High food security [food secure] 89 (80.2%) Marginal food security [food secure] 10 (9.0%) Low food security [food insecure] 3 (2.7%) Very low food security [food insecure] 8 (7.2%)	High school household food insecurity was significantly associated with collegiate preoccupation with food. Collegiate household food insecurity was associated with both collegiate preoccupation with food and keeping/hiding food in the collegiate athletes locker.	N/A	N/A	
Journal: Public Health Nutrition	Raskind, I. G. and colleagues, 2016	Raskind, I. G. and colleagues, 2016. Food insecurity, psychosocial health and academic performance among college and university students in Georgia, USA	USA	Every 4 months between fall 2014 and summer 2016 Baseline survey in October/November 2014 Waves 2 in February/March 2015 Wave 3 June/July 2015 Wave 4 October/November 2015	7 colleges and universities in Georgia	n=2377 Female (64.24%) Male (35.76%) Black/African American (20.36%) White (61.88%) Asian (6.69%) Hispanic (7.74%) Other (0.32%) Children ≥1 (21%) 0 (79%)	Longitudinal cohort study. Methods: Structural equation model (SEM), adjusted linear regression models, chi-square test statistics	USDA 6-item short form food security module	29% Prevalence of low and very low food insecurity varied by college/university type: 23% of private college/university students, 33% of HBCU students, 34% of public university students and 37% of technical college students	Significantly higher risk of being food insecure if: Working full-time, living off-campus, receiving SNAP benefits, lower monthly discretionary budgets, reported at least one ACE	FI significantly associated with increase in depression score, increase in anxiety score and decrease in hope score.	FI significantly associated with decrease in GPA.	
Journal: Canadian Journal of Dietetic Practice and Research	Reynolds, E. and colleagues, 2016	Reynolds, E. and colleagues, 2016. Prevalence and correlates of food insecurity among students attending a small, rural, Canadian university	Canada	December 2011 until February 2012	Small, rural, Canadian university	n=218 Female (77%) Male (23%) Freshman or sophomore (52%) Junior, senior, or other (48%)	Cross-sectional Response rate: 15.6% response rate. Methods: Chi-squared or Fisher's exact test	Health Canada's 10-item household food security survey module (HFSSM)	FI 37.2% Moderate FI 25.7% Severe FI 11.5%	Significantly more likely FI students living off-campus, students in higher years of study, and those without a meal plan.	N/A	N/A	
Journal of College Student Retention: Research, Theory, & Practice	Silva, M. R. and colleagues, 2017	Silva, M. R. and colleagues, 2017. The Relationship Between Food Security, Housing Stability, and School Performance Among College Students in an Urban University	USA	Spring and Fall 2014	University of Massachusetts Boston	n=390 Male (39%) Female (60%) African American (13%) White (43%) Hispanic (9%) Asian (26%) Two or more races/Other (9%) Undergraduate (87%) Graduate/Certificate (13%)	Cross sectional study Methods: Descriptive analyses.	(Answer often, sometimes, or never) Worried about having enough money for food Had to skip a meal Unable to eat balanced meals Did not eat for more than 1-2 days	6.4% severe FI. About a quarter experienced some form of FI.		N/A	FI was significantly associated with ability to attend class and perform in class.	

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Journal: California Journal of Health Promotion	Simon, A and colleagues, 2016	Simon, A and colleagues, 2016. Factors associated with food insecurity and food assistance program participation among university students	USA	Spring 2015	University students in Northern California	n=116 Female (56.6%) Male (41.4%) Non-Hispanic white (60.3%) Hispanic (14.7%) Asian (6.0%) African American (4.3%) Other (1.7%) More than one (12.9%) Freshman (2.6%) Sophomore (34.5%) Junior (35.3%) Senior (18.1%) 5th Year (8.6%) Graduate (0.9%) Age :18-25 (93.1%) 26-29 (3.4%) 30 and over (1.8%) Unreported (1.7%)	Cross-sectional Sampling: Convenience sampling. Methods: Spearman's rho correlation; chi-square analysis; multiple linear regression	USDA 6-item short form food security module	43.1% total. (56.9%) high/marginal food security. (29.3%) low food security. (13.8%) very low food security.	N/A	N/A	FI was significantly associated with self-reported cumulative gpa.	
Journal: Preventive Medicine Reports	Soldavini, J. and colleagues, 2019	Soldavini, J. and colleagues, 2019. Rates of and characteristics associated with food insecurity differ among undergraduate and graduate students at a large public university in the Southeast, United States	USA	October & November 2016	Public flagship university in the Southeastern US	n = 4819 Undergraduate 59.8% Graduate 40.2% see table 2 for demographics by food security status.	Cross-sectional Methods: Multinomial logistic regression.	10-item US Adult Food Security Survey Module	High FI: 56.2% Marginal FI: 21.6% FI: 22.2%	Characteristics significantly associated with food security status for undergraduates: gender, year in school, receipt of financial aid, cooking frequency, perceived cooking skills, having a meal plan. Graduate students' characteristics: age, marital status, having dependent children, enrollment status, BMI. Characteristics across both groups: race/ethnicity, perceived health, international student, employment status.	N/A	N/A	
Report: The Community College Assessment of Equity Assessment Lab	Wood, J. L. and colleagues, 2017	Wood, J. L. and colleagues, 2017. Striving to Succeed: Food and Housing Insecurities in the Community College	USA	N/A	California Community College campuses	n=3647 31% White 6.3% Asian 2.3% Southeast Asian 3.5% Filipino 13.8% African American 37.9% Latino 5.7% Multirethnic	Cross-sectional Methods: Descriptive statistics, t-tests, and analysis of variance procedures.	The Community College Success Measure (CCSM)	Food insecure 12.2%. Men were more likely to report this challenge (at 15.4%) in comparison to women (at 8.7%).	Significance testing not available: African American and Southeast Asian students were the most likely to be affected by food and housing insecurities, particularly men from these populations. Students with food insecurity are significantly less likely to perceive a sense of belonging from faculty, to feel welcome to engage inside and outside of the classroom, to report having access to student services, and to see campus services as being effective in helping them address their needs.	N/A	Significance testing not available: Students with food insecurity are more likely to indicate their intention to drop out of college than those without food insecurity. Students with food insecurity are significantly less likely to feel confident in their academic abilities, to perceive college as being worthwhile, to feel a sense of control in academic matters, to be focused in school, and to be authentically interested in class.	This report did not include any tables with p-values so I do not know if many of the differences are significant