

GOAL

Improve the food and housing security of students at the University of New Mexico through the combined activities of research, data collection, and advocacy.

Basic Needs Insecurity at UNM 2020 Research Report

REVISED

UNM Basics Needs Project



Report prepared by Sarita Cargas, Marygold Walsh-Dilley, Heather Mechler, Kathryn Coakley, Shoshana Adler Jaffe and Ann Murphy

This research was made possible by funding primarily from the Office of the Provost and Office of the Chancellor at the University of New Mexico (UNM). Other contributors include the UNM Honors College, Student Services, and Office of Student Affairs. IRB Approval #22619.

This research was partially supported by UNM Comprehensive Cancer Center Support Grant NCI P30CA118100 and the Behavioral Measurement and Population Sciences shared resource.

The UNM Basic Needs Study Team consists of two sub-teams.

Principal Investigator (PI), Sarita Cargas, D.Phil

Research Team

Co-PI: Marygold Walsh Dilley, PhD
Heather Mechler, PhD
Kathryn Coakley, PhD, RDN
Shoshana Adler Jaffe, MPH

Solutions Team

Co-PI Ann Murphy, PhD
Amy Neel, PhD
Karen Patterson, PhD
Kristina Yu, AIA, NCARB, DBIA
Ryan Gregg, BA
Rene Koehler, BA
Shannon Roberson Wildenstein, MA

Contact Us: basicneeds@unm.edu

Table of Contents

Executive Summary.....	4
Introduction	5
Food Insecurity	5
Housing Insecurity.....	8
The Interaction Between Housing and Food Insecurity	9
Methods.....	11
Research site	11
Data Collection.....	12
Survey Structure	12
Results	12
Survey Sample	12
Food Insecurity Results.....	14
Student Status.....	15
Race/Ethnicity.....	15
Gender	17
Sexual Orientation.....	18
Employment Status	19
Dependents.....	20
Impact of Food Security on Academic Performance.....	21
Housing Insecurity Results	22
Current UNM Status.....	25
Race/ethnicity	26
Gender	27
Sexual Orientation.....	28
Employment Status	29
Dependents.....	30
Limitations and Considerations.....	31
Looking Ahead: Recommendations and Future Research	32
Appendices	34
Works Cited	38

Executive Summary

Basic needs insecurity—uncertain or inadequate access to safe food and housing—is higher among college and university students than the rest of the population and creates a barrier to academic success. This report presents the findings of the UNM Basic Needs Project, a collaboration of University of New Mexico (UNM) faculty, staff and the broader community. Our aim is to improve the basic needs security of college and university students in New Mexico through a combination of data collection and research, on one hand, and the development of and advocacy for solutions, on the other. Our current focus is on students at UNM, and we anticipate expanding our research and advocacy beyond UNM in the next phase of the project.

Food insecurity on college campuses has become an area of intense study over the past decade, and research on housing insecurity is on the rise. This report presents findings from the first representative study of basic needs security in college students in the state of New Mexico. The inaugural survey was conducted in April 2020, amidst the global COVID-19 pandemic.

Our findings indicate that one in three UNM students were food insecure in April 2020 and over 40% were housing insecure sometime in the previous year. Both food and housing insecurity prevalence are higher at UNM than in the broader population of New Mexico. The United States Department of Agriculture (USDA) reports that 16.8% of New Mexico Households are food insecure. It is harder to compare housing insecurity because of a lack of consistent measurement strategies.

Basic needs insecurity varies across demographic groups. At UNM, the demographic groups most affected by food insecurity include African Americans and American Indians; transgender and gender fluid students; and gay, lesbian, and bisexual students. The students most affected by housing insecurity are: Hispanic, American Indian, and international students, and students who are two or more races; female, transgender, and gender fluid students; gay, lesbian and bisexual students and students who report that they are not sure of their sexuality; and students with dependents.

Over one-fifth, or 20.5% of UNM students, experience a double burden of both food and housing insecurity.

Preliminary analysis suggests that basic needs insecurity contributes to poorer academic outcomes. Students reporting food insecurity were more likely to withdraw from or fail a course, and also reported lower grade point averages. Thus, this report suggests that food and housing insecurity contributes to disparities in academic success across demographic groups.

The report concludes with several recommendations on how to support students experiencing food and housing insecurities.

Introduction

This document reports preliminary results of the UNM Basic Needs Survey, administered in April 2020. The survey is part of a larger two-pronged project that 1) examines the prevalence and patterns of basic needs security among graduate and undergraduate students at the University of New Mexico, located in Albuquerque, New Mexico and 2) disseminates and advocates for best practices for addressing basic needs insecurity among college and university students. Our research builds on the recently emerging literature that examines how basic needs insecurity, lack of or uncertainty about consistent and safe access to food and/or housing, is patterned across students, how it impacts student success, and what

can be done about it. It is one part of a larger discussion about inequality in higher education.

Basic needs security includes two categories: food security and housing security.

Snapshot of Prevalence of Food Insecurity at UNM

UNM Students Overall = 32%
Undergraduate Students = 42%
Postgraduate = 26%
American Indian = 56%
Hispanic = 40%
International = 49%

Snapshot of Prevalence of Housing Insecurity at UNM

UNM Students Overall = 42%
Undergraduate Students = 44%
Postgraduate = 37%
American Indian = 42%
Hispanic = 44%
International = 49%

Food Insecurity

According to the US Department of Agriculture, the agency charged with measuring food security across the US population, food security is defined as “access ... at all times to enough food for an active, healthy life”(Coleman-Jensen et al. 2019, 2). People or households are classified as food insecure if they experience the USDA category of “low food security” or “very low food security”. Those with food insecurity experience “the limited or uncertain availability of nutritionally adequate and safe foods, or the ability to acquire those foods in a socially acceptable manner” (Goldrick-Rab et al. 2018, 4). Individuals with very low food security experience a disruption of their eating patterns or a reduction in their food intake because they cannot afford to purchase enough food, potentially resulting in hunger. Individuals experiencing low food security may not experience hunger or significant reductions in food intake, but they do experience uncertainty about how and where they will access food and whether they will be able to access enough. These individuals and families often employ strategies such as reducing variety in their diet, purchasing lower quality foods, or relying on a few basic foods.

As measured by the USDA (Coleman-Jensen et al. 2019), 11.1% of US households were food insecure in 2018. Of these, 4.3% of households had very low food security. The national prevalence of food insecurity has been falling steadily since 2011 when it hit a peak of 14.9% of households after the 2008 financial crisis caused a spike in food insecurity nationwide. Across the country, food insecurity is higher among households with children; that are headed by single parents, especially female heads of households; individuals that live alone; Black and Hispanic households; and households that already experience poverty. New Mexico is the US state with the highest percentage of food insecure households, at 16.8% in 2018. It is also the state with the highest rate of increase since 2013, although between 2017 and 2018 food

insecurity in the state did improve by 1.1 percentage points (Coleman-Jensen et al. 2018; 2019). This trend may have been reversed due to the Covid-19 pandemic.

Research on the prevalence and incidence of food insecurity among college students has only begun to emerge over the past decade, and there is only a patchwork of data available, much of which is not comparable or representative. Data that are available paint a disturbing picture of the prevalence and impacts of food insecurity on campuses. The highest figures are reported by community colleges with prevalence of food insecurity between 56-66%, (Goldrick-Rab, Richardson, and Hernandez 2017; Maroto, Snelling, and Linck 2015; Wood and Harris 2018). Several studies from large 4-year public universities report lower percentages, but still significantly higher than the US population. The University of Hawaii at Manoa, for instance, found a prevalence of 21%, nearly three times higher than the state as a whole (Chaparro et al. 2009). UMass Boston had a food insecurity prevalence of 25% (Silva et al. 2017), and the University of California system, in the largest survey conducted in higher education, reports 44% of UC undergraduates and 26% of graduate students experience food insecurity (“UC Global Food Initiative: Food and Housing Security at the University of California” 2017; Martinez, Maynard, and Ritchie 2016)

Studies suggest food insecurity is highest among non-white and minority students (see those cited above as well as Payne-Sturges et al. 2018), among students who are single parents (Goldrick-Rab et al. 2018; Maroto, Snelling, and Linck 2015), and among LGBTQ students (Goldrick-Rab et al. 2018; Goldrick-Rab, Richardson, and Hernandez 2017). The rising cost of attending college and diminishing financial aid are often cited as factors increasing food insecurity, but another factor is the rising number of non-traditional students attending college (“Running a Campus Food Pantry Student Government Toolkit” n.d.). Food insecurity is also associated with housing insecurity or high housing prices (Silva et al. 2017; Payne-Sturges et al. 2018; Chaparro et al. 2009).

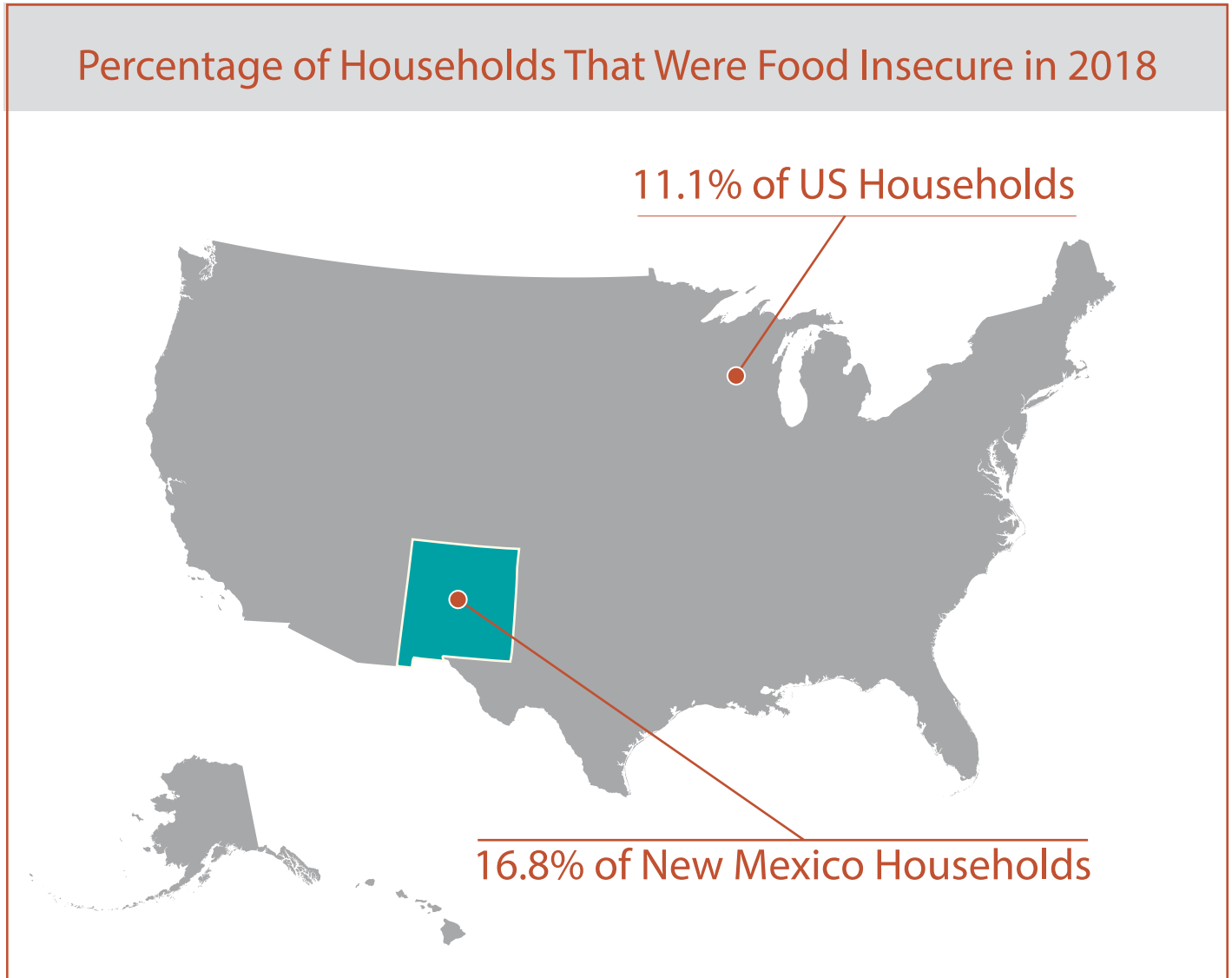


As with the phrase “starving student”, food insecurity is often normalized as “part of the college experience”(Watson et al. 2017, 134). But food insecurity can impact academic success and student health and wellbeing. Food insecurity is associated with lower grades (Bruening et al. 2016; Maroto, Snelling, and Linck 2015; Martinez, Maynard, and Ritchie 2016; Neill and Maguire 2017; Patton-López et al. 2014); up to 15 times higher likelihood of failing classes (Silva et al. 2017); and a greater likelihood of students withdrawing or otherwise deferring or suspending their studies (Gallegos, Ramsey, and Ong 2014; Silva et al. 2017; Martinez, Maynard, and Ritchie 2016). Students who are food insecure are less likely to report a sense of belonging, more likely to feel they are not welcome to engage with faculty, and less likely to access campus services (Wood and Harris 2018; Farahbakhsh et al. 2017).

Studies consistently identify poorer health and wellbeing reported among food insecure students (Patton-López et al. 2014; Gallegos, Ramsey, and Ong 2014; Farahbakhsh et al. 2017). Students who experience food insecurity are twice as likely to report fair or poor health (relative to excellent or good health) compared to students who are food secure (Gallegos, Ramsey, and Ong 2014). Qualitative studies identify several factors related to food insecurity, such as headaches, low energy, stress, and inability to concentrate on schoolwork (Farahbakhsh et al. 2017; Neill and Maguire 2017). Food insecure students are three times more likely to experience depression (Bruening et al. 2016), and poor mental health is

more likely to cause disruption in academic work among food insecure students (Payne-Sturges et al. 2018; Silva et al. 2017). Clearly, the consequences of food insecurity can be dire for students.

The current study is the first to measure food insecurity in a representative sample of UNM students. Based on the high prevalence of food insecurity in New Mexico as a whole, and the high percentage of minority students within our student population, we anticipated that food insecurity would be higher than among comparable institutions.



Housing Insecurity

Housing insecurity and homelessness have proven to be more difficult to define and measure. There is no agreed upon definition of housing insecurity, and even federal agencies use different definitions of homelessness (Broton 2020; Curry et al. 2017; Hallett and Crutchfield 2017). There is also no validated, shared instrument for measurement, which makes comparison across contexts difficult. This is

especially the case for housing insecurity, which seeks to understand a broader set of experiences than homelessness.

One definition of housing insecurity is “Limited or uncertain availability of stable, safe, adequate and affordable housing and neighborhoods; limited or uncertain access to stable, safe, adequate and affordable housing and neighborhoods; or the inability to acquire stable, safe, adequate and affordable housing and neighborhoods in socially acceptable ways” (Cox et al. 2017, 7). Housing insecurity is a multidimensional concept that exists on a spectrum (Broton 2020). At one extreme is homelessness, which is the lack of a fixed, regular, or adequate nighttime residence (see the McKinney-Vento Homeless Education Assistance Improvement Act of 2001). But housing insecurity also includes a broader set of challenges such as the inability or uncertainty about paying rent, the need to move frequently, doubling up with others for financial reasons, or staying in a motel or campground because alternative accommodations are not affordable (Curry et al. 2017; Hallett and Crutchfield 2017; Broton 2020; Goldrick-Rab, Richardson, and Hernandez 2017).



Previous studies suggest the prevalence of housing insecurity among college students varies greatly across different types of institutions, geographic locations, populations, and the definition and measures used. The National Center for Educational Statistics found that 8.8% of undergraduate students experienced “homelessness or risk of homelessness” in the previous year (Broton 2020). Homelessness or risk of homelessness was found to be lowest among public and private non-profit 4-year colleges or universities (roughly 6%), higher among community colleges (10%) but highest among private for-profit colleges (19%). Broton (2020) suggests that these figures significantly underestimate housing insecurity on college campuses. While a weighted average of the few studies that have already been published suggests a prevalence of 12% homelessness and 45% housing insecurity (Broton 2020), the largest study released to date suggests that up to 56% of students at institutions of higher education were housing insecure within the last year (Goldrick-Rab et al. 2018). The same researchers found that around one-third of 4-year university students were housing insecure in the previous year (Goldrick-Rab et al. 2018). These figures, varying as they are, appear higher than the broader population: among young adults, ages 18-25 years old, 9.7%, or 3.4 million were homeless in the prior year, regardless of college enrollment status (Morton et al. 2018; Broton 2020).

According to a study conducted at a large university in the western US, some factors that contribute to homelessness among college students include: financial constraints and poverty, unemployment, changes in family status or relationship breakups, violence or conflict, mental health issues, and adversities such as flood, fire, mold or bugs that make the previous dwelling uninhabitable (R. Smith and Knechtel 2020). In this study, 20% of homeless students experience violent attacks and roughly a third had been propositioned for sex in exchange for resources like money, food, shelter, drugs or clothing (ibid.) The research also suggests LGBTQ students, those who experience physical or psychological

disabilities, and students who are caring for dependents are disproportionately likely to experience homelessness (ibid.)

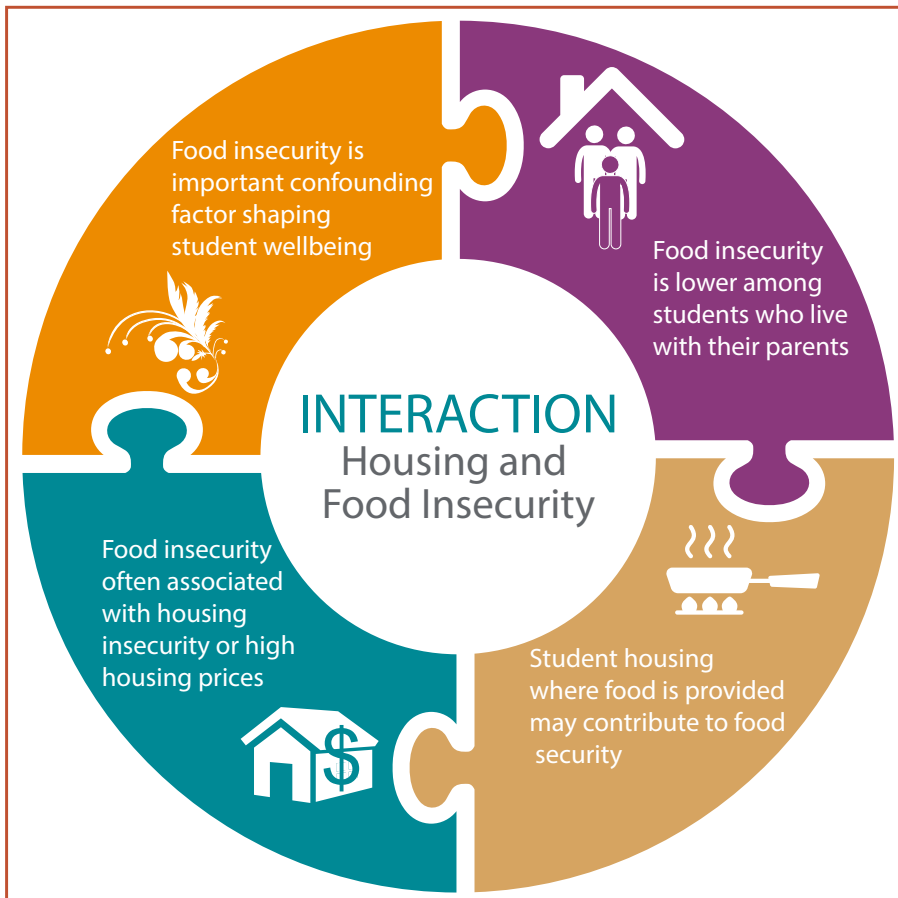
The Interaction Between Housing and Food Insecurity

The most recent literature is increasingly recognizing the ways in which housing and food insecurities are linked. Individuals experiencing housing insecurity are more likely to also experience food insecurity. This may be due, in part, to financial constraints that impact an individual's ability to afford both housing and food. Food insecurity is often associated with housing insecurity or high housing prices (Silva et al. 2017; Payne-Sturges et al. 2018; Chaparro et al. 2009).



Food insecurity may vary depending on housing situation; for instance, an early study of students at the University of

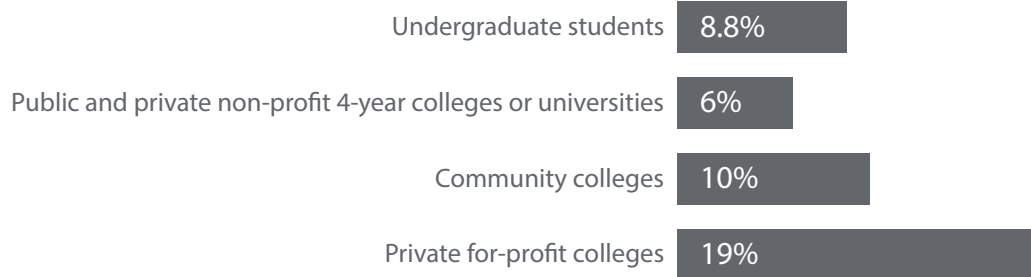
Hawaii found that rates of food insecurity are lower in students who live with their parents (Chaparro et al. 2009). Other studies have found that student housing where food is provided contributes to food security (Mirabitor et al. 2016). Studies on homelessness identify food insecurity as an important confounding factor shaping student wellbeing (R. Smith and Knechtel 2020). There is also strong evidence that housing insecurity and food insecurity are associated with decreased access to preventative healthcare and increased access of acute care (Kushel et al. 2006). Food insecurity and housing insecurity have been shown to be detrimental to overall health and experiencing both of these issues at the same time may compound these negative health effects.





National Housing Insecurity Among College Students

Percent of students who experienced homelessness or risk of homelessness



Weighted average of students who experience homelessness or housing insecurity



Methods

Research site

The University of New Mexico is a Hispanic-Serving Institution as well as a “Minority Institution” as defined by the US Department of Education and the Higher Education Act of 1965. In the Spring 2020 semester, 21,238 students were enrolled at the UNM Main Campus in Albuquerque. Of these, 70% were undergraduate students, 20% were graduate students, 2% were Medical School students, and 8% were enrolled in other types of programs (e.g., Law, Pharmacy). Fifty-six percent of enrolled students were women, and 55% were from minority groups (Hispanic, American Indian, Asian, African American, or Native Hawaiian/Pacific Islander). These proportions vary widely between levels and disciplines. Over sixty percent of undergraduates are from minority groups, while only about 35% of graduate students are from minority groups.

Table 1 compares the demographic make-up of the UNM student body in Spring 2020 with that of the survey respondents. Women and graduate students are over-represented among the respondents (by 9 and 7 percent, respectively) while minority students are under-represented by 5%. This outcome is consistent with prior studies with an over-representation of female respondents and an under-representation of respondents from ethnic minorities (Ahlmark et al. 2015; W. G. Smith 2008).

Grouping	Spring 2020 Enrollment	Survey Respondents
Undergraduate Students	70%	67%
Graduate Students	20%	27%
Medical Students	2%	3%
All Other Students (i.e. Law, Pharmacy, etc.)	8%	3%
Female	56%	65%
Ethnic Minority (Non-Caucasian)	55%	50%
Pell-Eligible (expected family contribution of <\$5,576)	39%	42%

Data Collection

Students were selected using a stratified random sampling method of all degree-seeking students at the Albuquerque UNM campus. Factors in the sampling included low-income status (an expected family contribution of \$5,576 as determined on a student's Free Application for Federal Student Aid), level of study, gender, area of study, and ethnicity. The entire sample consisted of 12,000 students.

Selected participants received an email two days before the survey launch informing them that they had been selected to participate in a survey about food and housing security among UNM students. The survey invitation noted that the first 2,500 participants would receive a \$10 Amazon gift card as a token of appreciation for their time. The survey remained open for two weeks, with two reminders sent to students who had not yet responded.

Survey Structure

The survey drew from instruments used by USDA and The Hope Center for College, Community, and Justice to assess food and housing insecurity in higher education populations across the United States. The food insecurity portion of the survey was taken directly from the USDA's 10-question measure of food security, which consists of three screener items and an additional seven questions. Housing insecurity and homelessness questions were taken from the Hope Center's most recent report (Goldrick-Rab et al. 2019), which drew on the Survey of Income and Program Participation Adult Well-Being Module and the definitions of homelessness developed by the U.S. Department of Housing and Urban Development and the U.S. Department of Education. Additional items focused on demographic characteristics of the participants. The survey was administered via Opinio, UNM's standard survey platform, and branching capabilities allowed for respondents to only see relevant questions based on their answers to the initial screening questions.

The responses from the survey were combined with academic and demographic data obtained from student records maintained by UNM's Office of Institutional Analytics. After the survey responses and the institutional data were merged, all identifying information were removed from the remaining dataset.

This research was approved by the Institutional Review Board at the University of New Mexico, project reference number 22619.

Results

Survey Sample

Initial survey invitations were sent to all 12,000 students from the generated sample. Of these, 10 were ultimately removed for invalid or inactive email accounts, and five requested to opt out of the survey. This resulted in an eligible sample of 11,985 students. The final sample on which data analysis was conducted consisted of 2,654 respondents, representing a 22.1% response rate.

The majority of respondents identified as female (63.9%), heterosexual/straight (80.1%) and were white (38.9%) or Hispanic (38.2%). Over half of respondents were undergraduate students (67.3%); however, graduate students and law, medical, and pharmacy students were also proportionally represented. Most were employed (57%) and of the respondents who were employed, most worked 1-20 hours per week (26%), however 16.3% worked more than 30 hours per week. Most respondents did not report child or adult dependents (82.4%). A complete table of the demographic characteristics of participants in our study is shown in Appendix I.

Demographic Characteristics of Survey Respondents (N = 2654)

Female = 63.9%

Heterosexual/Straight = 80.1%

White = 38.9%

Hispanic = 38.2%

Undergraduate = 67.3%

Employed = 57%

Employed worked 1-20 hrs/week = 26%

Employed worked 30+ hrs/week = 16.3%

No dependents = 82.4%

Employment and Dependents Status of Survey Respondents

Employment Status

Employed = 56.6%

Not employed, looking for work = 19.3%

Not employed, not looking for work = 16.1%

Not allowed to work = 8%

Dependents

None = 82.4%

One or more (children or adults) = 17.6%

Food Insecurity Results

According to the data, 32% of students were food insecure in the 30 days prior to taking the survey (Table 2). Among the students who were food insecure, more than half (17% of the total sample) experienced very low food security, meaning they experienced a disruption of eating patterns or a reduction in food intake because they could not afford to purchase enough food. The survey found 14.8% of students experienced low food security, which means they did not necessarily reduce their food intake, but were uncertain about how they would be able to feed themselves, or relied on strategies such as reducing variety in their diet, purchasing lower quality foods, or relying on a few basic foods. The survey also found that 20.2% of UNM students experienced marginal food security and were at risk of food insecurity.

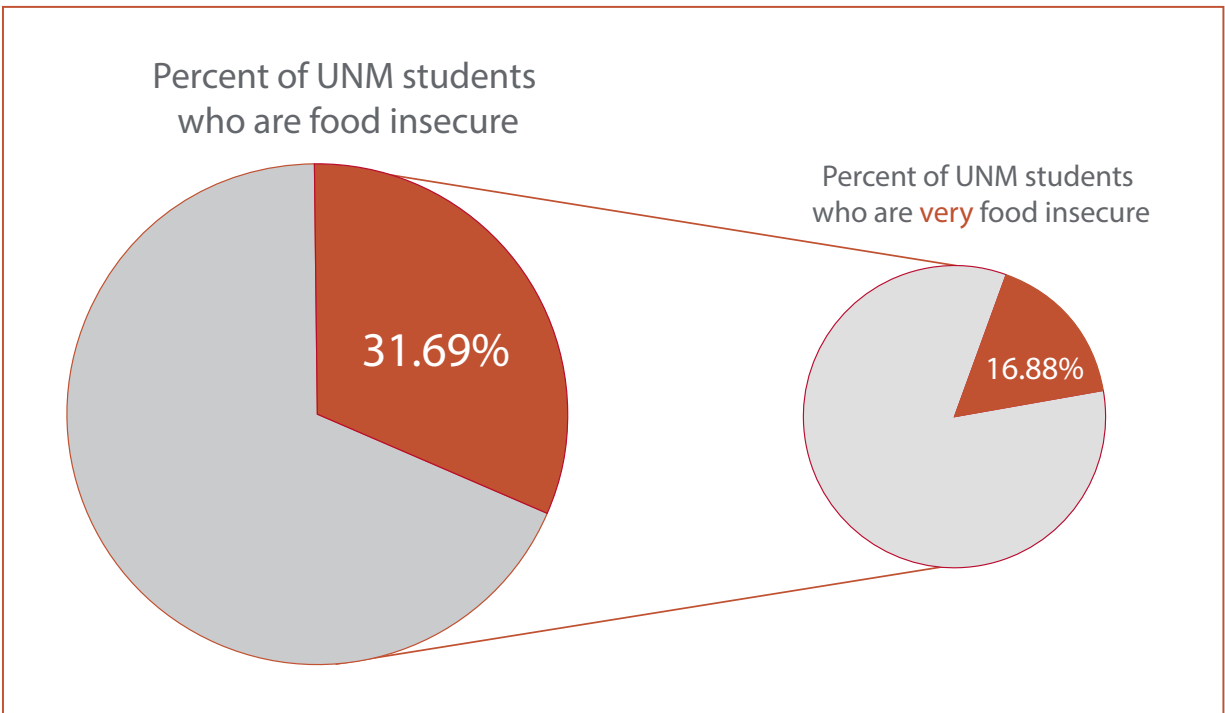


Table 2: Prevalence of Food Security by Category at UNM

	Number	%
Food Secure	1812	68.3
High food security	1275	48.0
Marginal food security	537	20.2
Food Insecurity	842	31.7
Low food security	393	14.8
Very low food security	449	16.9

Student Status

Undergraduate students at UNM were significantly more likely to experience food insecurity than graduate students or students enrolled in the UNM School of Law, School of Medicine, or the College of Pharmacy. Among undergraduate students at UNM, 58.5% were food secure while 41.5% were food insecure.

Postgraduate students had much lower prevalence of food insecurity than undergraduate students. Among graduate students, those studying law had the highest prevalence of food insecurity, at 29%. 27% of those enrolled in Graduate Studies at UNM experienced food insecurity, while Medical and Pharmacy graduate students had food insecurity prevalence of 16.7% and 20% respectively.

Table 3: Prevalence of Food Insecurity by UNM Status

Current UNM Status	Total		Food Secure		Food Insecure	
	Number	%	Number	%	Number	%
Undergraduate	1785	67.3	1045	58.5	741	41.5
Graduate	710	26.8	517	72.8	193	27.2
Law	31	1.2	22	71.0	9	29.0
Medical	84	3.2	70	83.3	14	16.7
Pharmacy	40	1.5	32	80.0	8	20.0

Race/Ethnicity

There were significant differences in prevalence of food (in)security across race. Student race/ethnicity in this study was based on the demographic category students self-report during their UNM application process. All international students, despite their race, are coded together in a single category.

The results show that White Non-Hispanic and Asian students had the lowest prevalence of food insecurity, at 28.4% and 31.3% respectively (see Table 4). Hispanic, African American, American Indian, and International students experienced higher prevalence of food insecurity than White and Asian students. 39.6% of Hispanic students were food insecure, 49.2% of international students at UNM were food insecure, and 46.0% of African American students were food insecure.

Of all racial/ethnic groups, American Indian students at UNM had the highest prevalence of food insecurity. Over half of American Indian students were food insecure (55.5%). The prevalence of food insecurity among American Indian students at UNM is higher than that reported in other studies, which actually find similar prevalence of food insecurity among American Indian students and White students at 4-year institutions (Goldrick-Rab et al. 2018). This may be because other institutions have much lower representation of American Indian students than UNM does; whereas fewer than 1% of student respondents in Hope Center studies are American Indian, just over 5% of our survey respondents are. UNM has a higher number of American Indian students than most 4-year colleges and universities in the US.

Prevalence of Food Insecurity by Race/Ethnicity

White = 28.4 %

Hispanic = 39.6 %

Asian = 31.3 %

African American = 46.0 %

American Indian = 55.5 %

Two or More Races = 35.7 %

International Students = 49.2 %

Unknown or Other = 42.1 %

Table 4: Prevalence of Food Insecurity by Race/Ethnicity

Race/Ethnicity	Total		Food Secure		Food Insecure	
	Number	%	Number	%	Number	%
White	1007	37.9	721	71.6	286	28.4
Hispanic	1013	38.2	612	60.4	401	39.6
Asian	131	4.9	90	68.7	41	31.3
African American	50	1.9	27	54.0	23	46.0
American Indian	137	5.2	61	44.5	76	55.5
Two or more races	98	3.7	63	64.3	35	35.7
International students ¹	177	6.7	90	50.8	87	49.2
Unknown or Other	38	1.4	22	57.9	16	42.1

¹ The term for international students used in the University's enterprise data system is "non-resident alien".

Gender

In this study, gender was self-reported by participants, not drawn from gender statistics reported at time of enrollment at UNM. The study team elected to gather gender data during the time of the survey because self-reported gender may change over the time a student is in college. Survey respondents were asked “What best describes your gender identity?” Respondents were able to choose from closed-ended categories (female, male, transgender, or gender fluid) or were able to fill in a different gender category (coded as “other”).

Table 5 reports prevalence of food security by gender. Approximately 36% of male and female students were food insecure, in line with the overall prevalence of food insecurity at UNM. However, a higher percentage of students who reported identifying as a gender minority were food insecure. Prevalence of food insecurity in students who self-reported as transgender was 53.3%. Most sharply divergent from the average, however, were students who self-report as gender fluid with a prevalence of food insecurity of 77.3%.

Prevalence of Food Insecurity by Gender

Female = 36%

Male = 35.6%

Transgender = 53.3%

Gender Fluid = 77.3 %

Other = 40.0%

Table 5: Prevalence of Food Insecurity by Gender

Gender Identify	Total		Food Secure		Food Insecure	
	Number	%	Number	%	Number	%
Female	1696	63.9	1085	64.0	611	36.0
Male	890	33.5	573	64.4	317	35.6
Transgender	15	0.6	7	46.7	8	53.3
Gender fluid	22	0.8	5	22.7	17	77.3
Other	30	1.1	17	56.7	13	43.3

Sexual Orientation

Sexual orientation was assessed through self-reporting during the survey. Respondents were able to choose from closed-ended categories (heterosexual/straight, gay or lesbian, bisexual, not sure) or were able to fill in a different category of sexual orientation (coded as “other”).

Heterosexual students at UNM experienced greater food security (65.9%) and lower food insecurity (34.1%) than those who self-reported other sexual orientations. Gay and lesbian students and bisexual students experienced much higher levels of food insecurity (48.1% and 46.2% respectively). Students who were not sure or who reported other categories of sexual orientation also experienced higher levels of food insecurity than heterosexual students (40.7% and 41.7% respectively).

These findings are in line with other studies at institutions of higher education (Goldrick-Rab et al. 2018). The Hope Center suggests LGBTQ students experience higher rates of food insecurity because these students are more likely to be estranged from their families and receive less financial support from them.

Prevalence of Food Insecurity by Sexual Orientation

Heterosexual/Straight = 34.1%

Gay or Lesbian = 48.1%

Bisexual = 46.2%

Not Sure = 40.7%

Other = 41.7%

Table 6: Prevalence of Food Insecurity by Sexual Orientation

Sexual Orientation	Total		Food Secure		Food Insecure	
	Number	%	Number	%	Number	%
Heterosexual/straight	2123	80.1	1399	65.9	724	34.1
Gay or lesbian	135	5.1	70	51.9	65	48.1
Bisexual	279	10.5	150	53.8	129	46.2
Not sure	54	2.0	32	59.3	22	40.7
Other	60	2.3	35	58.3	25	31.7

Employment Status

The survey measured employment status with the following question: “What is your current employment status?” Respondents could select from the following closed-ended responses: employed; not employed, looking for work; not employed, not looking for work; the program I am enrolled in does not allow me to work.

Students who were not employed and not looking for work had the lowest prevalence of food insecurity, although more than one in five of these students reported experiencing food insecurity (see Table 7). Of students who were employed, 28.1% were food insecure. Students who were not allowed to work had a food insecurity prevalence of 36%. Nearly half of students who were looking for work but who were not currently employed were food insecure (48.9%).

These results suggest that improving opportunities for student employment may help address food insecurity among UNM students. In addition, more could be done to improve wages or work hours to help students avoid food insecurity. The prohibition on employment among law students may be related to their relatively high rates of food insecurity.

Prevalence of Food Insecurity by Employment Status

Employed = 28.1%

Not employed, looking for work = 48.9%

Not employed, not looking for work = 21.8%

Not allowed to work = 36%

Table 7: Prevalence of Food Insecurity by Employment Status

Employment Status	Total		Food Secure		Food Insecure	
	Number	%	Number	%	Number	%
Employed	1503	56.7	1081	71.9	422	28.1
Not employed, looking for work	513	19.4	262	51.1	251	48.9
Not employed, not looking for work	427	16.1	334	78.2	93	21.8
Not allowed to work	211	8.0	135	64.0	76	36.0

Dependents

The study was also able to measure food security status across students who are financially responsible for dependents. The results suggest that students who are responsible for dependent children or adults experience somewhat higher prevalence of food insecurity, however further analysis is needed to know if this difference is statistically significant. This diverges from the findings in other institutions of higher education suggesting student-parents are at much higher risk of food and housing insecurity than other students (Goldrick-Rab et al. 2018). The findings reported here may differ if graduate students are removed from the sample, since graduate students experience lower prevalence of food insecurity and are more likely to be older than undergraduate students. Other studies measure just prevalence among undergraduate students and do not include graduate students.



Prevalence of Food Insecurity by Financial Responsibility for Dependents

None = 31.4%

One or more (children or adults) = 33.4%

Table 8: Prevalence of Food Insecurity by Financial Responsibility for Dependents

Dependents	Total		Food Secure		Food Insecure	
	Number	%	Number	%	Number	%
None	2187	82.4	1501	68.6	686	31.4
One or more (children or adults)	467	17.6	311	66.6	156	33.4

Impact of Food Security on Academic Performance

The psychological and physiological effects of food insecurity manifest in students' academic performance as measured by GPA and by the number of courses in which a student earned a grade of D, F, I, or withdrew from the course. Recent research highlights that withdrawal from multiple courses during a student's collegiate career can be an indicator that students are struggling, with students dropping more than two classes at particular risk (Pearl and Bramblett 2019). An analysis of the data from this survey showed that students who reported low or very low levels of food insecurity were almost twice as likely to withdraw from or fail a course in the Spring 2020 academic term than students who have high or marginal levels of food security.

The results from this survey suggest that food insecurity is associated with lower grade point averages. In both Fall 2019 and Spring 2020, there were significant differences between students reporting high or marginal food security and students who reported low or very low food security.

These results provide preliminary indications that food insecurity negatively impacts academic success among UNM students.



Housing Insecurity Results

Homelessness and housing security among college and university students are more difficult to measure and there is no consensus for measurement instruments as there is for the measurement of food security. This study follows the measurement for housing insecurity and homelessness developed by the Hope Center for College, Community, and Justice (Goldrick-Rab et al. 2019).

We used two measures of homelessness. First, we asked “In the past 12 months, have you ever been homeless?” The second measure of homelessness asked whether respondents have slept in any of the following places in the past 12 months:

- a. Campus or university housing
- b. Sorority/fraternity house
- c. In a rented or owned house, mobile home, or apartment (alone or with roommates or friends)
- d. In a rented or owned house, mobile home, or apartment with my family (parent, guardian, or relative)
- e. At a shelter
- f. In a camper
- g. Temporarily staying with a relative, friend, or couch surfing until I find other housing
- h. In transitional housing or independent living program
- i. At a group home such as halfway house or residential program for mental health or substance abuse
- j. At a treatment center (such as detox, hospital, etc.)
- k. Outdoor location (such as street, sidewalk, or alley; bus or train stop; campground or woods, park, beach, or riverbed; under bridge or overpass; or other)
- l. In a closed area/space with a roof not meant for human habitation (such as abandoned building; car, truck, van, RV, or camper; encampment or tent; unconverted garage, attic, or basement; etc.)

Respondents who provided one or more positive response to options e-l were coded as having experienced homelessness in the past 12 months.

The results find that between 1.5% and 10.9% of UNM students experienced homelessness in the previous 12 months (Table 10).

Measurement	Number	%
Measurement 1: “In the past 12 months, have you ever been homeless?”		
No	2604	98.5
Yes	39	1.5
Measurement 2: “In the past 12 months, have you slept in the following places?”		
No	2366	89.1
Yes	288	10.9

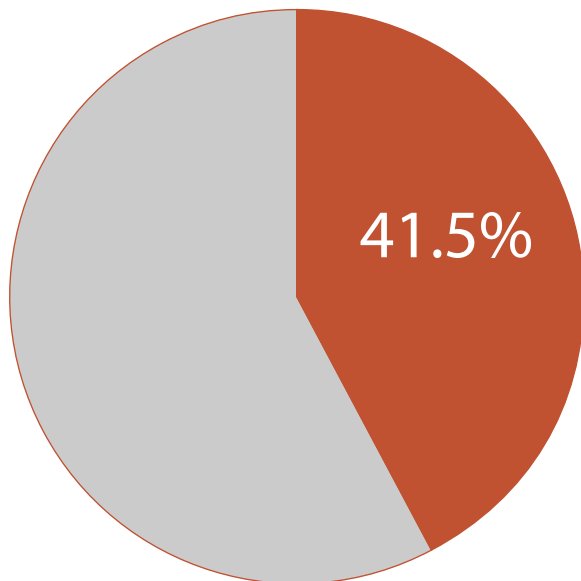
Housing insecurity may be a more appropriate measure of difficulties that impact student success and wellbeing. Housing insecurity includes a broader set of challenges such as the inability to pay rent or utilities or the need to move frequently.



We measured housing insecurity with the following nine questions:

1. In the past 12 months, was there a rent or mortgage increase that made it difficult to pay?
2. In the past 12 months, have you received a summons to appear in housing court?
3. In the past 12 months, have you not paid the full amount of a gas, oil, or electricity bill?
4. In the past 12 months, did you have an account default or go into collections?
5. In the past 12 months, have you moved in with other people, even for a little while, because of financial problems?
6. In the past 12 months, have you lived with others beyond the expected capacity of the house or apartment?
7. In the past 12 months, did you leave your household because you felt unsafe?
8. In the past 12 months, have you been unable to pay or underpaid your rent or mortgage?
9. In the past 12 months, how many times have you moved?

Percent of UNM students who are housing insecure



Students were considered housing insecure if they answered “yes” to any of the first eight questions or if they said they moved three or more times in the past 12 months. This is in line with the strategy used in the Hope Center’s 2019 National Survey Report (Goldrick-Rab et al. 2019).

Results from this study show that 41.4% of UNM students were housing insecure. Table 11 outlines which indicators of housing insecurity were most prevalent among UNM students. The most frequently occurring indicators of housing insecurity were a rent or mortgage increase that made it difficult to pay (15.7%), moving in with other people due to financial problems (15.2%), and not paying the full amount of a utility bill (12.5%).

Table 11. Prevalence of Housing Insecurity and Individual Indicators

	Full Sample (n=2654)		Undergraduate Students (n=1785)		Graduate and Professional Students (n=866)	
	Number	%	Number	%	Number	%
Housing Security Status						
Housing Secure (no indicators)	1555	58.6	1011	56.6	544	62.8
Housing Insecure (1 or more indicator)	1099	41.4	776	43.4	323	37.2
Individual Housing Security Indicators						
Had a rent or mortgage increase that made it difficult to pay	418	15.7	281	15.7	137	15.8
Moved in with other people due to financial problems	404	15.2	307	17.2	97	11.2
Did not pay the full amount of a gas, oil, or electricity bill	332	12.5	236	13.2	96	11.1
Had an account default or go into collections	247	9.3	153	8.6	94	10.9
Did not pay the full amount of rent or mortgage	240	9.0	181	10.1	59	6.8
Lived with others beyond the expected capacity of the housing	194	7.3	145	8.1	49	5.7
Left a household because they felt unsafe	163	6.1	113	6.3	50	5.8
Moved three or more times	144	5.4	123	6.9	21	2.4
Received a summons to appear in housing court	19	0.7	15	0.8	4	0.5

Student Status

Undergraduate students and Law students experienced the highest prevalence of housing insecurity among UNM students. Housing insecurity prevalence in undergraduate students was 43.5% and 48.4% in Law students. Prevalence of housing insecurity in students enrolled in Graduate Studies was 38.9%, and 26.2% in Medical School at UNM. Among graduate students, Pharmacy students experienced housing insecurity the least frequently, at a prevalence of 25%.

Prevalence of Housing Insecurity by Current UNM Status

Undergraduate = 43.5%

Graduate = 38.9%

Law = 48.4%

Medical = 26.2%

Pharmacy = 25%

Table 12: Prevalence of Housing Insecurity by Current UNM Status

Current UNM Status	Total		Housing Secure		Housing Insecure	
	Number	%	Number	%	Number	%
Undergraduate	1785	67.3	1011	56.6	776	43.5
Graduate	710	26.8	436	61.4	276	38.9
Law	31	1.2	16	51.6	15	48.4
Medical	84	3.2	62	73.8	22	26.2
Pharmacy	40	1.5	30	75.0	10	25.0

Race/ethnicity

The group with the lowest prevalence of housing insecurity was Asian students (25.8%). White non-Hispanic students and African American students both experienced slightly lower prevalence of housing insecurity than in the full sample, 37.5% and 42% respectively. Hispanic students, those whose race was not reported, and students who reported two or more races experienced higher housing insecurity, at 43.8%, 40.0% and 47.5% respectively. International students and American Indian students experienced the highest prevalence of housing insecurity; international students had a housing insecurity prevalence of 48.6% while more than half of American Indian students at UNM experienced housing insecurity according to this measure (54%).



Prevalence of Housing Insecurity by Race/Ethnicity

White = 37.5%

Hispanic = 43.8%

Asian = 25.8%

African American = 42.0%

American Indian = 54.0%

Two or more races = 47.5%

International Students = 48.6%

Unknown or other = 40.0%

Table 13. Prevalence of Housing Insecurity by Race/Ethnicity

Ethnicity	Total		Housing Secure		Housing Insecure	
	Number	%	Number	%	Number	%
White	1008	38.0	630	62.5	378	37.5
Hispanic	1010	38.1	568	56.2	442	43.8
Asian	128	4.8	95	74.2	33	25.8
African American	50	1.9	29	58.0	21	42.0
American Indian	137	5.2	63	46.0	74	54
Two or more races	99	3.7	52	52.5	47	47.5
International students	179	6.7	92	41.4	87	48.6
Unknown or Other	40	1.5	24	60.0	16	40.0

Gender

While the prevalence of food insecurity was very similar for females and males, the prevalence of housing insecurity was different. 37.9% of males experienced housing insecurity in the past year, compared to 42.6% of females. Gender minorities again experienced much higher prevalence of housing insecurity than cis-gender students including transgender students (66.7%) and gender fluid students (81.8%). Students who reported their gender as “other” than the categories listed actually had a lower prevalence of housing insecurity (in contrast to food insecurity).

Prevalence of Housing Insecurity by Gender

Female = 42.6%

Male = 37.9%

Transgender = 66.7%

Gender Fluid = 81.8%

Other = 36.7%

Table 14. Prevalence of Housing Insecurity by Gender Identity

Gender Identity	Total		Housing Secure		Housing Insecure	
	Number	%	Number	%	Number	%
Female	1696	63.9	973	57.4	723	42.6
Male	890	33.5	553	62.1	337	37.9
Transgender	15	0.6	5	33.3	10	66.7
Gender fluid	22	0.8	4	18.2	18	81.8
Other	30	1.1	19	63.3	11	37.7

Sexual Orientation

Heterosexual/straight students at UNM reported a prevalence of housing insecurity below that of the full sample (38.5%). Gay and lesbian students reported higher housing insecurity (49.6%), while bisexual (54.8%), those reporting “not sure” (44.4%) or “other” (58.3%) experienced much higher prevalence of housing insecurity.



Housing Insecurity by Sexual Orientation

Heterosexual/Straight = 38.5%

Gay or lesbian = 49.6%

Bisexual = 54.8%

Not sure = 44.4%

Other = 58.3%

Table 15. Prevalence of Housing Insecurity by Sexual Orientation

Sexual Orientation	Total		Housing Secure		Housing Insecure	
	Number	%	Number	%	Number	%
Heterosexual/straight	2123	80.1	1305	60.5	818	38.5
Gay or lesbian	135	5.1	68	50.4	67	49.6
Bisexual	279	10.5	126	45.2	153	54.8
Not sure	54	2.0	30	55.6	24	44.4
Other	60	2.3	25	41.7	35	58.3

Employment Status

Students who were not employed and not looking for work had the lowest prevalence of housing insecurity (34.4%) but students who were employed were not far behind (38%). This suggests, as with food security, that employment may not protect students from experiencing housing insecurity.

Nearly half of those who were not allowed to work were housing insecure, and 34.4% of students who were not employed but looking for work were housing insecure, suggesting an important area to focus on for remediating basic needs insecurity.



Prevalence of Housing Insecurity by Employment Status

Employed = 38%

Not employed, not looking for work = 53.8%

Not employed, looking for work = 34.4%

Not allowed to work = 49.8%

Table 16. Prevalence of Housing Insecurity by Employment Status

Employment Status	Total		Housing Secure		Housing Insecure	
	Number	%	Number	%	Number	%
Employed	1503	56.7	932	62.0	571	38.0
Not employed, looking for work	513	19.4	237	46.2	276	53.8
Not employed, not looking for work	427	16.1	280	65.6	147	34.4
Not allowed to work	211	8.0	106	50.2	105	49.8

Dependents



In comparison to food security, there was a bigger difference in housing insecurity across students who were or were not financially responsible for dependents. Students who did not have dependents were slightly less than average in terms of housing insecurity (39.6%) whereas students who were responsible for children or adult dependents had a higher prevalence of housing insecurity, at 50.1%.

Prevalence of Housing Insecurity by Financial Responsibility for Dependents

None = 39.6%

One or more = 50.1%
(children or adults)

Table 17. Prevalence of Housing Insecurity by Financial Responsibility for Dependents

Dependents	Total		Housing Secure		Housing Insecure	
	Number	%	Number	%	Number	%
None	2287	82.4	1322	60.4	865	39.6
One or more (children or adults)	467	17.6	233	49.9	234	50.1

Limitations and Considerations

The results presented here are based on a survey conducted in April 2020, during the early months of the global COVID-19 pandemic. We had originally planned to conduct the survey in the two weeks after spring break, in March 2020. However, during spring break the president of UNM announced that classes would be offered remotely for the remainder of the semester, and the dorms were closed. The confusion of the following weeks may not have been the most ideal time to gather data from students. Rather than postpone the survey until fall semester, however, we elected to delay data collection one month, until the middle of April. This offered both a unique opportunity and presented a potential limitation since we do not know how much the pandemic and accompanying economic crisis affected food and housing security of students. We anticipate that it did, and continues to, have some effect. We intend to conduct the survey again in 2021 and beyond, and also plan to collect qualitative data via focus groups in the fall 2020 semester. With these additional data we hope to be able to untangle how the pandemic has affected basic needs security.

This study is also limited by the usual biases that accompany self-reported data. Many different factors may influence a respondent to not provide fully honest answers. Respondents may not understand the questions, stigma may lead them to under-report, or they may exaggerate their experiences.

Homelessness is particularly difficult to measure adequately. The first measure that we reported, asking directly if a student had been homeless in the previous year, likely underestimates homelessness since students might not classify some housing arrangements as homelessness, such as temporarily staying with friends or couch-surfing. There may also be a strong stigma attached to “homelessness” such that asking directly about it may lead to under-reporting. The second measure, which asked about places students had slept in the previous year, likely overestimates homelessness, as staying in a camper or with relatives might not always be indicative of homelessness.

As more research on homelessness and housing insecurity among college students emerges, measurement tools will likely become more precise. With a consensus around measurement strategies will come greater comparability of data.

Looking Ahead: Recommendations and Future Research

Food insecurity and housing insecurity are substantial problems for UNM students and require a comprehensive, systemic, and sustainable response. Efforts to address basic needs on campus must be attentive to the stigma that may surround these issues. Additionally, many campus offices, resource centers, and departments must work together to address the problems of food and housing insecurity in the campus community. The needs are too great to be the purview of one office especially if that office has numerous other mandates.

Currently the most visible resources for food insecure students is the Lobo Food Pantry Program. Moving forward, a priority is to enhance the resources and visibility of both Lobo pantries. For example, the Lobo Food Pantry Program would benefit from increased donations of food and money as it is currently only able to be open a few hours one day a week. A campaign to increase awareness of the pantries is also necessary; as it stands, too few students know of this resource. While campus food pantries



are an important part of the effort to address student food insecurity, the Hope Center suggests that “it is especially important for colleges and universities to move beyond food pantries as they respond to basic needs insecurities on campus” (Goldrick-Rab et al. 2019, 23).

Toward this end, the development and expansion of a robust and visible emergency aid program should also be a priority. UNM currently offers some emergency loans. The Dean of Students has the ability to provide emergency loans as well as short-term emergency housing for students and the Financial Aid Department provides emergency loans for students with a documented emergency. Initial results at campuses across the country show improved graduation rates for the recipients of emergency loans (Kirp 2019), supporting the need to expand these services at UNM.

Assistance with Supplemental Nutrition Assistance Program (SNAP) applications is currently available in several places on campus including the Women’s Resource Center. Moving forward, more offices and resource centers could become involved in these efforts. Additionally, the establishment of meal-sharing programs on campus, such as Swipe Out Hunger and Share Meals, would allow students to donate surplus dining funds to their peers in need.

Our team is designing a Basic Needs Task Force, which will be comprised of faculty, staff, students and community members who are interested in addressing basic needs on campus. This will allow for the work of many campus entities and offices to be coordinated and brought into conversation with each other and the community, thereby increasing the efficacy of all of their efforts. Many US campuses also create the position of “Director of Student Wellness” or “Basic Needs Coordinator”. This might be something for UNM to consider.

Finally, Watson et al. (2017) note the need and desire among students for more life skills training, including financial literacy, food planning and preparation, and housing and rental planning, to be

incorporated into the college experience. Many students desire more skills training around food preparation and budgeting. Faculty might also consider the ways in which basic needs can be folded into their curriculum.

None of these resources matter if the students do not know they are there. A list of the campus-wide resources available to students struggling with food and housing insecurity should be compiled and broadcast widely. Additionally, basic needs resource information should be integrated with the materials used for undergraduate and graduate student orientations. In general, raising awareness of both the scope of basic needs insecurities and UNM's available resources will help students access the assistance they need, and has the added benefit of reducing the stigma that prevents students from reaching out for help.



This preliminary set of results will be complemented by further data analysis and data collection. We plan to continue to analyze the data gathered in the April 2020 survey to better understand the relationship between basic needs security and demographics and other data.

Preliminary analysis finds that 20.5% of our survey respondents were both food and housing insecure, a double burden. This is an important avenue of future research: to understand which groups are most likely to experience this double burden. We also intend to generate comparable quantitative data over time by conducting the basic needs survey annually. We hope to obtain funding to extend data collection into UNM's branch campuses and other New Mexico colleges and universities.

This research shows that food and housing insecurity are prevalent among UNM students. There are also disparities in basic needs insecurity across different groups. Basic needs insecurity impacts individual students' lives, with preliminary analysis suggesting that it impinges on academic success and progress. These data also show that food and housing insecurity is patterned across demographics, such that minority and LGBTQ students are most severely impacted. This suggests that food and housing insecurity likely contributes to and reproduces educational inequalities. We hope that this research will help us understand the severity of the problem and develop strategies to address basic needs insecurity and help all UNM students succeed.

Appendices

Appendix 1: Food Security Status by Demographic Characteristics of UNM Students (n=2,654)						
Demographics	Total		Food Secure		Food Insecure	
	Number	%	Number	%	Number	%
Gender Identity						
Female	1696	63.9	1085	64	611	36.0
Male	890	33.5	573	64.4	317	35.6
Transgender	15	0.6	7	46.7	8	53.3
Gender fluid	22	0.8	5	22.7	17	77.3
Other	30	1.1	17	56.7	13	43.3
Sexual Orientation						
Heterosexual/straight	2123	80.1	1399	65.9	724	34.1
Gay or lesbian	135	5.1	70	51.9	65	48.1
Bisexual	279	10.5	150	53.8	129	42.2
Not sure	54	2.0	32	59.3	22	40.7
Other	60	2.3	35	58.3	25	41.7
Ethnicity						
White	1007	37.9	721	71.76	286	28.4
Hispanic	1013	38.2	612	60.4	401	39.6
Asian	131	4.9	90	68.7	41	31.3
African American	50	1.9	27	54.0	23	46.0
American Indian	137	5.2	61	44.5	76	55.5
Two or more races	98	3.7	63	64.3	35	35.7
International students	177	1.4	22	50.8	87	49.2
Unknown or Other	38	1.4	22	57.9	16	42.1

Appendix 1: Food Security Status by Demographic Characteristics of UNM Students (n=2,654)

Demographics	Total		Food Secure		Food Insecure	
	Number	%	Number	%	Number	%
Current UNM Status						
Undergraduate	1818	67.3	1044	58.5	741	41.5
Graduate	710	26.8	517	72.8	193	27.2
Law	31	1.2	22	71.0	9	29.0
Medical	84	3.2	70	83.3	14	16.7
Pharmacy	40	1.5	32	80.0	8	20.0
Employment Status						
Employed	1503	56.7	1081	71.9	422	28.1
Not employed, looking for work	513	19.4	262	51.1	251	48.9
Not employed, not looking for work	427	16.1	334	78.2	93	21.8
Not allowed to work	211	8.0	135	64.0	76	36.0
Dependents						
None	2187	82.4	1501	68.6	686	31.4
One or more (children or adults)	467	17.6	311	66.6	156	33.4

Appendix 2: Housing Security Status by Demographic Characteristics of UNM Students (n=2,654)

Demographics	Total		Housing Secure		Housing Insecure	
	Number	%	Number	%	Number	%
Gender Identity						
Female	1696	63.9	973	57.4	723	42.6
Male	890	33.5	553	62.1	337	37.9
Transgender	15	0.6	5	33.3	10	66.7
Gender fluid	22	0.8	4	18.2	18	81.8
Other	30	1.1	19	63.3	11	36.7
Sexual Orientation						
Heterosexual/straight	2123	80.1	1305	61.5	818	38.5
Gay or lesbian	135	5.1	68	50.4	67	49.6
Bisexual	279	10.5	126	45.2	153	54.8
Not sure	54	2.0	30	55.6	24	44.4
Other	60	2.3	25	41.7	35	58.3
Ethnicity						
White	1008	38.0	630	62.5	378	37.5
Hispanic	1010	38.1	568	56.2	442	43.8
Asian	128	4.8	95	74.2	33	25.8
African American	50	1.9	29	58.0	21	42.0
American Indian	137	5.2	63	46.0	74	54.0
Two or more races	99	3.7	52	52.5	47	47.5
International students	179	6.7	92	41.4	87	48.6
Unknown or Other	40	1.5	24	60.0	16	40.0

Appendix 2: Housing Security Status by Demographic Characteristics of UNM Students (n=2,654)

Demographics	Total		Housing Secure		Housing Insecure	
	Number	%	Number	%	Number	%
Current UNM Status						
Undergraduate	1785	67.3	1011	56.6	776	43.5
Graduate	710	26.8	436	61.4	276	38.9
Law	31	1.2	16	51.6	15	48.4
Medical	84	3.2	62	73.8	22	26.2
Pharmacy	40	1.5	30	75.0	10	25.0
Employment Status						
Employed	1503	56.7	932	62.0	571	38.0
Not employed, looking for work	513	19.4	237	46.2	276	53.8
Not employed, not looking for work	427	16.1	280	65.6	147	34.4
Not allowed to work	211	8.0	106	50.2	105	49.8
Dependents						
None	2187	82.4	1322	60.4	865	39.6
One or more (children or adults)	467	17.6	233	49.9	234	50.1

Works Cited

- Ahlmark, Nanna, Maria Holst Algren, Teresa Holmberg, Marie Louise Norredam, Signe Smith Nielsen, Astrid Benedikte Blom, Anne Bo, and Knud Juel. 2015. "Survey Nonresponse among Ethnic Minorities in a National Health Survey- A Mixed-Method Study of Participation, Barriers, and Potentials." *Ethnicity and Health*. Routledge. <https://doi.org/10.1080/13557858.2014.979768>.
- Broton, Katharine M. 2020. "A Review of Estimates of Housing Insecurity and Homelessness among Students in U.S. Higher Education." *Journal of Social Distress and the Homeless* 29 (1): 25–38. <https://doi.org/10.1080/10530789.2020.1677009>.
- Bruening, Meg, Stephanie Brennhofer, Irene van Woerden, Michael Todd, and Melissa Laska. 2016. "Factors Related to the High Rates of Food Insecurity among Diverse, Urban College Freshmen." *Journal of the Academy of Nutrition and Dietetics* 116 (9): 1450–57. <https://doi.org/10.1016/j.jand.2016.04.004>.
- Chaparro, Pia M., Sahar S. Zaghoul, Peter Holck, and Joannie Dobbs. 2009. "Food Insecurity Prevalence among College Students at the University of Hawai'i at Mānoa." *Public Health Nutrition* 12 (11): 2097–2103. <https://doi.org/10.1017/S1368980009990735>.
- Coleman-Jensen, Alisha, Matthew P Rabbitt, Christian A Gregory, and Anita Singh. 2018. "Household Food Security in the United States in 2017." ERR-256. www.ers.usda.gov.
- . 2019. "Household Food Security in the United States in 2018." ERR-270. www.ers.usda.gov.
- Cox, Robynn, Benjamin Henwood, Eric Rice, and Suzanne Wenzel. 2017. "Roadmap to a Unified Measure of Housing Insecurity." CESR-Schaeffer Working Paper No. 2016-013.
- Curry, Susanna R., Matthew Morton, Jennifer L. Matjasko, Amy Dworsky, Gina M. Samuels, and David Schlueter. 2017. "Youth Homelessness and Vulnerability: How Does Couch Surfing Fit?" *American Journal of Community Psychology* 60 (1): 17–24. <https://doi.org/10.1002/ajcp.12156>.
- Farahbakhsh, Jasmine, Mahitab Hanbazaza, Geoff D.C. Ball, Anna P. Farmer, Katerina Maximova, and Noreen D. Willows. 2017. "Food Insecure Student Clients of a University-Based Food Bank Have Compromised Health, Dietary Intake and Academic Quality." *Nutrition and Dietetics* 74 (1): 67–73. <https://doi.org/10.1111/1747-0080.12307>.
- Gallegos, Danielle, Rebecca Ramsey, and Kai Wen Ong. 2014. "Food Insecurity: Is It an Issue among Tertiary Students?" *Higher Education* 67 (5): 497–510. <https://doi.org/10.1007/s10734-013-9656-2>.
- Goldrick-Rab, Sara, Christine Baker-Smith, Vanessa Coca, Elizabeth Looker, and Tiffani Williams. 2019. "College and University Basic Needs Insecurity: A National #RealCollege Survey Report." https://hope4college.com/wp-content/uploads/2019/04/HOPE_realcollege_National_report_digital.pdf.
- Goldrick-Rab, Sara, Jed Richardson, and Anthony Hernandez. 2017. "Hungry and Homeless in College: Results from a National Study of Basic Needs Insecurity in Higher Education." <https://vtechworks.lib.vt.edu/bitstream/handle/10919/83028/HungryAndHomelessInCollege.pdf?sequence=1>.
- Goldrick-Rab, Sara, Jed Richardson, Joel Schneider, Anthony Hernandez, and Clare Cady. 2018. "Still Hungry and Homeless in College." <https://hope4college.com/wp-content/uploads/2018/09/Wisconsin-HOPE-Lab-Still-Hungry-and-Homeless.pdf>.

- Hallett, Ronald E., and Rashida Crutchfield. 2017. "Homelessness and Housing Insecurity in Higher Education: A Trauma-Informed Approach to Research, Policy, and Practice." *ASHE Higher Education Report* 43 (6): 7–118. <https://doi.org/10.1002/aehe.20122>.
- Kirp, David. 2019. *The College Dropout Scandal*. Oxford University Press. <https://global.oup.com/academic/product/the-college-dropout-scandal-9780190862213?cc=us&lang=en&>.
- Kushel, Margot B., Reena Gupta, Lauren Gee, and Jennifer S. Haas. 2006. "Housing Instability and Food Insecurity as Barriers to Health Care among Low-Income Americans." *Journal of General Internal Medicine* 21 (1): 71–77. <https://doi.org/10.1111/j.1525-1497.2005.00278.x>.
- Maroto, Maya E., Anastasia Snelling, and Henry Linck. 2015. "Food Insecurity Among Community College Students: Prevalence and Association With Grade Point Average." *Community College Journal of Research and Practice* 39 (6): 515–26. <https://doi.org/10.1080/10668926.2013.850758>.
- Martinez, Suzanna M, Katie Maynard, and Lorrene D Ritchie. 2016. "University of California Student Food Access and Security Study. Global Food Initiative: University of California." www.ucop.edu/global-food-initiative.
- Mirabatur, Erica, Karen E. Peterson, Colleen Rathz, Stacey Matlen, and Nicole Kasper. 2016. "Predictors of College-Student Food Security and Fruit and Vegetable Intake Differ by Housing Type." *Journal of American College Health* 64 (7): 555–64. <https://doi.org/10.1080/07448481.2016.1192543>.
- Morton, Matthew H., Amy Dworsky, Jennifer L. Matjasko, Susanna R. Curry, David Schlueter, Raúl Chávez, and Anne F. Farrell. 2018. "Prevalence and Correlates of Youth Homelessness in the United States." *Journal of Adolescent Health* 62 (1): 14–21. <https://doi.org/10.1016/j.jadohealth.2017.10.006>.
- Neill, Marissa O, and Jen Maguire. 2017. "College Students Self-Reported Food Insecurity and Correlations with Health and Academic Performance." *Journal of Behavioral and Social Sciences* 4: 34–40.
- Patton-López, Megan M., Daniel F. López-Cevallos, Doris I. Cancel-Tirado, and Leticia Vazquez. 2014. "Prevalence and Correlates of Food Insecurity Among Students Attending a Midsize Rural University in Oregon." *Journal of Nutrition Education and Behavior* 46 (3): 209–14. <https://doi.org/10.1016/j.jneb.2013.10.007>.
- Payne-Sturges, Devon C., Allison Tjaden, Kimberly M. Caldeira, Kathryn B. Vincent, and Amelia M. Arria. 2018. "Student Hunger on Campus: Food Insecurity Among College Students and Implications for Academic Institutions." *American Journal of Health Promotion* 32 (2): 349–54. <https://doi.org/10.1177/0890117117719620>.
- Pearl, D., and S. Bramblett. 2019. "Hidden Figures: Course Withdrawals as an Indicator of Student Distress." In Presentation at the Association for Institutional Research 2019 Annual Forum. Denver, CO, United States.
- "Running a Campus Food Pantry Student Government Toolkit." n.d. Accessed August 23, 2020. https://studentsagainsthunger.org/wp-content/uploads/2017/10/NSCAHH_Food_Pantry_Toolkit.pdf.

Silva, Meghan R., Whitney L. Kleinert, A. Victoria Sheppard, Kathryn A. Cantrell, Darren J. Freeman-Coppadge, Elena Tsoy, Tangela Roberts, and Melissa Pearrow. 2017. "The Relationship Between Food Security, Housing Stability, and School Performance Among College Students in an Urban University." *Journal of College Student Retention: Research, Theory & Practice* 19 (3): 284–99. <https://doi.org/10.1177/1521025115621918>.

Smith, Randy, and Lena Knechtel. 2020. "When Student Housing Is a Car: In College and Homeless." *Journal of Student Affairs Research and Practice* 57 (3): 322–37. <https://doi.org/10.1080/19496591.2019.1671854>.

Smith, William G. 2008. "Does Gender Influence Online Survey Participation? A Record-Linkage Analysis of University Faculty Online Survey Response Behavior." Online Submission.

"UC Global Food Initiative: Food and Housing Security at the University of California." 2017. www.ucop.edu/global-food-initiative.

Watson, Tyler D., Hannah Malan, Deborah Glik, and Suzanna M. Martinez. 2017. "College Students Identify University Support for Basic Needs and Life Skills as Key Ingredient in Addressing Food Insecurity on Campus." *California Agriculture* 71 (3): 130–38. <https://doi.org/10.3733/ca.2017a0023>.

Wood, J. Luke, and Frank Harris. 2018. "Experiences With 'Acute' Food Insecurity Among College Students." *Educational Researcher* 47 (2): 142–45. <https://doi.org/10.3102/0013189X17752928>.