

An Analysis of College Students' Nutrition Practices

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Abstract

Background

Poor nutrition is associated with half of the leading causes of death for adults and has influenced the alarming obesity rates. Negative nutrition practices and knowledge are at the forefront of this issue and are often developed earlier in individuals' life. College is an important transition period for most individuals to develop habits, but it seems that unhealthy ones are being formed. Nutritional behavior in early adulthood often impacts the nutrition choices later in life, which then affects health. This study was conducted to better understand the nutrition practices of college students to help inform campus wide programming.

Methods

This was a cross-sectional research design that involved 103 undergraduate students (mean age= 20.5, SD= ± 3.6) at Lenoir-Rhyne University. A survey was sent out to all undergraduate students via their university email, and the data was gathered on Google forms. Microsoft Excel was used to formulate descriptive statistics on food habits, nutritional struggles, and nutrition attitudes.

Results

The majority of students eat their meals at home (36.9%), the school cafeteria (30.1%), and on and off campus fast food/restaurants (29.1%). The largest barrier for college students to eat healthy is time and availability of food, with money being the third highest barrier. When surveyed on struggling to afford food, 44.7% of the participants stated that they have. Analysis determined that there is not a significant difference ($p=0.29$) between gender and how healthy students view their eating habits as well as no correlation between skipping meals (5.18 ± 3.41) and GPA (3.52 ± 0.51). ($r=0.20$, $p=0.10$).

Conclusion

University students are lacking in time and resources, which is contributing to poor nutritional practices. This research has gathered data on the food habits of college students and showed the areas where programming would be beneficial, like with targeted education and programs to address student food insecurity. Campus wide programming needs to be developed and implemented to help fill this need for young adults to positively influence their current and future health.

Background

Poor nutrition is associated with the number one cause of death, heart disease, (Centers for Disease Control and Prevention (CDC), 2021a; CDC, 2021b), and is also linked to four of the other leading causes of death in the U.S.: cancer, stroke, kidney diseases, and type 2 diabetes (CDC, 2021a). These diseases make up a large portion of the 678,000 deaths each year resulting from poor nutrition (Center for Science in the Public Interest, 2018). Nearly half of American adults have some type of cardiovascular disease (American Heart Association, 2019), at least 18% of all cancers are related to diet and exercise (American Cancer Society, n.d.), and about 34 million Americans have diabetes, with Type 2 Diabetes making up 90-95% of them (CDC, 2022). Contributing to this are obesity rates that have doubled in adults, tripled in children, and quadrupled in adolescents in the past three decades. It is evident that poor nutritional choices result in over two-thirds of U.S. adults being overweight or obese (Center for Science in the Public Interest, 2018).

The U.S. obesity prevalence was 42.4% in 2017-2018 (CDC, 2021c). Consuming too many calories and too little exercise contribute to this country's chronic obesity issue. Overweight and obesity status are estimated by body mass index (BMI) which is calculated by dividing weight (in kilograms) by the square of the height (in meters); overweight is 25-29.9 kg/m² and obesity is 30 kg/m² and above (Writers, 2022). Although BMI is not a perfect measurement, it is generally effective at determining weight status. There is not a single state that has an obesity rate less than 20% (CDC, 2021d). Obesity is a widespread and complex issue with differing causes and needs to be better understood. It can lead to preventable, premature death and increases the risk of other diseases. Obesity is not just a weight issue, it can have a serious impact on one's quality of life, and physical, metabolic, and psychological health.

The American diet is often too high in calories, sodium, sugar, and saturated fat. It is also lacking in calcium, whole grains, fiber, fruits, and vegetables (Center for Science in the Public Interest, 2018). MyPlate, which is a government-based program, discusses how it is important to eat a variety of fruits, vegetables, proteins, grains, and dairy. Meals, drinks, and snacks should be limited in the amount of added sugars, sodium, and saturated fats (U.S. Department of Agriculture (USDA), n.d.). Although it seems simple to eat healthy, there are many contributors linked to poor nutrient intakes, for example, nutrition and health are closely related to disparities, and these disparities in diet quality are associated with race/ethnicity, income, and education. One in 8 Americans suffer from food insecurity (Feeding America, 2021), which leads to eating foods that are cheaper, which are often processed and higher in calories, sugar, fat, and sodium. Convenience and availability are also barriers to eating healthy (Satia, 2009). Another issue is that many people are confused by what is healthy or not, from misinformation or lack of knowledge.

Having a country this unhealthy is hard on the federal healthcare spending. Unhealthy diets are responsible for almost 20% of the country's healthcare costs, which is about 50 billion dollars (Jardim, 2019). With the majority of the population being overweight or obese, the United States cannot be considered generally healthy anymore. There are opportunities for improvement found in early adulthood that could help reduce federal and individual spending in the long run.

Nutrition and College Students

The transition period for students into university can lead to nutrition being often overlooked from not having the skill set, knowledge, or resources necessary to maintain a healthy diet. This is an essential time for creating lifelong habits because students have increased

autonomy and independence. The dietary practices of college students will likely carry over into later adulthood and affect their food choices and nutrition behaviors which will also determine their health status (Abdelhafez et al., 2020; Deshpande et al., 2009). Half of the leading causes of death are linked to diet and body weight (CDC, 2021a; CDC, 2021b). Unhealthy behaviors that impact eating habits are skipping meals, perceived knowledge about nutrition, and meal locations, as well as impacts from geographical, economic, and social limitations.

A systematic review of 12 studies showed 5-83% of students have said they have skipped at least one meal throughout the day (Pendergast et al., 2017). Skipping breakfast has been shown to even affect academic performance (Sofar et al., 2019). A 2015 study (McLean-Meynsse et al., 2015) found that more than 70% of surveyed university students ate fast food at least once a day, which is lacking in healthy nutrients and is high in calories, sodium, sugar, and fat. This is often due to convenience for students, among other issues that affect their diet, such as available restaurants and pricing.

Many students struggle with nutrition barriers including time constraints, convenience foods, high prices of healthy food, and lack of energy (Abdelhafez et al., 2020; Sogari et al., 2018). With classes, studying, jobs, and extracurricular activities, it makes sense that students have limited energy and time, which leads them to convenience foods. A large college study (Goldrick-Rab et al., 2018) found that 36% of college students are food insecure. The pandemic has made this issue worse which could be seen in one study with 52% of students using the off-campus food banks and 30% using them more than once (Metti, 2021). Although beneficial, most food banks are lacking in nutritious and fresh items to provide students.

Due to the nutrition behaviors discussed being common among university students, as many as 35% of college students may be overweight or obese (Huang et al., 2004); and during

the transition period from adolescence to young adult, the proportion is high for individuals who became obese and stay that way into adulthood (Gordon-Larsen et al., 2004). Obesity rates have increased most rapidly among the college-aged population, 18 to 25 years old, then any other American population (Ellison-Barnes, 2021). The nutrition practices that can cause the development of many diseases and conditions could ultimately be prevented through college nutrition programming. Although interventions have been tried in the past, many students continue to show unhealthy dietary behaviors. Considering there is around 20 million individuals attending college (National Center for Education Statistics (NCES), n.d.), it is important to better understand the nutrition practices of this university population to influence behavior changes through better informed campus nutrition campaigns. Therefore, the purpose of this study is to assess nutrition practices to better inform campus wide nutritional programming.

Research questions

College students are lacking appropriate nutrition due to poor dietary behaviors, so to better understand the nutrition practices of the university population for future campus wide programming, the following research questions will be addressed:

1. Where do most students eat their meals?
2. What is the largest barrier for college students to eat healthy?
3. What percentage of students struggle to afford food?
4. Is there a significant difference between gender and how healthy they view their eating habits?
5. Is there a correlation between skipping meals and GPA?

Methodology

Participants

Participants were 103 undergraduate students (mean age= 20.5, SD= \pm 3.6) at Lenoir-Rhyne University. This participants' ethnicities consisted of 87.4% white, 5.8% black or African American, 3.9% from multiple races, and 1% for Asian, American Indian or Alaskan Native, and Hispanic. Sixty-five percent of students identified as females, 27.2% males, 5.8% gender variant/non-conforming, and 1% other. The student's living situations were, 43 live off campus, 41 live on campus with access to kitchen/kitchenette, and 19 live on campus without access to kitchen/kitchenette.

Procedures

This was a cross-sectional research design. A survey (Appendix A) and informed consent (Appendix B) were sent out to all undergraduate students via their university email. The survey consisted of 13 questions and was conducted through Google forms. The survey did not ask for participants' names. The survey took 5-10 minutes to complete. The data was gathered on Google forms and put into Excel on a password protected computer.

Statistical analysis

Microsoft Excel was used for the statistical analysis of the data. Excel was used to formulate descriptive statistics on food habits, nutritional struggles, and nutrition attitudes. Frequency, percentage, correlation, and ANOVA were used to answer the research questions. The alpha level was set at 0.05.

Results

Survey results concluded that the majority of students eat their meals at home (36.9%),

the school cafeteria (30.1%), and on and off campus fast food/restaurants (29.1%). The largest barriers for college students to eat healthy are time and availability of food, with money being the third highest barrier. When surveyed on struggling to afford food, 44.7% of the participants stated that they have. Analysis determined that there is not a significant difference ($p=0.29$) between gender and how healthy students view their eating habits as well as no correlation between skipping meals (5.18 ± 3.41) and GPA (3.52 ± 0.51). ($r=0.20$, $p=0.10$).

Discussion

Results of this study show that students eat most of their meals at their homes, the school cafeteria, and on and off campus fast food/restaurants. Time, availability of food, and money are the largest barriers for college students to eat healthy. A little less than half of the participants stated that they have struggled to afford food at some point. After analysis, it was found that there is no significant difference between students' gender and how healthy they view their eating habits and there is no correlation between skipping meals and GPA.

With 43 participants stating they live off campus and only 19 saying they live on campus without access to a kitchen/kitchenette, it makes sense that home would likely be the top answer for students on where they eat most of their meals. Lenoir-Rhyne University has one cafeteria and five restaurant options for its students (Lenoir Rhyne University, n.d.), making those the next likely locations for participants to eat. A 2019 college and university consumer trend report looked at where students make most of their food and beverage purchases once they move off campus. The top answer was off-campus retail, grocery, or convenience stores (36%), followed by on-campus foodservice facilities (26%), off-campus restaurants (25%), and on-campus retail locations (13%) (Lewis, 2019). This data lines up with the results from the LRU participants.

These results show that for a large portion of college populations, around one-third for the LRU participants, rely specifically on on-campus foodservice and restaurants for their nutrition. The campus food options are therefore influencing students' nutrition, making this a prime area to positively influence young adults' diet choices and meal habits.

There are many barriers that impede students from eating healthy. Time and availability were both given as the primary answers. A time use study conducted by the U.S. Bureau of Labor Statistics found that on an average weekday for full-time university students, they spend around only one hour of their day eating and drinking (U.S. Bureau of Labor Statistics, 2016), which leaves little time for planning and preparing healthy meals for the average three meals a day. As previously stated, LRU does have a cafeteria and five restaurant options available to students, but as one participant stated, the healthy options at the cafeteria specifically are limited. Other barriers that were stated by students were energy, not caring about eating healthy, lack of knowledge on how to eat healthy, having food allergies, lacking access to a kitchen, and struggling with the taste of healthy foods. After time and availability, money was the third highest barrier for college students to eat healthy, based on survey results. A little less than half of all the participants have struggled to afford food, which is similar to the findings of another college study that found that 36% of students are food insecure (Goldrick-Rab et al., 2018). Although this question could have been interpreted by the participants as having ever struggled to afford food, it is still a large number of college students not being able to pay for food.

There was no significant difference between an individual's gender identity and how healthy they viewed their eating habits. The majority of participants, regardless of gender/orientation, agreed, disagreed, or were neutral in considering their eating habits healthy. A separate small study of young adults (90% being current college students) found that males

had lower self-efficacy for eating healthy and higher consumption of sodium compared to females, but there was no gender difference in self-efficacy for exercise or nutrition knowledge scores, although males did score higher on average (Stephens et al., 2017). These results are similar to an older study that looked at gender and nutrition practices/views of 2,200 students across six geographically dispersed colleges. A 6-factor structure emerged and showed that women were more concerned with appearance/weight and diet/health, tend to believe in a stronger diet-health link, rated a lower importance of food as a source of pleasure in life, and had higher eating disordered behaviors and incidence of vegetarianism (Rozin et al., 2003). Also, from the 2017-2018 National Health and Nutrition Examination Survey (NHANES) data, the percentage of men who were overweight and obese (34.1%; 43%) was higher than the percentage of women who were overweight and obese (27.5%; 41.9%). Although, among adults aged 20-39, there was no significance in prevalence of obesity by sex or age (men: 40.3; women: 39.7) (U.S. Department of Health and Human Services, 2021). Based on these studies, women would view their eating habits healthier than men, yet no significant difference was found.

Previous research has found that a wide range of students (5-83%) skip at least one meal throughout the day (Pendergast et al., 2017). According to a College Pulse survey, one third of college students were found to skip an individual meal (College Pulse, 2019). This survey was specific to skipping meals because of lack of affordably, but there are many reasons students skip meals, which makes this percentage even higher. This is evident with 71% of LRU students stating they skip around one to seven meals per week, with the highest answers being 15 meals skipped each week. The students who stated they skip meals, usually skip breakfast, and this was seen with 71% of participants. Skipping breakfast has been shown to even affect academic performance (Sofar et al., 2019). Although this is the case for that study, there was no correlation

between skipping meals and GPA found. The average self-reported GPA for the participants was 3.52 (need SD) with 82% stating having a GPA over 3.1.

Recommendations

Further research would be beneficial to fill the knowledge gaps from current literature and this study. There is limited recent research that looks into multiple aspect of college students' nutrition practices and how they relate to each other. Additional research would help to find commonalities and confirm other research. Millions of individuals are in college, so also having research with larger sample sizes would gather more data to be analyzed and likely determine greater results. Based on other literature, it may indicate a significant difference between gender and how healthy they view themselves and a correlation between skipping meals and GPA. This was not the case with LRU students. A small sample size may have led to this outcome, so more research on these topics should be conducted to confirm results. These sections of knowledge gaps are important to fill to understand what is contributing to poor nutrition in university students, to provide programs to improve the issue. Widespread college nutrition educational programs should be put in place to teach young adults appropriate nutritional information to help improve the areas that are affecting the current and future health of students. Although LRU students ranked lack of knowledge sixth in the biggest barrier to eating healthy, it could be argued that most of the answers, including the top one which was time, is something that can be taught and addressed through education related to food selection and preparation. Other education should be shared on the impacts of skipping meals and mostly eating fast food have on one's health, coupled with strategies to avoid these practices and make healthier food choices, like at fast food restaurants. Programs that target the specific areas of concern should be addressed to improve the health of university students and to teach them

knowledge and skills that will benefit them for their whole life. Recommendations for specific knowledge and skill development related to time constraint barriers and skipping meals could be food demonstrations, quick recipes, and meal prepping strategies. Education and resources on money and food availability barriers could be low-cost recipes, information on easy to access foods, and information on how to build a balanced meal at the food pantries or on-campus food services. Another program should be getting university students better access to a variety of nutritious food. A little less than half of the LRU participants stated that they have struggled to afford food and other research has found similar findings. This is unacceptable and more should be done by schools or other programs to combat these rates. Programs can provide students with access to the school cafeteria, put food pantries on campus and provide them with fresh and nutritious foods, or even partner with local farms to provide these students with food. Students should have better access to the school food establishments, but the campus also has an opportunity to provide healthy food options at these places. Having dietitians and nutrition professionals work to plan nutritious meals, highlight healthy foods or have specific “healthy food” zones, offering packaged on the go meals/snacks, and even ensuring that healthier food is competitively priced are options to implement into cafeterias. Having competitively priced healthier options would benefit the nearly half of students who stated they have struggled to afford food. Convenience stores on campus could have healthier options in the front of the store or near the checkout where the most foot traffic is to encourage the purchasing of those foods. The restaurants on campus could promote their healthier options over the others and the school could even work to get an overall healthier restaurant option on their campus. At LRU specifically, it does have a food pantry available to students, but is underutilized due to individuals not knowing it is available, its location, or how to access it. This issue is likely seen

at most colleges, so some strategies to improve outreach would be to advertise it around campus, like the dining halls, housing buildings, and even classrooms, make announcements about it at sporting events or have professors mention it during syllabus week each year, or to have a campus wide food drive event for the pantry.

PH Implications

The results from this study were able to shed a brighter light on the nutrition practices of university students and should be used to create targeted campus wide programs to improve the nutrition knowledge, habits, and health of college students. It also revealed where more research should be conducted to gather more evidence to confirm results. Many of the results that were gathered aligned with other literature and show how these issues are consistently being found within university students and young adults. By improving nutrition practices and knowledge earlier in adulthood, this could potentially help reduce the future rates of diseases that are associated with poor nutrition.

Limitations

There are some possible limitations to this study. The largest limitation on the study was the small sample size. Data was collected from 103 student participants, which does not adequately represent the current undergraduate population size at LRU. The small sample size was predominantly made up of white individuals and females. This demographic make-up skews the results in favor of their nutritional practices and experiences, versus what the data from an average university campus might express. Gathering a larger sample size would garner more data for analysis and make the results have a higher reliability and validity. A second limitation is the wording on specific survey questions were broad and would have gathered more beneficial information if worded with more detail. For example, the yes or no question “I have struggled to

afford food” does not delineate a time period. For future research, asking if students have struggled to afford food while in college would make it easier to determine university food insecurity rates. Having to interpret survey answers was another limitation. The majority of survey questions had a fill in option that participants could utilize. Some of the answers did not specifically answer the question, gave two answers, or hinted to a specific answer. To gather the data for analysis I had to determine what answers were usable or not, and which needed to be interpreted into an exact answer. This may have altered results slightly because not all 103 answers for every question could be used and interpretation of some individuals’ answers may have been different than what they intended. Reducing this issue could be solved by giving direction to specific questions and examples to what is expected.

Conclusion

Poor nutrition is all too common and has serious health implications. The negative nutrition practices seen in many adults may be fostered and developed in early adulthood. College is an important time for individuals to gain greater independence and develop lifelong habits. With many of the university students, it seems that poor nutrition habits are being developed and may have an impact on their future food choices and health. This study was conducted to better understand the nutrition practices of college students to help inform campus wide programming. Results that some students eat most of their meals at fast-food/restaurants, the majority lack in time and availability to eat healthy, nearly half of the participants struggle to afford food, and many students skip meals throughout the day, reveal areas of improvement that college students could benefit from. This data shows that university students are missing out on nutrition knowledge, skills and healthy food accessibility that could help them individually and as a population become healthier. There are so many areas that this research highlights that could

be positively affected and create a real change in the current and future health of the United States. Future programming needs to be put in place to provide students with information on healthy nutrition habits and provide greater access to nutritious food to the students who are lacking it. Nutrition plays a major role in the health of individuals and should be taught early on in adulthood so the future health of the country doesn't keep diminishing, and this can be improved through future research and campus wide programming.

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Appendix A – Survey

1. I eat most of my meals from

- A. Home
- B. Off campus restaurants/fast food
- C. On campus restaurants/fast food
- D. School cafeteria
- E. Other: _____

2. I mostly eat meals with

- A. Myself
- B. Friends
- C. Family
- D. Roommate(s)
- E. Other: _____

3. If you skipped meals in the past, what meal is usually skipped? (pick one)

- A. I have not skipped meals in the past
- B. Breakfast
- C. Lunch
- D. Dinner
- E. Other: _____

4. What is your main barrier to eating healthy?

- A. Money
- B. Time
- C. Energy
- D. Do not care
- E. Availability of food
- F. Lack of knowledge
- G. Other: _____

5. I have struggled to afford food

- A. Yes
- B. No

6. I consider my eating habits “healthy”

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

Please type in your answer for questions 7-10.

7. What is your food budget for each month?
8. How many meals do you skip a week?
9. What is your GPA?
10. What is your age?
11. What is your ethnicity?
 - A. White
 - B. Black or African-American
 - C. American Indian or Alaskan Native
 - D. Asian
 - E. Native Hawaiian or other Pacific Islander
 - F. From multiple races
 - G. Some other race (please specify): _____
 - H. Prefer not to answer
 - I. Other: _____
12. To which gender identify do you most identify?
 - A. Female
 - B. Male
 - C. Transgender Female
 - D. Transgender Male
 - E. Gender Variant/Non-conforming
 - F. Not Listed: _____
 - G. Prefer Not to Answer
 - H. Other: _____
13. Do you live
 - A. On campus with access to a kitchen/kitchenette
 - B. On campus without access to a kitchen/kitchenette
 - C. Off campus
 - D. Prefer not to answer
 - E. Other: _____

Appendix B – Informed Consent

Informed Consent

PI Name: Camryn Bell
 PI Email Address: Camryn.bell@my.lr.edu
 PI Phone Number: (479) 366-5952

Faculty Advisor: Randy Bergman
 Phone Number: (865) 405-9141
 Email Address: Randall.bergman@lr.edu

Purpose:

You are invited to participate in a research study. The purpose of the research is to assess nutrition practices to better inform campus wide nutritional programming.

Procedures:

If you choose to participate, you will be asked to answer 13 online survey questions related to your nutritional practices, attitudes, and demographics, via Google Forms, through a link sent to your school email. It will take approximately 5 minutes to complete the survey.

Risk:

The study involves no foreseeable risks or harm to you beyond those of everyday life.

If your participation in this research has caused you to feel uncomfortable in any way, or if our research prompted you to consider personal matters about which you are concerned, we encourage you to take advantage of the confidential counseling services offered at Lenoir-Rhyne. You can contact a campus counselor at the Cornerstone Student Support and Wellness Center at 828-328-7252.

Benefits:

You will receive no direct benefits from participating in this research study. However, your responses may help us learn more about nutritional practices with undergraduate LR students.

Right to Ask Questions:

You may ask questions about the research or participation at any time. The PI, Camryn Bell, can be contacted at (479) 366-5952 and Camryn.bell@my.lr.edu, the faculty advisor Randy Bergman can be reached at 828-328-7788 and Randall.bergman@lr.edu. Should you have questions regarding your rights as a research participant, or wish to obtain information, ask questions, or discuss with someone other than the researcher(s), please contact IRB member at Lenoir-Rhyne University, Dr. Jeffrey Delbert at Jeffrey.delbert@lr.edu or 828-328-7820.

Confidentiality:

Participation in this study is voluntary and refusal to participate or answer any particular question will not result in any penalty. As an online participant in this research, there is always the risk of intrusion, however small, by outside agents (i.e., hacking) and, therefore the possibility of being identified exists. No absolute guarantees can be made regarding the confidentiality of electronic data. However, the data collected in this survey will be transmitted in encrypted format to provide additional safeguards against hacking. This helps ensure that any data intercepted during transmission cannot be decoded and that individual responses cannot be traced back to an individual respondent.

The survey will be completed using Google Forms. Once the survey period is complete the data will be transferred into MS Excel and deleted from Google Forms. The Excel data will be stored on a password protected computer for 3 years and then deleted.

Right to Withdrawal:

Your participation in this study is voluntary and you may withdraw at any time prior to submission of your data. You may refuse or discontinue participation at any time without consequence or prejudice.

Consent:

I have read the information describing this study. I understand I am free to withdraw from this study at any time without penalty. By completing this survey, I am verifying that I am 18 years of age or older and giving my consent to participate in this research.

Appendix C – Survey Results

I mostly eat meals at	#
Home	38
School Cafeteria	31
On Campus restaurants/fast food	17
Off campus restaurants/fast food	13
Other	4

What is your main barrier to eating healthy?	#
Time	26
Availability of food	26
Money	22
Energy	11
Do not care	9
Lack of knowledge	2
Other	7

I have struggled to afford food	%
No	55.30%
Yes	44.70%

What is your GPA?	#
1.5-2.0	2
2.1-2.5	4
2.51-3.0	10
3.1-3.5	19
3.51-4.0	55

I consider my eating habits "healthy"	#
1-Strongly Disagree	7
2-Disagree	21
3-Neutral	40
4-Agree	30
5-Strongly Agree	5

If you skipped meals in the past, what meal is usually skipped?	%
Breakfast	70.90%
Lunch	18.40%
Dinner	3.90%
I have not skipped meals in the past	2.90%
Other	4%
How many meals do you skip a week?	#
>1	9
1-3	25
3.1-5	21
5.1-7	25
7.1-9	9
9.1-11	6
11.1-13	3
13.1-15	2

What is your age?	#
18	15
19	25
20	21
21	26
22	10
24	1
25	2
28	2
52	1
What is your ethnicity?	%
White	87.40%
Black or African-American	5.80%
American Indian or Alaskan Native	1%
Asian	1%
Native Hawaiian or other Pacific Islander	0%
From multiple races	3.90%
Prefer not to answer	0%
Other (Hispanic)	1%
To which gender identity do you most identify?	%
Female	65%
Male	27.20%
Transgender Female	0%
Transgender Male	0%
Gender Variant/Non-conforming	5.80%
Prefer not to answer	1%
Other (non-binary trans masculine)	1%
Do you live	#
On campus with access to kitchen/kitchenette	41
On campus without access to kitchen/kitchenette	19
Off campus	43
Prefer not to answer	0

Appendix D – Foundational Competencies

Evidence-Based Approaches to Public Health

1. Apply epidemiological methods to the breadth of settings and situations in public health practice

The competency was completed in MPH 521 – Epidemiology by successfully completing Descriptive Epi Paper and Oral Presentation, Systems Thinking Paper, midterm exam, and the final exam.

2. Select quantitative and qualitative data collection methods appropriate for a given public health context

The competency was completed in MPH 540 – Program Evaluation and Measurement by successfully completing the Health Program Evaluation Project, oral presentation, and final exam.

The competency was completed through this thesis project by determining the method of data collection (online survey) that would be most appropriate and effective to get information from LR students related to their nutrition practices.

3. Analyze quantitative and qualitative data using biostatistics, informatics, computer-based programming and software, as appropriate

The competency was completed in MPH 516 – Quantitative and Qualitative Analysis by successfully completing Project 1- Quantitative analysis, Project 2- Qualitative analysis, midterm exam, and the final exam.

The competency was completed through this thesis project by analyzing the data received by the online survey in Microsoft Excel.

4. Interpret results of data analysis for public health research, policy or practice

The competency was completed in MPH 516 – Quantitative and Qualitative Analysis by successfully completing Project 1- Quantitative analysis, Project 2- Qualitative analysis, midterm exam, and the final exam.

The competency was completed through this thesis project by using the results from the Excel analysis to explain potential reasons causing the results and by making recommendations based off of the results.

Public Health and Health Care Systems

5. Compare the organization, structure and function of health care, public health and regulatory systems across national and international settings

The competency was completed in MPH 510 – Foundations of Public Health by successfully completing Project 2- Organization, structure and function- Healthcare, Project 3- Organization, structure and function- Public health, and the final exam.

6. Discuss the means by which structural bias, social inequities and racism undermine health and create challenges to achieving health equity at organizational, community and societal levels

The competency was completed in MPH 510 – Foundations of Public Health by successfully completing Project 1-Structural bias, social inequities and racism and the final exam.

Planning and Management to Promote Health

7. Assess population needs, assets and capacities that affect communities' health

The competency was completed in MPH 535 – Program Planning and Implementation by successfully completing the Final Program Proposal, oral presentation, and final exam.

8. Apply awareness of cultural values and practices to the design or implementation of public health policies or programs

The competency was completed in MPH 535 – Program Planning and Implementation by successfully completing the Final Program Proposal, oral presentation, and final exam.

9. Design a population-based policy, program, project or intervention

The competency was completed in MPH 535 – Program Planning and Implementation by successfully completing the Final Program Proposal, oral presentation, and final exam.

10. Explain basic principles and tools of budget and resource management

The competency was completed in MPH 523 – Public Health Leadership and Management by successfully completing Project 2- Understanding Organizational Budgets and the final exam.

11. Select methods to evaluate public health programs

The competency was completed in MPH 540 – Program Evaluation and Measurement by successfully completing the Health Program Evaluation Project, oral presentation, and final exam.

Policy in Public Health

12. Discuss multiple dimensions of the policy-making process, including the roles of ethics and evidence

The competency was completed in MPH 525 – Public Health Policy by successfully completing the final exam – questions 2, 7, and 8.

13. Propose strategies to identify stakeholders and build coalitions and partnerships for influencing public health outcomes

The competency was completed in MPH 528 – Community Engagement by successfully completing the Engagement Project.

14. Advocate for political, social or economic policies and programs that will improve health in diverse populations

The competency was completed in MPH 525 – Public Health Policy by successfully completing Project 2b- Advocacy.

15. Evaluate policies for their impact on public health and health equity

The competency was completed in MPH 525 – Public Health Policy by successfully completing Project 1- Policy Evaluation.

Leadership

16. Apply principles of leadership, governance and management, which include creating a vision, empowering others, fostering collaboration and guiding decision making

The competency was completed in MPH 523 – Public Health Leadership and Management by successfully completing Project 3- Pecha Kucha and the final exam.

17. Apply negotiation and mediation skills to address organizational or community challenges

The competency was completed in MPH 523 – Public Health Leadership and Management by successfully completing Project 1- Peer Coaching and the final exam.

Communication

18. Select communication strategies for different audiences and sectors

The competency was completed in MPH 555 – Health Communication by successfully completing Project 7- Crisis Communication Peer Review.

19. Communicate audience-appropriate public health content, both in writing and through oral presentation

The competency was completed in MPH 555 – Health Communication by successfully completing Project 3- Informational Presentation.

20. Describe the importance of cultural competence in communicating public health content

The competency was completed in MPH 555 – Health Communication by successfully completing the final exam.

Interprofessional Practice

21. Perform effectively on interprofessional teams

The competency was completed in MPH 528 – Community Engagement by successfully completing the Interdisciplinary Project and oral presentation.

Systems Thinking

22. Apply systems thinking tools to a public health issue

The competency was completed in MPH 521 – Epidemiology by successfully completing Descriptive Epi Paper and Oral Presentation, Systems Thinking Paper, midterm exam, and the final exam.

Community Health Concentration Competencies

23. Distinguish how the dynamic interactions among social systems within communities facilitate or inhibit healthy behaviors

The competency was completed in MPH 528 – Community Engagement by successfully completing the Final Community Engagement Project Proposal.

24. Evaluate the quality of data (validity, reliability, normalcy, etc.) for proper data management

The competency was completed in MPH 516 – Quantitative and Qualitative Analysis by successfully completing Project 1- Quantitative analysis, Project 2- Qualitative analysis, midterm exam, and the final exam.

The competency was completed through this thesis project by confirming that all data was accounted for, tests were run multiple times to confirm results, and checking that the results were reasonable based on the data.

25. Justify the need for proper evaluation of programs and policies for the allocation of the necessary resources (time, financial, personnel, planning, etc.)

The competency was completed in MPH 540 – Program Evaluation and Measurement by successfully completing the Health Program Evaluation Project, oral presentation, and final exam.

The competency was completed through this thesis project by gathering data on LR college students' nutrition practices to show the areas that need improvement to better inform and encourage future campus wide programming.

26. Discuss the application of empowerment theories to facilitate the consensus building process.

The competency was completed in MPH 528 – Community Engagement by successfully completing the Final Community Engagement Project Proposal.

27. Evaluate community assets and resources that can be used to enable community organizing and improve the health in a community

The competency was completed in MPH 528 – Community Engagement by successfully completing the Final Community Engagement Project Proposal.