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Study of Weight Gain in Freshman Students at the University of Arkansas

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Study of Weight Gain in Freshman Students at the University of Arkansas

A thesis submitted in partial fulfillment
of the requirements for the degree of
Master of Science in Human Environmental Sciences

by

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This thesis is approved for recommendation to the Graduate Council.

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ABSTRACT

This study was designed to examine the poor (non-nutritional) food choices that college freshman make when living on-campus and eating at on-campus dining facilities. These poor choices lead to excessive weight gain, eating disorders, declining health and wellness, and mental health issues (i.e. depression, anxiety, lack of self-confidence). These side effects can lead to a less than desirable 1st year college experience and lack of academic success. Based on these concerns, different investigations have been performed to determine the causes of this phenomena. Given adolescent weight gain is highly linked to being overweight and obesity in adults, a better understanding of university student weight gain is crucial if we are to combat the rising adult obesity.

This study found that selection and amount of students' food consumption are valuable for scheduling on-campus dining/Greek house menus and future plans for freshmen' consumption patterns. It is important for college students to eat a healthy diet as it improves energy, memory and focus. Additionally, students who eat a healthy diet are less likely to contract illnesses as a nutrient-rich diet that is low in processed foods, and sugars while high in vegetable intake assists in creating a robust immune system. Furthermore, there is significant research that shows a correlation between dietary habits and anxiety and depression.

Universities cannot control their students' sleep patterns or physical activity habits, but they can direct students and assist them with healthy eating patterns by providing leadership, education, and more health conscious on-campus dining menus and options. This will assist students in making choices that sway them from choosing cheap, unhealthy foods by providing quality, convenient and healthy options.

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I would like to express my deepest appreciation to Dr. Kelly Way for her invaluable patience, advice and feedback. I could not have undertaken this journey as an international student without her supports. Words cannot express my gratitude to her for making it possible to continue my education after twenty-three years away. She just encouraged me to walk the path without reminding me of mispronouncing words and using them. She never let me down and was always by my side.

I would also like to acknowledge my committee members, Dr. Jennifer Nicole Becnel and Mr. Robert W. Powell. They both were positive and never failed to give me insightful feedback regarding my thesis.

Finally, I must express my appreciation for my husband and my family and friends especially Mrs. Siahmakoun for making this possible. Their belief in me has kept my spirits and motivation high during this journey. Undoubtedly, without their help achieving my goals was unattainable.

I know without a doubt that God has blessed me with the best in every area. There are not enough words to explain the impact everyone that I have mentioned has done for me. This experience during graduate school will always be a time I will cherish.

DEDICATION

This work is dedicated to my husband Reza Khosropour who always gives the best advice, encouragement and support a wife and his daughters' mom could ever dream of. Without him, I would have never reached this accomplishment. Thank you for always loving and encouraging me to pursue my dreams no matter what it takes.

TABLE OF CONTENTS

Introduction	1
Reasons that contributed to the freshman 15	2
History of Campus Dining	3
Purpose of Study	5
Problem Statement	6
Objectives	6
Research Questions	6
Assumptions and Limitations	7
Literature Review	8
The Freshman “15” Phenomenon	9
Campus Food Choices	10
Weight changes / Fluctuations in college students	12
Body image/ Emotion	16
Summery	19
Methodology	20
Research Design	20
Population and Sample Selection	21
Instrumentation	21
Data Collection Techniques	22
Data Analysis	22
Response Rate	23
Respondent Profile	23

Results and Discussion.....	28
Research Question 1.....	28
Research Question 2.....	31
Research Question 3.....	34
Research Question 4.....	35
Research Question 5.....	37
Conclusions.....	41
Summary.....	48
Recommendations for Future Research	49
References	50
IRB Approval	56
Qualtrics Survey.....	57

LIST OF TABLES

1- Demographics Characteristics of Respondents: age, gender, ethnicity and race.....	24
2- Characteristics of Respondents: accommodations, preparation meal types restaurant, numbers of preparation, awareness about “freshman 15” and being away from house for first time.....	25
3- Demographic perception of body image/emotion.....	27
4 A- Are students aware that maintaining a healthy weight is important to self-perception and self-control?.....	29
4 B- Are students aware that maintaining a healthy weight is important to self-perception and self-control?.....	31
5- Students’ perceptions of parameters and habits.....	33
6A- Student acknowledgment of convenience foods and their relation to weight gain.....	34
6B- Student acknowledgment of convenience foods and their relation to weight gain.....	35
7- What are the patterns of food consumption for freshman students?.....	36
8- Freshmen students: what are they eating on-campus.....	39

LIST OF FIGURES

- 1- Figure1: Factors influencing eating behaviors of university students.....15**
- 2- Figure 2: The effective of media and peers on negative body image.....17**
- 3- Figure3: Associated Factors with over-weight and underweight students.....18**

CHAPTER 1

Introduction

It's unlikely to find someone who has never heard the expression: "Freshman 15" regarding weight gain in the freshman year of college. But few have explored what is behind this expression and why do some college students gain the dreaded "15 pounds" during their first year of college? What causes concern is the gradual increasing weight happening during the journey from adolescence to young adulthood? Much of the weight gain is attributed to the various life changes students experience by being away from home and at college for the first time. This is often the first-time students have been "on their own" and making their own decisions without parental guidance. Students find they are free to eat what they want, when they want and where they want.

Sugary beverages, salty snacks in light night study sessions, choosing bigger portions in the dining hall or Greek Houses, access to French fries and ice cream in food trucks, and vending machines packed full of unhealthy snacks or drinks are tempting to first time students who are experience a new class and activity schedule. Additionally, students are experiencing new stresses and anxiety that can lead to stress eating or separation anxiety, deportation, fear, despondence, etc. (John Hopkins Hospital, n.d.). Also, of concern, is the rise in obesity among college students, and the possibility of increasing the risk of various diseases. For illustrate ample, type 2 diabetes, high blood pressure, the occurrence of liver problems, cancer, coronary heart disease, stroke, body pain and difficulty with physical functioning, etc. (Anestal, Garcia, & Brazendale, 2023).

Moreover, the effects on self-confidence in young adults cannot be denied. College students are prone to having body image issues, overeating, weight shaming/bullying, and eating

disorders. Eating disorders are serious conditions that can have a profound mental and physical impact, including death.

People often joke about the freshman 15- and first-year weight gain, but the changes associate with college life and the diversity of challenges in this journey are nothing to joke about it. College freshman are often subjected to an overwhelming amount of encouragement to choose and consume unhealthy food. Some reasons that contributed to the freshman 15 or weight gain are:

- a) **Busy schedules** - they have new schedules, longer class times, social activities, clubs, and homework. Finding time to eat can be difficult and often students find they have to stand in long lines to order food. Their days are often filled with multiple time-consuming activities such as: classes, work, exercise, and social life (American Dining Creations, n.d.).
- b) **The expense** -- college is expensive. Tuition, loans, transportation, books and food are not cheap. Class schedules can cut into potential work hours thus decreasing the potential income a student may have to spend on healthy foods.
- c) **Not enough options**- students without a car or access to transportation have issues accessing grocery stores which can reflect in not cooking (if possible, living on campus).
- d) **Adjustments** – there are new challenges happening in this period of time for freshman students. Sharing their space with roommates, living away from their family and friends, dealing with financial situations, and taking charge of their schedules, can lead to worry and anxiety.

- e) **Struggles with body image**-- there are many factors that can contribute to negative self-perceptions resulting in a poor body image.
- f) **Mental health affecting diet**-- studies have shown that freshmen struggle with mental health more so than other students. This may result in students skipping meals or trying to self-soothe by consuming unhealthy foods.
- g) **Drugs and alcohol consumption affect diet-- this could be the** first-time students to experiment with alcohol and drugs which could contribute to a poor diet.
- h) **Special diets**- such as vegan or vegetarian diets, and food allergies can make establishing a healthy diet a bit harder (Sullivan, 2023).

By considering the mentioned points above, fast food consumption, low intake of fruits, vegetables and erratic eating patterns it can be understood the impact on poor eating habits of freshman students (Zwart,2020). Therefore, the need for accessible healthy food and nutrition information in on campus dining facilities is imperative.

Campus Dining

The detailed facilities seen for on-campus dining today are a far cry from the previous dining halls. Harvard University established the first dining hall in November, 1818 gathering students into their own dining room and brought students together in friendly and peaceful atmosphere: although, it later led to the first student's rebellion (Williams, 2019).

Since then campus dining has become a prominent place to attend. Gradually, campus dining services evolved by gaining more experience and function preparing for the modern society of today. Campus dining has converted into places to grab a quick bite between meetings or lunch with friends and colleagues. Now more than ever campus dining managers know the

importance of food in the collegiate society, they realize how food and interaction with others is more important now than it has ever been before (Williams, 2019).

Generally, college students especially residents on campus have limited food choices in Campus dining in the school. Universities must provide accurate nutrition information to stop students from collecting inaccurate information found on social media about their lifestyles. Although, what type of food, how much, and when to eat cannot be predictable, it is imperative that students are aware and acknowledge how biological, hormonal, and independence changes (Mihalopoulos, Auinger, Klein, 2008).

Shifts in home and work or school environments can be implicit in their food choices. Good academic execution at a university may have lasting effects on a student's future health, quality of life, career, and earning capacity; therefore, promoting a healthier diet throughout being at a university would have positive effects on both health and academic performance in the future.

Eating behavior patterns for college students are influenced by several factors. For example: individual factors such as food preferences or taste, self-discipline, state of mind, body image and self-concept, dietary knowledge, time and convenience, personal priorities, meal preparation time, daily rhythm or structure, past eating habits, physical activities level, metabolism, and vitality. Social environment like parental control, home education, social support (friends and family), and peer pressure. Physical environment including the availability and accessibility of healthy foods and cooking supplies appeal to foods and food prices or cost. Macro environment consisting of policy and legislation, socio-cultural norms and values, media, and advertisement. University characteristics same as residency, student societies, university lifestyle, and exams (Deliens, Deforche, Chapelle, & Clarys, 2015).

Body Image/ Emotion

In the sensitive age of transformation from adolescents to young adults having body image concerns is common. In this critical age, lots of mental, physical, and emotional changes happen to the body and the continuation of it brings challenges the self-confidence and attitude towards the body. ‘How they see themselves’ (Byrne 2022). Weight changes experienced by freshman students in college add confusion and feelings about the culture which encourages thinness is ‘ideal’ and overweight is a big deal. Different editing apps and filters are common among users in the Z generation (Bavikatty,2022). Body attraction would be defined by media, social and peers by spending time on social networks and peer conversation. This role is important for comparing one’s appearance and the standard beauty that has been accepted by the media and friends (Shen, Chen, Tang & Bao, 2022).

Previous studies have mentioned another significant element of parents’ effectiveness of being overweight or underweight. Parental education, style of life, and eating behavior have a productive impact on identified stress and eating emotions (Rezapour, Ferraro & Alsubaiei,2022).

Sociocultural factors same as family, peers, and media involve appearance comparison and internalization of the thin ideal. It brings body unpleasantness. After that, the possibility of restrained eating, Bulimia, and psychological distress will be provided (Shen, Chen, Tang & Bao, 2022).

Purpose of study

Herein, this study proposes to report on freshman’s food choices at the University of Arkansas. and in continuation of that, predicting which kind of changes in the menu of campus dining, Greek house, could be helpful in decreasing their weight gain during their freshman year.

Problem statement

Freshman students gain weight their first year in college leading to being overweight or obese, poor body image, and potentially a decrease of mental wellness.

Objectives:

The following objectives were developed to achieve the purpose of this study as previously mentioned:

- 1- Reporting types of foods that freshmen at the University of Arkansas prefer to eat while dining on-campus.
- 2- Determine changes that campus dining could make (food offerings) to encourage students make better food choices.
- 3- Reporting the level of awareness freshman at the University of Arkansas have of body image and weight gain.

Research Questions:

Based on the perceptions of freshman regarding the “Freshman 15”, this study aims to determine:

- 1) If students are aware that maintaining a healthy weight is important to overall health?
- 2) Students perceptions of parameters and habits that could negatively affect weight?
- 3) Student’s acknowledgement of convenience foods and their relation to weight gain?
- 4) What are the patterns of food consumption for freshman students?
- 5) What are freshman students eating?

Assumptions and limitations:

It is assumed that participants in this study will answer the questionnaire honestly and accurately and that they understand the concept of the “Freshman 15”. It is also assumed that the participants will also have some knowledge of struggles and limitations due to campus dining and weight gain to base their answers regarding questions about their experiences in their freshman year of college. The scale of research will be limited for the following reasons:

- The participants of the study will be limited to men and women who are enrolled at the University of Arkansas and are in their freshman year of college. Therefore, the results cannot be generalized outside of this target population. It is possible that men and women may have had different experiences.
- The respondents must self-select to participate in the study.
- There is no way to conclude whether all of the answers given by the respondents represent a true experience.

CHAPTER 2

Literature Review

Introduction:

In the past decade, lifestyle changes and possible predictors of weight changes during the transition of freshman university students have been studied. Teenage obesity has been shown to be a growing risk factor for cardiac, endocrine and cancer diseases. For instance, in the United States, obesity in 12–19 years old has increased dramatically in the past decades with about 35% being overweight or obese in 2011 (World Health organization, 2011). The transition from secondary school to university is a critical and vulnerable period for body weight changes and unhealthy lifestyle adoption (Bray, 2004). College students (especially in the sensitive first year of college) are at high risk of gaining weight because significant changes occur in their lives and their lifestyle. The journey from adolescence to young adult life clearly brings stress, unhealthy eating, and changes in sleeping habits and physical activities (Gropper, Simmons, Gaines, Drawdy, Saunders, Ulrich, & Connell, 2009).

Indeed, it is a significant life altering moment with students experiencing high academic pressure, all the while having unprecedented freedom and often living away from home for perhaps the first time in their lives. The research cited in this study includes a gathering of evaluated predictors of weight gain in first year students (Mihalopoulo, et.al, 2008; Racine, Schorno, Gholizadeh, Bably, Hatami, Stephens, Zadrozny, Schulkind & Paul, 2022).

The Freshman “15” Phenomenon:

“The “freshman 15,” refers to a 15-lb weight gain during the first year of college and is a commonly cited phenomenon in the popular press. Despite extensive research, complete and comprehensive scientific reasons have not yet been provided for the certainty of this amount of gain weight, but the study of excess weight among freshmen is important and should be investigated as a risk of obesity in future generations. (Gropper, et.al, 2009). Scientists typically do not propose a specific method for freshman students to choose the best food for consumption nutrition or give recommendations about dietary components for the specific amount of a food group (Sogari, Velez-Argumedo, Gómez & Mora, 2018). Previous research has attempted to assess environmental and social factors that affect students’ healthy eating choices.

Research in this field continued through Covid as increased snacking behaviors, food availability and accessibility were greater when students moved back to their parents’ homes and possibly with their siblings: who may have influenced their food choices. This data may be helpful to researchers and health promotion professionals interested in the effects of COVID-19 on the student nutrition and related food behaviors, including those interested in the relationship between context and food choice (Powell, Lawler, Durham & Cullerton, 2021). This type of research could be useful in educating our younger generations for critical situations (like the COVID pandemic) in the future.

Based on this criticality of overweight young adults and the factors affecting weight gain in university students, the practical and applicable way to reduce this phenomenon is to look closely at on-campus dining habits. To achieve one practical solution, this study was designed to research the causes for gain weight in freshman students at the University of Arkansas.

Specifically, research pertaining to freshman students who not only live in on-campus housing (dorms, Greek houses, and apartments) but also eat on-campus. The choices or habits of freshman students is investigated in this research. These choices or habits may lead to excessive weight gain, eating disorders, declining health and wellness, and mental health issues (i.e., depression, anxiety, lack of self-confidence). These side effects can lead to a less than desirable 1st year college experience and lack of academic success. Often referred to as the “freshman fifteen”, “freshman forty”, or “freshman fifty” studies have been conducted to determine why first year students gain weight that typically they would not have if they did not reside on campus.

Freshman students who gained weight, gained it at rates much faster than that of the general population. Perhaps a shift from topic focused health promotion to a more holistic approach to health promotion including fostering healthy social and built environments could help to reduce weight gain. Health promotion and health intervention seem critical in the first year at a university (Mihalopoulos, et al., 2008).

Campus Food Choices:

A 2012 study showed 68.6% of young adults were either overweight or obese, which increases the chances of diabetes, coronary artery disease, cancer, and other serious conditions (Ogden, Carroll, Lawman, Fryar, Kruszon-Moran, Kit, & Flegal, 2016; Laska, Hearst, Lust, Lytle, & Story, 2015). Obesity is the leading cause of heart disease and is the major cause of death in the United States (Levi, Chan, & Pence, 2006) resulting in an estimated 300,000 deaths and \$100 billion in medical expenditures per year (Levi, Chan, & Pence, 2006). Anyone can witness the vast food environment offered on a college campus by merely walking about one. Campuses are plagued with national fast-food stores, food trucks, food courts and convenience

stores stocked mostly with sugary beverages, salty and/or oily foods, accompanied by an array of unhealthy foods of all shapes, forms, and flavors.

The menus in these “dining” facilities often encourage passersby to make poor nutritional food choices. While some universities, may approach healthy choices by having a “health plan” that includes campus food gardens, food pantries and classes on purchasing and preparing nutritious food, universities have not done the best job of making these “plans” visible (Cleveland, 2022). Universities need to provide accurate and available nutrition information to prevent students from assembling inaccurate information found on social media into their lifestyle.

Powell, Durham, & Lawer (2019) stated:

“The food choices are often the result of routine, rapid decisions rather than carefully considered selections based on an evaluation of benefit against risk. About the period of young adulthood is an underexplored but ideal window that is in the lifespan for promoting healthy food choices”.

Although, what type of food, how much and when to consume it cannot be approximated, it is imperative that students be aware and acknowledge how biological changes, hormonal changes, increasing independence and shifts in home and work or school environments can impact their food choices. Additionally, the economic status, campus community and climate, as well as relationships with their peers are also extremely influential on food choices (See Figure 1). These changes can promote or hinder consumption of healthy foods. Large prospective studies have highlighted this vulnerability by tracking weight gain and showing how these behaviors often continue for many years after college (Yakusheva, Kapinos, & Weiss, 2011). It is important to reach young adults before these behaviors become entrenched to reduce the risk of negative

health outcomes later in life and, instead, encourage positive eating trajectories (Powell, Durham, & Lawer, 2019).

It has been found that students who reside off campus participate in more physical activities, have a more suitable diet, and have healthier serum lipid levels as opposed to students living on campus (Childers, Haley, Jahns, 2011). This can be attributed to lack of parental control, physical environment, friends and peers, availability or accessibility to food, economic situation and prices of food, and the macro environment (media or advertising).

Transitioning from high school to college is a life changing event and is a time in life when independent health behaviors can form (Swanstorm, 2017). This age group is in stage of changing from childhood to adulthood and making choices for themselves. Parents are not as much of a deterrent in eating choices, which can cause a young adult to practice unwise eating behaviors (Hudd, Dumlao, Erdmann-Sager, Murray, Phan, Soukas, & Yokozuka, 2000).

Transitioning to campus life is a large part of many young adult's lives, with nearly half of high school graduates attending a post-secondary institution (Laska, Hearst, Lust, Lytle, & Story, 2015). Young adults who are overweight when leaving for college are at a greater risk of becoming obese adults (Ogden, Carroll, Kit, & Flegal, 2016)

Weight changes / Fluctuations in college students:

It is commonly recognized that university students commit many nutritional errors due to changes in lifestyle such as moving away from the family home, irregular meals, long hours spent studying, and frequently taking part-time jobs. Moreover, a student's life at a university has a variety of components affecting their diet: irregular lifestyle; a change in residence; a lack of student cafeterias; stress; a hectic lifestyle; jobs taken during non-class time; inappropriate

habits and eating behaviors adopted from their family homes; meeting energy requirements by consuming energy-packed snacks, or the use of stimulants (Kowalska, 2010).

Kowalska (2010) observed that a frequent problem among students relating to irregular consumption of meals, particularly breakfast. As some investigations have illustrated, the main barriers to healthy eating were identified as skipping breakfast and deficiencies in the consumption of specific food groups, such fruits and vegetables as recommended by World Health Organization (Daniuseviciute-Brazaite & Abromaitiene, 2018).

The transition for many young adults leaving the parental home and moving away to university is an important time in influencing short- and longer-term eating habits and wider lifestyle behaviors (Papadiki, Hondros, Scott, & Kapsokefalou, 2007). The transition involves significant changes as for many it will be the first time that they live away from home. Previous studies suggest that many factors influence their dietary intake and food choices which include autonomy over food choices, affordability of food, exposure to new social groups, cooking skills and facilities, nutritional knowledge, and exam stress (Sprake, Russell, Cecil, Cooper, & Grabowski, 2018; Nelson, Story, Larson, Neumark-Sztainer, & Lytle, 2008) (See figure 1). Additionally, students from other countries and regions moving to foreign universities are likely to face further differences including for example availability of traditional foods, lifestyle, climate, and culture.

Studies suggest that university students display dietary behaviors which are unlikely to be conducive to either short or long-term health as students have a tendency towards eating an imbalanced and poorer quality diet (Sprake et al., 2018) irrespective of the country of study (Pearcey & Zhan, 2018), culture/religion (Navarro-Prado, González-Jiménez, Perona, Montero-Alonso, López-Bueno, Schmidt-RioValle, 2017), or year of study. As a result of this critical

transition period many young people are reported to gain weight becoming obese which puts them at risk for chronic diseases such as type 2 diabetes (Guo, Huang, Maynard, Demerath, Towne, Chumlea, & Siervogel, 2000).

Evidence from both USA and UK surveys have concluded that the typical university student's diet is generally low in foods likely to contribute to optimal dietary patterns and perceived as healthier choices such as vegetables, fruits, and dairy products and also higher in fat, sugar, salt and high in alcohol and perceived as less healthy (Deliens, Deforche, Chapelle, & Clarys, 2015; Hilger, Loerbroks, Diehl, 2017; Zellner, Loaiza, Gonzalez, Pita, Morales, Pecora, & Wolf, 2006; Kelly, Mazzeo, & Bean, 2013; Egger & Swinburn, 1997) which is unlikely to be conducive with good health (Sprake et al., 2018).

A diet high in snacks coupled with excessive alcohol intake is reported to contribute to increased energy intake which is associated with a high risk of developing obesity and a risk factor for a variety of non-communicable diseases such as type 2 diabetes, cardiovascular disease, and certain cancers. Studies have shown that first year students have reportedly gained between 3 and 4.4 kg (6.61 to 9.7 lbs) (Kelly et al., 2013; Napolitano, Hayes, Bennett, Ives, & Foster, 2013) and students are reported to gain weight more rapidly than a young person not attending university (Holm-Denoma, Joiner, Vohs, & Heatherton, 2008). Such weight gain if sustained over the 3-4 years at University may lead to obesity in later life and is associated with increased risk of developing chronic disease and long-term health implications lasting well into adulthood (Kelly et al., 2013).

Overall promotion of a healthier diet is important for health but also has the potential to influence cognitive function and academic performance (Burkhalter & Hillman, 2011). A systematic review involving studies with university students reported that the majority of studies

demonstrated a positive association between diet and academic achievement ($n = 5$) and educational success, in that students who consumed regular meals, including breakfast, and also those who consumed more fruit, were found to have higher academic achievement (Babaeer, Stylianou, Walker, & Gomersall, 2022). Hafiz, Gallagher, Devine, & Hill (2023) found moderate positive associations between vegetable intake and educational outcomes as assessed by grade point average (GPA) and negative associations between frequency of consuming alcohol and educational outcomes. Good academic performance at a university may have lasting effects on a students' future health, quality of life, career and earning capacity; therefore, promoting a healthier diet throughout being at a university will have positive effects for both health and academic performance.

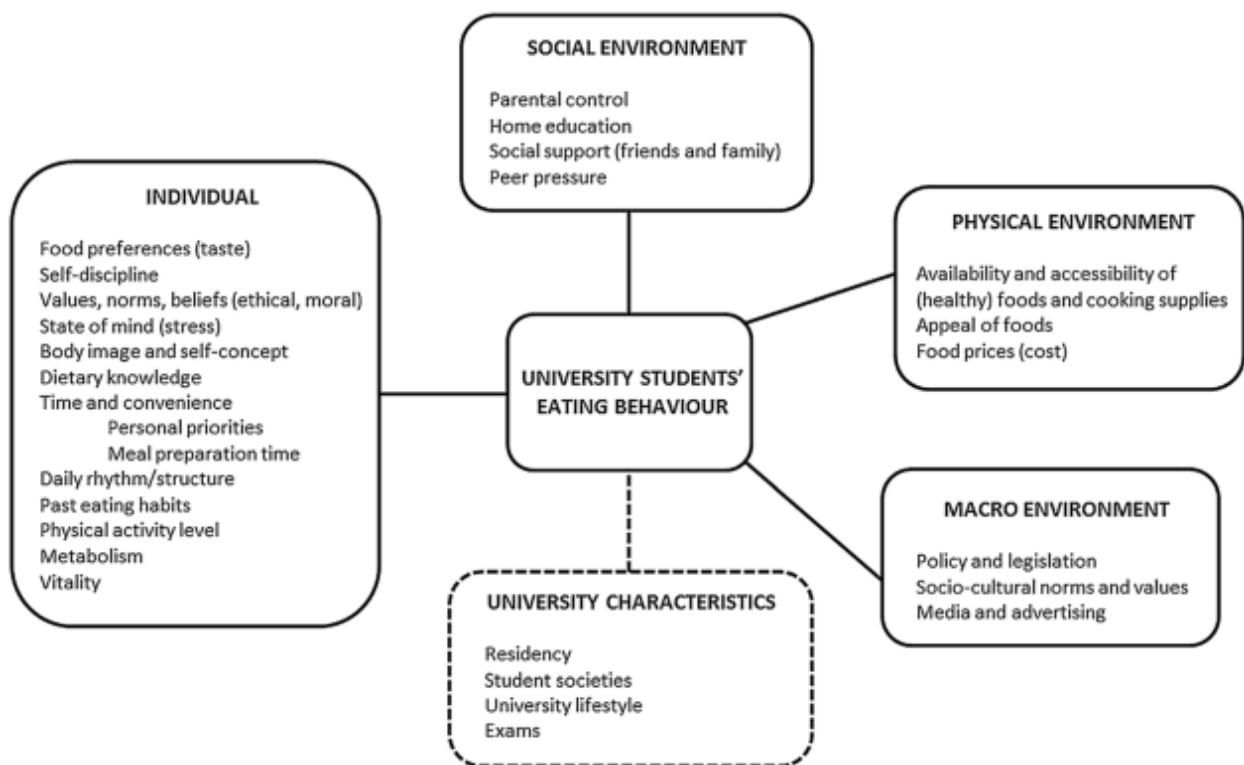


Figure1: Factors influencing eating behaviors of university students. *(Deliens, Deforche, Chapelle, & Clarys, 2015)

Body image/ Emotion:

A study published in 2020 in *Eating and Weight Disorders* found that approximately 62% of women and 54% of men reported having body image concerns and/or engaging in disordered eating behaviors at the end of the first year of college (Byrne, 2022). This transition time between childhood and adulthood, brings a lot of mental, physical and emotional changes while students are developing self-identity: which often means looking to one's peers for validation. This plays heavily into how one views or thinks of their body image, which can be defined as "how you see yourself" (Byrne, 2022). "College can be such a volatile and difficult time for body image as impressionable young adults are learning to navigate the world independently," (Goldenberg, n.d.).

Weight changes experienced by college students can add to body image distress that one might be feeling as society has increasingly contributed to a culture that sees thinness as "ideal" and overweight as bad. This culture has been amplified by social media and their expectations of what a female or male body should look like to be considered attractive. Specifically, idealization of thin female body without considering many different edit apps or filters is common and users who are content with thinness being the ideal in society, may adopt this for themselves and constantly compare their body shape with others (Bavikatty, 2022). However, studies have shown focusing on perfect bodies displayed in the media did not create a negative body image but spending time on social networks and peer conversations did play a significant role in comparing one's appearance and accepting the standard of beauty which lead to a negative self-evaluation by media and friends' criteria (Shen, Chen, Tang & Bao, 2022) as displayed in figure 2.

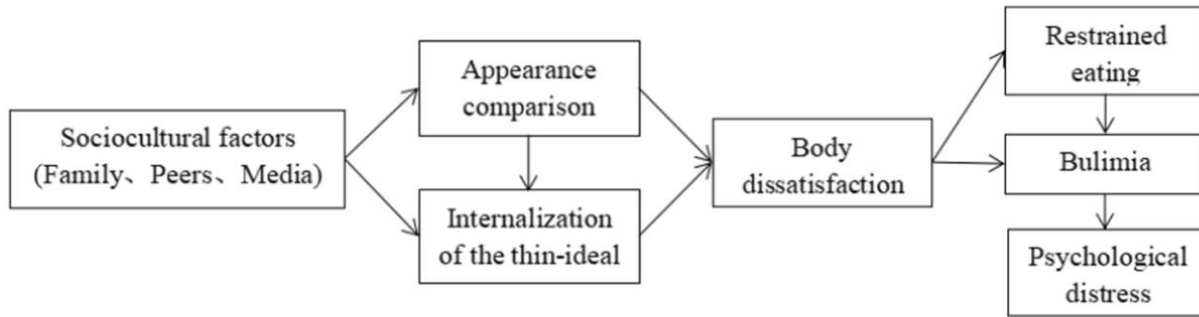


Figure 2: The effective of media and peers on negative body image. *(Shen, Chen, Tang & Bao, 2022)

Part of college life, is having a robust social media presence: but research has shown that apps like Instagram and Tiktok may be hurting body image. Previous research looked at existing studies on social media, food choices, and body image among young adults between the ages of 18 and 30 and found that social media was shown to promote “a culture of personal appearance and food-related comparison and competition among peers” (Rounsefell, Gibson, McLean, Blair, Molenaar, Brennan, Truby, McCaffrey, 2020). The analysis showed that being on social media made participants feel like they were constantly being compared, and comparing themselves, to others. It was also clear from the research that viewing social media (particularly images like fitness posts, celebrity shots, and peers portraying “perfect lifestyles”) was associated with a worse body image (Rounsefell, et al., 2020).

Another significant element that has been identified by pervious research is the impact of various students’ and parents’ demographic characteristics on the probability of being overweight or underweight. As well as, the influence of other effective factors such as gender, age and parental educations (Rezapour, Ferraro & Alsubaiei, 2022) as shown in figure 3. In this research it was discovered that females identified stress as an onset for emotional eating and was often followed by guilty feelings; while men indicated emotional eating, episodes began with

unpleasant feelings such as fatigue or anxiety, but men were less likely to experience guilt after binge eating or overeating (Bennett, Greene & Schwartz-Barcott, 2013). Even if conditions do not reach a point of critical concern, this diet culture and fear of weight gain can lead to a degradation of body image.

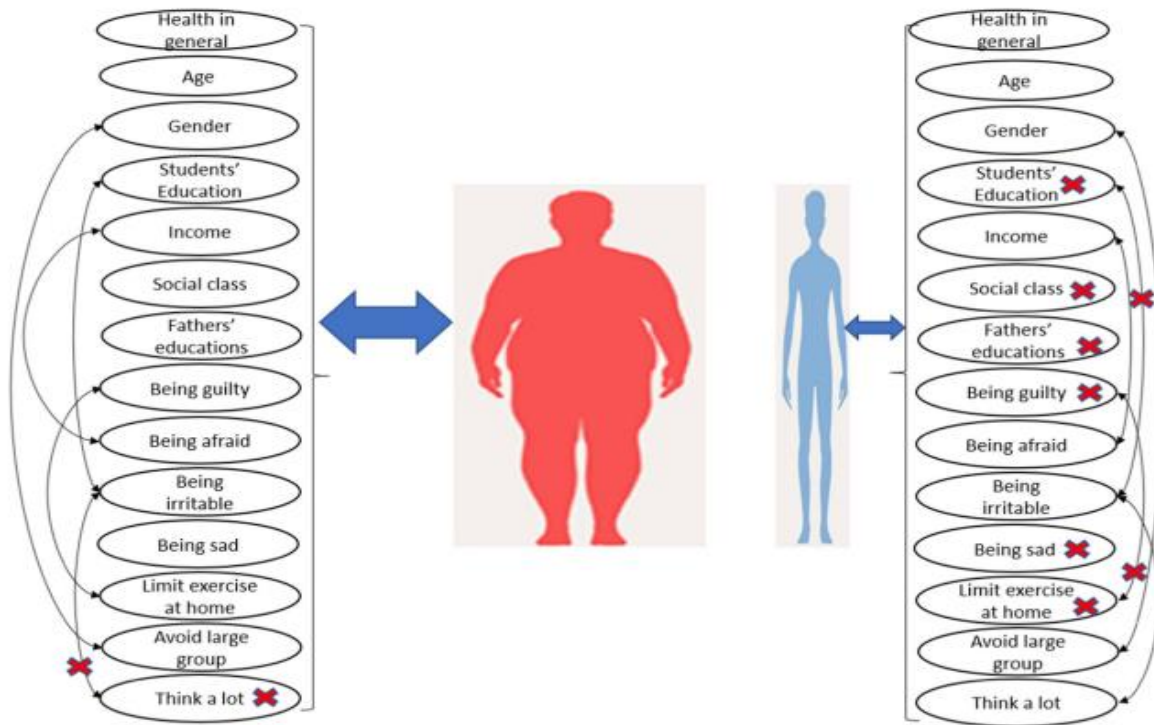


Figure3: Associated Factors with over-weight and underweight students *(Rezapour, Ferraro & Alsubaiei, 2022).

Summary:

While it is important to be cognizant of health and nutrition, the prevalence of weight gain and eating disorders among college students suggests that the conversation around weight needs to extend beyond the aesthetic concern of increasing a size or two. Weight gain should be considered in the context of one's comprehensive mental and physical well-being, as shifts in weight can carry broader implications beyond simply a change to external appearance. It should be noted that weight gain does not necessarily mean someone is in poor physical health, which can be a dangerous assumption.

CHAPTER 3

Methodology

Research Design

Planning and development for the research design began in the spring 2023. An extensive literature review in combination with the objectives of this study was used as the guideline to build the questionnaire. A quantitative approach was used in this study in order to develop a non-experimental research design for the purpose to report on freshman's food choices at the University of Arkansas: and in continuation of that, predicting which kind of changes in the menus of campus dining and Greek houses, could be helpful in decreasing freshman weight gain.

The research design utilized for this study consisted of a non-experimental descriptive survey, for the purpose of assessing the perceptions of freshman students as to why they gradually gain weight during the first year of college. Because typical survey studies are used to assess attitudes, preferences, opinions, practices, procedures, and demographics (Gay & Airasian, 2003), a descriptive survey research design was deemed appropriate for this study. An approval form for research involving human subjects was submitted to the Institutional Review Board. The approval form was accepted and approved in March 4th, 2023 (Appendix A). A descriptive questionnaire survey was designed and distributed to freshman students at the University of Arkansas. (See Appendix B). Changes and modifications were made to the questionnaire based on the Institutional Review Board suggestions. The questionnaire was then distributed to the participants via electronic delivery.

Population and Sample Selection

The target population selected for analysis consisted of residential freshman students at the University of Arkansas located in the Northwest Arkansas, it would be impossible to survey every freshman student at the University of Arkansas to collect data; therefore, freshman who reside on campus or in Greek housing at the University of Arkansas and elected to participate in the study were utilized to collect data.

Instrumentation

The instrument design consisted of a descriptive, online (electronic) survey. A self-administered questionnaire was developed for this study based on the review of literature. The study engaged an online survey with four major sections. The first section asked demographic questions related to the respondent, which consisted of age, first year education, residential position, race/ethnicity and other questions related to their current status. The second part asked about freshman's food choices during their college life including questions regarding specific foods consumed and what improvements they would suggest for on-campus dining menus.

This section also included a table that asked respondents how many times they eat specific food items on a daily and weekly basis. Section three of the questionnaire dealt with the participants perceptions of weight and body image. Respondents were asked to rank their level of agreement related to the causes of weight gain during the freshman year. This section also included questions pertaining to perception of body image and emotions.

Data Collection Techniques

The planned method of data collection for this study consisted of freshman students at the University of Arkansas via an online/electronic survey. There was no incentive for taking the survey. The respondents were informed that participation was voluntary, and all information gathered as a result of the survey was confidential. No names or identifying information of any kind was obtained. Data collection began by scanning a QR code in a class, where professors and instructors invited each respondent to participate in the survey. Students could access the study with the QR code via their computers (laptops), iPad, or cell phone. The survey was located at: https://uark.qualtrics.com/jfe/form/SV_5Au1dexo0ttSK2N and was administered via Qualtrics. The initial respondents were sent to the research participants on March 28th 2023, and data collection concluded in April 10th, 2023. Once data collection was complete, the data was imported to The Statistical Packages for Social Sciences (IBM, 2023). After data collection and input, the survey data was destroyed.

Data Analysis

The data collected was analyzed using descriptive statistics, percentages, and frequencies. The first part of data analysis involved a demographic profile of respondents. Demographic data from the questionnaires was tabulated using percentages and frequencies. By utilizing methods of statistical analysis, this chapter presents the results of the survey developed to answer these research questions. Several of these questions involve descriptive statistics, including demographic profiles. The inferential statistics undergone in this study are extended to freshman students in the University of Arkansas.

Response Rate

The researcher had a response rate of 27.4 or 27% for completed surveys. A total electronic survey was collected in Qualtrics analysis. Seventy-nine surveys were started and 57 were completed and deemed usable. Data was collected for 2 weeks during March and April 2023. The initial survey QR code was sent on March 28th 2023. The researcher sent two follow up emails, encouraging respondents to complete the survey. The first follow up was sent on April 3, 2023, the next sent on April 8, 2023, and the final closing of the survey was on April 10, 2023.

Respondent Profile

The respondents varied in their demographic makeup; however, it can be stated that the common attribute that the respondents had was they were all freshman students at the University of Arkansas. All participants were between age of 18-21, the majority (57.90%) were 19 years old and were white (87.72%). Females made up 87.72% of the participants. More than half of the respondent's lived in campus dorms (71.43%), and consumed their meals at a cafeteria/restaurant (61.40%) or Greek-house (15.79%).

Around (38.60%) of the participants consumed their meals more than 7 times a week and (35.09%) between 4-6 times a week from on-campus restaurants. Freshmen at the University of Arkansas were aware about the "freshman 15" phenomena (91.23%) and that the freshman year was their first time living away from home (92.98%). The demographic profile of the respondents is detailed in Table 1.

Table 1*Demographics Characteristics of Respondents: age, gender, ethnicity and race*

	n	%
Age		
18	12	21.05
19	33	57.90
20	7	12.28
21	4	7.02
Prefer not to disclose	1	1.75
Total	57	100
Gender		
Female	50	87.72
Male	7	12.28
Transgender female	0	0.00
Transgender male	0	0.00
Gender Variant/nonconforming	0	0.00
None listed	0	0.00
Prefer not to answer	0	0.00
Total		100
Race/ Ethnicity		
Native American or Alaskan Native	0	0.00%
Asian Pacific Islander	1	1.75%
Black or African American	1	1.75%
Hispanic or Latino	5	8.77%
White or Caucasian	50	87.72%
Multiracial or Biracial	0	0.00%
A race/ethnicity not listed here	0	0.00%
Total	57	100.00%

Table 2 displays the characteristics of the respondents regarding their living accommodations, where they consume their meals on campus, the number of times they eat on campus per week, how aware they are about the concept of the freshman 15, and finally if college was the first time they have lived away from home.

Results indicated that the majority of the study participants (40 or 71%) lived in a on-campus dorm and ate the majority of their meals in an on-campus cafeteria or restaurant (35 or 61%) mostly 7 or more times a week (22 or 39%). The majority (52 or 91%) of participants had

heard of or were aware of the concept of the freshman 15 and 53 or 93% of the participants indicated that college was the first time they had lived away from home.

Table 2

Characteristics of Respondents: accommodations, preparation meal types restaurant, numbers of preparation, awareness about “freshman 15” and being away from house for first time

	n	%
Current accommodation		
On-campus dorm	40	71.43
On-campus apartment	13	23.21
Greek-House	3	5.36
Total	56	100
Preparation meal types		
You	10	17.54
Cafeteria/restaurant	35	61.4
Greek- house	9	15.79
Other	3	5.26
Total	57	100
Numbers of meals per week eaten on campus		
None	5	8.77
1-3	10	17.54
4-6	20	35.09
+7	22	38.60
Total	57	100
Awareness about “freshman 15”		
Yes	52	91.23
No	5	8.77
Being away from home for first time		
Yes	53	92.98
No	4	7.02

Table 3 displays respondents perceptions related to body image and emotions.

Participants were asked what they thought of their body, if they had experienced any weight gain or loss over their freshman year and if so what was the amount (range).

The results from the question “What do you think about your body?” was balanced at 50% between “comfortable with my body” and “would like to lose weight”. Interestingly, no

participants indicated they would like to lose weight or perceived themselves as overweight but not wanting to lose weight. When asked about the weight changes during their freshman year, 46 (70%) of the respondents stated their weight had changed as opposed to 20 (30%) whose weight did not change. Those participants who gained weight over their freshman year ranged from 5 to 10 pounds (16 or 31%), 10-15 pounds (15 or 29%) and lastly 7 (14%) had gained more than 15 pounds. This could be summarized as: 74% of the freshman surveyed gained between 5 and more than 15 pounds during their freshman year of college. Opposed to weight gain during the freshman year, 26% of the participants lost weight their freshman year: 2 or 4% lost less than 5 pounds, 4 or 8% lost 5-10 pounds, 3 or 6% lost 10 to 15 pounds, and 4 or 8% lost more than 15 pounds.

Table 3*Demographic perception of body image/emotion*

	n	%
What do you think about your body?		
Comfortable with my body	33	50.00
Like to lose weight	33	50.00
Like to gain weight	0	0.00
Overweight but do not want to lose weight	0	0.00
Total	66	100
Weight change		
Yes	46	69.70
No	20	30.30
Lose/Gain weight		
Gain 5-10 lb.	16	31.37
Gain 10-15 lb.	15	29.41
Gain More than 15 lb.	7	13.72
Lost less than 5 lb.	2	3.92
Lost 5-10 lb.	4	7.84
Lost 10-15 lb.	3	5.88
Lost More than 15 lb.	4	7.84
Total	51	100

CHAPTER 4

Results and Discussion

Chapter 3 elaborated on the research methodologies that were used to investigate the research questions. Through the utilization of statistical analysis techniques, this chapter presents the results of the proposed research questions. Descriptive statistics were used to provide a demographic profile of the participants as well as comparing responses regarding weight gain in the University of Arkansas freshman students.

Research Question 1 asked if students were aware that maintaining a healthy weight was important to overall health. To answer this question the researcher combined questions related to self-perception, self-control, eating disorders and satiety. The results are displayed in Table 4A. Participants were asked a series of questions related to their perceptions of themselves and their level of self-control ranking them from 0-1 (not at all) to 6-7 (very much). Thirteen statements were presented on the questionnaire regarding temptation, habits, self-discipline, and certain behaviors. Results worthy of noting on this table included the majority of participants stated that they have a hard time breaking a bad habit which can lead to poor food choices that will eventually affect their overall health. Also worthy of noting is that majority also said they refused things that are bad for them and felt their self-discipline was appropriate. Participants indicated that they are able to work toward long-term goals effectively, but they do have trouble concentrating. Lastly, participants noted that they feel they can stop themselves from doing something bad and they do think situations through before acting. Therefore, it can be assessed that the participants have a good awareness through self-perception and self-control that maintaining a healthy weight is important to overall health.

Table 4A.*Are students aware that maintaining a healthy weight is important to self-perception and self-control*

	Not at all 0-1	2-3	4-5	Very much 6-7
I am good at resisting temptation	0	12	22	24
I have a hard time breaking a bad habit	5	18	27	12
I am lazy	19	28	12	3
I say inappropriate things	28	16	8	8
I do certain things that are bad for me, if they are fun.	15	18	17	9
I refuse things that are bad for me	8	17	20	16
I wish I had more self-discipline	11	18	15	9
People would say that I have self-discipline.	2	13	19	27
Pleasure and fun sometimes keep me from getting work done	13	19	22	7
I have trouble concentrating	9	20	16	17
I am able to work effectively toward long-term goals	3	11	25	25
Sometimes I can't stop myself from doing something, even if I know it is wrong	18	20	12	4
I often act without thinking through all	27	21	10	2

To continue the results of research question 1, participants were asked questions about eating disorders and satiety. Specifically, the questionnaire asked if the participants had ever been diagnosed with an eating disorder. While 52 (88%) stated they had not been diagnosed, 4 (7%) had been diagnosed and 3 (5%) responded “not sure”. It can be assumed the 3 participants who were not sure suspect they in fact do have a form of an eating disorder and have not revealed or discussed this with a medical professional. This question was asked based on the age of the sample in this study and the significant negative effects eating disorders can have on long-term health.

There were two questions the participants answered related to satiety. Many overweight people have a difficult time acknowledging when they are full during or after a meal. This can lead to eating disorders as some will force themselves to regurgitate to ease the discomfort or fullness. The process of regurgitation can also lead to many health conditions such as malnutrition, damage to the esophagus, nausea, bad breath, and abdominal pain. The greater part of the participants (45 or 78%) stated they do not make themselves sick when they feel uncomfortable full; however, 13 participants or 22% do make themselves sick. Lastly, participants were asked if they worried they had lost control over how much they eat since they have left home and are living on their own. The bulk of the participants (37 or 64%) indicated they do not feel this way while 21 (36%) of the participants agreed that they feel they have lost control of their eating with their new-found freedom. See Table 4B for results.

Table 4B

Are students aware that maintaining a healthy weight is important to self-perception and self-control? (Continued)

	Yes	No	Not Sure
Have you ever been diagnosed by a medical professional as having an eating disorder?	4	52	3
Do you make yourself sick because you feel uncomfortably full?	13	45	0
Do you worry that since you have left home (living on campus) you have lost control of how much you eat?	21	37	0

Research Question 2 asked what students’ perceptions were of the parameters and habit that could negatively affect their weight. There were four questions regarding menus, foodservice, food options, and what were the reasons their weight changed during their freshman year. The last question had eight pre-selected reasons and the participants were asked to select all that applied to them. The results are highlighted in Table 5.

Participants were asked “Do you think access to fresh semi-prepared foods are helpful in a campus foodservice?” The majority (44 or 72%) agreed with this question, followed by 17 (28%) stated they were unsure if these foods would be helpful. The next question asked “Would you like to see changes in the menus in on-campus dining during the month?” More than half of the participant (54 or 89%) agreed they would like a variety of menus that cycle through the month, only 7 (11%) disagreed and wanted to keep the menus limited during the month. The following question, “Would you like to be able to access products made with more sugar substitutes or Keto-type products in on-campus dining?” Participants agreeing with this question were (26 or 43%) followed closed by not sure (23 or 38%) and lastly (12 or 19%) disagreed with this question. Participants were then asked about optional diets when they answered the question: “Do you think there are enough food options available for people who have food

allergies, are vegan, and lactose-free for on-campus dining? The greater number of participants (25 or 40%) stated they disagreed with this question, followed by an even response of (18 or 30%) each for those who agreed and those who were unsure.

Lastly, participants were asked: “What is/are the most likely reason(s) your weight changed during your freshman year?” Participants were given the following reasons: late night snacking, drinking, stress, decreased physical activity, homesickness, eating cafeteria food, irregular schedule, inability to purchase healthy food, and other. The highest ranked reason for weight change during the freshman year was stress (45 or 75%) followed closely by eating cafeteria food (44 or 75%). Irregular schedules (42 or 71%) was next trailed by inability to purchase healthy food (39 or 66%). Rounding out the reasons for weight gain were late night snacking (31 or 52%) and decreased physical activity (30 or 52%). Notable was the participants responses to the reason of drinking alcohol, disagreeing with this reason was (26 or 43%) and agreeing was (25 or 42%). Nine participants (15%) indicated they did not drink alcohol. Being homesick has always been associated with freshman entering a university and living from home for the first time, that was not the case with this group of participants as 34 (58%) disagreed that homesickness contributed to weight gain. Opposing that was 21 participants (35%) and 4 (7%) non-applicable.

Table 5*Students' perceptions of parameters and habits*

	Agree	Not sure	Disagree	Not applicable	Total
Do you think access to fresh semi-prepared foods are helpful in campus foodservice?	44	17	0	0	61
Would you like to see changes in the menus in on-campus dining during the month?	54	0	7	0	61
Would you like to be able to access products made with more sugar substitutes or Keto-type products in on-campus dining?	26	23	12	0	61
Do you think there are enough food options available for people who have food? allergies, are vegan, and lactose-free for on-campus dining?	18	18	25	0	61
What is/are the most likely reason(s) your weight changed during your freshman year?					
Late night snacking	31	0	25	4	60
Drinking (alcohol)	25	0	26	9	60
Stress	45	0	11	4	60
Decreased physical activity	30	0	27	1	58
Homesickness	21	0	34	4	59
Eating cafeteria food	44	0	11	4	59
Irregular schedule	42	0	13	4	59
Inability to purchase healthy food	39	0	18	2	59
Other	7	0	2	30	39

Research question 3 asked if students acknowledge a relationship between convenience foods and weight gain? To assess this research question, participants were asked what type of foods they consumed for breakfast as breakfast is more often associated with ready to eat or convenience items. The majority of the participants (19 or 31%) stated they would grab convenience items such as donuts, granola bars, or protein bars for breakfast, followed closely by traditional meals (18 or 30%). Traditional meals included items such as eggs, toast or sausage. Unfortunately, the preparation method of the eggs was not specified so these eggs could be hard-boiled which would lend themselves more toward a convenience food item. Breakfast consumed in liquid form of shakes, coffee or energy drinks was consumed by 12 (20%) of the participants and only 1 participant (2%) indicated they ate cereal. The type of cereal consumed (sugar based or other) was not asked, so it can not be assumed that it was an unhealthy type of cereal. Lastly, 11 (18%) of the participants stated they do not consume anything for breakfast. Which is surprised as it has been documented numerous times that breakfast is the most important meal of the day and when considering the sample of this study, they need to the brain function to attend classes and study. The results are listed in Table 6A.

Table 6A

Student acknowledgment of convenience foods and their relation to weight gain

	n	%
Which kind of foods are you go-to foods for breakfast?		
Convenient foods (donuts, granola bar, protein bar)	19	31.15
Liquid (shake, coffee, or energy drink)	12	19.67
Traditional meal (eggs, toast, sausage)	18	29.51
Cereal (with or without milk)	1	1.64
None (I don't eat breakfast)	11	18.03
Total	61	100

Additionally, participants were asked if they felt having access to semi-prepared foods in on-campus dining would be helpful to them regarding convenience and weight gain. More than half (44 or 72%) answered absolutely to this question; trailed by 17 (28%) who answered maybe. There were no participants who selected the not necessary choice on the questionnaire. See Table 6B for results.

Table 6B

Student acknowledgment of convenience foods and their relation to weight gain (continued)

	Absolutely	Maybe	Not Necessary
Do you think access to fresh semi- prepared food is helpful in campus foodservice?	44	17	0

Research question 4 sought the patterns of food consumption of freshman students. Nutritionists have researched for years eating patterns and long term affects on weight gain at various stages of life. Dietary patterns are defined as the quantities, proportions, variety, or combination of different foods, drinks, and nutrients in diets, and the frequency with which they are habitually consumed (USDA, n.d.). The questionnaire asked the participants about their eating habits and options they felt would assist them when eating on-campus. These results are reported in Table 7.

The question asked was “What would you change about your campus dining, restaurants, coffeeshop or Greek house to prevent weight gain?” Most notable was 28 (44%) of the participants stated they would prefer more protein rich food choices over carbohydrates. This indicates that freshman were aware of the nutritional benefits of a high protein / low carbohydrate diet and it’s affects on weight control; thus, their long term healthy weight status.

This knowledge is reinforced by 18 (29%) of participants saying they would like to have more green salad and vegetable stations available in on-campus dining as well as protein shakes available throughout the day (7 or 11%). When asked about more choices for breakfast 6 (10%) of participants indicated they would like more choices which also reinforces the importance of convenience / ready to eat choices (see RQ 3). None of the respondents felt seafood would be a good change to on-campus dining which is surprising as seafood is such a high protein food and the participants indicated they wanted more protein selections. This could be attributed to a lack of nutritional food knowledge by the sample.

The survey asked a couple questions regarding ambiance of on-campus dining and results indicated very few (2 or 3%) of the participants felt that light music or simple activities would be a good change. This could be due to the fact that the majority of the participants (30 or 53%) noted they receive food at their residence through the use of delivery apps. Therefore, ambiance of eating may not be of importance to them.

Table 7

What are the patterns of food consumption for freshman students?

	n	%
What would you change about your campus dining, restaurants, coffeeshop or Greek house to prevent weight gain?		
More available protein foods in compare carbohydrate food	28	44.44
More green salad and vegetable stations available	18	28.57
Light music instead of TV	2	3.17
Some simple activity available	2	3.17
More access to sea food	0	0
More choices for breakfast	6	9.52
More access to protein shakes during a day	7	11.11
Total	63	100

Research question 5 asked: what are freshman students eating? This was an exploratory question that listed a large variety of foods humans consume based on popularity, availability, convenience, and nutrition. Participants were asked to rank food items by the amount of times they ate that particular or class of foods per week, day or never. The choices were: never, less than once per week, a few times per week, 1-3 times a day or 4+ times per day.

The frequency of food consumption is displayed in Table 8.

The food items that participants ranked the highest in the never eaten category were: energy drinks, soft drinks, fruit juices, vegetable juice, vegetable soup or stew w/vegetables, and whole milk. Foods consumed less than once per week were: margarine, butter, or mayo on bread or potatoes, corn chips, potato chips, popcorn, crackers, ice cream and muffins or biscuits.

Participants ranked the following foods as consumed a few times a week: mixed dishes such as pizza, macaroni cheese, tacos, and casseroles, breads, grains, pasta, rice and other grains, meat, fish, eggs, beans, nuts, or tofu, milk, yogurt, or cheese, margarine or butter, bacon, dressings, oils, fried foods, chips or olives, sugar, candy, honey, syrup, jellies/jams, pastries, cakes or cookies, green salad, potatoes of any kind, vegetables, whole wheat breads, hamburgers, ground beef, meat burritos, beef or pork, chicken, crackers, salad dressings, margarine, butter or oil in cooking, eggs, cheese and cheese spreads.

There were a few foods that were eaten 1-3 times a day. Those foods were: mixed dishes such as pizza, macaroni cheese, tacos and casseroles, breads, pastas, rice and other grains, meat, fish eggs, beans, nuts and tofu, milk, cheese, yogurt, sugar and candy, vegetables, whole wheat breads, beef, chicken or pork, and cheese related products. Many of these foods were also consumed four or more times a day. There was a food group that was equal with eating a few times a day and 1-3 times a day: dark green, yellow or leafy vegetables, fruits or fruit juices.

Hot dogs, or Polish or Italian sausages were even in never consuming to consuming less than once per week.

The summary, conclusions and further discussion of these results will be discussed in Chapter 5.

Table 8*Freshmen students: what are they eating on-campus*

	Never	Less than once per week	A few times per week	1-3 times per day	4+ times per day
Mixed dishes such as pizza, macaroni cheese, tacos, and casserole.	5	11	29	14	2
Breads, grains, pasta, rice, or other grains	1	2	33	25	0
Dark green, yellow, or leafy vegetables, fruits, or fruit juices	2	9	24	24	2
Meat, fish, eggs, beans, nuts, or tofu	1	5	26	26	3
Milk, yogurt, or cheese	2	7	26	23	2
Margarine or butter, bacon, dressings, oils, fried foods, chips, or olives	2	13	31	13	2
Sugar, candy, honey, syrup, jellies/jams pastries, cakes, or cookies	4	11	29	14	2
Consume times of energy drinks during the last week	37	10	9	4	1
Consume times of soft (Sprite, Dr Pepper, Coke, Pepsi, etc.) drinks during the last week	28	12	13	4	4
Fruit juice like apple, grape-fresh, frozen, or canned (not sodas or other drinks)	19	18	16	7	0
Vegetable juice	41	15	3	1	0
Green salad	10	14	27	8	1
Potatoes any kind - including baked, mashed, or French fried	3	17	30	9	1
Vegetable soup, or stew with vegetables	25	25	10	0	0
Any other vegetables, including string beans, peas, corn, broccoli, or any other kind	5	13	21	19	2
Whole wheat breads	14	9	24	13	0

	Never	Less than once per week	A few times per week	1-3 times per day	4+ times per day
Hamburgers, ground beef, meat burritos	11	16	27	4	2
Beef or pork, such as steaks, roasts, chicken, ribs or in sandwich	8	16	24	10	2
Hot dogs, or Polish or Italian sausage	25	25	10	0	0
Crackers	20	16	22	2	0
Peanut butter and crackers	20	18	18	4	0
Salad dressings	12	11	29	5	2
Margarine, butter, or mayo on bread or potatoes	17	22	15	5	1
Margarine, butter, or oil in cooking	10	13	27	6	3
Eggs (not Egg Beaters or just egg whites)	13	21	22	3	0
Cheese, cheese spread (not low-fat)	8	17	23	9	2
Whole milk	32	12	10	5	0
Corn chips, potato chips, popcorn, crackers	8	24	19	8	0
Doughnuts, pastries, cake, cookies (not low fat)	12	21	21	5	0
Ice- cream	11	33	13	2	0
Muffins or biscuits	18	33	8	0	0

CHAPTER 5

CONCLUSIONS

The purpose of this study is to explore the freshman's food choices at the University of Arkansas. The study also seeks an explanation as to which kind of changes in the menu of on-campus dining, and Greek houses, could be effective on students' weight gain during the first year of college. The research design utilized for this study consisted of a non-experimental descriptive survey, for the purpose of assessing the perceptions of what freshman prefer to eat in on-campus dining facilities' and to what extent they are aware about maintaining a healthy weight and food consumption. The specific research questions used in this study, which served as the framework for the quantitative analyses, were:

- 1-If students are aware that maintaining a healthy weight is important to overall health?
- 2-Students perceptions of parameters and habits that could negatively affect weight?
- 3-Student's acknowledgement of convenience foods and their relation to weight gain?
- 4-What are the patterns of food consumption for freshman students?
- 5-What are freshman students eating?

The results indicated the majority of participants were aged between the ages of 18-19, female, white, lived on-campus and this was their first time living away from home. The results indicated more than half (61.4%) consumed meals from on-campus cafeterias / restaurants and (38.60%) more than seven times in a week. Moreover, participants (91.23%) stated they were very aware of the 'Freshman 15' phenomenon.

When examining the results of research question one, it was surprising to find out that many of the respondents (91.23%) stated they were fully aware of "Freshman 15" this accompanied by the 70% of the respondents indicated their weight had changed indicates there is

a reason to be concerned about weight gain in freshman students. Moreover, participants (74%) indicated they had gained at least 5 pounds or more during their freshman year; whereas, 15% stating they had gained more than 15 pounds during their freshman year. On the other hand, participants noted having a satisfactory awareness through self-perception, self-control, accepting their body shape, and maintaining a healthy weight related to overall health.

The results of the research question one can be interpreted as freshman students in this study having an appropriate awareness about the “Freshman 15”. However, awareness alone is not enough, students must also recognize the long-term effects of gaining 15 or more pounds a year and how it will affect their health, self-perception, self-control, as well as their body image and the related emotions. This dovetails into the areas of eating disorders and making oneself sick when feeling over full. The study discovered that 22%- of those surveyed do make themselves sick when they feel uncomfortable full and 7% had been diagnosed with an eating disorder. Notably, 5% answered they were not sure if they had an eating disorder which leads to speculation that they may in fact have one but have not been officially diagnosed or are displaying the beginning signs of an eating disorder. Regardless, they recognized that they may have some behaviors or habits associated with an eating disorder.

All data considered, there is obviously a need to educate freshmen about the importance of healthy eating and overeating. By increasing their awareness and knowledge it could be determined that their nutritional health would improve and lead to a reduction in diseases and health issues later in life.

Research question two explored freshman students’ perceptions of parameters and habits that could negatively affect their weight. The majority of respondents (72%) indicated that accessing fresh semi-prepared foods on-campus would be helpful to them in maintaining a

healthy weight while more than half (54%) of the participants believed changing the items on the menu during a month could positively affect their weight. Having more options and more diverse menus that change on a regular basis would help students make healthier food choices and give the choices they desire so they won't become bored for food options and tend to select "comfort" food or food that may be unhealthy and contribute to the "freshman 15".

Students like all of the population embrace and want variety in their food choices although not always feasible due to economic reasons, convenience, commodities and growing seasons, the researcher does feel that cycle or rotating menus in on-campus dining would be a good option to increase food choice satisfaction and eating patterns. It is suggested that on-campus dining facilities routinely survey their students to find out if their menus are meeting the students' needs and what foods students would like to have offered. Additionally, creating outlets or facilities where students could buy fresh semi-prepared food items at multiple locations on campus would assist students in making healthier food choices. This could take the form of kiosks or food trucks located in strategic or high-traffic student areas.

It was determined that stress is the largest contributing factor to students' weight change during their freshman year. This result was not surprising at all, freshman students are under extreme stress and in a new environment trying desperately to adapt and perform well. Attending a university is stressful enough, but then add the additional stressors of a new learning environment and the social and cultural factors and it's surprising that anyone would attend a university! The university has many programs in place to assist students with stress – but those may only work for those students who seek out and participate in such programs. There will always be a number of students who seek and find comfort in food, those students will grow into adults who display that same behavior. It is documented that as we age our metabolism slows

down and most adults who continue to eat in the same manner they did in college will gain a substantial amount of weight. As one ages, that additional weight will develop into mobility and problems. As a society, there needs to be more effective methods of dealing with stress as well as the acceptance of stress and how one deals with high level of stress.

Following closely behind stress (almost equal) was eating on-campus cafeteria / restaurant food. On-campus dining facilities (dorm food) has long had a reputation as being unhealthy and a major contributor to the “freshman 15”. Advancements in menu and food offerings have increased over the years and today we find that many on-campus dining facilities actually offer more than enough healthy options. While there is always room for improvement, it appears that educating students about eating patterns and choices would be more imperative in combating the “freshman 15”. The researcher speculates that many freshman students do not know their daily nutritional intake totals or what their goals should be and are missing those nutritional marks based on their food choices. High calorie foods and drinks, too many carbs per day and low protein will result in a weight gain especially when combined with a sedentary lifestyle. Over the year’s college athletes have worked with dietitians to streamline their diets, workout activities and lifestyles to become healthy, fit population. What if any college student was given access to the same regime? Would they also become healthier and learn about their bodies, nutrition, and how to reach their top performance? Imagine the impact on students if they had access to a dietitian in college to assist them with a knowledge needed to live and maintain a healthy body and lifestyle.

Often associated with college students is the consumption and experimentation of alcohol. While the participants in this study were under 21 years of age (the legal drinking age in the State of Arkansas) 26 participants disagreed that drinking alcohol attributed to their weight

adjustment during their freshman year. However, 25 students agreed that drinking alcohol did affect their weight gain. It is assumed that the 85% of the students who answered this question have or are consuming alcohol as only 15% stated they do not drink alcohol. It is presumed that college students don't realize that many (if not most) alcoholic drinks are sugar or sugar alcohols which leads to a high calorie intake or what is known as drinking your calories or empty calories.

Research question three purposed to determine if students acknowledged a relationship between convenience foods and weight gain? The participants were asked to if they were more likely to eat convenient foods for breakfast such as donuts, granola bars, liquid (shakes, etc.) or a traditional meal such as cereal for breakfast or if they preferred to not eat breakfast. The majority of participants (31.15%) chose to eat convenience items for breakfast. These types of food are easily carried in bag pack, have a longer shelf life, are available at most stores / check out areas and they quickly create a state of satiety. These are just a few of the reasons why this population rates convenience foods so highly in their choice of a meal.

Closely related to the convenience food sample were participants (30%) who chose to eat a traditional breakfast. This is a sign of the prosperity of traditional breakfast between freshmen in the campus. It is speculated that these are students have knowledge about the benefits of a good breakfast, have more time in the schedule to have breakfast, or they manage their schedules in a manner to allow time for breakfast. John Hopkins Medicine (2012) cites that eating breakfast may help the heart, digestion, bones and meet dietary guidelines. People who skip breakfast tend to have higher blood cholesterol levels—a risk factor for heart disease—than do breakfast eaters.

It has been said that breakfast is the most important meal during a day, so having 18% of the freshmen participants who stated they do not eat breakfast and 1% stating they eat cereal, is worth considering. Currently, there are limited centers to serve breakfast on campus in the early

hours of the day before the start of classes. Since this research examines freshman gain weight, having access to some kind of convenience traditional foods such as high protein breakfast burritos, egg sandwiches, wrapped packages of bread and cheese, etc. in on-campus dining facilities or Greek houses kitchens and even dorm lobbies would be a great option for those students who are on the go.

Research question four recorded the food consumption patterns of the study sample. Participants were asked specific questions about their food patterns and what ideas they had for changing parts of the on-campus dining/Greek house menus. According to the evaluation of the patterns of food consumption for freshman students, it was determined that the majority felt that highly dense carbohydrate foods have contributed to their weight gain process. Participants felt that they would be able to control their weight better if those highly dense carbohydrate foods were replaced with high protein foods (45%) and green salad or vegetables (29%). While 11% of the participants would like to have access to protein shakes during the day.

Research indicates that listening to music while eating, as is the case with many other types of activities, can produce all sorts of physical and mental changes (Page, 2022). Hearing the right song can help to improve a bad mood, motivate one to power through a workout, or keep people focused while working or studying. Additionally, music can help to distract one from food cravings or temptations to eat more when one is full (Page, 2022), can slow the pace of chewing, reduce stress, and provides a distraction. Surprisingly, only 3% of the participants positively indicated that they would embrace the playing light music in on-campus dining.

Participants were also asked if activities (like watching TV) would be of interest in on-campus dining, very few responded favorably to this question. However, there is research (Laurence, 2019) that shows that watching a movie or TV show can increase dopamine, the

pleasure chemical in the brain that leads to happiness and watching TV while eating can take one's mind off the task of eating by creating a distraction thus reducing stress. Having other activities provided in on-campus dining (like games) could promote social interaction among the participants.

Most interesting result in the series of questions related to research question 4 was the fact that not one participant indicated they would like to see more seafood choices on on-campus dining menus. This was surprising as the majority of participants indicated they wanted more high dense protein foods and seafood is protein packed. This could be attributed to a lack of nutritional knowledge on the sample of this study. Which reinforces the idea that a basic nutrition course would be beneficial to incoming freshman students. The university does offer a fundamentals of nutrition class but doesn't teach people the basics of how to eat healthy.

Research question 5 asked freshman student participants what they were currently eating. Participants answered this exploratory question by choosing different types of food listed on the questionnaire and often they were consuming them.

The majority of participants stated they consume items higher caloric foods that are also high fat and carbohydrates such as: margarine, butter, or mayo on bread or potatoes, corn chips, potato chips, popcorn, crackers, ice cream, and muffins or biscuits less than once a week. It is a good example of the freshmen participants awareness of these unhealthy foods. These choices ranked low in contrast to the foods eaten 1-3 times a day.

Participants ranked the following foods as being eaten 1-3 times a day: mixed dishes such as pizza, macaroni cheese, tacos and casseroles, breads, pastas, rice and other grains, meat, fish eggs, beans, nuts and tofu, milk, cheese, yogurt, sugar and candy, vegetables, whole wheat breads, beef, chicken or pork, and cheese related products. Many of these foods are associated

with the eating habits of the sample such as pizza, tacos, mac-n-cheese. However, it was reassuring to see that these students were choosing items such as nuts, yogurt, and whole wheat breads that do have nutritional benefits. It should be noted that many of these foods appeared on participants daily food intake as well as being consumed a few times a week.

Summary:

Selection and amount of students' food consumption are valuable for scheduling on-campus dining/Greek house menus and future plans for freshmen' consumption patterns. It is important for college students to eat a healthy diet as it improves energy, memory and focus. Additionally, students who eat a healthy diet are less likely to contract illnesses as a nutrient-rich diet that is low in processed foods, and sugars while high in vegetable intake assists in creating a robust immune system. Furthermore, there is significant research that shows a correlation between dietary habits and anxiety and depression. American Dining Creations (n.d.) states people who maintain healthy diets with higher proportions of produce, fish, chicken and whole grains have at least 25% less risk of depressive symptoms than those who regularly consume processed food, fast food meals, sugary desserts and soda.

Universities cannot control their students' sleep patterns or physical activity habits, but they can direct students and assist them with healthy eating patterns by providing leadership, education, and more health conscious on-campus dining menus and options. This will assist students in making choices that sway them from choosing cheap, unhealthy foods by providing quality, convenient and healthy options. By working with the on-campus foodservice partners to create delicious, nutrient-rich menus, students will benefit from improved health and academic performance.

Recommendations for Future Research

Future research should be done but should expand the sample of this study to include freshman students in other regions of the United States or nationwide, this will help generalize the study. Considering the majority of participants were young women, having these results of consumption of fish, egg, milk, grains green salad, and whole wheat bread, is worth a wider investigation because vitamin D deficiency and insufficiency as well as low serum calcium levels that can affect negative health outcomes in women of childbearing age further research should be conducted on the long-term effects of poor diet in college and later in life.

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To: Lily Maleknia
From: Douglas J Adams, Chair
IRB Expedited Review
Date: 03/23/2023
Action: **Exemption Granted**
Action Date: 03/23/2023
Protocol #: 2302449915
Study Title: Study of Weight Gain in Freshman Students

The above-referenced protocol has been determined to be exempt.

If you wish to make any modifications in the approved protocol that may affect the level of risk to your participants, you must seek approval prior to implementing those changes. All modifications must provide sufficient detail to assess the impact of the change.

If you have any questions or need any assistance from the IRB, please contact the IRB Coordinator at 109 MLKG Building, 5-2208, or irb@uark.edu.

cc: Kelly A Way, Investigator

Section 1: Perception of Body Image / Emotion

The following section asks you about perceptions of your body image and emotions.

1. What do you think about your body?
 - I am comfortable with my body
 - I would like to lose weight
 - I would like to gain weight
 - I am overweight but do not want to lose weight
 - Other

2. Since coming to college, has your weight changed?
 - No- it as remined the same
 - Yes- it has changed
(if participant answers yes, program takes them to the next question)

3. If you weight has changed during your freshman year, how has it changed?

How many pounds did you gain?

How many pounds did you lose?

4. What is your current weight (estimate)?

5. What is your current height (estimate)?

6. Please indicate your agreement with each statement listed below:

	Strongly agree	Agree	Disagree	Strongly Disagree
I feel that I am a person of worth	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I feel I have a number of good qualities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
All in all, I am inclined to feel that I am a failure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am able to do things as well as most other people	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I feel I do not have much to be proud of	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I take a positive attitude toward myself	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On the whole, I am satisfied with myself	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I wish I could have more respect for myself.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

I feel unless at times	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
At times I think I am no good at all.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I feel am growing and changing in positive ways	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I believe my life has purpose	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. Using the scale provided, please indicate the level of your agreement with each statement about yourself and your self-control.

	Not at all	Very much
I am good at resisting temptation	1.....2.....3.....4.....5.....6.....7	
I have a hard time breaking bad habit	1.....2.....3.....4.....5.....6.....7	
I am lazy	1.....2.....3.....4.....5.....6.....7	
I say inappropriate things	1.....2.....3.....4.....5.....6.....7	
I do certain things that are bad for me, if they are fun.	1.....2.....3.....4.....5.....6.....7	
I refuse things that are bad for me	1.....2.....3.....4.....5.....6.....7	
I wish I had more self-discipline	1.....2.....3.....4.....5.....6.....7	
People would say that I have self-discipline.	1.....2.....3.....4.....5.....6.....7	
Pleasure and fun sometimes keep me from getting work done	1.....2.....3.....4.....5.....6.....7	
I have trouble concentrating	1.....2.....3.....4.....5.....6.....7	
I am able to work effectively toward long-term goals	1.....2.....3.....4.....5.....6.....7	
Sometimes I can't stop myself from doing something, even if I know it is wrong	1.....2.....3.....4.....5.....6.....7	
I often act without thinking through all	1.....2.....3.....4.....5.....6.....7	

*(Tangney, Baumeister, & Boone, 2004)

8. What would you change about your campus dining, restaurants, coffeeshop or Greek house to prevent weight gain? (select all that apply)

- More available protein foods in compare carbohydrate food
- More green salad and vegetable stations available
- Light music instead of TV
- Some simple activity available
- More access to sea food
- More choices for breakfast
- More access to protein shakes during a day

Section 2: Food Choices

Please answer the following questions regarding your food choices.

9. Do you start your day with protein shake in the morning?
 - Never
 - Sometimes
 - Often
 - Always

10. Do you think access to fresh semi- prepared food is helpful in campus foodservice?
 - a. Absolutely
 - b. Maybe
 - c. Not Necessary

11. Which kind of foods are you go-to foods for breakfast?
 - Convenient foods (donuts, granola bar, protein bar)
 - Liquid (shake, coffee, or energy drink)
 - Traditional meal (eggs, toast, sausage)
 - Cereal (with or without milk)
 - None (I don't eat breakfast)

12. Do you like to see changes in the menus in on-campus dining during the month?
 - Yes (I like to mix it up)
 - No (I like structure and the same items)

13. Would you like to be able to access products made with more sugar substitutes or Keto type products in on-campus dining?
 - a. Yes
 - b. No
 - c. Unsure

14. Do you think there are enough food options available for people who have food allergies, are vegan, and lactose -free for on-campus dining?
 - a. Yes
 - b. No
 - c. Unsure

The following questions will ask about your current diet. For each, please indicate which answer best describes your eating behavior.

15. On weekdays, how many times do you eat...

	Never	Less than once per week	A few times per week	1-3 times per day	4+ times per day
Mixed dishes such as pizza, macaroni cheese, tacos, casserole.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Breads, grains, paste, rice, or other grains	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dark green, yellow, or leafy vegetables, fruits, or fruit juices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Meat, fish, eggs, beans, nuts, or tofu	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Milk, yogurt, or cheese	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Margarine or butter, bacon, dressings, oils, fried foods, chips, or olives	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sugar, candy, honey, syrup, jellies/jams pastries, cakes, or cookies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

16. Over the past week how many times did you drink Energy drinks (Red Bull, Rockstar, etc)?

- Never
- 1 per week
- 2-4 per week
- 5-6 per week

17. Over the past week how many times did you drink soft drinks (Sprite, Dr pepper, Coke, Pepsi, etc.)?

- Never
- 1 per week
- 2-4 per week
- 5-6 per week

18. Over the past week how many times did you eat while on your computer or watching TV?

- Never/Less than once per week
- 1 per week
- 2-4 per week
- 5-6 per week

19. Do you typically snack after dinner?

- Yes
- No

The following questions will ask about your food choices and intake.

20. Please make the box that most closely reflects how often you eat each of these foods?

	Never	Less than once per week	A few times per week	1-3 times per day	4+ times per day
Fruit juice like apple, grape-fresh, frozen, or canned (not sodas or other drinks)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vegetable juice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Green salad	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Potatoes any kind - including baked, mashed, or French fried	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vegetable soup, or stew with vegetables	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Any other vegetables, including string beans, peas, corn, broccoli, or any other kind	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Whole wheat breads	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hamburgers, ground beef, meat burritos	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Beef or pork, such as steaks, roasts, chicken, ribs or in sandwich	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hot dogs, or Polish or Italian sausage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Crackers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Peanut butter and crackers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Salad dressings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Margarine, butter, or mayo on bread or potatoes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Margarine, butter, or oil in cooking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Eggs (not Egg Beaters or just egg whites)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cheese, cheese spread (not low-fat)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Whole milk	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Corn chips, potato chips, popcorn, crackers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Doughnuts, pastries, cake, cookies (not low fat)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ice- cream	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Muffins or biscuits	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section 3: Perception of Weight Change

For each of following weight change perceptions, please indicate how strongly you agree or disagree with each listed below.

21. What is/are the most likely reason(s) your weight changed during your freshman year?

	Strongly agree	Agree	Disagree	Strongly Disagree	Not Applicable
Late night snacking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Drinking (alcohol)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stress	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Decreased physical activity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Homesickness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Eating cafeteria food	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Irregular schedule	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Inability to purchase healthy food	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

22. Do you like to order any of your meals by apps?

- Yes
- No

23. Have you ever been diagnosed by a medical professional as having an eating disorder?

- Yes
- No
- Unsure

24. Do you make yourself sick because you feel uncomfortably full?

- Yes
- No

25. Do you worry that since you have left home (living on campus) you have lost control of how much you eat?

- Yes
- No

Section 4: Demographics

Please answer the following questions about yourself.

26. Where on campus do you live?

- On campus dorm
- On campus apartment
- Greek-House

27. To which gender identity do you most identify?

- Female
- Male
- Transgender female
- Transgender male
- Gender variant / nonconforming
- Not listed
- Prefer not to answer

28. Which of the following best describes you?

- Native American or Alaska native
- Asian Pacific Islander
- Black or African American
- Hispanic or Latino
- White or Caucasian
- Multiracial or Biracial
- A race/ethnicity not listed here

29. Please indicate the following information about yourself.

Age

30. When you first started college, did you have any preconceived ideas of weight gain? Also known as the “freshman fifteen”?

- Yes
- No

31. As you are in your freshman year of college, is this the first time you have lived away from home?

- Yes

- No

32. Who prepares the majority of your meals?

- You
- Cafeteria/Restaurant
- Greek- House
- Other (please list)

33. How many meals per week do you eat from a cafeteria, a restaurant (student union) and/or a Greek-house?

- None
- 1-3
- 4-6
- 7+

Thank you for completing this survey. If you would like a copy of the results please email: lmalekni@uark.edu.