

A Fruit(less) Fight: College Students' Dietary Behaviors

Introduction

The battle against weight gain fuels a multibillion dollar industry. Despite the staggering amount of money spent on trying to lose weight, healthcare and the media spend the majority of their time focusing on obesity—the “epidemic” that plagues the nation. While overconsumption is an issue, there is comparatively little attention given to the unmet nutritional requirements of society; even those who are overweight or obese may lack certain nutrients. Manifestations of the war against fat—expensive gym memberships, miraculous weight loss pills, and popular fad diets—have become commonplace, even on college campuses.

It is known that college students are a group that does not meet the nutritional guidelines recommended by the American Dietetic Association [ADA]. Their consumption of fruits, vegetables, and whole grains is low and they obtain too many calories from energy dense, high-fat foods (Strong, Parks, Anderson, Winnett, & Davy, 2008). Although it is clear that college students' diets are lacking, the specific nutrients missing are not known and there is little evidence why. They are a group that needs to be researched further. Discovering college students' diet composition and what factors affect it is important because the diet's impact on health has a long-term effect: college students are the future. The goal of this research paper is to investigate survey results regarding the diet composition and the factors affecting it of 30 randomly chosen University of Florida college students enrolled in AEE 3033 Research and Business Writing.

Purpose and Objectives

The purpose of this research study was to examine college students' dietary behaviors. Based on this purpose, the objectives of this research study were to assess college students' 1) diet composition and 2) reasons behind the composition of their diets. A 15 question survey was utilized to gather this information.

Literature Review

“The greatest increase in overweight and obesity has been observed between 18 and 29 years of age, the age range of more than 10 million full-time college students in the United States” (Racette, Deusinger, Strube, Highstein, & Deusinger, 2008). The “Freshman Fifteen” is not a new concept and evidence supports that college students' diets are more energy dense than they should be. Research at a large Minnesota university concluded the average number of calories in the dorm refrigerators of college students was 22,888, with one-quarter of those calories coming from fat and a substantial amount from sugar sweetened beverages (Nelson & Story, 2009). Dorm refrigerators cannot hold much more than the most basic food items. This means college students must supplement their food intake by other sources, and cheap, energy-dense foods are readily available any time of the day or night in the college environment. According to Strong et al. (2008), healthful eating is not a highly ranked priority of college students.

There are many factors that play a role in the food choices college students make. Although Gruber (2008) found that both male and female college students are encouraged by their friends to eat healthfully, research by Strong et al. (2008) shows that a major contributor to college students' diet choices are due to their regular eating of meals with friends, which is

ranked with higher importance than the meal's healthiness. Aside from social venues, other factors pertaining to college students' diet composition seem to be related to time, money and the ease of acquiring food (Strong et al., 2008). Transition into a college lifestyle seems to play a major role in the unhealthiness of college students' diets as well. Students tend to have more healthful eating habits prior to beginning college due to family support and a more structured lifestyle (Cluskey & Grobe, 2009). After the transition to college, students become responsible for planning their own schedules and getting enough to eat. Unfortunately, the food choices college students make are not usually the most beneficial to their health.

Assessments and experiments have taken place to break down the barriers college students face in eating healthful meals. A study executed by Ha & Caine-Bish (2009) found that college students who take a nutrition class during their college career are more likely to change their eating habits for the better. Several other implementations have been explored to promote higher vegetable, fruit, and whole grain consumption as well; including a TV cooking show for college students living off campus and the institution of peer health counselors. The cooking show increased college students' knowledge about fruits and vegetables, but there was no reported increase in consumption within those food groups (Dawn, Anderson, Auld, & Champ, 2009); the peer health counselors, however, had a positive effect on college students' dietary alterations to include more healthful foods (White, Park, Israel, & Cordero, 2009). These findings support previously mentioned studies that place a heavy social aspect on college students' food choices, but also depict a common theme to consider when designing programs to get college students to eat more healthfully.

No matter what the reason is for college students' diets lacking in essential nutrient content and being far too high in energy dense foods, the consequences remain the same. With

obesity comes a higher risk of cardiovascular disease, type 2 diabetes, and dyslipidemia (Desai, Miller, Staples & Bravender, 2008); and if the essential nutrient needs of the body are not met, homeostasis is affected. Too little calcium affects the bones, too little potassium affects the nervous system, and too little fiber affects the gastrointestinal and cardiovascular system (Whitney & Rolfs, 2008). College students are not just gaining weight from the intake of excessive fat and protein calories; they also are not getting enough of the essential vitamins, minerals, or fiber that their bodies rely on in order to function correctly and keep them healthy. This is not a problem that will fade away in time; according to Cluskey et. al (2009), eating behaviors established during college are often the beginning of life-long weight problems that escalate the health issues associated with them.

The aforementioned research supports further delving into college students' diet composition and dietary behaviors in order to offer a clearer picture of what types of programs may be the most beneficial in getting college students' diets on the right track. Gaining insight into the composition of college students' diets will afford the knowledge needed to successfully determine where the gaps in their nutrition lie. If the most prevalent reasons why college students eat the way they do are understood and those with lesser prevalence are paid attention, then programs that are developed to promote change for the better in their diets will be more effective. Once college students are actively making healthy diet choices, the benefits will be far reaching. Since behaviors formed in college tend to stick with students throughout the remainder of their lives, healthier eating will be a major leap toward prevention instead of treatment in healthcare. The implications of such a movement can lead to cheaper, more available health insurance; happier, more secure Americans; and a healthier, more prosperous nation.

Methodology

This research study utilized a survey design to determine 1) the composition of college students' diets and 2) what factors affect the content of their diets. A total of 30, 15 question surveys were randomly distributed to college students enrolled in the AEE 3033 Research and Business Writing Class. The questions were given in a combination format of multiple choice, ranking, and checkbox selection. The questions gathered demographic data (gender and year in college) and addressed the basic constituents of college students' diets (fruit, vegetable, grain, meat, beans, and dairy consumption), as well as factors that affect food choices (cost, taste, social aspects, healthiness, time constraints). An example of the survey format and questions are included in Appendix A. Review and analysis of the surveys revealed the basic composition of college students' current diets and what factors dictated college students' food choices.

Results

To gather information from students, 30 surveys were randomly distributed during a class period to be completed and returned within the allotted time for class (one hour and fifteen minutes). Twenty-nine surveys were returned yielding a 97% response rate. Sixty-six percent (n=19) of respondents were male and 34% (n=10) of respondents were female. There were no Freshmen (first-year) students in the sample. Ten percent of respondents were Sophomores, 31% were Juniors, 55% were Seniors, and 3% were Graduate Students.

College students' diet composition

Eleven of the 15 total questions were utilized to determine the composition of college students' diets. In the first 6 of these 11 questions, respondents were asked the following regarding three food group divisions (fruits, vegetables, and meats/beans/eggs): On a typical day,

how many servings of [food group] do you eat?; a tangible example of the serving size for each of the three food groups was given (ie: ½ cup = the size of a tennis ball); and answers were to be circled. Options given ranged within the following: less than 1 serving/day to 5+ servings/day. Each question regarding the food group divisions was followed with a question asking in what forms the constituents of the food group were consumed (fresh, frozen, canned, dried, and/or beverage). Beverage was only a given option if applicable, therefore it was not used in describing the meat/beans/eggs intake.

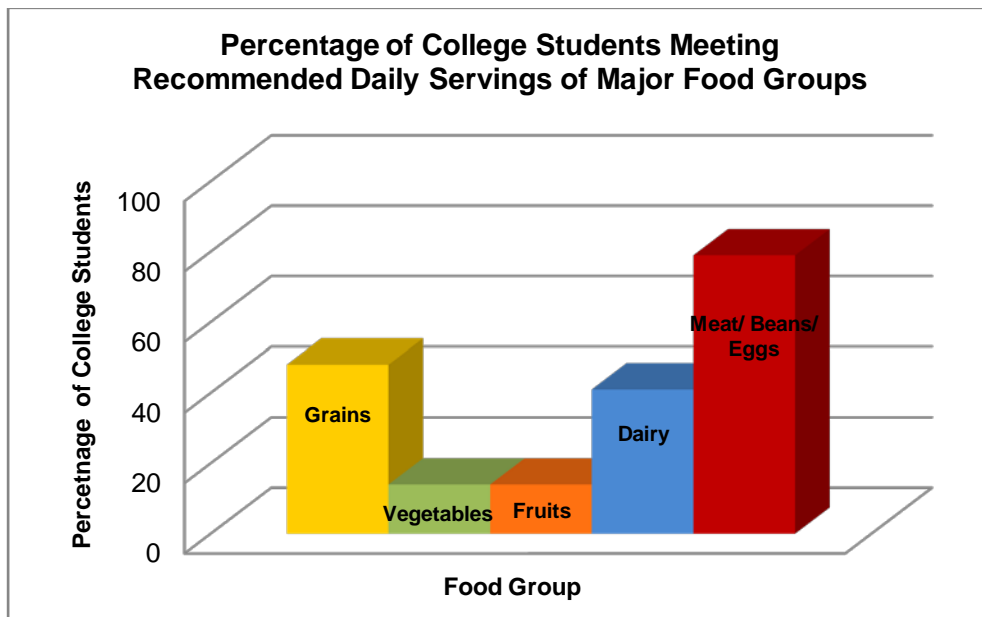


Figure 1

For both the fruit and vegetable groups, only 14% (n=4) of respondents met the number of servings per day recommended (4-5 servings and 4-6 servings, respectively) by the ADA. For fruit, the most common form eaten was fresh, then frozen, then as a beverage, and finally dried. None of the respondents eating the recommended daily servings of fruit obtained their fruit in canned form. The most common form of vegetable eaten was fresh, then frozen; and those consumed in canned, dried, and beverage form were equally utilized.

Recommended servings per day in the meat/beans/eggs group were the most commonly met of all the food groups assessed by the survey. Seventy-nine percent (n=23) of respondents met the servings recommended (2-3/day) by the ADA. All forms of meat/beans/eggs were eaten; that most often consumed was fresh, then frozen, then canned, and finally dried. Males were more likely to eat the recommended servings/day from this food group division than females (89%, n=17 vs. 60%, n=6). Twenty-four percent (n=7) of respondents consumed four or more servings from this group per day.

The remaining 5 questions of the 11 aforementioned pertaining to college students' dietary consumption addressed dairy and grain consumption. Respondents were asked to indicate: on a typical day, how many servings of [food group] do they eat?; a tangible reference example was provided here as well; and answers were to be circled. Options given were within the following range: less than 1 serving/day to 5+ servings/day. Forty-one percent (n=12) of all respondents met the recommended servings per day (3-4/day) for the dairy group. However, 50% (n=5) of females did not meet the recommended servings per day. To gain additional insight into grain consumption, the respondents were asked: when you eat grains, they are...(whole, refined, I eat both on a daily basis); one selection was to be circled. Forty-eight percent (n=14) of respondents met the recommended servings per day (4-6/day) of grains and 93% (n=13) of those that met that specified daily intake consumed either mostly whole grains, or a combination of whole and refined grains. Overall, 69% (n=20) of respondents were not meeting the recommended servings for three or more food groups per day.

To supplement the information obtained about consumption within the food groups, respondents were asked to indicate the type of restaurant (fast-food, casual dining, or formal dining) they ate at most frequently, where 1 was the most frequent and 3 was the least frequent.

Common examples were given for each classification of restaurant. A follow up question was used to give further insight into the respondents' dietary behaviors, inquiring as to how many times during a typical week respondents ate at the indicated types of restaurants; the range of answer selections was from less than once/week to 4+ times/week. Nearly half (48%, n=14) of respondents ate at casual dining restaurants most frequently and 41% (n=12) of respondents ate at fast food restaurants two or more times per week.

Reasons behind the composition of college students' diets

To gain insight into the reasons behind college students' dietary choices respondents were asked to rank [cost, social atmosphere, convenience, taste, healthiness] in order of most importance to least importance when deciding what to eat (1=most important and 5=least important). Fifty-one percent (n=15) of respondents indicated that cost was of the utmost importance when considering what to eat, followed by taste (21%, n=6), healthiness (17%, n=5), and convenience (14%, n=4), see figure 2. Social atmosphere was also an option, but none of the respondents deemed it to be the most important consideration (a ranking of 1) in deciding what to eat. Fifty-five percent (n=16) of respondents indicated that healthiness was not important at all, determined as assigning a higher number (3, 4, or 5) to the healthiness option. Males seemed to be the most concerned with the cost of a meal (63%, n=12), while females were equally concerned with cost, taste, and healthiness (30%, n=3).

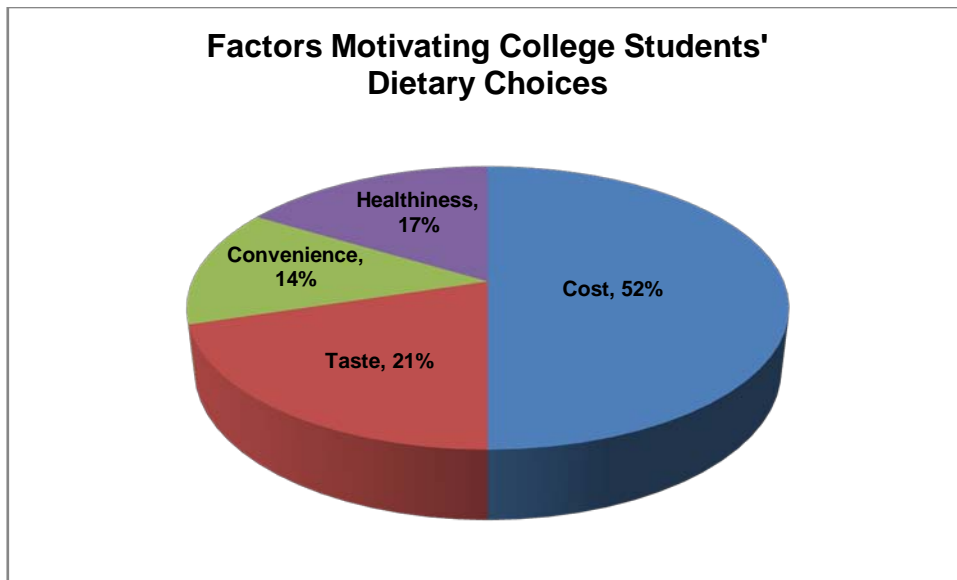


Figure 2

Conclusions & Recommendations

Perhaps the most surprising result is 69% of college students surveyed do not meet the servings recommended by the ADA for three or more food groups per day. Shunning these food groups causes low levels of the nutrients that should be obtained by their consumption. Because of the body's extreme efficiency the consequences of these missing nutrients may not be seen until much later in life. These deficiencies may manifest into more serious conditions—germinating into life-long weight and health problems that instigate the severe health issues society is succumbing to today (Cluskey, et. al, 2009).

What may be the two most important food groups, fruits and vegetables, are regrettably those that college students are most deprived of in their diets. Only 14% of respondents ate the recommended daily servings from each of these most influential groups. Fruits and vegetables not only provide vitamins and minerals, but necessary fiber and antioxidants as well; which play important roles in lowering the risk of cancer (Whitney & Rolfs, 2008). College students do seem to be obtaining more whole grains than in the past, a fact that opposes Strong, et al. (2009).

Although this may be a result of the growing trend to incorporate more whole grains into products by the baked goods companies, the integration of more whole grains into college students' diets slightly offsets the lack of fiber intake from fruits and vegetables.

Since college students are not eating the recommended amount of fruits and vegetables, they must be getting overnutrition from the other food groups (as seen in figure 1) and since the most important consideration when deciding what to eat is cost, it can be assumed that what they are eating is less healthful than it should be. Twenty-four percent of respondents are eating far too many servings from the meat/beans/eggs group. If what is eaten from this group is mostly meat, then college students are consuming too much fat and cholesterol. This not only puts them at risk of gaining weight that they may never be able to lose, it puts them at a greatly increased risk for cardiovascular disease and may put them at higher risk for cancer. The fact that 49% of students surveyed eat two or more times per week at casual dining restaurants alone, almost guarantees that sodium intake is far beyond the recommended level of 2400 mg that is meant to decrease the risk of cardiovascular diseases including hypertension.

Further research is needed to broaden health practitioners' knowledge about the composition of college students' diets. The more detail that can be extruded from college students' eating practices, the more progress that can be made in a healthier direction. Perhaps the composition of college students' diets when eating at restaurants could be further explored to shed light on what their taste preferences may lean toward. The findings may help define different approach angles that could be used in getting college students to change their diet for the better.

Television commercials, brochures, and news reports about the importance of eating healthfully already exist; and they do not seem to impact the college student population in the least. What is needed is a way to get through to college students on more personal level. College campuses should institute an introductory human nutrition class in the general education requirements of all students. The end product may be that college students may not only be more likely to change their diet practices, they may lead healthier lifestyles as well—as reported by Ha & Caine-Bish (2009). The key to a healthier nation in the future lies in the decisions that American college students make today.

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