Weight-Related Lifestyle Behaviors and Attitudes in High School and College Students

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ABSTRACT

Obseity trends show that the prevalence of obesity is increasing drastically and that younger age groups are increasingly at risk. The purposes of this study were to determine if there are discernable differences between behaviors of high school students and college students and also between college students of normal weight and college students who are overweight/obese. This IRB-approved study surveyed approximately 80 high school seniors and 80 Indiana University students of various class standings. The study was developed from a survey published in 1989 in *Seventeen Magazine* called "May Obesity Survey." The questions collected data related to age, BMI, and lifestyle, including physical activity levels, stress, and behavior. The software SPSS was used to perform statistical analysis. The findings showed a positive correlation (p<.001, r=.616) between students' self-reported weight category and actual BMI (calculated by reported height and weight). College students with healthy BMIs exercise 4-6 times/week, while overweight and obese students exercise 1-3 times/week X^2 (3) =8.95, p<.05. In addition, college students of normal weight are three times more likely to perform exercises of moderate to high intensity, such as strength training. A significant positive correlation was also found between the number of hours college students spent during weekends watching television, using a computer, or playing video games and body weight X^2 (3) =8.75, p<.05. Equal numbers of normal weight and overweight/obese college students report desire to improve their health. One of the primary findings indicates that students are either not aware of their true weight status or willing to admit it to others. Therefore, increased education about the BMI index and consequences of excess weight may be the first step in fighting college obesity.

KEYWORDS: obesity, weight gain, high school, college, BMI

INTRODUCTION

Obesity is a medical condition that occurs when individuals have accumulated excess body fat to the extent that susceptibility to other diseases such as heart disease, diabetes, hypertension, and cancer, is increased. Obesity is calculated using the body mass index (BMI), which is a formula that quantifies the magnitude of obesity is an individual's weight in kilograms divided by the square of the individual's height in meters. A BMI value of 30 or greater is considered obese. The major concerns in individuals with morbid obesity are the reduced life expectancy and the presence of multiple chronic diseases that accompany additional weight. The annual health care cost associated with obesity related disorders within the United States is estimated at \$190.2 billion, which comprises 21% of domestic annual medical spending (Harvard School of Public Helath, 2012).

The CDC reports that 18.4% of individuals aged 12-19 are obese, but the percentage of obese individuals of ages 20 or older nearly doubles to 35.1% (National League of Cities, 2014). However, the type of weight change, or even the existence of weight change at all, is debated. Some students lose weight, some students gain muscle mass, other students gain less than 15 pounds, some students gain more than 15 pounds, and finally, others remain exactly the same. Several factors play into this trend; some of these include changes in eating and sleeping habits, availability of healthy foods, stress, and inconvenient school/work schedules. The purpose of this research is to determine which lifestyle factors play a role in the body weight changes observed in high school and college students and to find proactive approaches that will help college students maintain healthy body weights and reduce the prevalence of obesity.

METHODS

Participants

Approximately 200 paper surveys were distributed to Bloomington High School South seniors. Students were informed that participation in this research was voluntary and participants would not receive compensation for participation. 88 responses were received from the high school students.

In the case of the college students, paper and online surveys were distributed to Indiana University students

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through email, social media, and face-to-face contact. Following the distribution of the surveys, 66 responses were received from the IU students. 13.2% of responses were received from freshmen, 10.5% from sophomores, 31.6% from juniors, 34.2% from seniors, and 10.5% from post-graduate students.

Study Design

Two separate questionnaires were developed in order to assess obesity trends that occur in the transition from high school to college. These questionnaires inquired about many possible factors including the individual's eating habits, physical activity regimen, and family history. One questionnaire was devised specifically towards high school seniors while the other questionnaire had slight modifications specifically tailored to college students, such as questions about roommates. The questionnaire content was developed by analyzing several pre-existing obesity surveys, specifically, a May 1989 survey published in Seventeen Magazine called "May Obesity Survey" and modifying the questions to fit the needs of the research. Many questions were also specifically devised to address relevant obesity issues that were not mentioned in the survey above.

Classifications

Standard weight classes were used, as shown in the table below:

Table 1:Body-Mass Index Weight Classes

BMI	< 18.5	18.5-24.9	25.0-29.9
Classification	Underweight	Normal Weight	Overweight
BMI	30.0-34.9	35.0-39.9	≥ 40.0
Classification	Class I obesity	Class II obesity	Class III obesity

For the purposes of this study, obesity was not divided into different classes.

RESULTS

A strong correlation was found between a student's weight and a student's perception of his/her weight (high school, r=.747, p < .001; college, r=.616, p<.001). This was calculated by asking perception of weight

(underweight, normal weight, overweight, or obese) at the very beginning of the survey, and calculating BMI based on self-reported height and weight on the last page of the survey.

Results for comparisons between high school and college student lifestyles did not yield other significant results.

The data from the college students was further analyzed to compare students of normal weight with overweight and obese students. Of the obese students, only 9.5% of obese students actually identified themselves as obese, 61.9% of obese students identified themselves as overweight, and 28.6% of obese students identified themselves as normal weight. Patterns were found between behaviors of overweight/obese students and behaviors of students of normal weight. These significant findings include that students with normal BMIs exercise 4-6 times/week, while overweight and obese students exercise 1-3 times/week, X², (3, N= 54) = 8.95, p = .030.

In addition, people of normal weight are three times more likely to perform exercises of moderate to high intensity, such as strength training.

There was also a difference between normal weight and overweight/obese college students in the number of hours spent watching television, using a computer, or playing video games during the weekend X^2 , (3, N= 54) = 8.75, p = .03.

DISCUSSION

Since high school students are more aware of the status of their weight than college students are (r=.747 for high school, r=.616 for college), this suggests that college students may be unaware of their weight change, or unaware of the behaviors causing weight gain. However, it may also be possible that college students did not want to acknowledge being overweight or obese. Because of this discrepancy, awareness of BMI and the risks associated with obesity must be emphasized more on college campuses. A potential solution includes increasing the number of BMI conversion charts across campuses to increase awareness of BMI, comorbidities associated with obesity, and resources for weight loss and healthy lifestyle behaviors.

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CONCLUSION

Overall, we found discrepancies in education related to obesity, and recommend starting with helping individuals become aware of his/her BMI and recognizing the implications of excess body weight.

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