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## **Self-Reported Consumption of Fast-Food Meals by University Students**

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### **Abstract**

Students' consumption of fast-food meals depends on perceptions of health status, label use, knowledge about sugars, household income levels, age, and marital status. Consumption is independent of weight status, knowledge of total fat and sodium, gender, household size, academic classification, and areas of residence. Perceptions of weight status statistically significantly differ from body mass indices. U.S. overweight and obesity rates have been steadily increasing in the 18 to 29 age group, and this group often includes university students. Thus, universities can play an active role in helping students to learn about the potential dangers of unhealthy diets and to develop better eating habits.

**Keywords:** university students; fast-food meals; consumption; body mass indices; perceptions of weight and health

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## **Introduction**

The United States has been battling an overweight and obesity epidemic for more than 20 years, and victory remains elusive. Currently, at least two-thirds of adults and about one-third of children and adolescents in the country are overweight or obese, and diet-related healthcare costs continue to trend toward unsustainable levels. Although there are some disagreements on whether genes, eating habits, areas of residence, lifestyles, attitudes, emotions, or household income levels are the main contributors to the epidemic, what is indisputable is that imbalances between energy intake and energy expended lead to weight gain.

Pereira and colleagues (2005) observe that because obesity has increased so rapidly in genetically stable populations, factors other than genes must be analyzed when trying to identify the root causes for the epidemic. To them the two most likely contributors to the obesity epidemic are environmental factors affecting diet, and levels of physical activity. On the dietary side, they suggest that the growth in fast-food establishments since the 1950s and larger portions loaded with sugar, salt, and fat often exceeding daily energy requirements are strong contenders in Americans excessive weight gains. The research findings also support their stated hypotheses of strong positive associations among fast-food consumption, weight gain, and the increased risks for obesity and type 2 diabetes (Pereira et al. 2005).

Recent statistics also indicate that although U.S. obesity rates have stabilized in the general population, the numbers have been rising among 18 to 29 year olds (Ogden, Carroll, Kit, and Flegal 2014). College students usually fall in the 18 to 29 age group and their dietary patterns often predispose them to weight gain and future health problems (Racette et al. 2005). Hamburgers, French fries, pizzas, and soft drinks are favorites of many college students compared to fruits, vegetables, and milk (Driskell, Meckna, and Scales 2006). Thus, excessive consumption of high-calorie fast-food meals and low physical activity levels are likely contributors to the upward trends in overweight and obesity rates among these young adults. Eating habits also are associated with students' demographic and psychographic characteristics, and their residence (Brevard and Ricketts 1996).

Morse and Driskell (2009) advance the view that the frequency with which college students eat fast foods depends on menu choices, cost, convenience, taste, advertisement, poor cooking skills, location, gender, and on the opportunity to socialize with friends. While there are positive benefits in socializing with friends, these benefits can erode very quickly if eating at fast-food restaurants leads to weight gain. Their findings indicate that male students who eat fast foods more frequently have statistically significantly higher body mass indices than their female counterpart. Heidal and colleagues (2012) found that the greater the monthly expenditures on fast foods by college students, the higher the amount of calories they consumed.

Deshpande, Basil, and Basil (2009) also note college students' tendencies to consume high-fat, high-caloric foods, and their low propensities to consume fresh fruits and vegetables, and suggest using aggressive public relations campaigns to promote healthy eating among university students. Recognizing the gender differences in food choices and views on health, the authors suggest that for these campaigns to be effective, they must be gender specific. Thus, campaigns for females should focus on the health consequences of poor diets, while those for males should

aim at increasing men's awareness that they are just as vulnerable to health-related diseases from poor diets as do women.

Overweight and obese individuals are at higher risks for developing type 2 diabetes, heart disease, high blood pressure, and some types of cancer, among others, and the costs for treating these diet-related illnesses have been growing at unsustainable levels. Consequently, the federal and state governments have tried several measures to address the problem (U.S. Department of Health and Human Services, 2014). At the federal level, the U.S. Department of Agriculture recently instituted new guidelines for food packages and the Special Supplemental Nutrition Program for Women, Infants and Children in an attempt to combat the overweight and obesity epidemic plaguing the country (Ogden, Carroll, Kit, and Flegal 2014). Despite these measures, 50 million Americans eat at fast-food establishments daily and almost 37 percent of their daily caloric intake comes from eating a fast-food meal. Thus, researchers must continue to study fast-food consumption given its links to overweight and obesity rates among young adults. Our study takes a small step in that direction by examining the frequency of consuming fast-food meals by a selected group of college students.

## Objectives

The study's overall objective is to examine students' daily consumption of fast-food meals, and factors associated with consumption of these meals. The specific objectives are (a) to assess students' perceptions of their weight status compared to computed body mass indices; (b) to document self-reported daily consumption of fast-food meals; and (c) to determine whether fast-food consumption is associated with students' perceptions of their health and weight status; label use; knowledge of percent daily values for total fat and sodium; knowledge of the sugar content of foods; and their selected sociodemographic characteristics (age, gender, household size, household income, marital status, academic classification, and residence).

## Data and Procedures

The study's data were compiled from a survey of 402 undergraduate students and generated information on knowledge of Nutrition Facts, label use, perceptions of health and weight status, consumption of fresh fruits and vegetables and fast foods, and sociodemographic characteristics. For the paper, variables are defined as follows: (1) students' assessments of their health (**Health**) and weight (**Weight**) status; (2) frequency of reading Nutrition Facts panels (**Label**); (3) knowledge of percent daily values for total fat (**Fat**) and sodium (**Sodium**); and basic knowledge about the sugar content of foods (**Sugars**); (4) age (**Age**); gender (**Gender**); household size (**Size**); household income (**Income**); marital status (**Status**); academic classification (**Class**); and residence (**Residence**).

Selected survey questions include the following. How often do you read food labels: often; sometimes; rarely; or never? Do you consider yourself overweight, underweight, or about right? Would you say that, in general, your health is poor, fair, good, very good, or excellent? Would you say that, in general, you eat fast-food meals: \_\_\_ times per day; \_\_\_ times per week; \_\_\_ times per month? Body mass indices were computed as  $[(\text{weight in pounds}) \div (\text{height in inches})^2] * 703$ . The chi-square tests for independence were used to analyze the data.

## Empirical Results and Discussion

### Descriptive Statistics

The average age of survey participants is 22 years old, while the median age is 20 years. Academic classifications are as follows: freshmen (33 percent); sophomores (29 percent); juniors (23 percent); seniors (14 percent). Thirty-seven percent of the students live on campus; sixty-five percent are females; and 90 percent are single. From the survey, 9 percent of the students perceive themselves as underweight, 48 percent feel their weights are about right, and 43 percent think they are overweight. Based on our estimates of students' body mass indices, 31 percent is overweight and about 30 percent is obese.

### Chi-Square Results

Comparisons between perceptions of weight status and computed body mass indices suggest that students overestimate their healthy weight status, while underestimating their overweight status (Table 1). Within category comparisons also indicate that 48 percent of the students who are overweight and 23 percent of those who are obese perceive their weights are just right or falling into the healthy weight category. Perceptions of weight status are associated with actual body weight. Additionally, 36 percent of students eat fast-food meals more than three times per day, while 29 percent do not consume any fast-food meals on a daily basis (Table 2).

**Table 1.** Perceptions of Weight Status and Computed Body Mass Indices (BMI)

Variables	Under Weight	About Right	Over Weight	Chi-Square	P-Value
<b>Total Weight</b>	9.0a	48.0	43.0		
<b>Total BMI</b>	4.5	34.5	31.1		
<b>BMI Categories</b>					
Under weight	22.0	50.0	28.0		
Healthy weight	19.0	68.0	13.0		
Overweight	4.0	48.0	48.0		
Obese	2.0	23.0	75.0	111.96***	0.000

**Note.** (a) Numbers in table represent percentages. (\*\*\*) implies statistical significance at the 1% level of probability.

**Table 2.** Self-Reported Daily Fast-Food Consumption

Times/Day	Percentage	Chi-Square	P-Value
None	29.4		
One	21.1		
Two	13.2		
Three or more	36.3	48.488***	0.000

**Note.** (\*\*\*) implies statistical significance at the 1% level of probability.

Consumption is associated with perceptions of health status, label use, knowledge about sugar, age, income levels, and marital status. Forty-three percent of students who describe their health as fair or poor and 25 percent of those who read food labels indicate that they consume fast-food meals at least three times per day. Students who answer the question on sugar incorrectly, older students, those whose family's household income levels range from \$50,000-\$74,000, and married students are more likely to eat fast-food meals compared to their corresponding counterparts. The frequency of eating fast foods is invariant to perceptions of weight status,

knowledge of the percent daily values for total fat and sodium, gender, household size, academic classifications, and areas of residence (Table 3).

**Table 3.** Factors Associated with Fast-Food Consumption by Percentages

Variables	None	One	Two	Three	Chi-Square	P-Value
<b>Total</b>	<b>29.4</b>	<b>21.1</b>	<b>13.2</b>	<b>36.3</b>		
<b>Health</b>						
Fair/Poor	28.3	14.5	13.8	43.4		
Good/Very Good	30.4	26.4	12.3	30.8		
Excellent	26.1	13.0	17.4	43.5	11.933*	0.063
<b>Weight</b>						
Underweight	29.7	10.8	21.7	37.8		
About right	31.8	25.5	12.3	31.2		
Overweight	26.6	18.5	13.3	41.6	10.168	0.118
<b>Label</b>						
Never	27.2	21.2	13.6	38.0		
Often	44.9	20.4	10.2	24.5	7.134*	0.068
<b>Fat</b>						
Correct	25.4	23.7	20.4	30.5		
Incorrect	30.0	20.7	12.0	37.3	3.910	0.271
<b>Sodium</b>						
Correct	28.9	17.8	11.1	42.2		
Incorrect	29.4	21.6	13.4	35.6	0.927	0.819
<b>Sugars</b>						
Correct	32.8	22.6	13.6	30.9		
Incorrect	22.6	18.2	12.4	46.7	10.307**	0.016
<b>Age</b>						
<25	28.7	23.6	14.2	33.5		
≥25	32.4	9.9	8.5	49.3	10.929**	0.012
<b>Gender</b>						
Male	28.8	16.5	17.3	37.4		
Female	29.7	23.6	11.0	35.7	4.903	0.179
<b>Size</b>						
One	28.6	14.3	9.5	47.6		
Two	26.9	17.2	20.4	35.5		
Three or more	30.2	22.9	11.1	35.8	7.484	0.278
<b>Income</b>						
<\$15K	31.4	28.6	14.3	25.7		
\$15 - \$24K	23.7	13.2	22.4	40.8		
\$24 - \$49K	36.4	13.6	12.1	37.9		
\$50 - \$74K	23.5	19.1	8.8	48.5		
≥ \$75K	29.9	31.2	11.7	27.3	27.642**	0.024
<b>Status</b>						
Single	28.3	22.8	13.6	35.3		
Other	38.2	7.1	9.5	45.2	7.073*	0.070
<b>Class</b>						
Freshman	30.6	19.4	17.2	32.8		
Sophomore	29.1	17.9	13.7	39.3		
Junior	29.0	20.4	14.0	36.6		
Senior	27.6	32.8	1.7	37.9	12.852	0.169
<b>Residence</b>						
On-Campus	31.2	17.5	14.4	36.9		
Off-Campus	28.0	23.6	12.4	36.0	2.304	0.512

**Note.** (\*) and (\*\*) imply statistical significance at the 10% and 5% levels of probability, respectively.

## Summary and Conclusions

The study's primary objectives were (a) to examine students' perceptions of their weight status as compared to their computed body mass indices; (b) to document self-reported daily consumption of fast-food meals; and (c) to determine whether fast-food consumption was associated with students' perceptions of their health and weight status, label use, knowledge of percent daily values for total fat and sodium, knowledge about the sugar content of foods, and their selected sociodemographic characteristics (age, gender, household size, household income, marital status, academic classification, and residence). The results suggested that 48 percent of the students who were overweight and 23 percent of those who were obese perceived themselves as being in the healthy weight category. Further, the most frequent ( $\geq 3/\text{day}$ ) consumers of fast foods perceived themselves as being in excellent health (43.5%); had limited knowledge about sugars (47%); were non-label users (38%); were at least 25 years old (49.3%); reported family household income between \$50,000 and \$74,000 (48.5%); and were married (46%).

The United States has an overweight and obese epidemic and the healthcare costs for treating this epidemic keep rising. Excessive consumption of fast foods has been one of the factors driving the epidemic. College students are notorious for consuming fast foods and for thinking that they are invincible when it comes to their health. The study's findings suggest that there are discrepancies between perceptions of weight status and actual weight which can lead to greater consumption of fast foods. Given the budgetary challenges and rising healthcare costs at the national level, young adults must become more proactive in improving their eating habits. Universities can play a vital role in this endeavor by teaching students in the mandatory courses how to make healthier food choices.

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