

# Correlates of Fast Food Consumption to Obesity: The Case of Bulacan State University Students

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## ABSTRACT

The wide spread of fast-food and unhealthy food can contribute to the rising of overweight adolescence Filipinos. The World Health Organization (WHO) is now working with the country's National Nutrition Council (NNC) for the development of an action plan against obesity. This study examined the correlation of fast food consumption to obesity: the case of Bulacan State University. Specifically, this study investigated the fast food eating habits, types of meals usually eaten, factors that lead to obesity, and the relationship of fast food consumption to obesity. This study hypothesized that the fast food eating habits have significant relationship to obesity. The researcher selected 352 purposively selected (based on body size perception) overweight respondents and a survey questionnaire was personally administered to them. The respondents' characteristics were described with the use of Body Mass Index (BMI), frequency and percentage distribution, mean, standard deviation. Correlation was used to analyze the data. Most of the respondents are 18 years old, female, with one hundred pesos above for their food allowance. The body mass index showed that some of the overweight respondents are not obese. The findings of this study indicated that there is no correlation between eating habits and factors leading to obesity. However, there is a correlation on daily exercise, genetic susceptibility, and emotional state. There is no significant relationship between fast food consumption and obesity.

**Keywords:** *fast food, consumption, eating habits, obesity, overweight, proper diet*

## INTRODUCTION

In obtaining a healthy body, one needs to understand the nutritive value of food consumed from the fast food restaurants. The nutrients consumed of a person depend on their daily eating habits. Some tend to eat ready to serve foods especially those whose parents are working; the kids suffer on their daily food preference. Changing the lifestyle has

affected the food consumption of families, forgetting the basic principle of maintaining a well-balanced diet and a healthy lifestyle for longer life. There are many advertisements through media and internet on the different fast food that are delicious and that most clients tend to be affected by commercials without analyzing the nutritive value that they can acquire from it. Frequent eating from the fast food may reduce the quality of diet and provide unhealthy choices especially among children and adolescents raising their risk of obesity.

Mandal (2012) revealed that obesity is linked to several long term health conditions, premature death and illness including diabetes, heart disease, stroke, gall bladder disease, fatty liver, arthritis, joint disorders, and some kinds of cancer. Fast foods affect children and youth often worse than adults. This is because most of the fast foods are directed towards children and there is a sustained pattern of eating in fast foods or restaurant. The concept of balanced diet of children as (Llige and Gabriel, 2015) revealed that the fast food opinions on home-cooked meals are more nutritious than fast food meals. In relation to this statement, 56.8% agreed that fast food meals are full of fats, additives, and calories and as such, 65.3% strongly agreed that regular eating of fast food is not good for the body because it does not follow the concept of a balanced diet.

The constant and excessive consumption of food from the fast food, and lack of daily physical activity may lead to obesity (Garcia et. al 2012). The present study, seeks to determine the relationship of regular habit of eating in fast food to obesity. With these reasons, the researcher was motivated to conduct a study about the correlation of fast food consumption to obesity in purposively selected overweight students of Bulacan State University. Thus, this study aims to determine the correlation of fast food consumption to obesity. Specifically, the study sought to answer the following questions: (1.) How may the fast food eating habits of the students be characterized in terms of: frequency of food intake and kinds of meals usually eaten; (2.) How can the factors leading to obesity of the respondents be measured; (3.) Is there significant relationship between fast food consumption and obesity of the respondents? The researcher hypothesized that fast food eating habits have significant relationship to obesity of Bulacan State University students.

## **METHODOLOGY**

The study used a descriptive – correlational research design. It focused on 352 randomly selected students from ten colleges of Bulacan State University in the main campus. The researcher prepared a survey questionnaire which includes the demographic profile, fast food eating habit of students, and factors leading to obesity. The items in the questionnaire were based on the previous studies regarding fast food consumption and obesity among Michigan adults, Anderson B, et al. (2011).

Before conducting the survey, the researcher secured a permission from the university president through the different deans, especially to the College of Home Economics to conduct a survey among randomly selected students from their respective colleges. To test the reliability of the set questionnaire the researcher selected 20 students, 15 faculty, and 15 personnel. To measure the reliability, internal consistency of items was tested using Cronbach alpha. The Cronbach's alpha for all variables were suitable with the results as follows: on the fast food eating habit, the Cronbach's alpha these variables ( $\alpha = .82$ ), and factors leading the obesity, the Cronbach's alpha of these variables ( $\alpha = .89$ )

The researcher selected 352 purposively selected (based on body size perception) overweight respondents and a survey questionnaire was personally administered to them. After all the survey questionnaires had been retrieved, a matrix was prepared where all the responses were tallied prior to statistical analysis by means of Statistical Programs for Social Sciences (SPSS version 21.0) using the following: (1) Computation of Body Mass Index (BMI) to determine the fatness of respondents to obesity; (2) frequency and percentage distribution were used to describe the profile of the respondents; (3) mean and standard deviation to qualify the respondents assessment about their eating habits in fast-food and factors leading obesity; (3) correlation was also applied to identify the variables on the relationship of fast food consumption to obesity to the purposively selected students of Bulacan State University school year 2016 to 2017.

RESULTS AND DISCUSSION

Profile of the Respondents

**Table 1**  
Profile of the Respondents (n=352)

Characteristics		Frequency	Percent
Age	16	6	1.8%
	17	76	21.6%
	18	88	25%
	19	84	23.9%
	20	42	11.9%
	21	22	6.3%
	22	14	4%
	23	8	2.3%
	24	12	3.2%
Gender	Female	206	58.5%
	Male	146	41.5%

Table 1 shows the profile of the respondents by age level. It revealed that out of the 352 respondents 58.5% or 206 were female and 41.5 % or 146 were male. It further explains that 88 or 25% of them are 18 years old, 84 or 23.9 % are 19 years old, 76 or 21.6 % of them are 17 years old, 42 or 11.9 % are 20 years old, 22 or 6.3 % of them are 21 years old, 14 or 4 % are 22 years old, 12 or 3.2 % are 24 years old, while 8 or 2.3 % are 23 years old, and only 6 or 1.8 % are age 16.

It revealed that most of the respondents are teenagers. On the same vein, French et al. (2001), stressed that adolescents consider themselves to be too young and not to worry about their health condition. One of their findings is that the number one predictor of adolescent’s obesity is the fast food consumption at a lower age and one of their recommendations is that adolescents should be involved on a lot of physical activities.

**Body Mass Index (BMI)**

The study used BMI on selected overweight respondents to show the relationship of fast food consumption to obesity.

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**Table 2**  
Body Mass Index of the Respondents (n=352)

Characteristics	Category	Frequency	Percent
Body Mass Index	30 or more (Obese)	94	26.9%
	25 - 29.9 (Overweight)	83	23.5%
	18.5 - 24.9 (Normal weight)	149	42.3%
	18.4 or less (Underweight)	26	7.3%

Table 2 shows the BMI or selected overweight respondents in relation to fast food consumption to obesity. The data revealed that 26.9 % or 94 were done with a BMI 30 or more, 23.5 % or 83 of them were classified as overweight with BMI ranging from 25 – 29.9, while 42.3% or 149 of them belong to a normal weight with BMI ranging from 18.5 – 24.9, only 7.3 % or 26 of them were underweight with BMI of 18.4 or less.

Based on the data gathered among the total respondents, majority are overweight and obese adolescents.

### Food Preference

The food preference of the respondents was included as one of the profile variables of the study to show the relationship of their taste of foods to obesity.

**Table 3**  
Food Preference of the Respondents (n=352)

Characteristics	Frequency	Percent
Sweet	158	44.9%
Sour	36	10.2%
Salty	62	17.7%
Savory	60	17.0%
Bitter	36	10.2%

Table 3 revealed that among the 352 respondents, most of them preferred sweet taste (44.9 % or 158), while (17.7% or 62) of them preferred salty taste, 17.0 % or 60 savory taste, 10.2 % or 36 of them preferred sour and bitter taste, with standard deviation of 1.5183 of the study. When correlated to BMI of the respondents, the food preference is significant as indicated by the t-value of .117 which is significant at .028. The researchers concluded, that the respondents may be prone to diabetes. On the same vein, Andraneda - Diollata et. al., (2015), in one of their findings on factors considered by selected students in choosing meals, the taste of food remained to be the top factors being considered when choosing food.

**Daily Food Allowance**

The daily food allowance of the respondents is one of the variables of the study related to the eating habit of the respondents.

**Table 4**  
Daily Food Allowance of the Respondents (n=352)

Characteristics	Frequency	Percent
40.00 Pesos below	36	10.2%
41.00 - 60.00 Pesos	110	31.3%
61.00 - 80.00 Pesos	54	14.0%
81.00 - 100.00 Pesos	60	17.0%
101.00 Pesos above	104	27.5%

Table 4 stressed that 31.3 % or 110 of them have 41.00 to 60.00 Pesos allowance, 27.5 % or 104 had 101 pesos and above, 17.0 % or 60 of them had only 81.00 – 100.00 Pesos allowance, while 14.0 % or 54 of them had 61.00 – 80.00 Pesos allowance, only 10.2 % or 36 of them had 40.00 Pesos and bellow allowance. When correlated to BMI of the respondents, the daily food allowance is not significant as indicated by the t-value of .524 which is not significant at .054.

**Eating Habits**

The eating habit of the respondents was correlated to how many times they consumed fast food.

**Table 5**  
Eating Habits of the Respondents (n=352)

Characteristics	Mean	Standard Deviation
1 Time per day	2.506	1.2218
2 Times per day	2.159	1.1437
2 times per week	2.705	1.2372
3 times per week	2.602	1.2175
3 times per month	2.773	1.2146

Table 5 shows the eating habits of the respondents; that three times per month with SD = 1. 214; two times per week with SD = 1.2372; three times per week with SD = 1.2175; while one time per day with SD = 1.2218; only two times per day with SD = 1.1437; and it was correlated with their BMI that the eating habit is not significant as indicated by the t-value of .287 which is not significant at .154.

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**Kinds of Meals Usually Eaten**

The kinds of meals usually eaten by the respondents show the importance of meals on the daily diet of the respondents in the study.

**Table 6**  
Kind of Meals Usually Eaten by the Respondents (n=352)

Characteristics	Mean	Standard Deviation
Breakfast	3.307	1.4311
Lunch	4.000	1.1743
Dinner	3.574	1.3270
Snacks	3.290	1.2500
All Meals	3.091	1.3765

Table 6 presents the meal usually eaten by the respondents, the following meals are: lunch with SD = 1.1743; dinner with SD = 1.3270; breakfast with SD = 1.4311; snacks with SD = 1.2500; all meals with SD = 1.3765. The study revealed that most of the respondents are consuming their meals mostly during lunch time and it was correlated with their BMI, the kind of meals usually eaten is not significant as indicated by the t-value of .216 which is not significant at .178.

**Daily Exercise**

The daily exercise of the respondents was included in the study to show the importance of physical activities and healthy life style.

**Table 7**  
Daily Exercise of the Respondents (n=352)

Characteristics	Mean	Standard Deviation
0 minute	2.295	1.4255
10 to 15 minutes a day	2.767	1.2528
30 to 45 minutes a day	2.6331	1.2721
50 to 1 hour a day	2.585	1.3134
Twice a Week	2.864	1.3090
Twice a month	2.767	1.2528

Table 7 has shown the physical exercise of the respondents. The data stressed that the physical exercise of the respondents were: twice a week with SD = 1.3090; ten to fifteen minutes a day and twice a month with SD = 1.2528; thirty to forty-five minutes a day with SD = 1.2721; fifty to one hour a day with SD = 1.3134; at zero minute with SD = 1.4255 and it was correlated to their BMI,

that the daily exercise is not significant as indicated by the t- value of .767 which is significant at .043. Twice a month was the usual exercise done by the respondents while some did not exercise at all. Thirty minutes a day, five times a week is an easy goal to remember. They also experienced benefits even if it was divided into two or three segments of 10 to 15 minutes per day as recommended by American Heart Association (2014).

### **Genetic Susceptibility**

The genetic susceptibility is also correlated in the study to show the relationship to overweight respondents.

**Table 8**  
Genetic Susceptibility of the Respondents (n=352)

Characteristics	Mean	Standard Deviation
Through genes	3.219	1.2834
Through endocrine disorder	2.727	1.2963
Through medication	2.773	1.2332
Through slow metabolism	3.580	1.3006

Table 8 showed that the genetic susceptibility of the respondents and the reason of being obese: through slow metabolism with SD = 1.3006; through genes with SD=1.2834; through medication with SD=1.2332; through endocrines disorders with SD = 1.2963; and it was correlated to their BMI, the genetic susceptibility is not significant as indicated by the t- value of .249 which is significant at .049. Most of the respondents are overweight through slow metabolism and genes.

Thomas (2013) stressed that it is not just what they eat that makes those pants tighter – it is also genetics. In a new study, scientists discovered that body fat responses to a typical fast food diet are determined in large part by genetic factors, and they have identified several genes they say may control those responses. The study is the first of its kind to detail metabolic responses to a high-fat, high-sugar diet in a large and diverse mouse population under defined environmental conditions, modeling closely what is likely to occur in human populations. The researchers found that the amount of food consumed contributed only moderately to the degree of obesity.



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**Emotional State**

The emotional state was included in the study to look on the connection of their reasons of eating in a fast food.

**Table 9**  
Emotional State of the Respondents (n=352)

Characteristics	Mean	Standard Deviation
Fast or quick service	3.534	1.3372
Conveniently located	3.591	1.1261
Taste of food	3.688	1.1393
Value or cost of food	3.398	1.1891
Considering nutritional content of food	2.986	1.2018
Considering promotion	3.108	1.2240
Considering advertisement	3.239	1.2540
Eating with friend	3.798	1.2243
Eating with family	3.841	1.2254
Eating with someone special	3.313	1.5056
Eating alone	2.659	1.4432

Table 9 presents the emotional state of the respondents and the reasons for choosing fast food restaurant. The data revealed that these are the reasons for choosing: eating with family with SD = 1.2254; eating with friend with SD = 1.2243; taste of food with SD = 1.1393; conveniently located with SD = 1.1261; fast or quick service with SD = 1.3372; value or cost of food with SD = 1.1891; eating with someone special with SD = 1.5056; considering advertisement with SD = 1.2540; considering promotion with SD = 1.2240; considering nutritional content of food with SD = 1.2018; eating alone with SD = 1.4432 and it was correlated to their BMI, the emotional state is not significant as indicated by the t- value of .475 which is significant at .044. From the study, it can be gleaned that eating with their friends and eating with their family are reasons for choosing fast food.

Similar results by Rydell et. Al. (2008), limited time, good taste, eating with friends and family, and cost were the most prevalent reasons among college students from Midwestern University.

### Test of Significant Difference

One of the variables of the study is to know the correlation of fast food consumption to obesity: the case of Bulacan State University.

### Test of Significant Difference on the Correlation of Fast Food Consumption to obesity as Perceived by the Students

**Table 10**

Correlation of fast food consumption to obesity of the Respondents (n=352)

Correlation to Obesity	T	Sig.	Interpretation
Fastfood consumption	.267	.160	not significant
Eating habit	.287	.154	not significant
Meals usually taken	.216	.178	not significant
Daily exercise	.767	.043	significant
Genetic susceptibility	.279	.049	significant
Emotional state	.475	.044	significant

*Level of Significance = 0.05*

Table 10 show the results of the test of significant difference on the perceived correlation of fast food consumption to obesity of the respondents. Daily exercise is significant as indicated by the t- value .767 which is significant at .049. The findings can be explained by the American Heart Association (2014) through their recommendation of 10 to 15 minutes per day. Similarly, on emotional state and genetic susceptibility are both significant with the computed t- values of .475 and .279 which are significant at .044 and .049 respectively.

Exercise and change of diet is a perfect combination of treating obesity through social changes and personal choices. Diet quality can be improved by reducing the consumption of energy-dense foods, such as those high in fat and sugars, and by increasing the intake of dietary fiber. Keeping active can help people stay at a healthy weight or lose weight. It can also lower the risk of heart disease, diabetes, stroke, high blood pressure, osteoporosis, and certain cancers, as well as reduce stress and boost mood (WHO, 2012).

### CONCLUSIONS

This research studied the correlation of fast food consumption to obesity, nowadays, convenience in eating in a fast food is one of their major reasons, other reasons are: both of their parents are working, living in a boarding house, and living with their relatives. Based on the data gathered, most of the respondents are young, overweight, obese, and they prefer sweet taste that contribute more to

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being overweight. Their food allowances are bigger and most of them are eating with their friends. It shows from the data that lack of exercise and slow metabolism make someone overweight and obese. The research hypothesis revealed from the data gathered that there is no significant relationship on the fast food eating habit to obesity as the case study of Bulacan State University students.

### **RECOMMENDATIONS**

One major recommendation is for proper diet and monitoring of nutritional values of food intake for those overweight and obese students. They should engage with at least thirty minutes of exercise a day to burn some fat content of food from the fast food. Also, they should consider their health conditions to avoid disease like diabetes, heart disease, and joint disorders. For the female respondents they should add more physical activities since the findings of the study revealed that most of them are overweight and obese. The inclusion of nutritional information in fast food more readily available and easier to use may help consumers to order more nutritious, healthy, and low-calorie food items. The administrator should consider this study as a basis in updating the policies regarding food services and conduct seminars and trainings about healthy life style and food consumption through Gender and Development Center (GADC) to enlighten the students. To the future researchers they should consider this study as an action research with the title, Correlates Fast Food Consumption and Obesity: the Case of Bulacan State University of Students.

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