Lifestyle factors that contribute to BMI in college students

Student 2

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College students are extremely vulnerable to experiencing weight gain and loss throughout their college experience due to many lifestyle factors. Some of these lifestyle factors individuals have no control over such as gender and age, but physical activity and food intake have potential control. The NCHA conducted a survey at WSSU in 2015 aiming to collect relevant data on college student's overall physical and mental health. The aim of this data analysis is to is determine the lifestyle factors that contribute to body mass index among college students.

Methods

Table of variables used and their description:

NQ46	Age in years
RNQ47	Sex and Gender
NQ54A	Race/ Ethnicity- White
NQ54B	Race/Ethnicity - Black
NQ54C	Race/Ethnicity - Hispanic
NQ50	Weight in pounds
NQ26	Self-described weight
RBMI	Body mass index
NQ28	Usual number of fruits/ vegetables per day
NQ29A	D you do moderate activity for 30 minutes a day

Based on the purposes of this study, the following variables used were categorical. The statistical analyses performed in this study were descriptive statistics, graphical and categorical analysis. Descriptive statistics is used to help analyze categorical and quantitative data. The purpose it has in this study is to help measures Demographic variables such as age, sex and gender. Graphical analysis is used to give a quick overall impression of data. Bar charts were used in this study because they are meant to be used for categorical variables. Lastly, categorical analysis was used because most of the variables in the study were categorical. Chi-square statistic was used to show the relationship between two categorical variables, such as physical activity and their food intake.

Results

There were 229 students that participated in this study, the mean age being 25. Majority of the sample were females due to the fact that WSSU is a female predominant school. The sample included 194 females (84.7%), 29 males (12.7%) and 6 transgender (2.6%). Concerning ethnicity, participants were 24.5% white, 67.3% black, and 3.5% Latino. In addition, majority of the students were full time. Refer to the table below for more details from geographic variables.

SEX AND GENDER				
RNQ47	Frequency	Percent	Cumulative Frequency	Cumulative Percent
1	194	84.72	194	84.72
2	29	12.66	223	97.38
3	6	2.62	229	100.00

Race/Ethnicity-White				
NQ54A	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	173	75.55	173	75.55
1	56	24.45	229	100.00

The FREQ Procedure

Race/Ethnicity-Black				
NQ54B	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	75	32.75	75	32.75
1	154	67.25	229	100.00

The FREQ Procedure

Race/Ethnicity-Hispanic or Latino/a				
NQ54C	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	221	96.51	221	96.51
1	8	3.49	229	100.00

Enrollment Status				
NQ52	Frequency	Percent	Cumulative Frequency	Cumulative Percent
1	216	94.32	216	94.32
2	13	5.68	229	100.00

Students Body mass index was determined from their height and weight. That outcome determined which BMI classification they fell under. 6 students were found to be underweight, 75 at a healthy weight, 59 overweight, 35 Class l obesity, 25 class ll obesity and 21 class lll obesity. See the bar chart below for a graphic explanation.
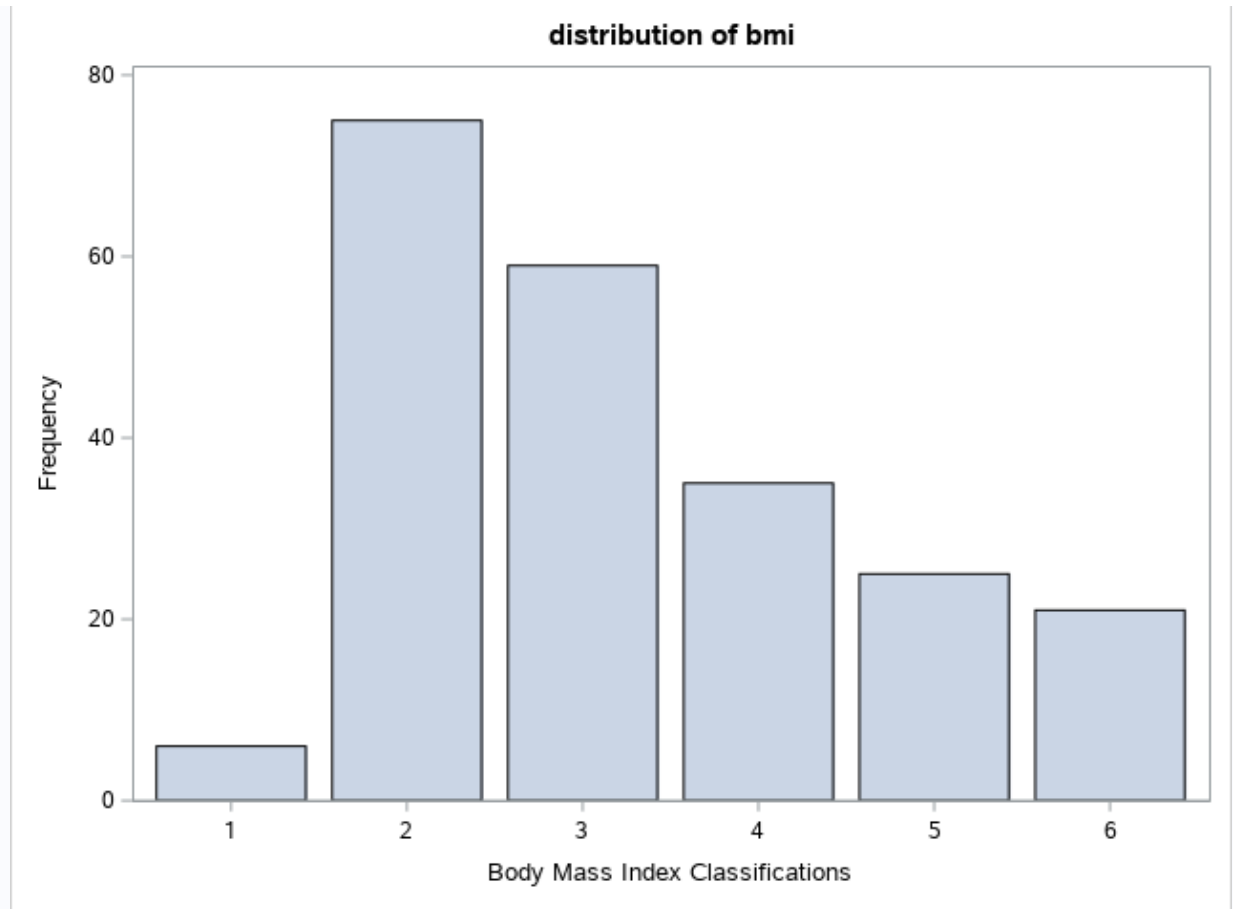
The association between students self-described weight and if they were trying to do anything about their weight were compared. The only student to describe themselves as very underweight was trying to stay the same weight. Most of the students that described themselves

as slightly underweight were trying to gain weight, and the others were trying to either stay the same weight or lose it. Those that considered themselves to be about the right weight responses varied. most of them were trying to stay the same weight or lose weight, and the others were doing nothing about their weight or trying to gain. Students that seen themselves as slightly overweight were mainly trying to lose weight or do nothing about it. Lastly, students that considered themselves very overweight were trying to lose weight. See the table below for exact measurements. The variables were compared using a chi square statistic. The p- value was $0.001 < 0.005$, therefore we can conclude that we reject the null hypothesis because there is evidence that there is an association between student's self described weight and if they were trying to do anything about their weight.

Frequency Percent Row Pct Col Pct	Table of NQ26 by NQ27				
		NQ27(Trying to do anything about weight)			
NQ26(Self described weight)	1	2	3	4	Total
1	0 0.00 0.00 0.00	1 0.44 100.00 2.08	0 0.00 0.00 0.00	0 0.00 0.00 0.00	1 0.44
2	0 0.00 0.00 0.00	3 1.33 30.00 6.25	1 0.44 10.00 0.71	6 2.65 60.00 31.58	10 4.42
3	13 5.75 13.68 68.42	40 17.70 42.11 83.33	29 12.83 30.53 20.71	13 5.75 13.68 68.42	95 42.04
4	5 2.21 5.81 26.32	4 1.77 4.65 8.33	77 34.07 89.53 55.00	0 0.00 0.00 0.00	86 38.05
5	1 0.44 2.94 5.26	0 0.00 0.00 0.00	33 14.60 97.06 23.57	0 0.00 0.00 0.00	34 15.04
Total	19 8.41	48 21.24	140 61.95	19 8.41	226 100.00
Frequency Missing = 3					

There are many lifestyle factors that affects a person's body mass index. The factors studied in this analysis were their food intake and physical activity. Students were specifically asked how many servings of fruits and vegetables do they usually have per day and how many times throughout a week do they exercise. The chi square statistic was used to determine if there was any association in BMI with food intake and physical activity.

After comparing students BMI and how many servings of fruits and vegetables they had per day we will failed to reject the null hypothesis. We can conclude there is no evidence that there is an association between BMI and how many servings of fruits and vegetables they have per day because the p value 0.9504 > 0.05.

Next we compared students BMI to how many times they exercise throughout the week. We concluded we will fail to reject the null hypothesis because our sample did not provide sufficient evidence that there is an association between BMI and exercise because the p value was 0.5893> 0.05.

Table for BMI and Food intake:

Statistics for Table of RBMI by NQ28			
Statistic	**DF**	**Value**	**Prob**
Chi-Square	15	7.2468	0.9504
Likelihood Ratio Chi-Square	15	8.2351	0.9140
Mantel-Haenszel Chi-Square	1	0.4444	0.5050
Phi Coefficient		0.1819	
Contingency Coefficient		0.1790	
Cramer's V		0.1050	
WARNING: 58% of the cells have expected counts less than 5. Chi-Square may not be a valid test.			

Table for BMI and physical activity:

Statistics for Table of BMI by NQ29A

(Rows and Columns with Zero Totals Excluded)

Statistic	DF	Value	Prob
Chi-Square	1232	1213.6755	0.6397
Likelihood Ratio Chi-Square	1232	694.1452	1.0000
Mantel-Haenszel Chi-Square	1	2.0934	0.1479
Phi Coefficient		2.3488	
Contingency Coefficient		0.9201	
Cramer's V		0.8878	
WARNING: 100% of the cells have expected counts less than 5. Chi-Square may not be a valid test.			

Conclusion

In conclusion, there are many factors that affect BMI in college students. The primary objective of this study was to determine what life style factors affects students BMI. For this study; we can conclude that our findings from physical activity and food intake were not statistically significant. There was no data to show they had any significance with students BMI. Therefore, there should be more strategies to help college students improve their health.