Correspondence between Depression and BMI

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Introduction and Research Hypothesis

Depression is a common secretive issue that isn't discussed in society, Weight is another problem in our culture that may be linked to depression. Many people do not consider the importance of having a sense of personal control to establish a better self-esteem. In this specific study, we analyzed the relationship between social psychology and mental health and how often a participant felt a particular emotion (happy, sad, depressed, guilty, etc.). According to the Anxiety and Depression Association of America, the significant age range of depression is 15 to 44 years of age, depression can affect anyone within that age group, but more commonly depression can affect women in their mid-30s (American Psychiatric Association, 2013). Depression also persists in men, and this leads to feeling tiredness, irritability, and anger; perhaps we will see an increase in our dataset in BMI due to always feeling tired. Anyone who has depression can show signs of missing work, school, and miss social gatherings altogether (Harris, 2009). We hypothesize that there is a is there a correspondence between BMI and having or not having symptoms of depression? We also too into consideration depression and the effects it has on Gender and BMI.

Methods

For our categorical tests used were a series of questions the participants were asked; they had to mark the following if they were true (Rarely, sometimes, a lot of the time, most of the time, I don't know). The test we conducted to was a logistic regression. We also used a bivariate analysis of BMI and Depression.

The variables we are using are:

1. BMI
2. Gender
3. Fast Food consumption
4. Depression

We are using these variables to hopefully prove that Depression and BMI are linked due to fast food consumption. Depression was constructed by combining two other variables 'depression in the past seven days' and 'health care providers' (Healthcare providers diagnosing their patients with clinical depression). We also do not have any Confounding variables or moderators.

Variable Characteristics

Variables	Estimate	Std. Error	T-Statistic	P-Value
BMI	-0.000632	0.000941	-0.671	0.502
Gender	-0.101	0.0143	-7.05	2.03E-12
Fast Food Consump.	-0.0118	0.0048	-2.46	0.0141
Adjusted R^2	0.011			
Variables	Mean	Median	St. Dev	Range
BMI	29.14	27.7	7.48813	[14.40 -70.30]
Fast Food Consump.	1.664	1	1.47651	[0.000-5.000]
Male	48%			
Female	52%			

Table 1: Variables are listed along with the values we obtained from various tests.

Data

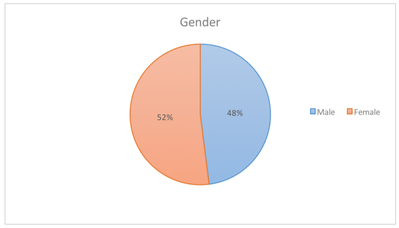

Figure 1: Exhibits a demographic of Males to female from Add Health.

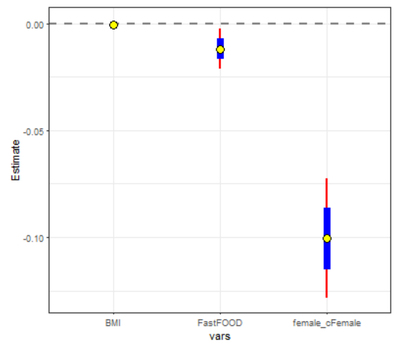

Figure 2: Boxplot illustrates Fast food consumption and Females along with BMI

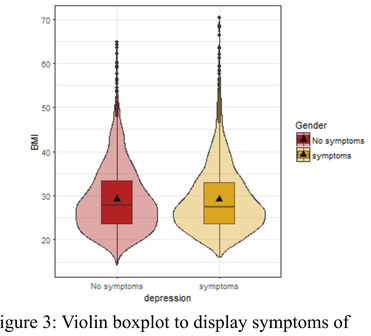

Figure 3: Violin boxplot to display symptoms of Depression Vs. BMI

Results

Pie chart graph was used to show the readers a proportion of the demographic information we are using in the histogram graph for females and depression.

We used a boxplot to show the correlation between BMI, Fast Food, and Gender as the X values and Depression as our Y-axis. The results of this model show that Gender (female) are statistically associated depression (p-value <.0001). Based on the beta coefficients of our multivariable logistic model, the odds of being depressed are more if the respondent has a higher BMI and has made more trips to a fast food place (in the past seven days), and higher if the respondent is female. BMI and Fast food Consumption (in the past seven days) is not significant because of the p-values > .0001. Therefore the results show that there isn't link between depression and gender and if they are eating fast-food to if it would increase the likelihoods of increasing BMI.

Conclusion

We wanted to understand the correlations between BMI and Depression, in addition to this, we also wanted to take into consideration of Gender and Fast Food consumption due to the known possibility of excessive eating when a person feels depressed. While there is a correlation between Gender and Depression the addition of the two other variables did not change the results. The two relationships of Gender & Depression and BMI & Fast food consumed, in a seven day period, were both significant two each other. However, in a multivariable model only the relation between Gender and Depression was significant (p <.0001). Thus, concluding there isn't a significant relationship between BMI and Depression.

Implications

These results matter to those who would like to add more data research into Add Health and show a correlation of BMI, Fast Food, Consumption, and Depression. There may not be a significant link between Depression and Food consumption due to missing Add Heath data, but other research like Anxiety and Depression of America see's a linking between the two. Therefore we elaborated on the general view that depressed people eat more, but we never took into consideration that depressed people may also starve themselves, perhaps it was a variable we should have considered.

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